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A NATURAL ARRANGEMENT
OF
BRITISH PLANTS,
ACCORDING TO THEIR RELATIONS TO EACH OTHER,
AS POINTED OUT BY
JUSSIEU, DE CANDOLLE, BROWN, &c.
INCLUDING
THOSE CULTIVATED FOR USE;
WITH
AN INTRODUCTION TO BOTANY,
IN WHICH THE TERMS NEWLY INTRODUCED ARE EXPLAINED;
ILLUSTRATED BY FIGURES.

BY
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VOL. II.

LONDON:
PRINTED FOR BALDWIN, CRADOCK, AND JOY,
PATERNOSTER-ROW.
1821.
"Then spring the living herbs, profusely wild,
O'er all the deep-green earth, that task * the power
Of botanist to number up their tribes:
Whether he steals along the lonely dale,
In silent search; or through the forest, rank
With what the dull incurious weeds account,
Bursts his blind way; or climbs the mountain rock,
Fir'd by the nodding verdure of its brow.
With such a liberal hand has nature flung
Their seeds abroad, blown them about in winds,
Innumerous, mix'd them with the nursing mould,
The moistening current, and prolific rain."

Thomson.—Spring.

* beyond, in original.
An Arrangement of the Families, and of the anomalous Genera of phæogamous Plants, according to their sexual Organs.

1. STAMEN 1, on the receptacle or perianthium.

Style 1; perianth. 0, or simple.

Style 1; perianth. double; petal 1

Style 2; pet. 2; capsule 4-celled

Style 3; perianth. glumaceous

Style 4

2. STAMENS 1 or 2 on the pistill.

Stamen

Stamens 2

Orchideæ, 2, 21.

Cypripedium, 2, 150.

3. STAMENS 2, on the receptacle or perianthium.

Style 1; flow. above; pet. 2

Style 1; flow. below; pet. 1, regular

Style 1; fl. bel.; pet. 1, irreg. caps. 2-celled

Style 1; fl. bel.; pet. 1, irreg. caps. 1-celled

Style 1; fl. bel.; pet. 1, irreg. seeds 4, naked

Style 1; fl. bel.; pet. 1, irreg. samaræ 2-seeded

Style 1; fl. bel.; pet. 0 or 4; pod 2-celled

Style 1; fl. bel.; pet. 0; seeds immersed in calyx

Style 1; fl. bel.; pet. 0; seeds arillated

Style 1; fl. bel.; perianthium glumaceous

Style 2

Circéæ, 3, 341.

Oleææ, 3, 34.

Veronicaæ, 3, 64.

Lentibulariæ, 3, 24.

Labiatae, 3, 32.

Fraxineæ, 3, 35.

Salicorniæ, 3, 45.

Lemnaceæ, 2, 7*.

Rhynchospora, 2, 38.

Tricophorum, 2, 43.

Gramineæ, 2, 10.

4. STAMENS 3.

St. 1; perianth. above, double; peric. 1 or 2-seeded

St. 1; perianth. above, double; peric. many-celled

St. 1; perianth. above, single

St. 1; perianth. below; glumes 1-valved

St. 1; perianth. below; glumes 2-valved

St. 1; perianth. below; glumes 3-valved

St. 1; perianth. below; glumes 6-valved

St. 1; perianth. below; glumes 7-valved

St. 1; perianth. below; glumes 8-valved

Stiles 2

Valerianææ, 3, 41.

Cucurbitaceæ, 3, 51.

Iridææ, 2, 20.

Cyperaceæ, 2, 9.

Gramineæ, 2, 10.

Typhaceæ, 2, 8.

Juncææ, 2, 12.

Gramineæ, 2, 10.

Amaranthidææ, 3, 47.

 Caryophyllidææ, 3, 72.

Paronychidææ, 3, 49.

Portulaceææ, 3, 48.

Tillææ, 3, 319.

Empetrææ, 3, 7*.
SEXUAL ARRANGEMENT

5. Stamens 4.

A. Style 1; perianthium double; petal 1, above.

Calyx below; pericarp 1-seeded - - Agronomiaceae, 3, 59.
Calyx below; pericarps 2, 1-seeded - - Restiaceae, 2, 11.
Calyx above; pericarp 1-seeded - - - - Dipsaceae, 3, 40.
Calyx above; pericarps 2, 1-seeded - - - - Rubiaceae, 3, 42.
Calyx above; berry 1, 3-celled - - - - Caprifoliaceae, 3, 43.

B. Style 1; perianthium double; petal 1, below.

Stam. equal, long; capsule 2-celled - - Plantaginaceae, 3, 18.
Stam. equal, long; capsule 1-celled - - Littoreliaceae, 3, 19.
Stam. equal, short; capsule 2-valved - - Gentianeae, 3, 27.
Stam. equal, short; capsule cut round - - Primulaceae, 3, 21.
Stam. equal, short; berry - - Oleaceae, 3, 34.
Stam. 2 long, 2 short; seeds 4, naked - - Labiatae, 3, 39.
Stam. 2 long, 2 short; utriculus, 2 or 4 seeded - Pyrenaceae, 3, 33.
Stam. 2 long, 2 short; caps. 2-celled, septitidal - Scrofulariaceae, 3, 23.
Stam. 2 long, 2 short; caps. 2-celled, loculicidal - Rhamnaceae, 3, 22.
Stam. 2 long, 2 short; capsule 1-celled - - Orobancheae, 3, 23.

C. Style 1; perianthium double; petals 4, above.

Pod 1-celled - - - - Berberidaceae, 3, 84.
Pod 2-celled - - - - Cruciferae, 3, 80.

D. Style 1; perianthium double; petals 4, above.

Pericarp, a drupe - - - - Cornus, 3, 261.
Pericarp, a berry - - - - Lorantheae, 3, 44.

E. Style 1; perianthium single, below.

Calyx 8-cut - - - - Agronomiaceae, 3, 59.
Calyx 2 or 4 cut; stamens short, irritable - - Urticaceae, 3, 9.
Calyx 4-cut; stamens long; capsule 1-seeded - - Plantaginaceae, 3, 18.
Calyx 4-cut; stamens long; capsule 1-celled - - Littoreliaceae, 3, 19.
Calyx 2; drupe 1-seeded - - - - Eleagnaceae, 3, 13.

F. Style 1; perianthium single, above.

Santalaceae, 3, 12.

G. Styles 2.

Petals 4; capsule 2-valved - - - - Buffonia, 3, 401.
Petal 1; capsule cut round - - - - Cuscuta, 3, 30 B.
Perianth. amentaceous; pericarp a cone - - Betuliceae, 3, 5.
Perianth. amentaceous; pericarp a berry - - Myricaceae, 3, 7.

H. Styles 3.

Capsule 3-valved - - - - Buxus, 3, 27.
Capsule cut round - - - - Amaranthaceae, 3, 17.

I. Styles 4.

Calyx 4-toothed; petals 4; berry - - - - Caprifoliaceae, 3, 43.
Calyx 4-leaved; petals 4; capsule 1 - - Caryophyllaceae, 3, 12.
Calyx 4-leaved; petals 4; capsules 4 - - Grassulaceae, 3, 47.
Calyx 4-leaved or 0; pet. 0; seeds 4 - - Fluvialites, 2, 6.

6. Stamens five.

A. Style 1; petal 1, below.

Akenia 4, naked - - - - Boraginaceae, 3, 31.
Capsule 1-celled; stigma simple - - - - Primulaceae, 3, 21.
Capsule 1-celled; stigma 2-cut - - - - Menyanthaceae, 3, 27 B.
Capsule 2-celled; seeds central - - - - Solanaceae, 3, 26.
Capsule 2-celled; seeds parietal - - - - Erythraeae, 3, 94.
OF PHENOOGAMOUS PLANTS.

Capsule 2 or 3-celled; seeds basillary
Caps. 3 or 5-celled; seeds central; stam. on the corolla
Caps. 3 or 5-celled; seeds central; stam. on the receptacle
Follicles 2, upright
Berry 2-celled; seeds central

B. Style 1; petal 1, above.
Capsule 1-celled
Capsule 2-celled
Pericarpium 1-seeded
Berry 1 or 2-celled
Pome 2 or 3-celled
Berries 2, 1-seeded

C. Style 1; petals 4 or 5 below.
Berry 3-celled; calyx 1-leaved
Capsule 3 or 5-celled; calyx 1-leaved
Capsule 5-celled; calyx 2 leaved
Capsule 5-celled; corolla spurred
Capsule, 3 or 5-celled; seeds basillary
Capsule, 3 or 5-celled; seeds central; stam. on the corolla
Capsule, 3 or 5-celled; calyx 1-leaved
Capsule, 3 or 5-celled; calyx 2-leaved
Capsule, 3 or 5-celled; calyx 3-leaved
Capsule, 3 or 5-celled; calyx 4-leaved
Capsule, 3 or 5-celled; calyx 5-leaved

D. Style 1; petals 5, above.
Style 2-cut; berry many-seeded
Style simple; berry 3-nutted

E. Style 1; petals 0.
Capsule above; calyx 1-leaved
Capsule above; calyx 5-leaved
Atenium above; calyx 1-leaved
Pericarp below; calyx 1-leaved
Seeds sunk in the calyx

F. Styles 2; petal 1, below.
Capsule 1-celled, valvular
Capsule 2-celled, cut round

G. Styles 2; petals 5, below.
Capsules 2 or 3; 2 or 3-seeded
Capsule 1, 1-seeded

H. Styles 2; petals 5, above.
Pericarps 2, 1-seeded

I. Styles 2; petals 0.
Seeds sunk in the calyx
Capsule 1-seeded
Samare compressed
Pericarp below, 1-seeded

J. Styles 3; petals 4 or 5; calyx above.

K. Styles 3; petals 4 or 5; calyx below.

L. Styles 3; petals 5; calyx below.

M. Styles 3; petals 0.
Seeds sunk in the calyx
Capsule 1-seeded, cut round

Capsule 2 or 3-celled; seeds basillary
Caps. 3 or 5-celled; seeds central; stam. on the corolla
Caps. 3 or 5-celled; seeds central; stam. on the receptacle
Follicles 2, upright
Berry 2-celled; seeds central

Convulvulaceae, 3, 30.

Polemoniaceae, 3, 28.

Ericine, 3, 36.

Vinca, 3, 29.

Solance, 3, 26.

Samolus, 3, 63*.

Campanulaceae, 3, 38.

Composite, 3, 39.

Cucurbitaceae, 3, 51.

Ilubiacese, 3, 42.

Campanulaceae, 3, 38.

Compositse, 3, 39.

Caprifoliacese, 3, 43.

Cucurbitaceae, 3, 51.

ilubiacese, 3, 42.

Campanulacese, 3, 38.

Compositse, 3, 39.

Caprifoliacese, 3, 43.

Cucurbitaceae, 3, 51.

ilubiacese, 3, 42.

Campanulacese, 3, 38.

Compositse, 3, 39.

Caprifoliacese, 3, 43.

Cucurbitaceae, 3, 51.

ilubiacese, 3, 42.

Campanulacese, 3, 38.

Compositse, 3, 39.

Caprifoliacese, 3, 43.

Cucurbitaceae, 3, 51.

ilubiacese, 3, 42.

Campanulacese, 3, 38.

Compositse, 3, 39.

Caprifoliacese, 3, 43.

Cucurbitaceae, 3, 51.

ilubiacese, 3, 42.

Campanulacese, 3, 38.

Compositse, 3, 39.

Caprifoliacese, 3, 43.

Cucurbitaceae, 3, 51.

ilubiacese, 3, 42.

Campanulacese, 3, 38.

Compositse, 3, 39.

Caprifoliacese, 3, 43.
SEXUAL ARRANGEMENT

N. Styles 4.
Capsule 4-valved; petals 5 - - - - - - - - Parnassiae, 3, 79.
Berry 4 or 5-nutted - - - - - - - - Aquifoliaceae, 3, 43 D.

O. Styles 5.
Seed 1, in the calyx - - - - - - - - Staticinae, 3, 20.
Seeds, 4 or 5, in the calyx - - - - - - - - Sibbaldiana, 3, 355.
Capsule 1-celled; placentarium parietal - - - - - - - - Drosaceous, 3, 75.
Capsule 1-celled; placentarium central - - - - - - - - Caryophyllaceae, 3, 72.
Capsule 1-celled; calyx 3-cut - - - - - - - - Portulacaceae, 3, 48.
Capsule 10-celled, cells 1-seeded - - - - - - - - Liniac, 3, 71.
Capsules 5, 1-seeded, ariliated - - - - - - - - Geraniaceae, 3, 66.

P. Styles many. - - - - - - - - Ranunculaceae, 3, 53 C.

7. STAMENS SIX.
A. Style 1; stamens 4 long, 2 short.

Petals 4 - - - - - - - - Cruciferae, 3, 80.

B. Style 1; stamens equal; perianthium double.
Petals 4, irregular; capsule 1-celled - - - - - - - - Fumaridaceae, 3, 81.
Petals 5; capsule 1-celled - - - - - - - - Frankeniaceae, 3, 74.
Petals 6; berry 2-seeded - - - - - - - - Berberidaceae, 3, 84.
Petals 6; capsule 1 or 2-celled - - - - - - - - Salicaceae, 3, 52.

C. Style 1; stamens equal; perianthium simple, glumaceous.
Glumes 6 - - - - - - - - Juncaceae, 3, 12.

D. Style 1; stamens equal; perianthium simple, calycine.
Capsule 2-celled; calyx 6-cut - - - - - - - - Salicaceae, 3, 52.
Pericarp 1-seeded - - - - - - - - Polygonaceae, 3, 15.

E. Style 1; stamens equal; perianthium simple, petaloid.
Capsule 3-celled, below - - - - - - - - Amaryllidaceae, 2, 19.
Capsule 3-celled, above; seeds flat - - - - - - - - Liliaceae, 2, 14.
Capsule 3-celled, above; seeds roundish - - - - - - - - Asphodelaceae, 2, 15.
Capsule 3-celled, above; seeds long - - - - - - - - Junecae, 3, 12.
Berry 3-celled, above; seeds black - - - - - - - - Asparagus, 2, 16.
Berry 3-celled, above; seeds pale - - - - - - - - Sinalaceae, 2, 17.
Berry 3-celled, below - - - - - - - - Tamaricæ, 2, 18.

F. Style 1; stamens equal, filaments united. - - - - - - - - Fumaridaceae, 3, 81.

G. Styles 2.

Petals 0; seeds 1 - - - - - - - - Polygonaceae, 3, 15.
Petals 0; seeds 1 or 2, sunk - - - - - - - - Scleranthus, 3, 223.
Petals 5; seeds 1 or 2, sunk - - - - - - - - Sanguisorba, 3, 250.

H. Styles 3, or more.

Pericarp 1-seeded - - - - - - - - Polygonaceae, 3, 15.
Pericarp 1-celled, many-seeded - - - - - - - - Drosaceous, 3, 75.
Pericarp 6-celled, many-seeded - - - - - - - - Aristolochiaceae, 3, 11.
Pericarps 3, many-seeded - - - - - - - - Colchicaceae, 2, 13.
Pericarps 3 or 6, 1 or 2-seeded - - - - - - - - Juncaceae, 2, 24.
Pericarps 6, 2 or 3-seeded - - - - - - - - Alismaceae, 2, 22.
Pericarps 7 to 20, 1-seeded - - - - - - - - Alismaceae, 2, 22.

8. STAMENS SEVEN.

Style 1 - - - - - - - - Trientalis, 3, 61.
OF PHENOGAMOUS PLANTS.

9. Stamens eight.

A. Style 1; perianthium double.

- Samara compressed; petals 5
- Capsule 4-celled; petals 4
- Capsule 1-celled; filaments distinct
- Capsule 2-celled; filaments united
- Capsule 4 or 5-celled; petals 1 or 5
- Berry 4-celled; petals 1 or 4

Acerineæ, 3, 68.
Omagrariae, 3, 56.
Gentianeæ, 3, 27.
Polygalæ, 3, 77.
Ericineæ, 3, 36.
Vaccinneæ, 3, 37.

B. Style 1; perianthium single.

C. Styles 2.

- Perianth. double
- Perianth. single; capsule 2-valved
- Perianth. single; pericarp 1-seeded, above
- Perianth. single; seeds 1 or 2 sunk

Gentianeæ, 3, 27.
Chrysosplenium, 3, 317.
Polygoneæ, 3, 15.
Paronychideæ, 3, 49.

D. Styles 3.

- Berry 1, above; petals 4
- Berry 1, below; petals 1 to 4
- Capsule above; petals 4
- Capsules 4, above; petals 4
- Capsule below; petals 0

Smilaceæ, 2, 17.
Loranthideæ, 3, 44.
Caryophylleæ, 3, 72.
Crassulaceæ, 3, 47.
Haloragæ, 3, 55.

E. Styles 4.

- Styles 6; capsules 6, above
- Styles 6; capsule 1, below
- Styles 9

- B. Styles 2.

- Seeds 2, sunk in the calyx
- Seeds 1 or 2, sunk; petals 0
- Seeds 1 or 2, sunk; petals 5
- Capsule 2-beaked, 1 or 2-celled
- Capsule beakless, 1-celled

Entomaceæ, 2, 23.
Hydrocharideæ, 2, 25.
Empetrideæ, 3, 72.

11. Stamens ten.

A. Style 1.

- Fruit below
- Fruit above; corolla regular
- Fruit above; corolla papilionaceous

Vaccinneæ, 3, 37.
Ericineæ, 3, 36.
Leguminosæ, 3, 63.

B. Styles 2.

- Seeds, sunk in the calyx
- Seeds 1 or 2, sunk; petals 0
- Seeds 1 or 2, sunk; petals 5
- Capsule 2-beaked, 1 or 2-celled
- Capsule beakless, 1-celled

Paronychideæ, 3, 49.
Paronychideæ, 3, 49.
Agroniaceæ, 3, 59.
Saxifrageæ, 3, 46.
Caryophylleæ, 3, 72.

C. Styles 3 or 5; petals 5.

- Caps. 1 to 5-celled, oblong; stam. on receptacle
- Caps. 1 to 5-celled, angular; stam. on receptacle
- Caps. 1 to 5-celled; stamens on calyx
- Caps. 5, many-seeded
- Caps. 5, 1-seeded

Caryophylleæ, 3, 72.
Geranieæ C. 3, 66.
Caprifoliateæ, 3, 43.
Crassulaceæ, 3, 47.
Geranieæ A. 3, 66.

D. Styles 3 or 5; petals 4.

- Corolla irregular; capsule 1 or 3-celled

Geranieæ B. 3, 66.

E. Styles 3 or 5; petal 1.

- Berry 4 or 5-petalled
- Pericarp 1-seeded

Caprifoliateæ, 3, 43.
Polygoneæ, 3, 15.
12. STAMENS ELEVEN TO TWENTY.

Style 1; pet. 0; pericarp 1-seeded, above - Ceratophylla, 3, 54.
Style 1; pet. 0; pericarp 6-celled, below - Aristolochieae, 3, 11.
Style 1; petals 6 - Salicinaceae, 3, 52.
Styles 2 - Agronomicae, 3, 59.
Styles 3; capsule 1-celled, gaping - Resedaceae, 3, 76.
Styles 3; capsule 2 or 3-celled - Euphorbiaceae, 3, 10.
Styles 4 - Dryadeae, 3, 60.
Styles 10 or 12 - Crassulaceae, 3, 47.

13. STAMENS TWENTY OR MORE ON THE CALyx.

Styles 1, or more.

Drupe 1-celled, above - Drupacea, 3, 62.
Pericarp 2 or 3-celled, below - Pomacea, 3, 57.
Capsule 2-valved, above - Ulmacea, 3, 8.
Akenium 1-seeded, above; calyx flaslike - Rosacea, 3, 58.
Akenium 1-seeded, above; calyx expanded - Dryadeae, 3, 60.

14. STAMENS TWENTY OR MORE ON THE RECEPTACLE.

A. Style 1.

Calyx 2-leaved - Papaveraceae, 3, 82.
Calyx 4-leaved - Ranunculacea, 3, 85.
Calyx 5-leaved; placenta central - Cistinaceae, 3, 78.
Calyx 5-leaved; placenta central - Tiliaeae, 3, 69.
Petals many; berry many-seeded - Nymphaeaceae, 3, 83.

B. Styles 2 or more.

Pericarp 6-celled - Hydrocharidaceae, 2, 25.
Pericarp 3 or 5-celled - Hypericinaceae, 3, 67.
Caps. 2 or more, 1-celled; petals 4—20, filaments free - Ranunculacea, 3, 85.
Caps. 2 or more, 1-celled; petals 3, filaments free - Alismaceae, 2, 22.
Caps. 2 or more, 1-celled; fil. united - Malvaceae, 3, 70.
Berries many, 1-celled - Aroidae, 2, 7.

15. STAMENS 1 OR MORE, ON AN AMENT-SCALE.

Abicidae, 3,1. - Betulidae, 3, 4.
Cupressidae, 3, 2. - Corylidae, 3, 5.
Taxidae, 3, 3. - Salicinae, 3, 6.
Myricaceae, 3, 7.

16. FLOWERS IN A COMMON CALyx.

Resthaceae, 2, 11. - Eryngium, 3, 311.
Dipsaceae, 3, 40.
THE
NATURAL ARRANGEMENT
OF
BRITISH PLANTS.

Series II. PLANTÆ ENDOGENÆ.

Plants composed of cellular texture, with lymphatic, spiral, and proper vessels; and with cortical pores in the leaves or herbaceous tip of the stem. Stems entirely desti-tute of a central pith, medullary radii, or true bark; growing only at top, the vessels being disposed in bundles, the youngest in the centre: sometimes abortive, subterraneous, or root-like. Leaves frequently sheathed, either not notched and with simple ribs, or lobed and with branched ribs; but never truly compound. Corculum of the seed simple. Cotyledons, either solitary; or many, alternate.

Divided into two sub-series: A, cryptogamae; B, phanerogamae.

Subseries II. A. PLANTÆ ENDOGENÆ CRYPTOGAMÆ.

Fructifications hidden, unknown, or irregular.

FAMILIES.

Fructifications gregarious, either on the lower surface of the leaves; or rarely in spikes ... FILICES. 1. Fr. crustaceous, sessile, axillary, at the base of the leaves, or of the bractæ. LYCOPODIACEÆ. 2. Fr. radical, spherical, coriaceous, many celled; Leaves revolute; Plant aquatic ... MARSILEACEÆ. 3. Fr. terminal, amentaceous; Stem leafless; Branches verticillate, jointed .... EQUISETACEÆ. 4. Fr. axillary, turbinate, spiral, many seeded; Plant aquatic ....................... CHARADÆ. 5.
Fam. I. 1. FILICES. Ferns.

Fructifications gregarious, in sori covered when young with an involucrem; generally seated upon the lower surface of the leaves, but in some upon a spike. Capsules unilocular, often girt with an elastic ring, which flies back when the seeds are ripe; seeds very minute.—Rhizoma perennial, creeping; Fronds alternate, apparently radical, when young generally convolute; Plants, usually herbaceous, but in some mountainous situations they become evergreen shrubs. Winch. Ann. of Phil. 1818.

Rhizoma very bitter, emmenagogue, purgative, and anthelmintic. Leaves beech, demulcent, astringent, agreeably aromatic. Ashes contain much alkali; which being dissolved in a decoction of the same plant stimulate the growth of hair, and hence they have been called capillary plants.


Caps. globular, seated round the frond contracted into the form of a panicle ...... Osmunda. 1.

2. Caps. striated, with an elastic ring.


Sori transverse, linear ...................... Ceterach. 2.
Sori round ................................. Polypodium. 3.

b. Invol. umbilicate, or attached by one side; sori round. Aspidiaceae, c.

Invol. umbilicate, or kidney shape, fixed in the centre ....................... Aspidium. 4.
Invol. sharp-pointed, open from top to bottom ......................... Cyclopteris. 5.
Invol. attached to one side, open towards the margin ....................... Athyrium. 6.

c. Invol. fixed on one side, opening to the midrib; sori linear. Aspleniacese, d.

Sori separate; originating laterally from a rib .......................... Asplenium. 7.

d. Invol. double, opening by a longitudinal fissure; sori linear. Scolopendriae, e.

Sori oblique, parallel to each other between the veins of the frond ...... Scolopendrium. 8.
e. Invol. opening towards the rib; sori linear, parallel to the midrib. Blechnideae, f.
Invol. scariose, submarginal .............. Blechnum. 9.
Invol. scariose, marginal .................... Stegania. 10.
f. Invol. marginal, scariose, originating from the inflected upper membrane of the frond, opening inwards. Pteridaceae, g.
Sori linear, marginal, contiguous .......... Pteris. 11.
Sori dot-like ............................... Adiantum. 12.
g. Invol. more or less cupshape, superficial, containing the sori. Cyatheae, h.
Sori dorsal; invol. peltate, margin fringed;
receptacle none ............................ Woodsia. 13.
Sori marginal; invol. pitcher-shape, one-leaved;
receptacle cylindrical ....................... Trichomanes. 14.
Sori marginal; invol. pitcher-shape, two-leaved;
receptacle cylindrical ....................... Hymenophyllum. 15.

3. Capsule without an elastic ring, or striae.
Sori in a compound spike, opening parallelly to their insertion. Bostrichaceae, i... Bostrichium. 16.
Sori in a subarticulate distichous spike, opening transversely. Ophioglossaceae, k. Ophioglossum. 17.

A. Osmundaceae. Capsules very numerous, pedicelled, elegantly striated, generally radiated at top; when magnified finely veined, and pellucid.


Capsule footstalked, globular, semi-bivalve, opening at the striae, situated either on the back of the unaltered frond, or surrounding the frond contracted into the form of a panicle.—Root fleshy; Frond many tufted, pinnate, smooth.

Osmunda regalis. Royal Flowerfern.
Frond bipinnate; Leaflets lanceolate, edge scarcely notched, lower ones opposite, sub-auricled at the base; Panicle bipinnate, fructiferous, at the apex of the frond.

F. fæm. q. F. ramosa non dentata florída C. Bauhin, Raii Syn. 125, 4.
F. florída seu Osmunda regalis, Ger. em. 1131; Park. 1038.
Osmunda regalis, Lin. s. P. 1521.

Watery places in woods; perennial; June and July.

b. incisa. Lower leaflets, 2 or 3 cut.
B. Polygodiiaceae. Capsules nearly surrounded with an elastic ring which bends back when the capsule bursts; involucrum none, except the hairs which surround the capsules.

II. 2. CETERACH. Er. Cordus. Miltwaste.

Sori transverse, linear.—Root fibrous; frond cespitose, pinnatifid; lower surface covered with lanceolate, acute, serrulate, reticulate, brown, shining, membranous scales, which enclose the capsules.

Ceterach officinarum. Shop miltwaste. Frond pinnatifid; lobes confluent, obtuse, not notched, beneath paleo-squamose; scales not notched.

Ceterach officinarum, C. Bauhin, Pin. 554.
Asplenium sive Ceterach, Raii Syn. 113; Ger. em. 1139. Park, 1046.
A. Ceterach, Lin. S. P. 1538.
A. sinusium, Salisb, Pr. 403.
Grammites Ceterach, Swartz Syn. Fil. 23.
Spleenwort.

Calcaneous rocks and old walls; perennial; nearly all the year.
Root black; Frond cespitose, 4—8 in. high, spreading, lanceolate, lobes alternate, rarely opposite; smooth above; Capsules auburn.

III. 3. POLYPODIUM. Theophrastus. Polypody.

Sori round, in rows more or less distant from each other.—Root creeping, torulose, scaly, fibres villose; frond pinnately divided, sometimes naked, or furnished with simple hairs, and long, lanceolate, reticulate, membranaceous scales.


Polypodium, Raii Syn. 117, 1; Ger. em. 1132.
Pol. vulgare, Park. 1039; Lin. S. P. 1544.
Polypody of the oak. Wallfern. Polypody.

Trunks of old trees, walls; perennial; May to October. Frond 4—8 in. high, erect, lanceolate, acute; sori in two rows parallel to the ribs.
Root sweetish, but grows bitter by long boiling; gently purgative when fresh. 5vj infused in 3ss of boiling water is sufficient for two doses.
1. **FILICES.** 4. Polypod.

β. *serratum.* Leaves doubly serrate.


γ. *sinuatum.* Lobes sinuate.

*Polypodium vulgare lobis proliferis,* *Bolt. Fil.* 33.

δ. *Cambricum.* Lobes pinnatifido-dentated.


ε. *acutum.* Leaves very long, distantly serrated; serratures tapering to an acute point.


*Frond.* bipinnatifid, two lower leaflets bent back; *lobes* linear, lanceolate, obtuse, not notched, ciliated; lower ones adnato-decurrent at the base by a four-cornered appendage; *veins* hairy; *sori* solitary, marginal.


*Pol. latebrosum,* *Sal. Prod.* 403.

*Wood Polypody.*

Fissures of rocks; perennial; June and July.

*Frond* erect, 1—2 feet high, pale green; *stem* very long, hairy, and scaly; *pinnae* opposite, connate, soft, hairy, lower ones reflexed; *margin* subcrenate; *sori* distinct, near the margin of the lobes.


*Frond* ternate, bipinnate, spreading, deflected; *lobes* obtuse, scarcely notched; *sori* marginal; *root* filiform.

*Felix femina q.* F. *ramosa minor J. Bauh, Raii Syn.* 125, 6.

*Polypodium Dryopteris, Lin. S. P.* 1555.

*Pol. pulchellum,* *Sal. Prod.* 403.

Shady sides of rocks; perennial; July.

*Stipes* very slender, erect, a foot high, smooth; *frond* ternate, spreading, rather bent down, very tender, light green, 3 in. wide, bipinnate, the odd one rather larger; *leaflets* sessile, the lower ones larger and more compounded; *lobes* oblong, crenato-dentate; *rachis* nearly capillary, rather downy; *sori* numerous, small, not in the least hairy, never running into one another.


*Frond* ternate, bipinnate, straight, rather ridged; *lobes* rather obtuse, scarcely notched; *sori* marginal, confluent.
4. Aspidium. 1. FILICES.  

P. Dryopteris, Dickson, Dried Pl. 16; Bolt. Fil. 53.  
Dryopteris Tragi, Ger. em. 1135.  
Filix pumila saxatilis prima Clusii, Park. 1043.  
Treesfern. Rigid 3-branched polypody.  

Mountainous heaths in chalky soils; peren. July.  
Root shorter and thicker than P. pulchellum; frond stiffer and more scaly at the base; leaves half the size, rather upright.  

C. ASPIDICEAE. Sori round; involucrum umbilicated or reniform, and either attached by the centre and open all round, or attached by one side and open on the other side.  

Sori round; involucria kidneyshape, umbilicate, fixed in the centre, open all round.  

Frond pinnate; stipes scaly; pinnae lanceolate, falcate, acute, ciliate, serrate, the base eared above, cut out below, upper ones only fruitbearing, under surface chaffy; sori solitary.  
Lochitis aspera major, Rail Syn. 118,2; Ger. em. 1140.  
Polypodium Lochitis, Linn. S. P. 1548.  
Polystichum Lochitis, Roth Germ. 3, 71.  
Royal polypody. Great spleenwort. Spleenwort polypody.  

Cleft of rocks; perennial; May, June.  
Frond 4—6 in. high, erect, narrow.  

Frond pinnate; pinnae lanceolate, smooth, beneath resin-glandular, pinnatifid; lobes lanceolate, obtuse, not notched, the lower ones rather longer; sori marginal, running together.  
Filix mas ericeti Dunsmore Petiveri, Rail Syn. 122.  
Polypodium Thelypteris, Huds. 457.  
P. Oreopteris, Ehrh. Crpyr.  
Polystichum montanum, Roth Germ. 3, 74.  
Aspidium Oreopteris, Swartz Syn. Fil. 50.  
Heath polypody.  

Mountainous heaths and dry woods; peren. July.  
Root large, fibrous, scaly; frond 3-4 feet high, lanceolate; pinnae beneath smooth, covered with numerous golden resinous spots; sori numerous; involucria extremely thin, umbilicate, torn, withering quickly.
1. FILICES. 4. Aspidium.

β. minor. Smaller in all its parts.
F. mas q. F. punila saxatilis altera Clusii, Raill. Syn. 192, 9; Park 1043.
Male stonefern.

F. nemorale; leaflets oblong, obtuse, very finely serrate; sori near the midrib; stipes and midrib chaffy.
F. mas vulgaris, Raill. Syn. 190, 1; Park. 1036.
F. mas non ramosa, pinnulis latis densis minutim dentatis, Ger. em. 1129.
Polypodium F. mas, Lin. S. P. 1551.
Aspidium F. mas, Swartz Syn. Fil. 55.
Asp. nemorale, Sal. Prod. 408.
Polystichum F. mas, Roth Germ. 3, 82.
Male fern. Male polypody.

Woods, heaths, stony places; peren. June, July.
Roots cespitose, large, scaly; frond lanceolate, 3 feet high; pinnae numerous, upper leaflets joined together; sori near the ribs especially at the base of the leaflets in a single row, large, prominent, numerous; involucra umbilicate, split on one side, the edge folded.
Root expels the tape-worm, $\frac{1}{2}$—$\frac{3}{4}$ given in powder, in the morning fasting, a gentle purge having been given over night: some give a drastic purge the same morning, others only repeat the medicine daily until the worms are expelled. Frond burned for its alkaline ashes.


F. aculeatum; leaflets ovate, subfalcate, acute, mucronate-serrate; towards the base the upper ones are truncated, the lower ones short and wedgelike; sori scattered; stipes and ribs very chaffy.
F. mas non ramosa, pinnulis latis auriculatis spinosis. Raill. Syn. 121, 2; Ger. em. 1130.
Polypodium aculeatum, Linn. S. P. 1552.
Polystichum aculeatum, Roth Germ. 3, 79.
Aspidium aculeatum, Swartz Schr. Jour. 2, 37.
Prickly polypody.

Woods, shady places; peren. June.
F. aculeata 2 feet high, elegant, dark green. This common variety transplanted into a garden became similar to γ.

β. muscosum. Leaflets extremely chaffy.
F. aculeata alis expansis, muscosa lanugine aspersa Plukeneti, Raill Syn. 121, 5.

γ. Cambridicum. Leaflets rounder, prickles longer than usual.
F. mas q. F. lonchitidi affinis Doody, Raill Syn. 121, 4.
5. Aspidium lobatum. Lobed shieldfern.
Frond bipinnate; leaflets obtuse, ovate, mucronated serrate, those next the mainrib much larger, eared, the tips bristled; stipes and mainrib chaffy.
Filix mas q. F. aculeata major, &c. 
F. aculeata, laochitidis azula Pluk. 
Closeleaved shieldfern.
Shady lanes; peren. June.
Very like the preceding, but paler and more shining; frond narrower, curled, and apparently convex; leaflets more elliptic, less cut, 15 or 16 pair in each pinna, and those next the mainrib so large as to extend over the leaflets of the next pinna; pinnae 35 or more pairs in each leaf.

β. ramosum. End of the frond divided into 2 or 3 curled segments.

Frond bipinnate; leaflets oblong, distinct, pinnatifid; lobes mucronato-serrate; stipes chaffy; involucra smooth.
Filix femina q. F. mas ramosa, pinnulis dentatis, Ger. em. 1129; Rati Syn. 124,2. 
P. dilatatum, Hoffm. Germ. 2. 7. 
Polystichum multiflorum, Roth Germ. 3, 87. 
Crested polypody.
Moist shady places; peren. June, July.
Root tuberous, scarcely creeping; frond 2 feet high, light green; sori numerous, very distinct.

β. Major. Triply pinnate, 3 or 4 feet high.

γ. Minor. Only the first pair of pinnae triply divided.
Polypodium chaeticum, Hudson Fl. Ang. 458?

Frond pinnate; pinnae subcordate, ovate, oblong, pinnatifid; leaflets oblong, obtuse, dentato-serrate; stipes chaffy.
Polypodium cristatum, Lin. S. P. 1551. 
P. Callipteris, Hoffm. Germ. 252; 
Aspidium cristatum, Swartz Syn. Fil. 52. 
Polystichum cristatum, Roth Germ. 3.91. 
Crested polypody.
Boggy heaths; peren. June, July.
Root caespitose; frond 1–2 feet high; sori black; involucra snow white.
8. Aspidium fragrans.  
Fragrant shieldfern.  
Frond pinnate; pinnae lanceolate, close together, deeply cut; lobes oblong, obtuse, dentate; sori contiguous; stipes and mainrib very chaffy.

Polypodium fragrans, Huds. Fl. Ang. 457.
Aspidium fragrans, Swartz Syn. Fil. 51.
Sweet polypody.

Moist chinks in rocks; perennial; July to September.

Thorny shieldfern.  
Frond bipinnate; leaflets oblong, decurrent, confluent, inciso-dentate; lobes mucronato-serrate; stipes chaffy; involucre glandular.

Filix pumila saxatilis altera, Pluk. Alm. 151.
Polypodium spinulosum, Retz. Prod. 250.
Polystichum spinulosum, Roth Germ. 3.91.
Aspidium spinulosum, Swartz Syn. Fil. 51.

Bogs; Perennial; June, July.
Frond 1 foot high, long stemmed, subovate, light green, smooth, thin, nearly transparent; sori small, distant, placed towards the axillae of the leaflets; involucre circinate, split on one side.

10. Aspidium palustre.  
Marsh shieldfern.  
Frond pinnate; pinnae linear-lanceolate, pinnatifid, smooth; lobes ovate, acute, not notched; sori marginal, at first contiguous; afterwards confluent.

Filix mas q. F. minor palustris repens, Rail Syn. 122, 7.
Dryopteris, Ger. em. 1135.
Dryopteris seu Filix querna repens, Park. 1041.
Acrostichum Thelypteris, Lin. S. P. 1598.
Polypodium Thelypteris, Lin. Mant. 505.
Polystichum Thelypteris, Roth Germ. 3.77.
Aspidium Thelypteris, Swartz Syn. Fil. 50.
Aspidium palustre, Sal. Prod. 450.
Creeping water fern.

Marshes; perennial; July.
Frond upright 1–2 feet high, lanceolate, pleasant green; stipes smooth; lobes subcrenate at the tip, the lower ones crossing in pairs; sori numerous, and when ripe covering the whole surface; mainrib very smooth; partial ribs rather hairy.

V. 5. CYCLOPTERIS. Schrader.  
Cupfern.
Sori in round scattered spots; involucre sharppointed, opening completely from tip to base, becoming reflexed.

Cyclopteris fragilis.  
Brittle cupfern.
Frond bipinnate; leaflets oblong obluse, inciso-serrate; serratures obtuse, denticulate; mainrib winged.
6. Athyrium. 1. FILICES.  

Felix foemina q. F. saxatilis caule tenue fragili, Raiti Syn. 125, 7.
Polypondium fragile, Lin. S. P. 1553.
Cycathedra fragilis, Smith Pl. Br. 1159.
Cyclotetris fragilis, Schrad. Journ.

Rocks, old walls; perennial; June, July.

β Rhexila. Pinnae spear shape, acute, distant; leaflets deeply lobed; lobes regularly serrate.

Felix foemina q. F. montana ramosa minor, argute dentificata Lhwyd.
Polypondium Rhexila. With. 958.
Aspidium Rhexila, Sniulh Comp. Fl. Ang. 156.

γ. acuta. Pinnae spearshape, acute; leaflets crowded.
δ. obtusa. Pinnae spearshape, blunt.

VI. 6. ATHYRIUM, Roth Fl. Germ. Femalefern.

Sori round, dispersed; involucra attached by one side, mostly the inner one, open towards the margin.

1. Athyrium irregium. Meadow Femalefern.
Frond pinnate; leaflets deeply pinnatifid-cut; lobes ovate, oblong, sharply cut and toothed; stipes quadrangular; involucra short jagged.
Aspidium irregium, Smith Comp. Fl. Ang. 156.

Shady meadows; perennial; June.

Stipes delicate, transparent green; leaflets nearly connected at the base by a sort of wing from the partial rib; sori several, about the lower part of the rachis; involucra, oblong or square, whitish, fringed at the edge.

Frond pinnate; pinnae cordate, pinnatifid; lobes ovate, rather acute, the lowest and the terminal ones subbilobate; sori when ripe confluent.
Felix saxatilis non ramosa, minima, Pluken. Phytog.
Polypondium fontanum, Lin. S. P. 1550.
Aspidium fontanum, Smith Comp. Fl. Ang. 156.

On old walls and rocks; perennial; June.
Sori confluent; involucra white, lateral.

Frond bipinnate; leaflets oblong, lanceolate, inciso-serrate; serratures 2 or 3 toothed, acute; sori oblong straight.
Felix mas non ramosa, pinnulis angulis raris profunde dentatis, Raiti Syn. 121, 6; Ger. em. 1130.
Polypondium Felix foemina, Lin. S. P. 1551.
Aspidium Felix foemina, Swartz Syn. Fil. 54.
Athyrium Felix foemina, Roth Germ. 3, 65.

Female polypody. Female shieldfern.
Shady marshes; perennial; June, July.

Root large, caespitose; frond deep green; involucra kidney-shaped, margin lacerated.

Frond bipinnate; leaflets ovate, oblong, lobato-pinnatifid; lobes linear, oblong, obtuse, not notched; rachis winged.

*Filix fœminâ q. Adiantum nigrum, pinnulis cicutâriae divisura Bobarti, Rait Syn. 126.*

*Cyatheâ regina, Sm. Fl. Brit. 1140.*
*Aspidium regium, Swartz Syn. Fil. 58.*
*Polypodium trifûdum, With. 957.*

Walls, and alpine rocks; perennial; June.

Root scaly; frond nine inches long, smooth, light green; lobes variously cut; edge not in the least notched; ribs rather straight.

Frond pinnate; leaflets ovato-oblung, pinnatifid; lobes oblong, obtuse, denticulate.

*Polypodium dentatum, Dickson Crypt.*
*Cyathên dentata, Smith Fl. Br. 1141.*
*Aspidium dentatum, Swartz Syn. Fil. 59.*

Alpine rocks; perennial; July.

Root scaly; frond about 9 in. long, lanceolate, acute, smooth; ribs of the lobes flexuose; rachis sometimes winged near the tip; involucra halved, with the margin fimbriated.

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**D. ASPLENIACEÆ.** Sori linear; involucra fixed on one side, and open towards the rib.

VII. 7. ASPLENIUM. Dioscorides. Spleenwort.

Sori linear, separated, originating laterally from a rib, and opening towards it.

1. *Asplenium lanceolatum.* Spearshape spleenwort.
Frond bipinnate; leaflets obovate, obtuse, wedgeshape at the base, finely toothed at the tip; sori when ripe confluent; margin of the involucrum torn.

*Filix fœminâ q. F. elegans, adianto nigro accedens, segmentis rotundobus, Rait Syn. 127, 11.*

Dryopteris candida, *Ger. em. 1135. as to the figure only.*
*Asplenium lanceolatum, Huds. Fl. Ang. 454.*

Rocks and old walls; perennial; June to October.

Root black, scaly; frond erect 4-5 in. high, light green,
smooth; pinnae opposite; stipes short, smooth; sori 3–5 short, becoming confluent: involucra whitish; edge torn.

2. Asplenium lucidum.  
Shining spleenwort.  
Frond bipinnate; pinnae oblong-lanceolate, acute; leaflets oblong, pinnatifid; lobes toothed at the tip; sori become confluent; margin of the involucra not notched.

Filix femina q. Adiantum nigrum officinarum J. Bauhin, Rau Syn. 126, 10.

Onopteris mas, Ger. cm. 1137.
Adiantum nigrum vulgare, Park. 1049.
Asplenium Adiantum nigrum, Lin. S. P. 1541.
Asplenium lucidum, Sal. Prod. 413.
Black maidenhair. Oakfern.

Roots of trees, old walls, and shady banks; perennial; June—October.

Root black; frond erect, a foot high, sharp pointed, very dark green, smooth; stipes long, dark purple, shining; sori many; involucra very thin, margin not in the least notched.

Demulcent, bechic, diuretic, nephritic; and praised by Hoffmann as an antiscorbutic.

$\beta$. sterile. Leaflets barren, membranaceous, elegantly palmato-laciniate.


In caves, where the sun's rays cannot enter.

3. Asplenium marinum.  
Marine spleenwort.  
Frond pinnate; leaflets oblong, obtuse, inciso-serrate; the base rounded and subarticulate above, truncated below.

Filix Alpina q. Chamæfílìx marina Anglica J. Bauhin, Rau Syn. 119. 2.
F. marina Anglica, Park. 1045.
Filicula petraea femina, seu Chamæaílix marina Anglica, Ger. cm. 1143.
Asplenium marinum, Lin. S. P. 1540.

Rocks on the sea coasts: perennial; June, October.

Roots black, scaly; frond of various sizes; stipes black, smooth; leaflets alternate, dark green, veiny; rachis winged; sori opposite; involucra brown, not in the least notched.

Opening, emmenagogue; the mucilaginous extract useful in severe burns and scalds.

$\beta$. trapeziforme. Leaflets lobed or jagged.

Capillus Veneris q. Adiantum majus coriandri folio, adianto vero affine, pediculo pallide rubente Sibbaldi, RauSyn. 124, 2.
Adiantum trapeziforme, Huds. Fl. Ang. 460.
1. Asplenium. 7. Asplenium. 13

4. Asplenium Germanicum.  
*German spleenwort.*  
Frond pinnate; leaflets alternate, lanceolate, cuneate, toothed at the tip, the lower ones two-parted.

Asplenium alternifolium, *With.* 768.  
Asplenium Germanicum, *Weis Crypt.* 299.  
Alternate-leaved spleenwort.

Subalpine rocks; perennial; June to October.  
Root black; fronds numerous, 6 in. high, erect, light green, smooth; leaflets alternate; sori few, short, pale.

5. Asplenium saxatile.  
*Rock spleenwort.*  
Frond pinnate; leaflets subrotundo-oblong, obtuse, truncate-cuneate; stipes blackish brown, shining, keeled below.

Trichomanes, *Raii Syn.* 119, 1; *Park,* 1051.  
*English black maidenhair.*

Shaded rocks and old walls; perennial; all the year.  
Root black, hairy, cespitose; fronds numerous, 6 in. high; rachis dark purple, smooth, shining; leaflets smooth, without veins, very dark green above, paler below; involucra whitish; capsules brown.

b. incisum.  
Leaflets pinnatifid; sometimes very long.  
Trichomanes foliis elegantis incisis, *Raii Syn.* 120, 2.

c. ramosissimum.  
Frond very much-branched at top.

6. Asplenium viride.  
*Green spleenwort.*  
Frond pinnate; leaflets subrotundo-ovate, wedgeshape at the base, obtusely serrate; rachis green, flat beneath.


Moist alpine rocks; perennial; June, July.  
Frond about 6 in. high, linear-lanceolate, paler than A. saxatile; rachis rather four-sided, or flattened below; involucra and capsules yellowish.

b. ramosum.  
*Rachis divided.*  
Trichomanes femina, *Ger.* 985.  
*Branch English black maidenhair.*
7. *Asplenium murale.* Wall spleenwort.

Frond two parted at the base, simply pinnate at the tip; leaflets rhomboidal, oblong, obtuse, with the tip gnawed or crenate.

* Ruta muraria, *Raii Syn.* 122; *Ger.* em. 1144.
* Ruta muraria, seu *Salvia vitæ,* *Park.* 1050.

Scolopendrium *Ruta muraria, *Roth Germ. 3, 52.

White maidenhair. Wall rue. Tentwurt.

Moist clefts in rocks and stone walls; per. June to Oct.

Root dark brown; fronds many, 9 in. high, spreading, very dark green, rather of a bluish cast, smooth; leaflets footstalked, wedgeshape or rhombic, horizontal or even bent down; sori many; involucra whitish, their edge crenulate.

Demulcent and diuretic.

8. *majus.* Leaflets narrow, acuminate.


8. *Asplenium septentrionale.* Northern spleenwort.

Frond usually 2 or 3 parted; lobes linear, with the tip mostly 3-toothed; stipes very long.

* Filix saxatilis Tragi, *Raii Syn.* 120, 1; *Park.* 1045.
* Musrus corniculatus, *Ger.* em. 1561.

Scolopendrium septentrionale, Roth Germ. 3, 49.

Forked maidenhair.

Clefts of rocks in the north parts; peren. June to Oct.

Root black, caespitose; fronds many, 6 in. high, upright, dark green, smooth, narrow at the base, above three parted; sori parallel, brown, covering all the narrow disk; involucra not in the least notched.

E. SCLOPENDRIDE. Involutra double, opening lengthways by a slit; sori linear.

VIII. 8. SCOLOPENDRIUM. Theophrastus. Hartstongue.

Sori linear, oblique, parallel to each other, placed between the secondary ribs of the frond; involucra double, opening by a longitudinal fissure.

Scolopendrium *vulgare.* Common hartstongue.

Frond broad, lanceolate, heartshape at the base; stipes chaffy.
Phyllitis, *Raii Syn. 116, 1*; *Ger. em. 1138.*
Phyllitis, seu Lingua cervina vulgaris, *Park. 1046.*
Asplenium *Scolopendrium, Lin. S. P. 1537.*
Scolopendrium Phyllitis, *Roth Germ. 3, 47.*
Scolopendrium vulgaris, *Synonos Syn.*

Moist rocks, walls, wells, and banks; perennial; July.

*Root* fibrous, brown; *frond* 12 to 18 in. high, upright, light green on both sides, smooth; *stipes* brown, often rather scaly; *sori* numerous, yellowish brown, distinct; *involucra* turn back and are hidden by the prominent capsules.

* Phyllitis *crispa.* Frond crisp, jagged at the edge.


* Phyllitis *multifida.* Frond wavy, tip many-cut, crisp.

Phyllitis multifida, *Ger. em. 1138; Raii Syn. 117, 1.*

* Phyllitis *polyschides.* Frond cleft at the edges.

Phyllitis polyschides laciniis singulis cruciatum, *Barii Syn. 117, 2.*

* Phyllitis *ramosum.* Frond divided.

*F. Blechnidæ.* Sori linear, contiguous, parallel, on each side of the midrib; *involucra* opens towards the rib.

IX. 9. BLECHNUM. Dioscorides.

*Soricant.*

Sori linear, longitudinal, contiguous, parallel to the midrib; *involucra* superficial, submarginal, opening on the inside.

* Blechnum boreale.* Northern spicant.

Frond simple, pinnatifid; *lobes* lanceolate, rather obtuse, parallel; fruit-bearing *fronds* distinct, and narrower than the barren ones; *leaflets* linear pointed.

Lonchitis aspera, *Raii Syn. 118; Ger. em. 1140.*

Lonchitis aspéra minor, *Park. 1042.*


Aeostichum Spicant, *Sibthorp. 287.*


Blechnum Spicant, *Roth Germ. 3, 44.*


Rough spleenwort.

Moist woods and heaths; perennial; July.

*Root* fibrous, scaly; *fronds* a foot or 18 in. high, dark green, smooth, pectinato-pinnate; *leaflets* very numerous, subalternate, mucronate; *capsules* brown.

Sori linear, contiguous; capsules at length covering the back of the contracted frond, or of the leaflets; involucra marginal, scariose, opening inwards.

Stegania onoceleoides. Onoclea stonefern.

Barren fronds bipinnate; leaflets pinnatifid; lobes obvate, cuneate, inciso-dentate at the tip; fertile fronds bipinnate, lower ones tripinnate; leaflets linear oblong, rather obtuse, not in the least notched, narrower at the base.

Filix fœmina q. Adiantum album crispum Alpinum Schwenckf. Rail Syn. 126, 9;
Osmunda crispa, Lin. S. P. 1512.
Onoclea crispa, Hoff. Germ. 2, 11.
Stegania onoceleoides, Yule Ed. Enc. Fil.
Osmunda rupestris, Salisb. Prod. 402.

Stone walls and rocks; perennial; July.

Root fibrous; frond a foot high, long stalked, smooth, pale green; leaflets petiolate, barren leaflets wedgeshape, ribbed, flat, cut at the tip; fruitful leaflets, on a distinct frond, elliptic, convex, not notched; involucra broad, turgid, crenate.

b. crispa. Leaves curled.

G. PTERIDEÆ. Involucra marginal, scariose, arising from the inflected upper membrane of the frond, opening inwards.

XI. 11. PTERIS. Theophrastus. Brakes.

Sori linear, marginal.

Pteris fœmina. Female brakes.

Frond three parted; branches bipinnate; leaflets linear, lanceolate, the upper ones whole, the lower pinnatifid; lobes oblong, obtuse.

Filix fœmina, Raili Syn. 124; Ger. ed. 1123.
F. fœmina vulgaris, Park. 1037.
Pteris aquilina, Lin. S. P. 1533.

Common brakes, Female fern.

Heaths, woods, and poor pastures; perennial; July.

Root long, fusiform; fronds 3 feet high, spreading, smooth; leaflets opposite; lobes alternate, sessile, lanceolate, not notched; sori on the margin of the lobes; involucra joined together, compressed, crenulate, brown.
**FILICES.**

13. **Woodsia.**

*β. minor.* Frond very slender; *lobes* roundish, confluent, barren.


On moist walls, but when the roots extend to the ground, they throw up the common variety, *Dillen in Ray.*

**XII. 12. ADIANTUM. Theophrastus.** Maidenhair, Sori in round, distinct spots.

*Adiantum fontanum,* Spring maidenhair. Frond bipinnate; *leaflets* ovate, cuneate; *fertile lobes* terminating in a linear oblong sorus; *sterile lobes* serrate.

*Capillus Veneris verus,* *Ger. em.* 1143; *Raii Syn.* 193, 1.

*Adiantum verum sive Capillus Veneris verus,* *Park.* 1049.

*Adiantum Capillus Veneris,* *Lin. S. P.* 1558.

*Adiantum fontanum,* *Sal. Prod.*

*A. cuneifolium,* *Stokes B. M. M.* 4, 619.

True maidenhair.

Rocks and moist walls; perennial; May to September. Root fibrous; fronds sometimes a foot high, upright, spreading, handsome, smooth; stipes and rachis very smooth, shining, dark purple; *lobes* largish, fanshape, streaked, narrowed at the base, outwardly lobed, cut, rounded; involucra kidney-shape, flattened, at first pale, but turn black.

**H. CYATHEÆ.** Sori globular; involucra more or less cupshaped, superficial; capsules generally attached to an elevated receptacle within the cup.


Sori dorsal, roundish; involucra membranous, cupshape, opening at the edge which is fringed with filiform processes; capsules pedicelled; receptacle none.

*Woodsia alpina.* Alpine hairfern. Frond pinnate; *leaflets* triangular, oblong, inciso-pinnatifid; *lobes* not nicked, the lower ones produced at the base; capsules few.

*Filix alpina,* *pedicularis rubrae foliis subtus villosis Lhwyd,* *Raii Syn.* 118, 1.

*Acrostichum alpinum* *Bolt. Fil.* 76.

*A. Ilvense,* *Huds.* 451.

*Polypodium Arvonicum,* *With.* 774.
Alpine rocks; perennial; June.

Root cespitose; fronds spreading, 2 to 4 in. high, lanceolate, rather obtuse, both faces hairy; rachis hairy; leaflets not very close, heartshape, pinnatifid, dilated at the base; lobes rounded, rather convex, with the edges turned up, scarcely crenate, not armed; sori roundish, hairy, numerous, growing at length quite close, brown.


Sori marginal; capsules sessile, inserted into a cylindrical common receptacle, contained within a one-leaf, pitcher-shape open involucrum of a similar texture with the frond; surculi creeping, downy; fronds pellucid, divided into areolae, very seldom undivided, commonly pinnatifid; lobes one-ribbed; involucrum terminal; receptacle mostly extended and elongated.

**Trichomanes brevisetum.** Shortbristle filmfern.

Fronds 2 or 4, pinnatifid, smooth; leaflets one-flowered; lobes linear; with the margin unnicked; involucrum topshape, hollow, wingless; apex simple, not nicked; receptacle hardly exserted; stipes winged.


Hymenophyllum alatum, *Kng. B.* 80, 1417.


Cup goldlocks.

Shady springs and rocks; perennial; May and June.

Frond 4 or 5 inches high, thin, transparent, dark green.

XV. 15. HYMENOPHYLLUM. Smith. Dwarf fern.

Sori marginal, inserted into a cylindrical receptacle, included within a bivalve involucrum; surculi erect, tomentose; fronds pellucid, divided into areolae, pinnatifid; lobes one-ribbed; involucrum terminal; receptacle not exserted.
Hymenophyllum Tunbridgense. Tunbridge dwarffern. Frond pinnate; leaflets digitato-pinnatifid; lobes linear, serrate; sori superaxillary, solitary; involucra serrate; rachis winged; stipes round.

Darea Tunbridgensis, Petiver Mus.
Trichomanes Tunbridgense, Lin. S. P. 1561.
T. pulchellum, Salisb. Prod. 404.
Hymenophyllum Tunbridgense, Smith Fil. Aug, 1141.
Tunbridge goldilocks.

Moist and shady rocks; perennial; May and June. Fronds 2 or 3 in. high, cespitose, decumbent or erect, dark green, membranaceous, transparent; sori solitary, sessile or with short footstalks on the upper margin of the lobes, lenticular, compressed; involucrum bivalve, the edge torn or serrate; capsules many, brown, globose, bivalve, sitting on a short receptacle.

I. Botrychiae. Sori in a compound two-rowed spike, and opening parallely with their insertion; capsules without ring or striæ.


Spike two rowed, compound; sori open parallel to their insertion; capsules without ring or striæ.

Scape above one fronded; frond pinnatifid; leaflets lunate, not in the least nicked.
Lunaria minor, Rad. Syn. 128; Ger. em. 405; Park. 507.
Osmunda Lunaria, Lin. S. P. 1519.
O. lunata, Salisb. Prod. 401.
Botrychium Lunaria, Swartz Syn. Fil. 171.
Common moonwort.

In meadows and hill pastures; perennial, June. Root fibrous; frond about a hand high, smooth, greenish, single; leaflets crescent shape; spike at the base of the frond, upright, tworowed; capsules globose, smooth, brown. Made into an ointment with butter, and rubbed in opposite to the kidneys, it is esteemed a certain remedy for a dysentery.

2. Botrychium rutaceum. Rue moonwort.
Scape above one fronded; frond bipinnatifid; lobes notched, 2 or 3 toothed, obtuse.
Lunaria minor ramosa, Lawsoni; Ratti Syn. 129; Ger. em. 406.
Osmunda Lunaria s. Lin. S. P. 1519.
O. lanceolata, Gmel. N. C. Petr. 12, 516.
Botrychium rutaceum, Swartz Syn. Fil. 171.

Meadows and hilly pastures; perennial; June.

Scape naked, three parted near the root, subbipinnate; leaflets oblong, obtuse, toothed.

Lunaria minor foliis dissectis Lawson, Ratti Syn. 129.
Osmunda Lunaria γ. Smith F. Ang. 1107.
O. matricariae, Schrank F. Bau. 419.
Botrychium rutaceum δ. Swartz Syn. Fil. 171.
Botrychium matricarioides, Wild. S. P.

Meadows and hilly pastures; perennial; July.

K. Ophioglossae. Spike two rowed, apparently jointed; capsules immersed in the spike, opening transversely, with neither rings nor striae.

XVII. 17. OPHIOGLOSSUM. Tragus. Adderstongue.
Spike two rowed; capsules immersed, opening transversely.

Ophioglossum vulgatum. Common adderstongue.
Spike on the stem; frond ovate obtuse, finely reticulated.

Ophioglossum, Ratti Syn. 128; Ger. em. 404.
O. seu Lingua serpentina, Park. 506.
O. vulgatum, Lin. S. P. 1518.
O. ovatum Salisb. Prod. 401.
Ophioglossum vulgatum, C. Bauh. Pin. 354.

In moist fields and pastures; perennial; May.
Root fibrous; frond simple, single, ovate with a footstalk, scarce a hand high, very smooth, greenish, not nicked, bearing the spike at the bottom; spike erect, acute, compressed, bearing many capsules.

β. bifidum. Spike bifid.
γ. duplex. Spike double.
δ. incisum. Frond slightly lobed.
Fam. II. 2. Lycopodiaceæ. De Candolle. Lycopodineæ, Swartz.

Fructifications crustaceous, sessile in the axillæ of the leaves, or of the bracteæ; conceptacles of two kinds; the common sort (the male organs?) replete with fine powdery masses grouped 3 by 3, or 4 by 4 into spherical globules; the less frequent (the female organs?) including roughish spherical globules marked underneath with three prominent ribs.—Roots fibrous; stem herbaceous or woody, simple or branched, frequently rampant; leaves small, not nicked, numerous, either scattered, or alternate, or two rowed, frequently stipuled.

Conceptacles capsular; valvular; leaves caulisine.

Conceps. 2 valved, 1 celled; seeds cohering in globules . Lyco podium 18.

Conceps. 3 valved, 3 celled; seeds angular. Bernhardia 19.

Conceps. capsular, not valvular; leaves radical.


Conceptacles of one kind only, sessile, kidneyshape, two-valved, one-celled, in the axillæ of the leaves, or in spikes—Stalk branched; leaves scattered.

a. Plananthus. Conceptacles sessile in the axillæ of the leaves.

1. Lycopodium inundatum. Inundation wolfsclaw.

Stalk rather branchy, creeping; flowering branches single, simple, erect; apex one-rowed; leaves linear, spread, acute, slightly nicked, curved above.

L. palustre repens, clava singulari, Dill. M. 452.
Lycopodium inundatum, Lin. S. P. 1563.

Creeping clubmoss.

Inundated heaths, turf bogs; perennial; June, July.

Flowering branches 1 or 2 inches long; floral leaves larger than the common, much dilated at the base, and often one-toothed; conceptacles small.
2. Lycopodium abietiforme.  
Fir wolfsclaw.  
Stalk forked, erect; branches eventopped; leaves spread, in eight series, linear, lanceolate, pointed, not in the least nicked, imbricated, ridged.

Selago foliis et facie abietis, Rail Syn. 106.  
S. vulgaris, Dill. Muse. 435.  
Lycopodium Selago, Lin. S. P. 1565.

Upright fir moss.

Wet heaths in mountains; perennial; June to August.  
Stalk about 8 in. high, very leafy; leaves thick, dark green, shining; conceptacles small, brownish yellow.  
Violently emetic; the decoction externally used destroys lice in children's hair.

b. Lepidotis.  
Conceptacles in spikes, with bracteae.

3. Lycopodium annotinum.  
Yearly wolfsclaw.  
Stalk creeping; branches ascending, twice twoparted at the base; leaves in five rows, linear, lanceolate, contracted at each year's growth; spike solitary, sessile, terminal.

Lycopodium elatius juniperinum, clavis singularibus, sine pediculis, Rail Syn. 107, 2; Dill. M. 455.  
Lycopodium annotinum, Lin. S. P. 1566.

Alpine rocks; perennial; June to August.  
Stem very long; flowerbearing shoots 2 in. high, generally branched, leafy, contracted at the last year's shoot; leaves expanded, light green; bracteae smaller, closely tiled, rather membranaceous.

4. Lycopodium clavatum.  
Clubbed wolfsclaw.  
Stalk creeping; branches ascending; leaves spread, ribless, bent inwards, terminating in hairs; spikes usually in pairs, cylindrical, footstalked; bracteae ovate, pointed, eroso-denticulated.

Lycopodium, Rail Syn. 107, 1.  
Musens clavatus seu Lycopodium, Ger. en. 1562; Park. 1307.  
Lycopodium vulgaris pilosum, amfragosum et repens, Dill. M. 441.  
Lycopodium clavatum, Lin. S. P. 1564.  
Clubmoss.

Heaths or hills; perennial; July, August.  
Stalks whiplike, several feet long, creeping, branched leafy all around; fruitbearing branches upright, 4 in. high, loosely leafed, terminated by 1 to 3 cylindrical, leafy spikes an inch long; bracteae broader at the bottom.
5. Lycopodium alpinum. Alpine wolf's claw.
Branches erect, forked, bundled; leaves four-rowed, oblong, convex, acute, adpressed; spike terminal, single, sessile, round.

L. subinum facie, Raitt Syn. 108, 3; Dill. M. 445.
Muscus clavatus folis cupressiformis, Ger. em. 1562.
M. clavatus cupressiformis, Park. 1309, 1310.
Lycopodium alpinum, Lin. S. P. 1567.

Heath cypress.
Alpine rocks; perennial; August.

Stalk creeping, very long, few-leaved; branches 2 to 3 in. long, full-leaved; leaves imbricated, small, sharp-pointed, keeled, light green, not in the least nicked; bracteae membranaceous, flat, dilated at the base, yellowish; conceptacles kidneyshape, yellow.

II. 19. BERNHARDIA. Beauvois. Mountainmoss.
Conceptacles capsular, cauline, three lobed, three valued, three celled; partitions median;

Stalk creeping; branches upright, simple; leaves spread lanceolate, denticulate, ciliate; spike terminal, single, leafy, single.

Selaginoides folis spinosis, Raitt Syn. 106; Dill. M. 460.
Lycopodium Selaginoides, Lin. S. P. 1565.

Moist alpine heaths; perennial; August.

Stalk decumbent, branched; branches rising up at the end, two inches high, leafed all round, leaves light green, shining, rather erect; bracteae larger than the leaves, spread horizontally.

Leaves oval, subacute, furrowed; two rows larger, and spread, two other rows smaller and adpressed; stem rooting.

Lycopodioides, Raitt Syn. 108.

Mendip Hills, Lobel; but has not been found by any other person since.

Fructification radical, at the base of the leaves; conceptacles globular, not opening, many seeded?—stem creeping; leaves radical, in bundles.
 Isoetes lacustris.  Lake quillwort.
Leaves awlshape, halfround.
Subularia vulgaris erecta, folio rigidissimo, Raii Syn. 306, 1.
Calamaria folio breviore et compressa, Dill. M. 540.
Isoetes lacustris, Lin. S. P. 1563.
Bottom of alpine lakes; perennial; May and June.
Root tuberous, with numerous fibres; fronds numerous, 4 to 6 inches high, simple, four-celled, jointed, dilated at the base, membranaceous, bearing fruit in their inside, of two sorts, a. in the internal base of the frond, solitary; b. in the external base of the frond, size of a pea, roundish, rather compressed, membranaceous, two-celled, many seeded; seeds small, shagreened.

 β. gracilis.  Leaves long, slender.
Calamaria folio longiore et graciliore, Dill. M. 541.

 γ. fragilis.  Leaves very brittle, slender, pointed, transparent; pores numerous, minute.

Fructifications radical; involucrum spherical, leathery, or membranaceous, not opening; seeds many.—Aquatic herbs.

Involucrum solitary, subsessile, globular, leathery, four-celled.—Young leaves rolled up like those of ferns.

 Pilularia globulifera. Pillbearing peppergrass.
Leaves threadlike.
Graminifolia palustris repens, vasculis granorum piperis aemulis, Raii Syn. 136.
Pilularia globulifera, Lin. S. P. 1563.
Pillwort.
In inundated gravelly places; perennial; June, July.
Stem creeping, rooting; involucra axillary, downy, brown, closed, four-celled, lined with sexual organs? anthers? above, yellow, clubshaped; gernens? below, roundish, whitish.
Fam. IV. 4. EQUISETACEÆ. Richard. Peltatæ, Hoffman; Filicum pars, Linnaeus, Jussieu; Peltigeræ, Batsch; Gonostendes, Willdenow.

Fructification terminal, in the peltate scales of an ament; involucrum bivalve; seeds? numerous, naked, with four very hygrometrical threads twisting and untwisting round them.
—Plant leafless; branches verticillate, furrowed, jointed; joints girt with a one-leaf sheath.


Character, same as that of the order; there being no other genus.—Herb strongly astringent.


Stem naked, erect, very rough, base rather branchy; spike terminal; sheaths white, with a black base and tip; teeth bearded, all falling off.

Equisetum nudum, Rail. Syn. 131, 11; Ger. em. 1113.
E. junceum seu nudum, Park. 1201.
Equisetum hyemale, Lin. S. P. 1517.

In marshes and moist woods; perennial; July and August.

Stem half a yard high, sea-green, very rough; sheaths short; amentum ovate, black.

Used for polishing wood and brass; the epidermis abounding in silica.

β. paucifolium. Leaves few.

γ. ramosum. Lateral branches numerous.

2. Equisetum variegatum. Variegated horsetail.

Stem naked, branchy at the base, stiff, smoothish; spike terminal; sheaths black, white at the tip; teeth white, diaphanous, cuspidate.

E. nudum minus variegatum Basiliense, Rail. Syn. 130, 3.
E. tenue, Hoppe.
Equisetum variegatum, Willd. S. P.

Banks of rivers; perennial; July.

Stem 6 inches high, quite simple, erect, round, slender, stiff, streaked, smoothish.
3. Equisetum arvense.  
Cornfield horsetail.

Barren stems simply branched, branches roughish, four-sided; fruitful stems simple; sheaths cylindrical, distant, inciso-dentate; teeth acute.

E. arvense longioribus setis, Raìi Syn. 130, 2; Park. 1202.
E. segetale and E. sylvaticum, Ger. Em. 1114.
Equisetum arvense, Lin. S. P. 1516.

In moist cornfields and meadows; perennial; March and April.

Barren stems, high, branched in all parts; sheaths small; branches verticillate, spreading, angular; angles rather rough: Fertile stems earlier, 6 inches high; sheaths very long; spike lanceolate, long, large.

6. elongatum.  
Branches very long.

E. pratense, longissimis setis, Raìi Syn. 131, 8.

4. Equisetum fluviatile.  
River horsetail.

Barren stems simply branched; branches rather rough, numerous, eightsided; fruitful stems simple; sheaths funnelshape, rather close, lacero-dentate; teeth bearded.

E. majus, Raìi Syn. 130, 1; Ger. Em. 1113.
E. majus palustre, Park. 1200.
E. eburneum, Roth Germ. 111.
E. fluviatile, Lin. S. P. 1517.

Great horsetail.

Marshes and river banks; perennial; April.

Barren stem 5 or 6 feet high, upright, branched; branches numerous, verticillate, long, usually simple, rough when viewed by a lens; fruitful stems very simple; sheaths short, brown, edge manycut, bristly; spike very large.

5. Equisetum limosum.  
Mud horsetail.

Stalk naked, branched; branches about twelve, fivesided, smooth; spike terminal.

E. nudum laevius nostras, Raìi Syn. 131, 10.
E. fluviatile, Fl. Dan. 1184.
E. limosum, Lin. S. P. 1517.

Smooth naked horsetail.

Marshes and watery places; perennial; June and July.

Stems two feet high, very smooth; branches few, erect, smooth, very rarely verticillate; spike large, brown, ovate; barren stems very simple, narrow at top.

6. ramosum.  
Stem branched.

E. foliis nudum ramosum, Raìi Syn. 132, 12.

Stem branchy, furrowed, smoothish; branches fivesided, simple, erect; spike terminal.

E. palustre, Ger. em. 1114; Lin. S. P. 1516.
E. palustre minus, Park. 1200.
E. palustre, Raii Syn. 131, 9.

Spongy bogs; perennial; June and July.

Stem deep furrowed, branched in every part; branches erect, long, simple, minutely scabrous; sheaths greenish, the edges whitish; spike terminating the stem, single, blackish, slender, formed of a few large, distant scales.

β. tenuissimum. Branches very long and slender.

E. palustre, tenuissimis et longissimis setis, Raii Syn. 131, 6.

γ. polystachion. Upper branches, as well as the stem, terminating in a spike.

E. palustre, minus, polystachion, Raii Syn. 131, 7.


Stems doubly branched; branches rather rough, bowed down, foursided; second branches rather threesided.

E. sylvaticum, Raii Syn. 130, 4; Ger. em. 1114; Lin. S. P. 1516.
E. omnium minus tenuifolium, Park. 1201.
E. sylvaticum, Tabern. l.c. 253.

Moist woods and banks of rivulets; per. April and May.

Root creeping; stems erect, a foot high, very much branched, terminated by a single spike; branches furrowed; spike footstalked, upright, ovate, blunt, brown, tessulated.

β. procumbens. Branches pointing all one way.

E. sylvaticum, procumbens, setis uno verso dispositis, Raii Syn. 131, 5.

Fam. V. 5. CHARADEÆ.

Fructification monoicous, axillary; bracteae 2, 3, or 4; perigonium transparent, fivecut; anther? sessile, single, globular, bursting in three or four parts; pollen? conglomerate with spiral threads; nut barked, crowned, tubinate, sessile, spirally streaked, onecelled, many-seeded; seeds very minute, spherical—Plants submersed, verticillate, fistulous, smooth or covered with a corklike bark, very brittle when dry.


No other genus in this order.
1. *Chara flexilis.* Flexible stonewort.
   Stem utriculate, transparent, flaccid, very smooth, very branched; branches opposite, spreading; second branches verticillate, 6 or 8 in a whorl, leafless, 2 or 3 forked at the tip, simple, blunt; nuts without bracteae, lateral.
   Ch. translucens minor flexilis, *Raii Syn.* 133, 5.
   Ch. flexilis, *Lin. S. P.* 1624.
   In ponds and ditches; annual; July and August.
   Green, smooth, not streaked.

2. *prolifera.* Apex fasciculate, proliferous.
   C. intricata, *Roth Cat.* 2, 125.

γ. *gracilis.* Branches twoforked, sharp-pointed; leaves awlshape.

   Stem slender, reticulate, transparent, flaccid, branchy; branches opposite; second branches in whorls, double or triple forked, conglomerated together; nuts rounded, sitting in the diverging forks.
   Stem in tufts, an inch long, dark green; branches very short.

   Stem branchy, round, rather rough, with eight streaks; second branches eight streaked; summit leafless, not jointed, blunt; bracteae four, unequal, two very long, twice the length of the nuts, the two lower ones the length of the nuts.
   Equisetum factidum sub aqua repens, *Ger. em.* 1115; *Park.* 1201.
   Muddy ponds and ditches; annual; July.
   Plant submerged, factid, brittle, usually covered with a white chalky crust; stem a foot high, twisted.

β. *elongata.* Second branches very long, not jointed; bracteae two.
   Chara vulgaris elongata, *Waltroth.*
   C. translucens major flexilis, *Vaill.*
4. Chara hispida. **Hispid stonewort.**
Stem hispid, branchy, below sulcate, unarmed, above prickly; prickles reversed; second branches verticillate, eight in a whorl, six jointed, spreading; bracteae unequal, four; nearly equal to the ovate nuts.


Ponds and ditches; annual; July, August.
Stems very numerous, thick, long, hispid all over.

6. tomentosa. **Stem** strong, hispid under the branches.

C. tomentosa, *Lin. S. P.*

5. Chara crinita. **Hairy stonewort.**
Stem rather branchy, streaked, very smooth, shining, bristly; bristles spreading, condensed in bundles; branches verticillate, about ten in a whorl, roundish, sixkneed, short; bracteae five, twice as long as the oblong, lanceolate, subperpendicular nuts.

Turf bogs in Ireland.
Subseries II. B. **Plantæ endogenæ phanerogamæ.**

Monocotyledones, Jussieu.

*Fructifications* visible, regular; the sexual organs distinct, and well marked.

**FAMILIES.**

1. Ovaries 1 to 4, one-seeded; *perigonium* free or none; *stamens* hypogynous.

   Cariopsides 2 to 4; *stamens* 1, 2, or 4; *perigonium* 0, or fourcut, herbaceous;
   *plant* aquatic .......................... **Fluviatiles.** 6.
   - *Berry* 1-seeded; *stamens* many, on a spadix;
   - *perig.* 0; *spatha* convolute; *plant* terrestrial **Aroideæ.** 7.

   Akenium 1; *stamens* 3; *stigmata* 1 or 2;
   *perig.* 3-parted; *leaves* grassy; *plant* aquatic

   **Typhaceæ.** 8.

   Akenium 1; *stamens* 3; *style* 1; *stigmata* 2 or 3;
   *perig.* glumaceous; *spathelle* 1; *leafsheaths* whole

   **Cyperaceæ.** 9.

   Akenium 1; *stamens* 3; *styles* 2; *stigmata* 2;
   *perig.* glumaceous; *spathelles* 2; *leafsheaths* slit

   **Gramineæ.** 10.

2. Ovary 1, 1 to 3-celled, many-seeded; *perigonium* free; *stamens* perigynous.

   *Valves* of the capsule 2; *seeds* 2; *stamens* 4;
   *flowers* aggregate .......................... **Restiaceæ.** 11.
   - *Valves* 3; *disseipments* none, or on the valves;
   - *perig.* glumaceous; *leaves* grasslike .......................... **Juncæ.** 12.
   - *Valves* 3; *margin* inflected to form the
     *disseipments; perig.* petaloid .......................... **Colchicaceæ.** 13.
   - *Valves* 3, bearing the disseipments;
   - *perig.* petaloid; *seed* flat; *stigmata* 3 .......................... **Liliaceæ.** 14.
   - *Valves* 3, bearing the disseipments;
   - *perig.* petaloid; *seed* round, or angular;
   - *stigma* 1 .......................... **Asphodeliaceæ.** 15.
Berry roundish; leaves linear, bundled; 
spERMODERMIS crustaceous, black ... ASPARAGACEÆ. 16.

Berry roundish; leaves alternate, or ver-
ticillate; spERMODERMIS membranaceous SMILACEÆ. 17.

3. Ovary 1, 3-celled; perigonium adherent; 
stamens perigynous.

Berry roundish; leaves petiolate; 
spERMODERMIS membranaceous ...... TAMACEÆ. 18.

Valves 3, bearing the dissepiments; 
stamens 6; anthers opening by 2 pores
AMARYLLIDEÆ. 19.

Valves 3, bearing the dissepiments;
stamens 3; anthers opening outwards .... IRIDÆÆ. 20.

4. Ovary 1, 1 or 6-celled; perigonium adherent; 
stamens epigynous.

Stamens 1 or 2; perigonium irregular;
caps. 1-celled, 3-valved; plant terrestrial ORCHIDEÆ. 21.
Stamens 9 to 20; perigonium regular;
caps. 6-celled; plant aquatic HYDROCHARIDEÆ. 25.

5. Ovaries 3, 6, or 12; perigonium free; 
stamens perigynous.

Ovaries 6 or 12; leaves lanceolate;
seeds 1 or 3 erect, affixed to the suture ALISMACEÆ. 22.

Ovaries 6 or 12; leaves awlshape;
seeds many, affixed to the side of the
 capsule ......................... BUTOMACEÆ. 23.

Ovaries 3 or 6; leaves awlshape;
seeds 1 or 2, affixed to the base .. JUNCAGINEÆ. 24.

Fam. I. 6. FLUVIATILES. Ventenat.

Flower unisexual, or hermaphrodite; perigonium none 
or fourcut, free, herbaceous; stamens 1 to 4; ovaries 
many, free; style sometimes wanting; stigmata simple; ca-
rriopside one-celled, one-seeded; seed inverse or appended; 
embryo across the seed; perisperm none,—Plants herbaceous, 
aquatic; roots fibrous; leaves mostly sheathing, either op-
posite or verticillate; flowers axillary, terminal, sometimes 
solitary, but mostly in a spike or on a spadix.
1. **Flowers unisexual; stamens 1 or 2.**

   *Fl.* on a one-sided spadix; *ovary* 1				ZOSTERA. 27.

   *Fl.* solitary; *ovaries* 2 to 6, sessile, gibbous

   **ZANNICHELLIA.** 24.

2. **Fl. hermaphrodite; stamens 4; perigonium 4-cut.**

   *Fl.* two-rowed on a solitary spadix;

   *cariopsides* 4, on footstalks .......................... RUPPIA. 25.

   *Fl.* spiked; *cariopsides* 4, sessile .... POTA/MOGITON. 26.

I. 24. **ZANNICHELLIA.** Michel.  
   *Pondweed.*

   *Flowers* solitary, monoicous.—**Male.** Perigonium none; stamen 1; filament long; *anther* 2 or 4-celled.—**Fem.** Perigonium campanulate; *ovaries* 2 to 6; *stigmata* flat, peltate; *capsule* one-seeded, sessile, compressed.—*Flowers* axillary; the male at the exterior base of the perigonium of the female flower; *leaves* linear, grasslike, 2 or 3 from the same membranaceous sheathing stipula.

1. Zannichellia palustris.  
   *Marsh pondweed.*

   *Anthers* 4-celled; *stigmata* undivided; *capsule* keeled, toothed at the back.

   Aponogoton aquaticum graminifolium, staminibus singularibus, Rau Syn. 135.

   Zannichellia palustris, Lin. S. P. 1375.

   **Horned pondweed.**

   Ponds and ditches; annual; July.

2. Zannichellia dentata.  
   *Toothed pondweed.*

   *Anthers* 2-celled; *stigmata* scollopated; *capsule* warty.


   Z. dentata, Willd. S. P.

   Ponds and ditches; annual; July.

   **Tasselgrass.**

   *Flowers* hermaphrodite, two-rowed on a solitary spadix; perigonium caducous, 2 valved; *stamens* four; *anthers* sessile, 2-celled; *ovaries* four, oval, conic; *stigmata* obtuse; *nuts* four, one-seeded, oval, on a long threadlike peduncle.

   *Plant* herbaceous, capillary, branchy; *leaves* cauline, alternate; *floral leaves* mostly opposite; *spadix* terminal.

   Ruppia maritima.  
   *Sea tasselgrass.*

   *Leaves* linear, not nicked at the tip.
Potamogiton maritimum gramineis longioribus foliis, fructu fere umbel-lato, Rait Syn. 134.


Ruppia maritima, Lin. S. P. 184.

Salt water ditches; perennial? July.

Flowering spike above the water, the peduncles lengthening as the depth of water requires.


Flowers hermaphrodite, spiked; spikes furnished at the base with 2 spathes; perigonium 4-parted; stamens 4: filaments flat, short; anthers 2-celled; ovaries 4, oval, pointed; nut 1-seeded, sessile.—Leaves mostly alternate; floral leaves sometimes opposite; spike terminal or axillary.

a. Leaves of 2 sorts, 1. floating, opaque, convex; 2. under water.

1. Potamogiton natans. Floating riverweed.

Upper leaves elliptical, petiolate, acute; base roundish cordate, floating; lower leaves linear, submersed.

Pot. rotundifolium, Rait Syn. 148, 1.

Pot. latifolium, Ger. em. 821.

Fontinalis major latifolia vulgaris, Park. 1254.

Potamogiton natans, Lin. S. P. 182.

Rivers and ponds; perennial; June.

Stem very long, leafy; peduncle single, with linear brac-teae at the base; spike simple, above water; flowers dirty-green.

β. terrestris. Sheath of the peduncle less than half its length.


Upper leaves floating, petiolate, elliptical, oblong, acute, membranaceous, narrowed at both ends; lower leaves under water, crowded, sessile, linear lanceolate.

Pot. gramineum, Fl. Danica, 229.

Pot. palustris, Tessidale, Tr. L. S. 5, 43.

Pot. crassipes, Kartach.

Pot. distichyos, Bellard.

Pot. hybridum, Thuill. Fl. Par.

Pot. natans, Lam. Illustr.

Pot. heterophyllum, Schreb. Spic. 21.

Ponds and ditches; perennial; July to September.

Stem much branched, leafy; leaves pale green, scored; sheaths oblong, bluish; spike greenish.

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Upper leaves floating; lanceolate oval, narrower at both ends; peduncles long; lower leaves under water, linear, lanceolate acute.

Pot. natans ², Poiret Enc. Meth. 5, 579.
Pot. fluitans, Roth Pl. Ger. 1, 72.

Ponds and rivers; perennial; August and September.
Root creeping; stem flat, very long; branches, leafy; leaves reddish green, finely veined, alternate; sheath wide, spearshape; spike dense, reddish.

b. Leaves all of one sort.

Leaves ovate, lanceolate, flat, ending in a short petiole, shining, veined; stipulae the length of the joints; spikes many flowered, crowded.
P. aquis immersum, folio pellucido lato oblongo acuto, Raii Syn. 148, 2.
P. longis acutis folis, Ger. cm. 822.
P. lucens, Lin. S. P. 183.

Running and stagnant waters; perennial; June, July.
*Plant* keeps under water, with only the spike above the surface; flowers reddish; stipulae embracing the stem, leaflike.

β. angustifolium. Leaves narrow; plant smaller.
P. folio angusto, pellucido, fere gramineo, Raii Syn. 148, 3.

γ. nudum. Leaves ovate, lanceolate; petioles scarcely margined.

Leaves lanceolate, alternate, sessile, waved, serrate; stipulae with the tip torn and ciliate; stem slightly compressed.

Pot. seu Fontinalis crispa J. Bauhini, Raii Syn. 149, 7.
Tribulus aquaticus minor, quercus floribus, Ger. cm. 824.
Pot. crispum, Lin. S. P. 183.

Greater water caltrops.

Ponds and slow running waters; perennial; June, July.
Leaves sunk, obtuse; peduncles sunk; spike fewflowered; flowers reddish, remote.

β. serratum. Leaves serrated; upper leaves opposite.

Leaves linear, lanceolate, flat, not nicked, verrucose, broader than the stipulae, narrow at the base; peduncle thickened, shorter than the leaves; spike ovate, dense, fewflowered.
Potamogeton setaceum, Lin. S. P. 184?
Potamogeton gramineum, Wahl. Fl. Lapp. 52.

Mountain lakes; perennial; July and August.
Root creeping; stem floating, branched, slender, round; leaves bluntish, thin, flat, 1-ribbed, reticulately veined; stipula involute, tubular, acute; peduncles single, as long as the leaf; spike 8 to 12-flowered; flowers small.

7. Potamogiton perfoliatum. Thorow riverweed.
Leaves cordate, amplexicaul, shining, single ribbed; stem round, recurved.

Potamogiton perfoliatum, Rail Syn. 149, 4.
Pot. tertium Dodonaei, Ger. em. 822.

Rivers and ponds; perennial; July, August.
Stem subdichotomous, alternately branched; leaves brittle, pellucid, very smooth, nearly all alike; stipulae none; spike erect, oblong, brown.

Leaves ovate, pointed, opposite, crowded; stem round, forked; spike usually 4-flowered; peduncle slender, terminal.

P. seu Fontinalis media lucens, Rail Syn. 149, 6.
Tribulus aquaticus minor, muscatellae floribus, Ger. em. 823.
Trib. aquaticus minor alter, Park. 1248.
Potamogeton densum, Lin. S. P. 182.
Lesser water caltrops. Frogs' lettuce.

Still and slow moving waters; perennial; June.
Herb sunk; stem closely leaved; spike sometimes 2-flowered, pale green.

Leaves linear, obtuse, with 2 glands at the base; stem compressed; spike fewflowered; stipulae broader than the leaves.

P. caule compresso, folio graminis canini, Rail Syn. 149, 8.
Potamogeton compressum, Lin. S. P. 183.

Ditches and slow running water; perennial; June, July.
Stem bent; leaves pale green, alternate; peduncle flattened, rising above the water, 4 or 6-flowered, in distant pairs.

8. oppositifolium. Stem-leaves opposite.

7. majus. Leaves larger and broader than usual.
36. **Potamogiton.** 6. **FLUVIAT.**  

**Potamogiton pectinatum.** Featherleaved riverweed. 
*Leaves* bristlelike, alternate, the two upper ones opposite, parallel, close together, sheathing at the base; *spike* peduncled, thin, often interrupted.

*Potamogiton pectinatum, Lin. S. P. 183.*

Rivers and ponds; perennial; July.

*Root* creeping, originally tuberous; *stem* sunk, flowering in still water only, long, filiform, branchy, jointed, whitish; *sheath* prolonged at top into a small membranaceous ligma.

**Potamogeton maritimum.** Sea riverweed. 
*Leaves* linear, alternate, 2-rowed, sheathing; *margin* of the sheath scariose; *spike* fewflowered, very much interrupted.

*Potamogeton maritimum, Lin. S. P. 183.*

Salt water ditches; perennial; July.

*Stem* firm, reddish; *joints* short; *sheath* white; *leaves* opake and shining.

**Potamogiton Vaillanti.** Vaillant’s riverweed. 
*Leaves* linear, alternate, 2-rowed below, sheathing, above opposite, subspathaceous; *spike* ovate, fewflowered; *flower* rather large.

*Potamogeton Vaillanti, Roemer and Schultze Syst. Veg.*

*Stem* long, naked below, branchy above, compressed, deeply streaked, yellowish; *lower leaves* 4 in. long, very narrow; *upper leaves* 2 or 3 in. long; both light sea-green; *spike* 6 or 8-flowered, crowded together.

**Potamogiton gramineum.** Grass riverweed. 
*Leaves* linear, lanceolate, alternate, sessile; *stipulae* narrower than the leaves; *stem* round, rather forked.

*Potamogeton gramineum, Lin. S. P. 184.*

Ditches and rivers; perennial; July.

*Plant* sunk; *stem* slender, bent; *leaves* close; *stipulae* involuto-turbinate; *spikes* ovate, fewflowered, close, from the forks of the stem; *peduncles* as long as the spike.
Dwarf riverweed.

Leaves linear, opposite and alternate, distant, spreading at the base, narrower than the stipulae; stem round, very slender, branchy; peduncles axillary: spike many flowered.

Ditches and ponds on a clay bottom; perennial; July.

Plant sunk, except the spike when in flower; stipulae embracing the stem; peduncles solitary, longer than the spike; spike ovate, small.

Sea grasswrack.

Leaves not nicked, slightly 3-nerved; stem roundish.

Alga, Ger. em. 1569; Raìi Syn. 52, 1.
A. marina graminea minor, Raìi Syn. 52, 2.
A. marina graminea angustifolia seminifera ramosior, Raìi Syn. 52, 3.
Alga q. Potamogiton marinum in utriculis epiphyllospermmon minus
Doody, Raìi Syn. 53, 4.
A. angustifolia vitriariorum, Raìi Syn. 53, 5.
Fucus marinus sive Alga marina graminea, Park. 1242.
Zostera marina, Lin. S. P. 1374.

Sea-shores, saltwater ditches; perennial; August.

Stem smooth, kneed; leaves opening a little above the base with a longitudinal slit, exserting a linear spadix bearing flowers on one side; anther single, sessile, at the side of the germen; germen oblong, sessile; stigma two, linear; capsule elliptic, hanging.

The scaly hairs at the base of this plant, being detached and felted into balls by the action of the waves of the sea, and roasted to blackness, are used in diseases of the lymphatic system, in the same manner and with the same intent as burnt sponge.

β. latifolia. Leaves broad, very evidently 3-ribbed.
ovaries separate from the stamens, in the lower part of the spadix; berry round, one-celled; seed albuminous; corculum straight, in the centre of the perisperm; radicle below.—Plants herbaceous, stemless; leaves radical, petiolate, base slightly sheathing; spadix inclosed in a spatha, terminal; scape radical; spatha hooded, convolute at the base.

Roots contain much fecule mixed with a very acrid, volatile matter, which may be separated by heat or washing; fecules nutritious, used for food; acrid matter stimulant, used as a vesicatory or escharotic; and internally, much diluted, in consumptive cases. Leaves stimulant and acrid.

Spatha one-leafed, cucullate, convolute at bottom; spadix naked at the tip, bearing the stamens in the middle, and ovaries at the base; anthers in several rows; berry one-celled, one-seeded.

Radical leaves hastato-sagittate, lobes deflexed; spadix clubshape, shorter than the spatha.

Arum, Rall. Syn. 266.  
A. vulgare, Ger. em. 834; Park. 373.  
A. maculatum, Lin. S. P. 1370.  
Wake Robin. Lords and Ladies.

Woods and hedges; perennial; May.
Root tuberous, fleshy; herb stemless; leaves radical, petiolate, spotted; scape simple, a foot high, terminated by the spatha; spatha erect, bellied, pale green, coloured within; spadix coloured at the tip, having numerous sterile filaments? just above the ring of anthers; anthers sessile, crowded; ovaries sessile; berries fine red, juicy.

Root stimulant, and starch is made from it.

β. immaculatum. Leaves not spotted.

III. 8. TYPHACEÆ. De Candolle; Typhae, Jussieu. 
Aroidœcarum sectio, Brown.

Flowers monoicous, aggregated in unisexual aments; perigonium three-parted; stamens 3, opposite to the lobes of the perigonium; anthers inverse; ovaries free, one-seeded; ovule pendulous; style one; stigma one; akenium drupaceous; perisperm fleshy; corculum central, straight; radicle below, inverse.—Plants gramineous, perennial; root tuberous; leaves sheathing, alternate, ensiform; aments terminal or lateral, naked.
Ament roundish; fruit sessile; setae none; stigma linear. **Sparganium.** 29.

Ament roundish; fruit sessile; setae none; stigma peltate. **Platanaria.** 30.

Ament cylindrical; fruit pedicelled; setae girding the fruit. **Typha.** 31.

I. 29. **SPARGANIUM.** Dioscorides. **Burreed.**

Ament roundish, axillary; perigonium 3-lobed, deciduous; stamens three; filaments capillary; anthers oblong; ovary turbinate; style short; stigma 1 or 2, linear, long, acute; akenium 1-2 seeded; not girt with bristles.—Root creeping; leaves three-edged; stem branchy; ament lateral, on a flexuose peduncle; upper aments male.


Leaves 3-edged at the base, sides concave; peduncle branched.

*Sparg. ramosum,* Rau., *S. P.* 437, 1; Ger. em. 45; Park. 1205.

*Sparg. erectum,* *Lin. S. P.* 1378.

Ditches and river-banks; perennial; June, July.

Stem about 3 feet high; peduncles alternately branched, many flowered, bent at bottom; flowerheads alternate, sessile, many flowered; upper heads male, numerous; lower heads female.


Leaves 3-edged at the base, sides flat; peduncle simple.

*Sparg. non ramosum,* Rau., *S. P.* 437, 2; Park. 1205.

*Sparg. latifolium,* Ger. em. 41.

*Sparg. erectum,* *β. Lin. S. P.* 1378.

Ponds in a gravelly soil; perennial; July, August.

Stem and peduncle not branched; lowest flowerhead sometimes pedicelled; calyx greenish.

II. 30. **PLATANARIA.** Dodonæus. **Ribbandwort.**

Ament round, axillary; perigonium 3-leaved, deciduous; stamens 3; filaments capillary; ovary subturbinate; style short; stigma ovate, peltate; akenium one-seeded, not girt with seta.—Root creeping, perennial; stem and leaves flat, flaccid, semipellucid, reticulate, floating; peduncle unbranched; female flowerheads 2 or 3, the lowest pedicelled, malehead usually single, terminal.
Platanaria natans. Floating ribbandwort.
Leaves decumbent, flat.
Sp. natans, \textit{Lin. S. P. 1378}.
Sp. simplex \&, \textit{Huds. Fl. Ang. 401}.
Rivulets and ponds in muddy soils; perennial; July.

III. 31. TYPHA. Theophrastus. Reedmace.
\textit{Ament} cylindrical, terminal; \textit{filament} one; \textit{anthers} three, oblong, quadrangular; \textit{ovary} pedicelled; \textit{peduncle} long and girt at the base with pappi; \textit{style} awl shape, persistent; \textit{stigma} simple.—\textit{Root} creeping; \textit{culm} erect, simple; \textit{leaves} swordshape, sheathing at the base; \textit{male} \textit{ament} above.

1. \textit{Typha latifolia}. Broadleaf reedmace.
\textit{Leaves} linear, flat, rather swordshape; \textit{male} and \textit{female} \textit{spikes} close together; both cylindrical.
\textit{Typha}, \textit{RaiiSyn. 436, 1}; Ger. \textit{evn. 46}.
\textit{T. palustris maxima}, \textit{Park. 1204}.
\textit{T. latifolia}, \textit{Lin. S. P. 1377}.
\textit{T. major}, \textit{Curtis Fl. Lond. 3, 61}.
\textit{Ponds} and \textit{slow} \textit{rivers}; perennial; July.
\textit{Culm} 6 to 8 feet high, erect, not branched, jointless, leaved at the bottom; \textit{leaves} upright, nearly as long as the culm, linear, sharp pointed; \textit{ament} terminal, upright, many-flowered, close; \textit{male} \textit{flowers} above, rather leafy, yellow; \textit{females} below, brown.
\textit{Pollen} abundant, used to produce flashes of fire; \textit{leaves} used for basket-work and mats.

2. \textit{Typha angustifolia}. Narrowleaved reedmace.
\textit{Leaves} linear, channelled, convex on the back; \textit{male} and \textit{female} \textit{spikes} remote from one another, both cylindrical.
\textit{Typha palustris media}, \textit{Raii Syn. 426, 2}.
\textit{T. angustifolia}, \textit{Lin. S. P. 1377}.
\textit{Ponds} and \textit{ditches}; perennial; June, July.
\textit{Culm} about three feet high, slender; \textit{leaves} semi-cylindrical below.
\textit{Used} also for baskets and mats.
\beta. \textit{minor}. \textit{Spike} and \textit{leaves} slender.
\textit{Gravelly} soils.

3. \textit{Typha media}. † Mean reedmace.
\textit{Leaves} linear, channelled; \textit{culm} naked, sheathed at the base; \textit{female} \textit{spike} short, thick, remote from the \textit{male}. 
Typha palustris minor, *Raiti Syn. 426, 3.*
Typha media, *De Candolle Syn. Fl. Gall. 1806.*

Marshes; perennial; April, May.
*Culm* 3 feet long, naked, sheathed at the base; *sheaths* large, split to the bottom into jags resembling leaves, flat, broad, acuminate at the point; *leaves* radical, as long as the culm, setaceous, very narrow, deeply channelled, convex on the back, the outer leaves shorter than the rest.

IV. 9. CYPERACEÆ. De Candolle; *Cyperoideæ,* Jussieu.

*Flowers* hermaphrodite, or unisexual, glumaceous, spiked; *glume* of one spathelle, imbricate; *glumelle* none, bristle-like, or 1 or 2 spathellules; *stamens* 3, hypogynous; *anthers* terminal, affixed by its base, 2-celled; *ovary* free, 1-seeded; *style* 1; *stigmata* 2 or 3; *akenium* crustaceous, bony or subdrupaceous, naked, or bristled, or covered with a capsule perforated at top, formed of the spathellules soldered together; *seed* erect; *perisperm* farinaceous; *cor- calum* very small near the hilum, sometimes external.—

*Herb* perennial, grasslike; *culm* simple, round, or 3-sided, without knotty joints; *leaves* sheathing; *sheaths* not slit lengthways; *bractæ* mostly sessile; *spathelle* spiked; lower sathelles mostly empty.

1. Spathelles imbricated all round; flowers unisexual; *akenium* inclosed in the hardened glumelle.

   *Cariceæ.* a.

   *Spathellules* 2, soldered, inclosing the akenium;
   stigmata two ........................................... *Carex.* 32.

   *Spathellules* 2, soldered, inclosing the akenium;
   stigmata three ......................................... *Trasus.* 33.

   *Spathellule* 1, involute, inclosing the akenium;
   stigmata three ......................................... *Cobresia.* 34.

2. Glumes two-rowed; flowers hermaphrodite; *glumelles* none, or bristle-like. *Cyperaceæ.* b.

   Style not jointed, deciduous; *stamens* 3;
   *glumelle* 0; *spikes* umbellled ........................ *Cyperus.* 35.

   Style not jointed, deciduous; *stamens* 3;
   *glumelle* 0; *spikes* capitate ........................ *Schœnus.* 36.

   Style not jointed, deciduous; *stamens* 2;
   *glumelle* 0; *akenium* drupaceous .................... *Cladium.* 37.
Style not jointed, deciduous;
glumelles setaceous, shorter than the glume.

Chætospora. 38.

Style joined, persisting, dilated at bottom;
glumelle setaceous, shorter than the glume.

Rhyncospora. 39.

3. Glumes imbricate all round; flowers hermaphrodite;
glumelles none, or bristletike. Scirpideæ. c.

Style jointed, persisting, dilated at bottom;
spathellules 4, setaceous, shorter than the glume

Eleocharis. 40.

Style not jointed, deciduous;
glumelle none. ...................... Isolepis. 41.

Style not jointed, deciduous;
spathellules 4 or 6, setaceous, shorter than the
glume. ............................... Scirpus. 42.

Style not jointed, deciduous;
spathellules 6, setaceous, denticulate, longer than
the glume ........................... Trichophorum. 43.

Style not jointed, deciduous;
spathellules many, setaceous, woolly, longer than
the glume ........................... Eriophorum. 44.

A. Cariceæ. Spathelles imbricate all round the spike;
flowers unisexual; akenium inclosed in the hardened glume.

Roots generally diaphoretic, demulcent, and resolvent,
and may be substituted for sarsaparilla.

I. 32. CAREX.

Flowers monoicous or dioicous, spiked; spikelets andro-
gynous or unisexual; spathelles imbricate all round; spa-
thalles two, joined by the edges, perforated at top, per-
sisting, cartilaginous; stamens 3; style 1; stigmata 2;
akenium 1, inclosed in the persistent spathellules.—Root
perennial, fibrous, or creeping; culm 3-sided; leaves sheath-
ing, rough on the edges; sheath whole; bracteæ mostly
embracing the stem, not sheathing; spikes simple or com-
 pound, mostly androgynous.
Synoptic view of the species.

1. Spikes quite simple.
   Root creeping;
   fruit short, spreading .................. C. dioica. 1.
   Root fibrous; culm roughish;
   fruit rounded at bottom, becomes reflexed C. Davalliana. 2.
   Root fibrous; culm smooth;
   fruit sharp at both ends, becomes reflexed C. pulicaris. 3.

2. Spikes compound; spikelets sessile, androgynous.
   a. Spikelets aggregate, capitate.
      Spikes linear;
      fruit oblong, depressed .............. C. simpliciuscula. 4.
      Spikes ovate; fruit ovate, beaked ........ C. incurva. 5.
   b. Spikelets panicled.
      Spikelets compressed, not two-rowed,
      female above and below, male between .. C. intermedia. 10.
      Spikelets two-rowed,
      male above, female below, androgynous between;
      stem crooked; root creeping ............ C. arenaria. 11.
      Spikelets two-rowed,
      male above, female below, androgynous between;
      stem erect; root fibrous .............. C. Witheringii. 12.
      Spikelets loose, branches distant,
      male above, female below; glumes brown;
      fruit small, shining, not diverging ..... C. paniculata. 7.
      Spikelet contracted,
      male above, female below; glumes ferruginous;
      fruit small, shining, not diverging .... C. teretiuscula. 6.
      Spikelet compound,
      male above, female below; culm thick, very acute;
      fruit large, green, diverging ............. C. vulpina. 9.
      Spikelet short, simple, oblong, interrupted,
      male above, female below;
      fruit large, green, diverging ............ C. muricata. 13.
      Spikelet elongated, branchy at bottom,
      male above, female below;
      fruit large, green, diverging ............ C. divulsa. 8.
   c. Spikelets alternate, male in the upper part.
d. Spikelets alternate, female in the upper part.
   Lower spikelets 3 to 5 together, remote. C. axillaris. 20.
   Lower spikelet single; bracteæ very long;
   fruit ovate, flattened, 2-cut................... C. remota. 19.
   Lower spikelet single;
   fruit dilated at bottom, angular, diverging, stellate.
   C. stellulata. 17.
   Lower spikelet single; culm rough;
   fruit round at both ends, diverging ...... C. elongata. 16.
   Lower spikelet single;
   fruit not diverging; spikelets all approximating.
   C. ovalis. 15.
   Lower spikelet single; glumes pale;
   fruit erect; spikelets 5 or 6, interrupted .... C. curta. 18.

3. Spikes of different sexes.
   Glumes obtuse; spikes sessile;
   fruit persisting, ovate, obtuse ............ C. caespitosa. 23.
   Glumes obtuse; lower spike peduncled;
   fruit persisting, compressed, flat; apex bent,
   not nicked ...................................... C. rigida. 21.
   Glumes obtuse; lower spike peduncled;
   fruit persisting, elliptical, inflated; apex 2-cut. C. pulla. 22.
   Glumes acute;
   fruit deciduous, broad, compressed, acute, green
   C. stricta. 24.
   Glumes acute;
   fruit deciduous, slender, blunt, brown ...... C. acuta. 25.

a. Carices with a simple spike.

1. Carex dioica.  
   Dioicous carex.
   Spikes oblong, dioicus; fruit ovate, rather upright,
   convex, ribbed; upper edge hispid; leaves threadshape;
   culm smooth; root stoloniferous.
   Gramen cyperoides spica simplici cassa, Rauii Syn. ed. 2, 267. The male
   plant.
   Gramen cyperoides minimum, ranunculi capitulo rotundo, Rauii Syn.
   425, spic. 15. The female plant.
   Carex dioica, Lin. S. P. 1379.
   Carex lavis, Hoppe.

   Bogs; perennial; May and June.
   Culm not branched, 3-sided, 4 to 10 in. high; leafy at
   the bottom; leaves smooth, shorter than the culm; male spike
   linear, acute, upright, an inch long; female spike shorter.
2. Carex Davalliana. 
Davall's Carex.
Spikes sublinear, dioicus; fruit attenuated, recurved, ribbed, upper edge rough; apex not notched; culm acute-angled, serrulate; leaves very short; root tufted.
Carex Davalliana, Goodenough L. T. 5, 266.
Carex dioica, Willd. Cat. B. 16.
Carex scabra, Hoppe.

Bogs; perennial; June, July.
Root fibrous; culm 3-sided, 8 in. high, rough; leaves shorter than the culm; spikes linear, very slender, acute, erect; female spikes few, short; glumes brown.

3. Carex pulicaris.
Flea carex.
Spikes above male; fruit oblong, roundish, smooth, reflexed, divaricated, sharp at both ends; glumes oblong, persistent, longer than the fruit; root fibrous.
Gramen cyperoides minimum, seminibus deorsum reflexis puliciformibus, Rait Syn. 424, spic. 13.
Carex pulicaris, Lin. S. P. 1380.
Carex psylliphora, Lin. Suppl. 413.

Fleagrass.
Muddy bogs; perennial; June.
Culm a foot high, smooth, slender; leaves setaceous, smooth; spikes linear, erect; glumes brownish grey; fruit brown, very shining, not notched at the tip.

b. Carices with a compound, androgynous spike.

4. Carex simpliciuscula.
Plain carex.
Spike crowded, clubshape; fruit oblong, depressed, beak short, mouth not notched; leaves very slender, convolute.
Westmoreland mountains; sent to him by Mr. Turner.

5. Carex incurva.
Bent carex.
Spikes roundish, ovate, capitate; fruit ovate, semiglobose, beaked, mouth very slightly notched; glumes ovate, acute, rather mucronate; culm roundish, smooth, slightly bent; leaves setaceous, grooved; root creeping.
Carex juncifolia, Allioni Fl. Ped. 2296.
Carex incurva, Lightfoot Fl. Scot. 544.

Deep sands at mouths of rivers; perennial; July, August.
Root long; culm 6 in. high; leaves few; bracteae shorter than the spikelets; spikelets roundish, fewflowered; glumes broad, blunt, brown; fruit mucronate, acute, angles smooth.

Root, when fresh, sudorific, and, like that of many other species, may be used for sarsaparilla.

Spikelets panicked, contracted; fruit ovate, apex two-toothed; angles ciliated, serrated; culm bluntly 3-sided, sides convex; root creeping.

Carex teretiuscula, Goodenough L. T. 2, 163.

Bogs; perennial; May.
Leaves erect, ridged; sheaths leafless at the base, deeply striated; culm 18 in. high, roundish; spike ovate, oblong, decompound, contracted; spikelets sessile, ovate; glumes ferruginous, acute, with a white, scariose edge.

Spikelets panicked; fruit ovate, angles margined above, margin ciliate-serrate, apex two-toothed; culm acutely 3-sided, sides concave; roots fibrous, matted.

Gramen cyperoides palustre elatus, spica longiore laxa, Ralii Syn. 422, spic. 1.

Carex paniculata, Lin. S. P. 1383.

Bogs and watery places; perennial; June.
Leaves erect, firm, light green; sheaths many, obtuse, leafless, imbricate, blackish brown, shining; culm 3 feet high, upright; panicle loose, branches distant, lower branches naked at bottom, top drooping; bracteae ovate, margin scariose, keel ending in an awn; glumes acute.

8. composita. Panicle much branched above.
γ. simplex. Panicle simple; lower spikelets distant.

Spike branchy at bottom; spikelets ovate, upper spikelets male, close; lower spikelets female, distant; fruit rather upright, ovate, planoconvex, apex 2-toothed and margined, margin smooth.

Gramen cyperoides spicatum minus, spica longa divulsa seu interrupta, Ralii Syn. 424, spic. 10.

Carex loliacea, Schreber Spicil. 64.
Damp woods; perennial; May.

Culm 3-sided, sides flat, angles rough, 18 inches high; leaves slender; sheaths light green; spike long, but interrupted in the lower part and branched; spikelets 6 or 8, ovate when ripe, slightly squarose; upper spikelets sessile, close, nearly confluent; middle spikelets distant; lowest spikelets 1 or 2, distant, often compound, or on a short branch; bracteae slender, setaceous; glumes acute, scariose.


Spikelets aggregate in threes or fives, oblong, crowded, male above; fruit oval, compressed, 3-sided, divergent, apex 2-toothed; bracteae setaceous; culm 3-sided, angles very acute, sides concave; leaves broad.

Gramen cyperoides palustre majus spica compacta, Rauif, Syn. 423, spic. 8.
Gramen palustre cyperoides, Ger. em. 21.
Gramen cyperoides palustre majus, Park. 1266.
Carex vulpina, Lin. S. P. 1352.

Bogs and river sides; perennial; May to July.

Root fibrous, matted; leaves broad, deep green, longer than the culm; culm upright, 2 feet high, leafy at bottom, thick near the spike, angles very rough; spike obtuse; partial spikes compact, sessile; spikelets sessile; glumes acute, brown, with the keel greenish.

9. decomposita. Bracteae awned; panicle doubly branched.

7. aristata. Bracteae awned; panicle branched.


10. Carex intermedia.

Intermediate carex.

Spikelets alternate, crowded, the lowest rather distant; upper and lower spikelets female, middle spikelets male; fruit ovate, margined, apex 2-cut, angles ciliated and serrate; culm erect; root creeping.

Gramen cyperoides, q. Gramini cyperoidi ex monte Ballon simile, spica totali e pluribus spicis composita Plukenet, Rauif, Syn. 423, spic. 4.
Carex spicata, Pollich Pal. 878.
Carex disticha, Hudson Fl. Ang. 403.
Carex arenaria, Leers Fl. Herb. 195.

Bogs and watery places; perennial; May, June.

Root descending deep; leaves long; culm upright, 18 in. high, angles acute and rough; spike blunt, thick above, slightly compressed, never two-rowed; spikelets many, ovate, ferruginous; glumes acute, brown with a pale rib.
Spikelets alternate, crowded; upper spikelets male, the intermediate ones female or androgy nous; lower spikelets female; fruit ovate, margin ed, apex two-cut, ciliated, serrate, curved; leaves rolled in at their edge; root creeping.

Gramen cyperoides, q. Gramini cyperoidi ex monte Ballon similis, in maritimis et arenosis nascens Plukenet. Raiti Syn. 423, spic. 5.

Carex arenaria, Lin. S. P. 1381.

Shores of the sea; perennial; June.
Root very long; culm 18 in. long, bent, naked; leaves in tufts; sheaths dry, brown; spike ovate, compressed, two-rowed; upper spikelets crowded; bracteae lanceolate, the lower ones having a leafy point; glumes acute, yellowish, brown; fruit lanceolate, acute, winged, margin rough.

Spikelets alternate, crowded, upper male, lower female, intermediate female or androgy nous; fruit ovate, apex two-cut, margin ed, margin serrate, ciliated; culm upright; leaves channelled; root fibrous.

Carex arenaria 2. Withering 125.

Sands on the sea-shores; perennial; June.
Root not creeping; culm 5 in. high, naked, sheathed at the base; leaves slender, acute, channelled, not so long as the culm; bracteae leafy, acute, slender, semi-amplexicaule; spike two-rowed, lanceolate; spikelets sessile, acute; glume lanceolate, yellow, with a green rib ending in an awn.

Spikelets ovate; upper spikelets male, close; fruit diverging, horizontal, ovate, plano-convex, apex two-toothed, margin ed at the base, margin ciliated, serrate; leaves narrow; root fibrous.

Gramen cyperoides spicatum minus, Raiti Syn. 424, spic. 9.
Carex muricata, Lin. S. P. 1382.
Carex canescens, Lears Fl. Herb. 712.
Carex spicata, Hudson Fl. Ang. 406.

Woods and moist meadows; perennial; May and June. Culm upright, 18 in. high, 3-sided, sides flat, angles acute, rough; leaves narrow, keeled; spike branched, oblong, cylindrical, 6 to 8-parted; spikelets 8 or 10, roundish; bracteae ovate, scariose, keeled, bristly at the end; glume ferruginous, with the margin and keel greenish.

β. gracilis. Spike slender, compound; culm rather smooth.
14. Carex divisa. **Divided carex.**

Spikelets mostly 6, ovate, upper male interrupted; fruit ovate, adpressed, apex 2-toothed, compressed; bracteae leaf-like erect, at the very bottom of the spike; root creeping.


Bogs and near the sea; perennial; May, June.

Root thick, twisted; culm upright, weak, 2 feet high; leaves slender, upright, light green; spike ovate, branched, compressed; spikelets crowded irregularly; bracteae leaf-like, longer than the spike; glumes brown, mucronated, with a pale edge and keel.

15. Carex ovalis. **Oval carex.**

Spikelets mostly 6, roundish, elliptical, rather close; lower male, solitary; fruit ovate, margined, margin ciliated, serrated, apex with two short teeth; glumes lanceolate as long as the fruit; culm fistulous.


Bogs; perennial; June.

Culm upright, 2 feet high, 3-sided, leafy at the base; leaves deep green, flat, as long as the culm; spikelets 4 to 6, elliptical, reddish green; bracteae leaf-like, as long as the spike, falling off; glume acute, reddish; keel green.

16. Carex elongata. **Longspike carex.**

Spikelets 6 to 12, alternate, approximate, cylindrical, lower male, single; fruit ovate, pointed, nicked, ribbed, patulous; glumes ovate, obtuse, much shorter than the fruit.


Carex multiceps, *Etr. de Flora,* 78.

Marshy places; perennial; June.

Roots in tufts; culm 2 feet high, naked above, apex drooping; leaves pale green, upright; spike hardly interrupted; spikelets 6 to 12, cylindrical, when ripe squarose, crowded above, remote below; bracteae glumaceous, rib ending in a bristle; glumes brown red; rib green.
17. Carex stellulata.  
Spikelets mostly 4, rather remote; fruit ovate, pointed, diverging horizontally; apex 2-toothed; margin ciliated, serrated; glumes ovate, acute.

Gramen cyperoides spicatum minimum spica divisa aculeata, Rait Syn. 424, spic. 12.
Carex miticata, Hudson Fl. Ang. 406.
Carex echinata, Hoffm. Germ. 326.
Carex stellulata, Goodenough L. T. 144.
Carex Leersii, Willd. Prod. 95.

Marshes; perennial; May and June.
Root fibrous, tufted; culm 12 in. high, bluntly 3-sided; leaves deep green, upright; spikelets 3 or 4, distant, short, roundish, when ripe squarose, stellate; bracteae very long, leaflike; glume acute; rib broad, green.

♀. masculina. Upper spikelet male.

18. Carex curta.  
Spikelets mostly 6, close, cylindical; fruit upright, ovate, planoconvex, rather acute, apex undivided; glumes ovate, acute, shorter than the fruit.

Gramen cyperoides elegans spica composita molli, Rait Syn. 423, spic. 7.
Carex ericoides, Hudson Fl. Ang. 408.
Carex canescens, Lightfoot, 556.
Carex cinerea, Pollich Pal. 880.
Carex tenella, Ehr. Gram. 98.
Carex curta, Goodenough L. T. 2, 145.

Marshy places; perennial; June.
Root rather creeping; culm acutely 3-cornered, 18 in. high; leaves slender, upright, pale green; spikelets silvery white, ovate, upper ones opposite, lower rather remote; glumes skinny, tender, whitish green; bracteae leaflike, slender, upper ovate, whitish, rib ending in an awn.

Spikelets remote, solitary; bracteae leaflike, much longer than the culm; fruit ovate, acute, rather compressed, apex slightly 2-cut, edge blunt; culm lax.

Gramen cyperoides angustifolium spicis parvis sessilibus in foliorum alis, Rait Syn. 424, spic. 11.
Carex remota, Lin. S. P. 1383.

Moist woods and shady ditch banks; perennial; May and June.
Root in thick tufts; culm slender, leafy, 2 feet high; leaves pale green, slender; spike very long, at length drooping; spikelets solitary, small, ovate, whitish, 3 or 4 lower ones
very distant, the rest closer, rather naked; bracteae leaflike, spreading, amplexicaulis; glumes acute, whitish, with a green rib; fruit longer than the glumes.

β. axillaris. Bracteae as long as the spike.

Carex axillaris, Lin. S. P. 1382.

Lower spikelets 3 or 4 together, distant; fruit ovate, acute, compressed, as long as the glume; apex deeply 2-cut, margin ciliated, serrate; lower bracteae very long, leaflike; culm stiff.

Carex axillaris, Goodenough L. T. 2, 158.

Bogs; perennial; May and June.
Culm upright, 3 feet high; leaves light green, slender; lower spikelets 3 to 5, aggregated; upper spikelet distant, solitary; bracteae leaflike, slender, longer than the spike; glume ovate, acute, brownish with a green rib.

c. Carices with spikes of different sexes.

Female spikes 3, elliptical, cylindrical, blunt; fruit sub-globose, apex not notched; glume ovate, blunt; bracteae sessile, rounded at bottom, membranous, eared; culm rough; leaves broad, stiff.

Carex saxatilis, Fl. Doc. 159.
Carex rigida, Goodenough L. T. 2, 193.

High mountains; perennial; May and June.
Root creeping; culm 5 in. high; leaves dark green, rather glaucous, shorter than the culm; male spikes 1 or 2 acute; female spikes 3; glumes black, blunt, half the length of the fruit.

β. recurva. Beak of the fruit bent back.

Female spikes 2 or 3, distant, elliptical; fruit elliptical, globose, beaked, apex 2-toothed; glume oblong, blunt, smaller than the fruit: bracteae amplexicaulis.

Carex fusca, Schkuhr Carex, 64.
Carex pulla, Goodenough L. T. 3, 78.

Alpine pastures; perennial; July.
23. *Carex caespitosa.*

**Tuft carex.**

Female spikes cylindrical, blunt, mostly 3, distant, the lower with short footstalks; fruit ovate, obtuse, pierced at the top, edge not notched; glume small, oblong, blunt, edge white; bracteae setaceous, leaflike, eared at the base; culm very acutely angled, flaccid; leaves narrow, long, flaccid.


*Carex caespitosa,* Lin. S. P. 1388.

Bogs and damp woods; perennial; May.

**Root creeping; culm 9 in. high; leaves slender, nearly upright; male spike terminal, lanceolate, upright; female spikes usually 2, upright, distant; glume lanceolate, obtuse, brown, edge thin and pale; fruit inflated, longer than the glume.**

24. *Carex stricta.*

**Straightleaf carex.**

Female spikes mostly 3, distant, cylindrical, attenuated, the lowest with a very short footstalk; fruit ovate, acute, apex pierced; glume lanceolate, acute, small; bracteae broad; culm stiff, acutely angled; leaves short, stiff.

*Gramen cyperoides* foliis caryophylleis, spicis erectis sessilibus e seminibus confertis compositis, Rail. Syn. 418, polyst. 4.

*Carex caespitosa,* Huds. Fl. Ang. 412.

*Carex caespitosa* & Lightf. Fl. Sc. 581.

*Carex acuta* a, Leers Herb. 204.

*Carex stricta,* Goodenough L. T. 2, 196.

Bogs; perennial; April.

**Root creeping; culm 2 feet high, upright; male spikes 2, upright, 3-sided; female 3, sessile, cylindrical, acute; glume acute, shorter than the fruit; bracteae leaflike, not eared at the base; fruit acute, apex not notched.**

25. *Carex acuta.*

**Sharp-pointed carex.**

Male spikes 2 or 3; female 4 or 5, with a short footstalk, rather drooping, cylindrical, distant; fruit oblong, beak very short, apex not notched but pierced; glume oblong, acute, as long as the fruit; bracteae long, leafy; culm acute-angled, rough, lax; leaves lax.
Gramen cyperoides majus angustifolium, Raii Syn. 417, polyst. 2; Ger. 
em. 29; Park. 1265.
Carex acuta β, Lin. S. P. 1388.
Carex gracilis, Curtis Fl. Lond. 4, 62.
Carex acuta, Goodenough, L. T. 2, 203.

Watery places; perennial; May.

Root creeping; culm 2 feet, high; leaves narrow, pale green; male spikes 2 or 3, slender; female 3, slender, drooping at first, but afterwards upright; glume acute, nearly as long as the fruit.

β, minor. Culm not 2 inches high.

γ. major. Male spikes very large, numerous; glumes awned, longer than the fruit.

δ. monstrosa. Stamens exserted from the spathellules.

II. 33. TRASUS.

Sedge.

Spathelle one, imbricate all round; spathellules 2, soldered at the edge, persisting, becoming cartilaginous; stamens 2 or 3; style 1; stigmata 3; akenium 3-sided, in the soldered capsuliform spathellules. — Root perennial, fibrous or creeping; culm 3-sided; leaves rough on the edge and keel, sheathing; sheaths whole; bracteæ sheathing or amplexicaul; flowers spiked; spikes many, generally unisexual, in the 1st and 2d species androgynous, male flowers above, few, mostly sessile; female flowers below, numerous, either sessile or with footstalks.

A synoptic view of the species.

1. Spikes androgynous.

Spike 1, 4 or 5-flowered;
fruit reflected; glumes deciduous ...... T. pauciflorus. 1.
Spikes 3 to 5, female at top, upright when in flower, drooping when in fruit .... T. atratus. 2.

2. Spikes of different sexes.

a. Bracteæ membranous; fruit downy.

Male spikes footstalked, overtopping the female................................. T. clandestinus. 3.

Male spikes sessile, overtopped by the female................................. T. digitatus. 4.
b. Bracteae leaflike; fruit downy; spikes sessile, or with sheathed footstalks.

Male spike 1; female 2 or 3;

Bracteae sheathing .......................... T. præcox. 5.
Male spike 1; female 2 or 3; glume short;
Bracteae amplexicaul; culm upright .... T. tomentosus. 6.
Male spike 1; female 2 or 3; glume long;
Bracteae amplexicaul; culm lying down .. T. piluliferus. 7.
Male spikes 2; female 3, cylindrical, brown;
fruit hirsute; plant hairy .................... T. hirtus. 8.
Male spikes 2; female 2, ovate, oblong, black;
fruit woolly; plant smooth .................... T. filifloris. 9.

c. Bracteae leaflike; fruit smooth;
spikes sessile, or with a footstalk enclosed in a sheath.

Bracteae amplexicaul; culm acute-angled;
fruit inflated, beaked ....................... T. vesicarius. 10.
Bracteae amplexicaul; culm obtuse-angled;
fruit inflated, beaked ....................... T. ampullaceus. 11.
Bracteae sheathing; culm smooth;
fruit beaked, beaks recurved ................ T. flavus. 12.
Bracteae sheathing; culm smooth;
fruit beaked, beaks straight ................ T. Oederi. 13.

d. Bracteae leaflike, sheathing; fruit smooth;
spikes upright, upper ones sessile, lower footstalked exserted, male 1.

Fruit beaked, 2-cut; glume 3-ribbed; sheath short;
culm smooth; ligula 0 ........................ T. extendens. 14.
Fruit beaked, 2-toothed; glume 1-ribbed; sheath long;
culm smooth; ligula long, acute ............ T. Hostianus. 15.
Fruit beaked, 2-toothed; glume 1-ribbed; sheath long;
culm rough; ligula 0 ....................... T. fulvus. 16.
Fruit beaked, 2-cusped; glume 3-ribbed; sheath long;
culm smooth; ligula short, blunt .......... T. distans. 17.
Fruit beaked, 2-lobed, 2-ribbed; glume 1-ribbed;
sheath long; culm smooth; ligula 0 ........ T. binervis. 18.
Fruit obtuse, not nicked; root creeping;
sheath long; culm smooth ................... T. paniceus. 19.
Fruit beaked, scariosae, not nicked; root fibrous;
sheath short; culm smooth .................. T. depauperatus. 20.
e. Bracteæ leaflike, amplexicaul; spikes upright, upper ones sessile, lower footstalked, male 2 or 3.

Glumes acute;
malespike3-sided;femalespicalrical...

Glume of the male flower blunt, of the female acute, awned; spikes cylindrical... T. paludosus. 22.

f. Bracteæ leaflike, sheathing; spikes drooping, upper ones sessile, lower footstalked, exserted, male 1.

Fruit crowded, ovate, acute;
leaves broad... T. pendulus. 23.
Fruit lax, lanceolate, 3-sided, ribbed;
leaves narrower... T. strigosus. 24.

g. Bracteæ leaflike, sheathing; fruit smooth; spikes footstalked, drooping.

Female spike lax, filiform;
fruit ovate, beak long... T. sylvaticus. 25.

Female spike ovate;
fruit ovate, 3-sided, pointed, smooth... T. capillaris. 26.

Female spike ovate;
fruit elliptic, compressed, beaked, edge rough.

T. ustulatus. 27.

h. Bracteæ leaflike, sheathing; spikes upright, footstalked, exserted.

Fruit smooth... T. laevigatus. 28.
Fruit rough... T. erectus. 29.

i. Bracteæ leaflike, amplexicaul; fruit smooth; spikes footstalked.

Root creeping; female spike ovate;
fruit elliptical, compressed... T. limosus. 30.

Root creeping; female spike cylindrical;
fruit elliptical, 3-sided, roughish... T. glaucus. 31.

Root creeping; female spike lax, fewflowered;
fruit obovate, obtuse, smooth... T. variiflorus. 32.

Root fibrous; spikes manyflowered;
fruit 3-sided, furrowed, beaked... T. chlorostachyos. 33.

Root fibrous;
fruit elliptical, inflated, obtuse... T. pallescens. 34.
1. *Trasi* with androgynous spikes.

*Spike* androgynous, not branched, mostly 4 or 5-flowered;  
*male flower* terminal, mostly solitary;  
*fruit* lanceolate, round, reflexed;  
*glume* of the female flowers deciduous;  
*leaves* long, convolute;  
*upper sheaths* leafless.

*Carex patula*, *Hudson Fl. Ang. 402, 657.*  
*Carex leucoglochin*, *Lin. Sup. 413.*  
*Carex pauciflora*, *Lightfoot Fl. Scot. 543.*

Alpine bogs; perennial; June.  
*Root fibrous, in tufts; culm 5 in. high, smooth; leaves*  
*usually in pairs, only half as long as the culm; spike ovate,*  
*oblong, acute; fruit* yellowish green, striated.

*Spike* androgynous, 3 to 5, on footstalks, crowded, terminal male in the lower part, fruitbearing, drooping;  
*fruit* subrotund, ovate, beak short, apex 2-toothed;  
*glumes* ovate, acute;  
*bracteae* amplexicaul;  
*leaves* crowded.

*Carex atrata*, *Lin. S. P. 1386.*

Alpine pastures; perennial; June, July.  
*Culm* upright, 2 feet high, angles smooth;  
*leaves* light green, broad, flat;  
*bracteae* leaflike, spreading;  
*splkes at first upright, afterwards drooping;*  
*stamens* 2 or 3;  
*glumes* black;  
*fruit* yellow, ribless, smooth.

2. *Trasi* with many spikes, of different sexes.

a. *Bracteae* membranous, leaflike;  
*terminal spike* solitary, male;  
*female spikes* sessile;  
*fruit* hairy.

*Male* spike footstalked;  
*female* 2, usually 3-flowered, distant, nearly sessile, concealed in the bracteae;  
*fruit* oblong, obtuse, hairy, apex not nicked;  
*leaves* channelled.

*Carex prostrata*, *Allioni Fed. 2, 267.*  
*Carex clandestina*, *Goodenough L. T. 2, 167.*

On sunny rocks; perennial; May.  
*Culms* in tufts, 2 in. high, upright, 3-sided;  
*leaves* upright, 3 times as long as the culm, dark green, edge very rough;  
*rachis* rough, hollowed out;  
*male spike* rather 3-sided, linear, manyflowered;  
*female spikes* 2 or 3, distant, fewflowered;  
*bracteae* obtuse, brown, sheathing;  
*glumes* obtuse, dark brown.
4. Trasus digitatus.  
**Finger sedge.**

Male spike sessile; females 3, fingerlike, distant, footstalked, linear; fruit obovate, beaked, 3-sided, downy; glumes obovate, mucronate, as long as the fruit; bracteae oblique, mucronate; culm compressed; leaves flat.


Woods in chalky soils; perennial; May.

Culm slender, obtusely 3-sided, 9 in. long, smooth; leaves light green, slender, flat; male spike oblong, acute; females 2 or 3, linear, 8-flowered, footstalked, from the same sheath as the male and overtopping it; bracteae sheathing, scariose; glumes loose, truncated, reddish, with a green rib.

b. Bracteae leaflike, sheathing; spikes footstalked, enclosed in the sheath; fruit downy.

5. Trasus præcox.  
**Early sedge.**

Female spikes 2, close, oblong; fruit subglobose, obtuse, 3-sided, downy; glume ovate, acute, as long as the fruit.

Carex montana, *Relhan Cant.* 353.
Carex præcox, *Jacquin Austr.* 446.
Carex vernæ, *Villars Dauph.* 2, 204.
Carex filiformis, *Leers Herb.* 718.

Dry barren pastures, heaths; perennial; April.

Root stoloniferous; culm 3-sided, edges blunt, 6 in. high; leaves in tufts, short, light green, shining, recurved; male spikes thick, clubshape; female spikes with a short footstalk; bracteæ scariose, awned; glume ferruginous, edge not scariose but the same colour, rib greenish; fruit not notched at the apex.

c. Bracteæ leaflike, amplexicaul; spikes all sessile; fruit downy.

6. Trasus tomentosus.  
**Napped sedge.**

Female spikes 2, cylindrical, rather close; fruit roundish, napped; glumes ovate, acute, smaller than the fruit; bracteæ eared, amplexicaul.


Fields; perennial; June.
33. Trasus. 9. CYPERACEÆ.  Pl. end. ph.

Root creeping; culm 12 in. high, angles acute; leaves upright, shorter than the culm; bracteae scarcely overtopping the culm, sheath very short or none; male spike lanceolate, blunt; glume lanceolate, brownish, rather pointed, rib green; fruit as long as the glume, closely napped; nap first white, afterwards yellow.

Female spikes 2 or 3, close, elliptical, roundish; fruit round, downy, beak short; glumes oblong, acute, longer than the fruit; culm lying down, serrulate.
Gramen cyperoides spicis brevibus congestis, folio mollis, Raii Syn. 421, polyst. 19.
Gramen cyperoides tenuifolium, spicis ad summum caulem sessilibus globorum annuis, Raii Syn. 422, polyst. 20.
Carex pilulifera, Lin. S. P. 1385.
Carex montana, Lin. S. P. 1385.
Carex filiformis, Fl. Dan. 1048.
Round-headed carex.

Fields and pastures; perennial; May and June.
Culm 9 in. long, acutely 3-sided, slender, weak; leaves upright, bent back at top, light green; bracteae bristlelike, 3-sided; male spikes lanceolate, slender, acute; female spikes 2 or 3, cylindrical, conglomerate, spreading; glumes ovate, ferruginous, edge white, rib green; fruit green, apex not notched.

8. Trasus hirtus.  Rough sedge.
Male spikes 2; female 3, oblong, distant; lower one shortly footstalked; fruit oblong, pointed, rough haired, apex 2-cusped; glumes oblong, rough haired, awned; awns very long; leaves and sheaths rough-haired.
Gramen cyperoides polystachium lanuginosum, Raii Syn. 418, polyst. 7.
Carex hirta, Lin. S. P. 1389.

Damp fields and marshes; perennial; May and June.
Root creeping widely; culm smooth, 2 feet high, upright, leafy; leaves upright, acute, downy on the upper face; sheath very roughly haired above; bracteae leaflike, as long as the spike; male spike lanceolate; glume ovate, brown, hairy, rib yellowish; glumes of the female spike bald, longawned, rib-green; fruit ovate, ribbed.

ß. glaber. Bald, sheath very slightly hairy; fruit rough-haired.

γ. compositus. Male spikes 3 or 4; female branched; spikelets 2 or 3, crowded, with a leaflike bractea at their bottom.
Thread sedge.
Male spikes 2, very long; female spikes 2, ovate, oblong, distant, sessile; fruit elliptical, woolly, apex 2-forked; glumes oblong, lanceolate, shortawned, as long as the fruit; leaves grooved.

Carex filiformis, Lin. S. P. 1385.
Carex tomentosa, Lightf. Scot. 2, 552.
Carex hirta, Fl. Dan. 319.
Carex lasiocarpa, Ehr. Gram. 10.
Carex splendida, Willdenow Prod. 103.

Slender leaved carex.

Bogs; perennial; June.

Root creeping; culm upright, naked, 2 feet high, towards the top 3-sided; leaves upright, stiff, narrow, not keeled: bracteae leaflike, overtopping the culm; male spikes distant, lanceolate; glumes black with a yellow rib; female spikes 1 or 2, distant, upright; glumes pointed, bald; fruit ribbed, blackish with strawcolour hairs.

β. simplex. Male spike 1.

d. Bracteæ leaflike, amplexicaul; spikes sessile, 

10. Trasus vesicarius. 
Bladder sedge.
Female spikes 2 or 3, footstalked, cylindrical; fruit oblong, inflated, beaked, apex 2-forked; glume lanceolate, smaller than the fruit; bracteæ long; culm acutely 3-sided; leaves broad.

Carex vesicaria, a and γ, Lin. S. P. 1888.

Bogs and watery places; perennial; May.

Root creeping; culm 2 feet high, upright; leaves upright, pale green, very long; bracteæ sheathless; male spikes 2 or 3, slender, acute, light brown; glumes ovate, lanceolate, pale, ferruginous; female spikes upright; glumes lanceolate, acute, green; fruit very smooth, loosely spreading.

11. Trasus ampullaceus. 
Crewet sedge.
Female spikes 2, cylindrical; fruit subglobose, inflated, beaked, apex 2-forked; glumes lanceolate, smaller than the fruit; culm obtuse-angled; leaves narrow, edge rough.
Gramen cyperoides polystachion majus, spicis teribus erectis, Rau Syn. 419, polyst. 9.
Carex vesicaria, Hudson Fl. Ang. 413.
Carex rostrata, Withering B. Ar. ed. 2. 1059.
Carex amplexicaulis, Goodenough L. T. 2, 207.

Bogs and watery places; perennial; May.

Root creeping; culm upright, 2 feet high, 3-sided; angles bald below, rough above the lowest spike; leaves upright, slender, glaucous; bractæ without sheaths, long, the lowest overtopping the culm; male spikes 2 or 3, close, very slender, pale brown; glumes obtuse, brown, rib yellow; female spikes 2 or 3, distant, cylindrical, obtuse; glumes acute; fruit very smooth, apex longbeaked, beak diverging at a right angle.

e. Bractæe leaflike, sheathing; spikes footstalked, enclosed in the sheaths, upright, male solitary; fruit smooth.

12. Trasus flavius. Yellow sedge.

Female spikes 3, close, elliptical; fruit ovate, beaked, beaks bent back, 2-toothed; glumes ovate, lanceolate, shorter than the fruit; culm rather smooth.

Gramen palustre echinatum, Ger. cm. 17.
Gramen echinatum Germanicum, Park. 1181.
Carex flava, Lin. S. P. 1384.
Hedgehog grass.

Bogs; perennial; May and June.

Root creeping; culm upright, a foot high, 3-sided, leafy below; leaves pleasant green, upright, broadish, flat, longer than the culm; bractæe much higher than the culm, the upper scarcely sheathing, the lower sheathing, and not much spread out; male spike 1 or 2, lanceolate, upright; female spikes 3, ovate roundish, the upper close, almost sessile, the lower rather distant, footstalk longer than the sheath; glumes ovate, yellow, edge white, rib green; fruit yellowish green, diverging every way.

β. scaber. Culm rough edged.

γ. duplex. Male spikes 2.


Female spikes 4, roundish; fruit globose, beaked, beak rather straight, 2-toothed; glume ovate, lanceolate, longer than the fruit; culm smooth.
Carex extensa, Withering?
Carex Oederi, Hoffm. Germ. 214.

Moist sandy meadows; perennial; all the year.
Root fibrous, creeping, throwing up new culms all the year; culm 12 in. high, lying down; leaves slender, acute; bracteae as long as the spike, at length reflexed; male spike slender; female spike ovate, conical, acute, crowded, the lower ones distant; fruit expanding, apex bluntish.

f. Bracteae leaflike, sheathing; spikes footstalked, the upper enclosed, the lower exserted, male 1; fruit smooth.

Female spikes 3, elliptical, roundish, rather close, bracteae very long; sheath and footstalks very short; fruit elliptical, ribbed, apex 2-toothed; glumes ovate, pointed, smaller than the fruit; culm smooth; leaves slender.

Graenem cyperoides q. Cyperoides echinatum majus Petiver, Raiti Syn. 421, polyst. 15.*
Carex extensa, Goodenough, L. T. 2, 175.

Sea-side; perennial; June.
Root fibrous; culm upright, 12 in. high, bluntly 3-sided; leaves recurved, slender, grooved; bracteae very long, spreading, with very short, dilated sheaths; male spike single, nearly sessile, lanceolate; female spikes 2 or 3, close, upright, ovate; glume ovate, 3-ribbed, pointed, ferruginous, back green; fruit spreading, scarcely beaked, angles smooth.

ß. cylindraceus. Spike long, cylindrical.

15. Trasus Hostianus. Host’s sedge.
Female spikes 3, oblong, distant; bracteae leaflike, long; ligula opposite to the leaves, long, acute; sheaths half the length of the footstalk; fruit 3-sided, beaked, beak 2-toothed, teeth acute; culm smooth, roundish; glumes obtuse.

Carex fulva, Host Gram. Austr. 77.

Mountains; perennial; June.
Culm rough and angular below the spikes, upright or bent, 2 feet high; radical leaves keeled, light green, edge rough; bracteae not overtopping the culm, sheath ending in a membranous ligula; male spikes 1 or 2, slender, sessile, upright, cylindrical; glume rather blunt, chesnut brown;
edge white, scariose; rib yellow, ending below the tip; *female spikes 3*, distant, oblong, acute; glume ovate, lanceolate, acute, nearly as long as the fruit, keeled, rib yellowish, ending below the tip; edge white, scariose; *fruit* yellowish green, 3-sided, slightly striated, angles very smooth, beaks linear, slightly bent, apex 2-toothed, acute.

Communicated by Mr. G. Don, as found on the Mountain Clova, Angus-shire, in Scotland.


Tawney sedge.

*Female spikes* ovate, oblong, distant; *bracteae* upright; sheath half the length of the footstalk; *ligula* very short or 0; *glumes* ovate, blunt, larger than the fruit; *fruit* elliptical, beak upright, 2-toothed; *culm* serrulate.

Carex trigona, Alliot Pedem. 233, 5.
Carex fulva, Goodenough L. T. 2, 171.

Bogs; perennial; June, July.

Root creeping; *culm* upright, a foot high, 3-sided, angles rough; *leaves* upright, slender, dark green, shorter than the *culm*; *bracteae* upright, not overtopping the *culm*; sheath long, apex brownish; *ligula* extremely short; *male spike* linear, slender, upright; *glume* obtuse, brown, rib brownish, very faint; *female spikes* 2 or 3, upright; *glume* ovate, rib pale, ending below the tip; *fruit* green, longer than the glumes, upright, spreading, faintly ribbed, angles smooth, beak linear, 2-toothed.

17. *Trasus distans.*

Distant sedge.

*Female spikes* 3, ovate, very distant; *bracteae* upright; sheaths half the length of the footstalk; *ligula* opposite to the *leaf*, short, blunt; *glumes* ovate, pointed, nearly as long as the *fruit*; *fruit* acutely pointed, bicuspidate, acute-angled.

Grannen cyperoides spicis parvis longissime distantibus, Rauj Syn. 420, polyst. 16.
Carex distans, Lin. S. P. 1387.

Bogs by the sea-side; perennial; June.

*Culm* smooth, 2 feet high, upright, bluntangled, weak; *leaves* broadish, short, flat, light green, sheath long; *ligula* opposite to the *leaves*, short, blunt, white; *male spike* thick, lanceolate, obtuse; *glume* ferruginous, pointed, rib broad; *glumes* of the *female spike* broad, ovate, pointed; ribs three, closing at the apex; *fruit* longer than the glumes, brown, nearly 3-sided, many ribbed, edges raised, smooth, 2-cut, beaks short, diverging.
Female spikes 3, cylindrical, distant; bracteae long, very slender, sheaths long; glumes obtuse, pointed, smaller than the fruit; fruit elliptical, 2-ribbed, apex 2-lobed, hyaline.

Carex distans, Lightfoot Fl. Sc. 561.
Carex binervis, Smith L. T. 5, 268.

Dry heaths; perennial; June.

*Culm* upright, 2 feet high, deep glaucous green, smooth, angles blunt; *leaves* broad, glaucous; *bracteae* distant, like the leaves; *male spike* thin; glume elliptical, blunt, blackish, slightly pointed, *rib* green; *female spikes* 3 to 5, cylindrical, upright, lower very distant; glumes acute, blackish, smooth, pointed, *rib* green; *fruit* reddish brown, scarcely beaked, *rib* green.

β. *ramosus.* Lower female spike branched.

γ. *androgynus.* Female spikes with a few male flowers above.

Female spikes 2 or 3, cylindrical, rather distant; *sheaths* long; glumes ovate, smaller than the fruit; fruit ovate, blunt, apex not notched; *culm* smooth.

Gramen cyperoides foliis caryophylleis, spicis e rurioribus et tumidioribus granis compositis, Rait Syn. 418, polyxt. 3.


Damp meadows and pastures; perennial; May and June.

*Root* creeping; *culm* weak, a foot high, angles blunt, sides rounded; *bracteae* much shorter than the culm; *male spike* 1, bellied, acute; *female spikes* 2 or 3, distant, cylindrical; glumes long, ovate, acute, *rib* green; fruit inflated.

β. *Leersii.* Female spike roundish, footstalk very long.

γ. *androgynus.* Female spike having a few male flowers at the tip.

δ. *distachyos.* Male spikes two.

Female spikes 2, 3 to 5-flowered, distant; *sheaths* short; glumes oblong; fruit longer than the glumes, obovate, inflated, beaked, apex oblique.

Carex ventricosa, Curtis Fl. Lond. 6, 69.
Carex depauperata, Goodenough L. T. 2, 181.
Carex triflora, Willd. Phytogr. 1, 2.
Woods; perennial; May, June.
Culm 18 in. high, upright; leaves with long sheaths, pale green; bracteae very like the leaves, sheaths shorter; male spike terminal, linear; glumes obtuse, ferruginous, rib green; female spikes 3 to 5, distant, loose, erect, 2 to 5-flowered; fruit ovate, 3-sided, ribbed, longbeaked, apex scarioso, not notched.

Male spikes 3-sided; female spikes 3, cylindrical, narrow at top; glumes as long and broad as the fruit, ovate, acute, awned; fruit oval, manyribbed, beak 2-forked.

Gamen cyperoideas cum paniculis nigris, Rait Syn. 417, polyst. 1.
Carex acuta a, Huds. Pl. Ang. 413.
Carex riparia, Curtis Pl. Lond. 281.
Great common cyperus grass.

Banks of rivers; perennial; April, May.
Root creeping; herb blackish green, rather glaucous; culm acute-angled, 3 feet high, firm, upright; leaves in tufts, broad, long; bracteae very long, sheaths scarcely any, ears rounded, pale; male spikes 3 or 5, close, upright, 3-sided; female spikes 3 or 4, cylindrical, thick, footstalks long, lower sometimes hanging down; glumes awned; fruit brown, spreading, beak very short.

Male spikes 2 or 3, bellied; glumes blunt; female spikes 3, cylindrical, narrowed; glumes lanceolate, awned; fruit ovate, ribbed, as long as the glume, beak 2-toothed.

Gamen cyperoideas minus augustifolium, Park. 1266, Rait Syn. 418, polyst. 2.*
Carex acuta, Curtis Pl. Lond. 4, 61.
Carex rufa, Lamarcke Enc. Meth. 3, 394.
Carex paludosu, Goodenough L. T. 2, 205.
Carex acutiformis, Ehr. Gram. 2, 30.
Small common cyperus grass.

River sides; perennial; May.
Root creeping; culm 2 feet high, upright, angles acute; leaves very long, glaucous, upright; bracteae longer than the culm; male spikes 3 or 4, brownish black, glumes ovate, blunt, rib green; female spikes slender, blunt; footstalks short; glumes lanceolate, acute; fruit ovate, brown.
h. Bracteæ leaflike, sheathing; spikes drooping when ripe, sessile, lower footstalked, exserted, male 1; fruit smooth.

Female spikes 3 or 5, cylindrical, very long; sheaths long; glumes ovate, as long as the fruit, awns very short; fruit elliptical, crowded; beak short, 2-toothed; leaves broad, stiff.

Gramen cyperoides spicé pendulâ longiorâ, Park. 1267; Raui Syn. 420, polyst. 13.
Carex agastachys, Lin. Suppl. 414.
Carex pendula, Huds. Fl. Ang. 411.

Damp woods and hedges; perennial; May and June.
Culm 6 feet high, firm, 3-sided; leaves broad, dark green, stiff, hard, glaucous beneath; bracteae drooping, lower very long, sheaths as long as the footstalks; spikes 5 to 7, drooping, cylindrical, very compact, uppermost male, others female; glumes lanceolate, acuminated, brown, rib green; fruit smooth.

β. androgynus. Male spike with female flowrets at the upper part.

Female spikes 3 or 4, threadlike, lax, distant; sheaths long; glume ovate, lanceolate; fruit longer than the glume, oblong, lanceolate, ribbed, apex obliquely cut off; leaves slender.

Gramen cyperoides polystachium majusculum latifolium, spicis multis longis strigosis, Raui Syn. 419, polyst. 11.
Carex leptostachys, Lin. Suppl. 414.

Wood and hedges; perennial; April and May.
Culm upright, 2 feet high, smooth, slender; leaves broad, light green, thin; bracteæ long, sheaths nearly the length of the footstalk; ligula membranous, brown, amplexicaul; spikes 6 or 8, drooping, loose, uppermost male, others female; fruit green.

i. Bracteæ leaflike, sheathing; spikes drooping, footstalked, all exserted; fruit smooth.

Female spikes 4, distant, long, threadlike; bracteae sheathing, half as long as the footstalks; glume ovate, mem-
Trasus. 9. CYPERACEÆ.

Pl. end. ph.

Branous, awned; fruit as long as the glumes, loose, ovate; beak 2-cut.

Gramen cyperoides sylvarum tenuisspicatum, Rädi Syn. 419, polyst. 10;
Park. 1171.
Carex vesicaria, Lin. S. P. 1389.
Carex patula, Poll. 2, 397.
Carex Drymeia, Lin. Suppl. 414.
Carex sylvatica, Huds. Fl. Ang. 411.

Woods; perennial; May and June.

Culm 3 feet high, upright, leafy, 3-sided, sides convex; leaves roughish, light green; bracteæ long-sheathed; spikes 6 or 8, slender, loose, male 1 or 2; glumes ovate, acute, whitish, rib green; fruit long-beaked.

Female spikes 3, ovate, loose, about 12-flowered; sheaths half as long as the footstalk; glumes ovate, shorter than the fruit, hyaline, deciduous; fruit elliptical.

Carex capillaris, Lin. S. P. 1386.

Alpine mountains; perennial; July and August.

Culm upright, naked; leaves short, narrow; bracteæ upright, terminal; footstalks 3 or 4, nearly umbellate, afterwards, by the growth of the rachis, distant; male spike upright, linear, silvery-brown, about 10-flowered; female spikes drooping, short; glumes brown, tip white; fruit brown, smooth.

Female spikes 2, ovate; glumes elliptical, shorter than the fruit; bracteæ sheathing, very short; fruit ovate, pointed, 2-toothed, compressed, edge rough.

Carex atrofusca, Scheuchzer Carex, 106.

Moist micaceous mountains; perennial; July.
Root tufted, scarcely creeping; culm almost naked, smooth, 6 in. high; leaves short, erect, striated, smooth; spike dark blackish brown, tumid, short; male upright.

Female spikes 3, cylindrical, slender, distant; glumes oblong, ovate, nearly as long as the fruit, awned; fruit ovate, pointed; beaks 2, deeply cut, spreading; sheaths of the bracteæ very long.

Marshes; perennial; May.
Root fibrous; culm 4 feet high, smooth; leaves upright, broad, light green, smooth, very long sheathed; bracteae erect, overtopping the culm, pointed, upper with short sheaths or none; spikes cylindrical, long, acute; male usually 2, females with long footstalks; fruit longer than the glumes, ribbed, green, smooth; seed 1, filling the fruit, 3-sided.

Female spikes 3, distant, threadlike, upright; sheaths short; glumes ovate, shorter than the fruit, submucronate; fruit ovate, inflated, 3-sided, edge slightly hispid, apex membranous, 2-lobed.

30. Trasus limosus. Mud sedge.
Female spikes 2, ovate; glumes ovate, as long as the fruit, mucronate; fruit elliptical, compressed, 3-sided; beak very short, apex not nicked; root creeping.

Female spikes 2, cylindrical, distant; bracteae eared; glumes blunt; fruit elliptical, roughish; apex very blunt; culm roundish; root creeping.
33. Trasus. 9. CYPERACEÆ.  Pl. end. ph.

Gramen cyperoides, folis caryophylleis, spicis oblongis et pediculis longioribus pendulis, Raiti Syn. 418, polyst. 5.
Carex limosa β, Leers Herb. 201.
Carex recurva, Huds. Fl. Ang. 413.

Moist grass lands and woods; perennial; May, June.
Root creeping; herb sea-green; culm 1 foot high, sides convex; leaves upright, shorter than the culm, broadish; bracteae upright, equalling the culm in height; male spike linear, lanceolate; female spikes cylindrical; glumes ovate, blackish, edge whitish, rib yellowish; fruit bluntly 3-sided, almost ribless, brownish green, turning black.

β. Micheliana. Male spikes many; fruit smooth.
Carex Micheliana, Smith L. T. 5, 270.

γ. ramosa. Spikes branched.

32. Trasus rariflorus. Fewflowered sedge.
Female spike loose, fewflowered; glumes ovate, acute; fruit obovate, obtusely 3-sided; root creeping.

Alpine mountains; perennial; July.
Culm a foot high; glumes black.

33. Trasus chlorostachyos. Greenspike sedge.
Female spikes 4, cylindrical, manyflowered; glume as long as the fruit; fruit ovate, lanceolate, furrowed, 2-cusped, spreading; root fibrous.
Gramen cyperoides, spica pendula breviore, Raiti Syn. 419, polyst. 12.
Pseudo-cyperus, Ger. em. 29.
Cyperus seu Pseudo-cyperus spica brevi pendula, Park. 1266.
Bastard cyperus.

Moist woods and river-banks; perennial; June.
Culm a foot high, upright, leafy, acute-angled; leaves pale green, sheathing; peduncles very long; spikes cylindrical, manyflowered, compact; male spikes upright, reddish; female spikes drooping, greenish; glumes awned; awns very long, very rough.

β. bipedunculatus. Peduncles in pairs from the same sheath.
34. *Trasus pallescens.* Pale sedge.
   Female spikes 2 or 3, elliptical; glumes as long as the fruit, ovate, acute; fruit elliptical, inflated, obtuse; root fibrous; leaves pale.


Grass lands and moist woods; perennial; May and June.

*Culm* 18 inches high, leafy at bottom; *leaves* yellowish; *bracteae* much overtopping the culm; *male* spike lanceolate, upright, pale, ferruginous; *glumes* ovate, yellowish, rib green; *fruit* pale green.

III. 34. *COBRESIA.* Willdenow.

*Spathelles* imbricate all round; *spathellule* 1, persisting, cartilaginous, involving the ovary; *stamens* 3; *stigmata* 3, downy; *style* dilated at the base, jointed; *akenium* horny, smooth, crowned with the persistent base of the style, enclosed in the persisting hardened glumule.—*Root* perennial, tufted; *leaves* linear, channelled, edge and keel rough; *culm* round, naked above, angular; *spike* compound, monocous; *bracteae* glumaceous, the lower one sometimes leaflike.

*Colresia caricina.* Carexlike Colresia.

*Spike* contracted, subovate; *spikelets* 3 or 4, alternate, imbricate, upper one male.


Subalpine mountains; perennial; July.

*Root* scaly; *leaves* recurved, narrow; *culm* erect, single, 9 in. high; *spike* erect; *bracteae* ovate, membranaceous, brown; *glumes* brown, edge white.

B. *Cyperaceæ.* Glumes 2-rowed; flowers hermaphrodite; *glumelles* none or bristlelike.

IV. 35. *CYPERUS.* Theophrastus.

*Spathelle* 1, 2-rowed, keeled, all flowerbearing, equal; *glumelle* 0; *stamens* 3; *style* not jointed to the ovary, deciduous; *stigmata* 3; *akenium* oblong, 3-sided.—*Root* creeping; *culm* 3-sided, base leafy; *leaves* linear, keeled, edge
Cyperus longus. *Long cyperus.*

*Culm* leafy; *umbels* subcorymbose; *involucrum* 3 or 4-leaved, unequal; *radius* unequal, very long, naked; *involucellum* setaceous; *spikelets* linear, alternate, distant, flat.

Cyperus longus, *Rait* Syn. 425, 1; *Ger.* em. 30; *Lin.* S. P. 67.

Cyperus longus odoratus, *Park.* 146.

Sweet cyperus. *English Galingale.*

Bogs; perennial; July to September.

*Root* very long, brown; *culm* smooth, erect, slender, 2 or 3 feet high, base leafy; *leaves* very long, light green; *sheath* short, pale, scariose; *umbels* 6 in. high; *spikelet* 10 or 12-flowered; *involucellum* white; *glume* oblong; apex nicked; edge pale, scariose; keel green, smooth.

*Root* diuretic, emmenagogue, tonic; also sweet-scented, the scent improving by being kept in powder.

V. 36. CLADIUM. Schrader. *Pricklerush.*

*Spathelle* 1, imbricate, 1-flowered, outer smaller and empty; *glumelles* none; *stamens* 2; *style* not jointed; *stigma* 2, 3, or 4; *drupe* long, rather 3-sided; *putamen* brittle, thin; *nut* long, elliptical, rather 4-furrowed, upper part naked, nucleus white.— *Root* creeping, fistulous, round, branchy, tumid and knobby at the bottom; *leaves* flat, linear, edge and ridge prickly, sheath short; *ligula* none; *corymbus* terminal or axillary; *spikelets* 2 or 3-flowered.

Cladium Germanicum. *German Pricklerush.*

*Culm* round; *corymbus* crowded; *spikelet* fascicled.

Cyperus longus inodorus sylvestris, *Ger.* em. 29; *Rait* Syn. 426, 4.

Cyperus longus inodorus vulgaris, *Park.* 1263.


Cladium Germanicum, *Schrader* Germ. 75.

Prickly bogrush.

Marshes, especially saline; perennial; July and August.

*Leaves* dry, very long; *sheaths* very smooth; *corymb* in pairs; *peduncles* long; *bracteæ* ovate; *spikelet* shining, 2-flowered, ovate, crowded; *glumes* light brown, obtuse; *drupe* red, shining.

Spathelle 1, imbricate, 1 or 2 outer smaller, empty; glumelles setaceous; seta 6, shorter than the glumes; stamens 2 or 3; style deciduous, not jointed; stigmata 2, revolute; akenium lenticular, 3-sided.—Root creeping; culm roundish, base leafy; leaves flat, or half-round, channelled, edge smooth, ridge 0; ligula short; spike terminal, upright, 2-rowed, compressed, compound; spikelet alternate, sessile, 2 or many-flowered; rachis flexuose.


Culm roundish; leaves flat; bractæ leaflike, acute, longer than the spike; spikelets manyflowered.

Gramen cyperoides spica simplici compressa disticha, Raiti Syn. 425; spic. 14.
Cyperella, § 2, Michell N. P. G. 53.
Carex uliginosa, Lin. S. P. 65.
Scirpus caricos, Retz Prod. 64.
Scirpus compressus, Persoon Syn. 1, 66.
Scirpus caricosus, Schrad. Germ. 1, 132.

Turfy bogs; perennial; July.

Root shootbearing; culm rather 3-sided, 9 in. high, upright; leaves not channelled, smooth; ligula truncate; spike brown, shining; lower bractæ 3, slender, leaflike; upper ovate, scariose, mucronate; spikelets 6 to 12, the lower sometimes branched.


Culm round; leaves half-round, channelled; bractæ leaflike, obtuse, shorter than the spike; spikelet fewflowered.

Schoenus rufus, Hudson Fl. Ang. 15.
Schoenus brunennis, Solander's MSS.
Scirpus rufus, Wahl. Lapp. 15.

Bogs; perennial; July.

Root horizontal; culm 6 in. high; leaves dilated at bottom, membranous, sheathing, full as long as the culm; spike brown, shining; spikelets 5 or 6, branched; bractæ sometimes wanting.

VII. 38. RHYNCHOSPORA. Vahl.  Beakrush.

Spathelle 1, imbricate, lower smaller and empty; glumelles setaceous, seta 8 or 10, denticulate, shorter than the glumes; stamens 2 or 3; style subulate, dilated at the bottom, persisting; stigmata 2 or 3; akenium bony, lenticular, conical, beaked.—Root perennial, fibrous, or creeping; culm slender, triangular, base slightly tumid; leaves linear,
channelled, edge and ridge rough; sheaths short; ligula 0, or very short; spikelets umbelled, axillary, or terminal, 2 or 3-flowered; bracteae leaflike, longer than the spikelets.

1. Rhynchospora alba. **White beakrush.**
   Culm rather acute-angled; leaves very slender, channelled; spikelets fascicled; root fibrous.
   Cyperus minor palustris hirsutus, paniculis albis palaceis, Raiti Syn. 427, 6.
   Gramen juncenum leucanthemum, Ger. em. 30.
   Cyperella 4, No. 1, Micheli N. P. G. 53.
   Schoenus albus, Lin. S. P. 65.
   Schoenus setaceus, Thuill. Fl. Par. 19.
   Rhynchospora alba, Vahl Enum. 2, 236.
   Bogs; perennial; July and August.
   Culm fascicled, in tufts, 12 in. high; leaves shorter than the culm, erect; sheath 3-sided, white; ligula very short; spikelet oblong, erect, white, turning brownish; akenium compressed, acute, white; stigmata shorter than the style.

2. Rhynchospora fusca. **Brown beakrush.**
   Culm blunt-angled; leaves bristlelike, channelled; spikelets fascicled; root creeping.
   Cyperus minor angustifolia palustris capitulis fuscis palaceis, Raiti Syn. 427, 6.*
   Cyperella § 1, No. 2, Micheli N. P. G. 53.
   Schoenus fuscus, Lin. S. P. 1664.
   Schoenus albus 8, Hudson Fl. Ang. 16.
   Rhynchospora alba 8, Vahl Enum. 2, 236.
   Rhynchospora fusca, Raimer Syst. Veg. 88.
   Turf bogs; perennial; August.
   Root hard, throwing up a single culm here and there; culm almost naked, slender; leaves very slender; sheath round; ligula 0; spikelet 3 or 4-flowered, oblong, brown, acute; akenium roundish, palebrown, shining; stigmata longer than the style.

VIII. 39. SCHÖENUS. Theophrastus. **Bogrush.**
   Spathelle 1, imbricate, 3 or 6 outer small, crowded and empty, flowerbearing 3 or 4, alternate; rachis flexuose; glumelles bristlelike, bristles 3 to 6, smooth, shorter than the glumes; stamens 3; style deciduous, not jointed; stigmate 3; akenium 3-sided.—Root fibrous, perennial; leaves all radical, tufted, bristlelike, ridged, planoconvex, shorter than the culm; sheaths broad, slit lengthways, black, shining; ligula very short; culm round, not branched, apex thickened; head terminal, ovate; spikelets many; involu-crum 2-valved, valves unequal.

Head ovate; spikelets many; bracteae unequal, lower ending in an awlshape bristle longer than the head; culm round, smooth.

Scirpus q. Juncus lavis minor, panicula glomerata nigricante, Raiti Sym. 430, 10.

Melanoschoenus palustris, Micheli N. P. G. 46.

Schoenus nigricans, Lin. S. P. 64.

Cyperus nigricans, With. 78.

Spongy bogs; perennial; May and June.

Culm erect, 18 in. high; head terminal, black, shining; leaves rather rough; lower bracteae ovate; stem clasping, black, enclosing the spikelets, cartilaginous, shining, ribbed, opake, ridged, rib green, ending in an awlshape seta longer than the head; upper bracteae small, similar to the lower, but the seta is very short, or even wanting; spikelets crowded, acute; glumes acute, keel rough; seed shining, white.


Head linear; spikelets 2 or 3; bracteae nearly equal; bristle scarcely longer than the head; culm round, smooth.

Schoenus ferrugineus, Lin. S. P. 64.

Mountain bogs; perennial; August.

Leaves slender, setaceous, very short, smooth; sheath brown, apex notched; culm slender, 8 in. high; head brownish, slender; bracteolae at the base of each spike, ovate, 5-ribbed, back smooth; bracteae nearly equal, setae 4 or 5.

C. Scirpideæ. Glumes imbricate all round; flowers hermaphrodite; glumelles more or less bristlelike.

IX. 40. SCIRPUS. Tragus. Rush.

Spathelles 1, imbricate all round, all fertile; spatheollules bristly, bristles 5 or 6, toothed, shorter than the glumes; stamens 2 or 3; style 1, not dilated at the bottom, jointed, deciduous; stigmata 2; akenium 3-sided.

a. Boetherion. Root fibrous, perennial; culm round, smooth, striated; leaves none; sheaths tubular, leafless; spikes solitary, terminal; bracteae 2, glumaceous.


Spike ovate, 4 or 5-flowered; bracteae nearly equal, as long as the spike; lower ending in a very short blunt mucro; radical scales many.
Scirpus montanus capitulo brevior, Rau 420, 9.
Scirpus §.
Scirpus cespitosus, Lin. S. P. 72.
Deer's hair.

Turfy heaths; perennial; July.
Culm densely tufted, very smoothly streaked, stiff; 6 in. high; sheaths ending a short leaf; lower bracteae 3 or 5-ribbed; mucro white, thick.

2. Scirpus pauciflorus. Fewflowered rush.
Spike ovate, 6 or 7-flowered; bracteae unequal, shorter than the spike; radical scales very few.
Scirpus, § 5, No. 1, Micheli N. P. G. 51.
Scirpus Beothryon, Lin. Suppl. 103.
Scirpus pauciflorus, Lightfoot Scot. 1013.
Scirpus Halleri, Villars Delph. 2, 188.

Hilly bogs; perennial; August.
Culms many, 6 in. high, upright; barren culms taller; glumes obtuse, and apex whitish.

Spike linear, 3 or 4-flowered; bracteae equal, as long as the spike; radical scales very few.
Scirpus campestris, Roth Catal. 1, 35.
Splashy fields; perennial; August.
Culm 4 in. high, upright; spike when flowering linear; when fruiting oblong; bracteae as long, or 2 to 3 times longer than the spike.

Spike ovate, manyflowered; bracteae equal, not very short, obtuse; radical scales 0.
Scirpus palustris §, Lin. Fl. Lapp.
Scirpus palustris, Ehr. Calam. 61.
Scirpus multicaulis, equiseti capitulis minoribus, Redig. Rudbeck. 28, 2.

Bogs; perennial; July.
Root thick; culm 9 in. high; sheath cylindrical; spike ferruginous; glumes equal, ovate, obtuse, blackish, edge and point membranaceous, rib green.

b. Scirpus. Spikes many, terminal; culm round or 3-sided, naked; leaves none; root creeping; bracteae 2 or 3, leaflike.

5. Scirpus lacustris. Lake rush.
Culm round, elongated, smooth; panicle branched; spikes ovate; lower bracteae long, upright; upper bracteae short, horizontal.
Pl. end. ph. 9. CYPERACEÆ. 40. Scirpus. 75

Scirpus palustris altissimus, Raii Syn. 428, 1.
Juncus aquaticus maximus, Ger. emi. 35.
Juncus laevis maximus, Park. 1191.
Scirpus § 1, No. 1, Mich. N. P. G. 49.
Scirpus lacustris, Lin. S. P. 72.

Bull rush.

Rivers and large pools; perennial; July.

Root horizontal; culm upright, 6 feet high, dark green, spongy; sheaths alternate, submembranaceous, brownish; branches of the panicle unequal; bractee 2, lanceolate, shorter than the panicle; upper bractee many, small, placed next the panicle; spikelets crowded, brownish; glumes keeled, edge fringed.


Culm round, smooth, glaucous; panicle scarcely branched; spike ovate; bractee 3, lower erect, leaflike, 2 upper membranous, equal, prickly, as long as the panicle; stigmata 2.

Scirpus laevis vulgaris, Park. 1191.
Scirpus § 1, No. 2, Mich. N. P. G. 50.
Scirpus palustris β, Smith Fl. Brit. 52.

Less Bullrush.

Pure waters; perennial; July.

7. Scirpus carinatus. Ridged rush.

Culm below round, above 3-sided; panicle nearly simple; spike ovate; bractee prickly; stigmata 2; sheaths acute, leafless.

Scirpus q. Juncus aquaticus medius, caule carinato Doody, Raii Syn. 428, 3.
Scirpus lacustris γ, Smith Fl. Brit. 52.

Banks of rivers; perennial; August.

Upper bractee shorter than the panicle.


Culm 3-sided; panicle cymose; spikes sessile and peduncled; spikelets ovate, crowded; sheaths ending in short leaves; bractee 1, leaflike, upright, longer than the spike.

Scirpus q. Juncus acutus maritimus, caule triquetro maximo mollis, procerior nostras Plukeneti, Raii Syn. 428, 4.
Scirpus mucronatus β, Huds. Fl. Ang. 20.
Scirpus triqueter a, Smith Fl. Brit. 55.

Sea-shore and river-banks; perennial; August.
Root yellow; culm single or tufted, 4 feet high, upright, pale green, angles acute; bracteole short, membranaceous; spikelets 3 or 5; glumes ovate, edge ciliated, apex blunt mucronated; apex of the anther cuspidate, small, white, diaphanous; akenium obovate, edge rounded, very smooth.

$\beta$. foliaceus. Sheaths ending in a short leaf.


Culm 3-sided; spikes glomerate, sessile; glumes ovate, rounded, apex 2-cut; anther aristated; sheath ending in short leaves; bracteae 1, upright, longer than the panicle.

*Scirpus* q. *Juncus acutus maritimus caule triquetro, rigido, mucrone pungente Plukenet, Rail Syn. 429, 5.*

*Juncus acutus maritimus caule triangulo, Park, 1196.*


*Scirpus mucronatus a, Huds. Fl. Angl. 20.*

*Scirpus triqueter $\beta$, Smith Fl. Brit. 1, 55.*

*Scirpus Rothii, Hoppe Deutschl. Fl. 36, 4.*

Sea-shore; perennial; August.

Culm slender, firm; sheaths all ending in leaves; spikelets 4 or 6, sessile; bracteae 3 or 4 in. long; glumes chestnut colour, rounded, lobes acute, rib not prominent.


Culm 3-sided, leafy; panicle cymose, simple, bracteate; leaves many, ridged; bracteae 2 to 5, pungent; glumes mucronate.

*Cyperus* q. *Gramen cyperoides palustris, panicula sparsa, Parkinson (1266), Rail Syn. 425, 2.*

*Gramen aquaticum cyperoides vulgatus, Ger. em. 22.*

*Scirpus maritimus, Lin. S. P. 74.*

*Scirpus cyperoides, La Marecke Fl. Fr. 3, 553.*

Salt marshes; perennial; August.

Root creeping, scaly; culm upright, rigid, 3 feet high, angles acute; leaves channelled, pointed, upper largest; sheaths smooth; panicle cymose, branchy, spreading; spike sessile or peduncled; bracteae unequal, pungent, lower longest.

$\beta$. conglobatus. Panicle simple, conglomerate; spikes all sessile; bracteae mostly 2.

$\gamma$. nodosus. Root knobbed.

*Cyperus rotundus littoreus inodorus, Rail Syn. 426, 3.*

*Cyperus rotundus littoreus, Ger. em. 31.*

*Cyperus rotundus littoreus inodorus Anglicus, Park. 1264.*

Round-rooted bastard cyperus.
Panicle very branched, corymbose, bracteate; culm 3-sided, leafy; spikelets crowded; glumes not nicked, mucronate; bracteæ 3, leaflike, unequal.


Millet cyperus grass.

Damp woods; perennial; July.  
Culm single, upright, 2 feet high, hollow at top, leafy; leaves broad, acute, shining; sheaths smooth; ligula small; bracteæ 2 or 4, lower longer than the panicle; upper small, loose, truncated; spikelets dark green.

X. 41. **ELEOCHARIS.** R. Brown.  
Cluhrush.

*Spathelle* 1, all alike fertile; glumelles bristlelike, bristles 4, denticulate; style dilated at bottom, joined to the ovary; stigmata 2 or 3; akenium lenticular, dilated at bottom, crowned with the hardened style.—Root annual, fibrous, or perennial, creeping, horizontal; culm simple, round or angular, smooth; sheaths truncated, leafless; spike 1, terminal, upright, naked; glume imbricate all round; leaves 0, except on the barren culms.

a. Culm bristly, threadshape, angular; root fibrous.

1. **Eleocharis acicularis.** Needlelike clubrush.  
Culm 4-angled, bristly; spike ovate, acute; bracteæ half the length of the spike; root fibrous; stigmata 3.  
*Scirpus minimus capitulis equiseti, Raii Syn.* 429, 8.  
*Scirpus acicularis, Lin.* S. P. 71.  
Cyperus acicularis, *With.* 78.  
*Eleocharis acicularis, Ræmer Sys.* *Veg.* 154.

Wet heaths and bogs; perennial; August.  
Root fibrous, in tufts; culms many; sterile culms long, recurved, obtuse, threadshape, smooth, knotty; sheaths very fine; spikes 5 to 11-flowered, turning black; glumes ovate, obtuse, rib green; akenium white, shining; bristles 4, falling off.

b. Culm round; root creeping.

2. **Eleocharis palustris.** Marsh clubrush.  
Culm round; spike oblong; glumes lanceolate, acute; root creeping; stigmata 2; bracteæ very small.
Scirpus equiseti capitulato majori, Rau Syn. 429,7.
Juncus aquaticus capitulis equiseti, Park. 1196.
Juncus minor capitulis equiseti, Ger. em. 34.
Scirpus palustris, Lin. S. P. 70.

Rivers and ditches; perennial; June and July.

*Root* horizontal, stoloniferous; *culms* unequal, in tufts, very soft, spongy, thick; *sheaths* coloured; apex brown, obliquely truncated; *spike* ovate, cylindrical, neatly imbricate; *glumes* equal, brown, edge scarioso, rib green; *akenium* yellow.

XI. 42. ISOLEPIS. R. Brown. Smoothrush.

*Spathelles* 1, all alike, fertile; *glumelles* none; *stamens* 2; *style* not jointed to the ovary, base simple, falling off; *stigmata* 2 or 3; *akenium* lenticular or 3-sided.—*Root* fibrous or creeping; *leaves* 0, except the barren round *culms*; *spikes* terminal, single; *spikelets* lateral, sessile or capitulate, footstalked; *bracteae* 2, glumaceous.

a. *Spike* 1, *terminal*; *bracteae* 2-valved.

1. *Isolepis fluitans.* Floating smoothrush.

*Culm* branched; *barren culms* flaccid; *spike* fewflowered.

Scirpus equiseti capitulato minori, Rau Syn. 431,12.
Scirpus fluitans, Lin. S. P. 71.
Isolepis fluitans, R. Brown Prod. 222.

Ditches and ponds; perennial; July, August.

*Root* fibrous; *culm* very long, floating, rooting at the joints; *spike* green, small; *stigmata* 2.

b. *Spikelets* terminal, aggregated, capitulate; *bracteae* 2, leaflike.

2. *Isolepis paniculata.* Panicled smoothrush.

*Heads* globose, sessile or footstalked; *bracteae* unequal, the lower channelled, edge sawed, the upper shorter, bent down; *culm* round, naked, smooth.

Scirpus maritimus, capitulis rotundioribus glomeratis, Rau Syn. 429,6.
Scirpioides § 1, No. 1, Micheli N. P. G. 52.
Scirpus Holoschoenus, Lin. S. P. 72.
Scirpus Holoschoenus a, Smith Fl. Br. 51.

Salt marshes; perennial; August to November.
Root horizontal, in tufts; culms many, sea-green, 3 feet high, stiff; sheaths 3 or 4, alternate brown, streaked, acute, apex ending in a short barren culm 2 or 3 in. long; panicle unequal, stiff, diverging; lower bracteal acute, upright, 6 in. long; upper green, short, diverged; heads 5 to 8, verrucose; spikelets rounded; stamens 3.

α. australis. Middle head sessile, the rest footstalked; culm slender.

Scirpioides § 2, No. 2, Micheli N. P. G. 52.
Scirpus australis, Lin. S. P. 72.
Scirpus Holoschoenus α, Smith Fl. Br. 53.

γ. Romana. Head all sessile; culm very slender.

Scirpioides § 3, No. 2, Micheli N. P. G. 52.
Scirpus Romanus, Lin. S. P. 72.
Scirpus Holoschoenus γ, Smith Fl. Br. 53.
Isolepis Holoschoenus romanus, Rom. S. V. 151.

c. Spike terminal, solitary or aggregate; bracteae 1 or 2-leaved; akenium streaked longitudinally.

Culm bristlelike, slender, unbranched; spikes 1 to 4, nearly sessile, horizontal; bractea 1, leaflike, long, upright, much shorter than the culm; akenium roundish.

Scirpus foliaceus luumilis, Raiti Syn. 430, 11.
Juncellus Lobellii, Park. 1192.
Gramen juncceum maritimum exile Plimmstii, Park. 1270.
Scirpus § 2, No. 5, Micheli N. P. G. 50.
Scirpus setaceus, Lin. S. P. 73.
Isolepis setacea, R. Brown Prod. 292.
Plymouth rush. Small clubrush.

Wet sandy ground; annual; July and August.
Root fibrous, in tufts; culms many, 3 in. high, rather stiff; sheaths ending in a short, channelled, barren stem; spike apparently lateral, ovate, 1, 4, 6, or 12-flowered, variegated with white, green, and purple; bracteae sheathing, dilated at bottom, edge scariosse, concave; akenium obovate, very small.

XII. 43. TRICHOPHORUM. Persoon. Hares-tail.

Spathelle 1, imbricate, all round; glumelles bristlelike; bristles 6, woolly, crisp, smooth, longer than the glumes, becoming exerted; stamens 3; style 1, not dilated at bottom, jointed, falling off; stigmata 2 or 3; akenium ovate.—Root creeping, perennial, in tufts; culm angular, rough,
slender, leafy at bottom; leaves short, linear, obtuse, channelled; sheaths tubular; scales many; spike terminal, single, hermaphrodite or unisexual; bracteae 2, unequal, glumaceous.

Trichophorum alpinum. Alpine hares-tail.
Culm 3 or 4 angular, angles rough; bracteae shorter than the spike; spike few-flowered.

Linagrostis § 1, No. 3, Micheli N. P. G. 54.
Eriophorum alpinum, Lin. S. P. 77.
Eriophorum alpinum, Persoon Syn. 1, 70.

Turf bogs; perennial; April, May.
Culms erect, 9 in. high; leaves 1 in. long, blunt; spike ovate; bracteae ovate; upper bractea mucronate; mucro short, blunt; lower bractea awnless.

XIII. 44. ERIOPHORUM. Theophrastus. Cottongrass.

Spathelle 1, imbricate, all fertile; glumelles bristly, bristles many, smooth, woollike, longer than the glumes, becoming exserted; stamens 3; style 1, not dilated at bottom, jointed, falling off; stigmata 2 or 3; achenium 3-sided, ovate.—Root creeping, mostly in tufts, perennial; culms round or angular, mostly smooth; spike many-flowered, hermaphrodite; glumes scarcely ribbed, very thin, scariosse, dark, edge white.

a. Spikes single, terminal; bracteae 3 or 4, like the glumes.

1. Eriophorum capitatum. Headed cottongrass.
Culm round; sheaths slightly inflated; spike sub-globose; anther heartshape, ovate, short; root creeping.

Linagrostis § 1, No. 2, Micheli N. P. G. 54.
Eriophorum Scheuchzeri, Persoon Syn. 1, 70.
Eriophorum vaginatum b, Suter Fl. Helv. 1, 28.
Eriophorum alpinum, Villars Dauph. 2, 184.

Marshy heaths; perennial; March.
Root long; culms few, thick, soft, deep green, sheathed below; leaves in bundles, bristlelike, awlshape, spongy, shorter than the culms.

2. Eriophorum vaginatum. Sheathed cottongrass.
Culms 3-sided; sheaths inflated above, bellied; spike oblong, ovate; anthers linear, long; root fibrous, in tufts.
Gramen juncoides lanatum alterum Danicum, Park. 1271.
Gramen junceum montanum, subcaerulea spica, Cambro-britannicum, Park. 1188.
Linagrostis, § 1, No. 1, Micheli N. P. G. 54.
Eriophorum vaginatum, Lin. S. P. 76.
Linagrostis vaginata, La Marek Fl. Fr. 555.
Eriophorum caespitosum, Schrader Germ. 1, 150.
Harestail rush, Moss crops.

Turf bogs; perennial;

Roots in dense tufts; culms 1 foot high, hard, slender, angles black and smooth; sheaths long, tubular, leafless, brown above, inflated, reticulate; leaves upright, 3-sided, shorter than the culms.

b. Spike many peduncled, paniculate; bracteae 2, leaflike, unequal.

Culms roundish; leaves flat; spike drooping; peduncles rough.
Linagrostis, § 2, No. 1, Micheli N. P. G. 54.
Eriophorum polystachydon, Lin. S. P. 76.
Linagrostis paniculata a, La Marek Fl. Fr. 3, 555.
Eriophorum vulgare, Persoon Syn. 70.

Bogs; perennial; April.
Root fibrous, thick; culm erect, small, 2 inches high, leafy, above rather 3-sided; edge and ridge of the leaves rough, apex 3-sided; sheaths white, leafless; panicle terminal; bracteae 2 or 4, green, shorter than the spike, black and sheathing at bottom; peduncles upright, very short, growing long and pendulous.

β. ramosum. Peduncles branched.

Culm roundish; leaves channelled, plaited; spikes drooping; peduncles not branched, very smooth.
Linagrostis, Rail Syn. 435, 1.
Gramen tomentarium, Ger. em. 29.
Gramen junceum lanatum, vel Juncus bombycinus vulgaris, Park. 1271.
Linagrostis § 2, No. 3, Micheli N. P. G. 54.
Eriophorum polystachion ? Willd. S. P. 1, 313.

Cotton grass.

Turf bogs; perennial; April.
Root creeping, scaly; culms slender, smooth, a foot high, round, 3-sided above; leaves long, slender, acutely keeled, edge smooth; panicle 4 to 8-spiked; bractee leaflike, unequal; spike sometimes dioicus or polygamous.

b. Alpinum. Panicle 2 or 3-spiked.

5. Eriophorum gracile. Slender cotton grass. Culami 3-sided; leaves filiform, 3-sided, channelled; spike erect, peduncled, overtopping the bractae; peduncles rough.

Eriophorum gracile, Roth Catal. 11. Appendix.
Linagrostis paniculata b, La March Fl. Fr. 3, 555.

Bogs; perennial; April.

Roots creeping; culms slender, 18 in. high; leaves channelled at bottom; lower sheaths brown; spikelets 3 or 4, oblong, fruitbearing, drooping; peduncles unequal.

V. 10. GRAMINEÆ.

Flower hermaphrodite, or unisexual, glumaceous; glumes 1, 2, or many-flowered, or 2-rowed on a common rachis; spathe lles 2 or none; glumelle of 1 or 2 spathe lles; spathe lles dissimilar; outer mostly carinate, 1 or many-ribbed, awnless, bristled, or awned; lower mostly 2-ribbed, awnless, rarely 2-awned, sometimes more; lodicule 1 or 2, hypogynous, small, inserted mostly side by side between the external spathe lle, and the stamens, rarely opposite, alternating with the valves, or wanting; stamens 3, hypogynous, rarely 1 or 2; anthers 2-celled, 2 forked; ovary 1, free, 1-seeded; style 2 or 3; stigma feathered, hispid, or as pergilliform; caryopsis membranaceous; corculum small, baxillary; perisperm farinaceous.—Herb annual or perennial; root fibrous; culm cylindrical, fistulous, jointed, mostly simple; leaves alternate, 1 at each joint, sheathing; sheath divided lengthways; flowers small, panicled or spiked.

1. Locustæ all alike; flowrets enclosed in the same receptacle. Monothalam a.

A. Axis not jointed; glumes inserted alternately.

a. Glumes 1-flowered; lower spathe lle largest.

Spathe lle 1, awned; axis spiked;
spike not involucrated.……………… Alopecurus. 35.
Spathe lle 1, awned; axis panicked;
spathe lle nicked at the apex.…………… Aeg aulus. 91.
Spathellules 2, awnless, acute; lodicule lanceolate; glumelles not notched. ............. Milium. 98.  
Spathellules 2, awnless, acute; lower spathellule 3-cut. ............. Vilfa. 88.  
Spathellules 2, lower ending in a bristle; lower spathellule 2-cut .......... Calamagrostis. 93.  
Spathellules 2, lower with a bristle below the apex; glumes nearly equal, obtuse, nicked, with a long bristle .............. Polygogon. 95.  
Spathellules 2, lower ending in an awn; spatellules cartilaginous; awn jointed ...... Stipa. 97.  
Spathellules 2, lower ending in an awn; spatellules membranaceous; awn not jointed .......... Achnatherum. 92.  
Spathellules 2, lower with an awn below the apex, 3 or 4-toothed; glumes very long, base ventricose .......... Gastridium. 94.  

b. Glumes 1-flowered; lower spathelle smallest; spatellules 2.  
Spathellules awnless, lower many-toothed; glumes truncated, mucronate ............. Phleum. 83.  
Spathellules awnless, lower acute; glumes very acute; locusta spiked, unilateral. ..... Spartina. 87.  
Spathellules mucronate below the apex; stigmata 3; awns turbinate, 3-sided; panicle spiked ............. Psamma. 86.  
Spathellule lower, with a bristle below the apex; upper 2-cut; stigmata 2; panicle compound ...................... Apera. 90.  
Lower spatellules ending in a bristle; glume truncated, fringed; axis digitate .... Mibora. 99.  
Lower spatellules awned below the middle; bristles 2, at the top; panicle spiked Lagurus. 96.  
c. Glumes imperfectly 2-flowered; spatellules 2, awnless.  
Rudiment of the abortive flowret sessile, subulate; glumes nearly equal, boatshaped, gibbous ................. Phalaris. 84.  
Rudiment of the abortive flowret pedicelled, filiform; glumes equal; lodicule lanceolate, small ..................... Chilochloa. 82.  
Rudiment of the abortive flowret pedicelled, clavate; glumes very short, persisting; axis digitate .......... Cynodon. 51.  

c 2
d. Glumes 2-flowered; flowers polygamous; spathellules 2.

Spathellules awnless; lower glumes very minute; axis digitate; locusta unilateral. **Digitaria.** 100.
Spathellules awnless; lodicule obtuse; axis panicked; locusta involucrated with bristles. **Setaria.** 101.
Spathellule lower, ending in a bristle; glumes and glumelles of the lower flowret hairy. **Echinochloa.** 102.
Lower spathellule awned on the back below the middle; apex 2-lobed; lower flowret male. **Arrhenatherum.** 75.

e. Glumes 3, or many-flowered; flowers polygamous.

Spathellules awnless; glumes 5 or 7-flowered; upper flowret hermaphrodite, base girt with woolly hairs. **Arundo.** 71.
Lower spathellule awned; glume 3-flowered; middle flowrets hermaphrodite, awnless. **Anthoxanthum.** 78.

f. Glumes 2 or many-flowered; flowers hermaphrodite.

Spathellules awnless; locustæ 2 in each involucrum; involucrum 1-leaf, lobed; lobes pinnaatifid. **Cynosurus.** 68.
Spathellules awnless, cordate, not notched; involucrum 0; glumes compressed, base cordate, subauriculated. **Briza.** 55.
Spathellules awnless, ovate, not notched; involucrum 0; glumes ovate; upper floscule abortive, pedicelled. **Melica.** 57.
Spathellules awnless, lanceolate, acute; involucrum 0; stigmata aspergilliform; seed bimucronate. **Monilia.** 56.
Spathellules awnless; upper 2-cut, toothed; involucrum 0; stigmata villose; lodicule ovate, smooth. **Poa.** 54.
Lower spathellule mucronate, 2-lobed; upper 2-toothed; locustæ elongated; flowrets 2-rowed, imbricate. **Megastachya.** 53.
Lower spathellule mucronate; locustæ shorter than the glumes; lodicule lanceolate. **Triodia.** 58.
Lower spathellule ending in a bristle; spike involucrated; style simple; lodicule subulate. **Sesleria.** 69.
Lower spathellule with a very short seta below the tip; upper 2-cut; panicle spiked Koeleria. 67.

Lower spathellule with a short seta below the tip, nicked; upper 2-cut; panicle compound, glomerated. Dactylis. 66.

Lower spathellule with a long seta below the tip, nicked; upper 2-cut; locusta few-flowered; panicle compound. Zerna. 61.

Lower spathellule with a straight awn and cordately nicked below the tip; locusta many-flowered; panicle loose. Bromus. 62.

Lower spathellule with a flexuous awn on the back; flowrets dissimilar, lower almost awnless. Holcus. 79.

Lower spathellule with a flexuous awn above the middle; flowrets all alike; apex 2-bristled. Trisetum. 72.

Lower spathellule with a plaited awn above the middle; flowrets all alike; bristles none; seed husked. Avena. 74.

Lower spathellule torn, awned below the middle; awn filiform, plaited, twisted; seed free. Aria. 77.

Lower spathellule not notched, awned below the middle; middle of the awn jointed, woolly; below twisted; above clubshape. Corynephorus. 81.

Lower spathellule many-toothed, awned at the base; awn straight, scarcely longer than the glumelle. Deschampsia. 80.

Lower spathellule 2-toothed, apex awned; upper obtuse, truncated; lodicule ovate. Danthonia. 73.

B. Axis jointed or toothed; glumes inserted parallel.

a. Locusta many-flowered; flowrets hermaphrodite.

Spathellules awnless; lower erose, many-toothed; glumes margin hyaline; lod. heart-shape. Glyceria. 65.

Spathellules awnless; lower truncate, erose, toothed; glumes 3-toothed; lodicule lanceolate. Catabrosia. 76.

Spathellules awnless; lower heartshape, nicked, obtuse; upper not nicked; lod. nicked; locusta unilateral. Sclerochloa. 52.
**Lower spathellule with a bristle below the apex; apex nicked; proper peduncle inflated, wedgeshape** .................. Schedonorus. 60.

**Lower spathellule ending in a very short bristle; apex not nicked; stamens 3; locustae panicked; prop. ped. inflated, wedgeshape . . Festuca. 63,**

**Lower spathellule ending in a long bristle; apex not nicked; stamen 1; locusta panicked; prop. ped. inflated, wedgeshape ............. Vulpia. 64,**

**Lower spathellule ending in a bristle; upper obtusely truncated; edge stiff-haired; locusta 1 in each joint of the rachis . . Brachypodium. 59,**

**Lower spathellule ending in a short seta; upper nicked, 2-cut; ovary bald; locusta 1 in each tooth of the rachis ............... Agropyron. 49,**

**Lower spathellule ending in a short seta; 2-cut, toothed; lodicule unequally 2-toothed; locusta 1 in each tooth of the rachis; lower 1-glumened .................. Lolium. 48,**

**Lower spathellule ending in a short seta, toothed; lodicule not notched; glumes broad, boatshaped, nearly equal; locustae 1 in each tooth of the rachis; ovary bearded ........... Triticum. 50,**

**Lower spathellule ending in a long bristle, entire; lodicule entire; glume awl-shaped; locustae 1 in each tooth of the rachis ......... Secale. 46,**

**Lower spathellule ending in a seta, not nicked; lodicule not notched; locustae 2 or 3 in each tooth of the rachis, all 2-glumened .... Elymus. 47,**

**b. Locustae 1-flowered.**

**Spathelullae ending in a seta; locustae 3 in each tooth of the rachis; all fruitful ...... Hordeum. 44,**

**Spathelullae ending in a seta; locustae 3 in each tooth of the rachis; 2 lateral barren Zeocriton. 45,**

**Spathelullae membranaceous, awnless; glume cartilaginous, half immersed; spike cylindrical .................. Ophiurus. 43,**

**Spathelullae convolute; lower subulate, awnless; glumes none; spike 1-rowed ....... Nardus. 42,**
2. Locustae dissimilar, each sort enclosed in its proper receptacle. Polythalamia.

A. Axis whole, not pointed, nor toothed; glumes often unequal, inserted alternately.
   a. Axis androgynous; locustae 1-flowered.

Neat. flow. remote; spathelle 1; herm. flow. peduncled; lower spathellule with a bristle below the apex. ....................... Chrysurus. 70.

A. Hordeaceae. Rachis spiked; spikelet solitary, in pairs, or many, 1 or many-flowered; glumes opposite, equal; lower spathelle bearded or awnless; upper spathelle 2-keeled; styles 2.


Glume 0; spathellules 2, oblong, convolute; lower spathellule awlshape; styles and stigmata simple, hairy; cariopsis free, furrowed.—Rachis toothed, spiked; spike simple, filiform; locustae 1-rowed.

Nardus stricta. Stiff matgrass.

Spike setaceous, straight, 1-rowed.

Graumen spartenum juncifolium, Rait Syn. 393, 2.
Spartum nostras, parvum Lobelia, Ger. em. 43.
Spartum parvum, Batavicum et Anglicum, Park, 1199.
Nardus stricta, Lin. S. P. 77.
Small matweed.

Moist sandy heaths; perennial; July.

Culm bent at top, 6 in. high, stiff, rather angular, smooth; leaves radical, closely tufted; spike terminal, single, slender.


Glume cartilaginous, half immersed in a hollow of the rachis, longer than the glumelles; glumelles membranous, hyaline; ovary rather naked, cordate; stigmata feathered.—Rachis jointed, toothed, spiked; spike simple, awlshape; culm branchy.


Spike round, awlshape, incurved; spathelles adpressed; 1-flowered; leaves flat; floscules awnless.

Egitrops incurvata, Lin. S. P. 1491.
Rottboellia incurvata, Lin. Supplem. 114.
Sea hard grass.
Fields and meadows near the sea; annual; August.

Culm rather compressed, very smooth, shining, kneed, procumbent at bottom; leaves spreading, short, smooth on the back; sheaths rather tumid, compressed; ligula very short, truncate; spike and rachis smooth; spatheles when in full flower patent, nearly equal, 3-ribbed; outer spathele larger, 1-ribbed.


Spike round, subulate, rather compressed, upright; spatheles 2, swordshape, 1-flowered; flowret awnless; leaves channelled, subulate.

Rottbollia erecta, Savi Giorn. Pis. 4, 830.
Rottbollia filiformis, Wild. S. P. 1, 484.

Fields near the sea; perennial? August.

III. 44. HORDEUM. Theophrastus.

Bere.

Locustae 3 in each tooth of the rachis, 1-flowered, all the florets fertile; spatheles 2, awlshape; lower spathele bristle pointed; upper spathele not nicked, rather obtuse; lodicule blunt, not nicked, smooth; ovary bearded at the tip; stigmata villose; cariopsis husky, furrowed.—Rachis jointed, toothed, spiked; spike not branched.

Cultivated largely for malting, especially in Scotland.


Seeds disposed in six rows.

Hordeum polystichum hybernum, Raiti Syn. 388, 3, confounded with hordeum tetraestichum.

Hordeum hexastichum, Lin S. P. 125.
Hordeum vulgare β, Lam. Pl. Fr. 623.
Full 6-sided big or bere. Round barley. Winter barley. Greek barley.

Cultivated, sown in autumn; biennial; June and July.

Root and leaves like hordeum distichum; culm 3 feet high; spike cylindrical, nearly erect; beards more than twice as long as the spikes; cariopsis spread out.

Used as food for horses in warm countries, and for malting.


Seeds in four rows.

Hordeum polystichum, Raiti Syn. 388, 3; Park, 1130.
Hordeum polystichum verum, Ger. cm., 70.
Hordeum vulgare, Lin S. P. 125.
Triticum vulgare, Sallis. Prod. 27.
Square Barley. Big. Bear.
Cultivated like the preceding, with which it is generally confounded.

Spike slightly compressed; beards nearly twice as long as the spike; cariopsides 20 to 45, those on the sides spread out, the others adpressed, more numerous but many imperfect.

\( \beta. \ nudum \). Glume not adhering to the cariopsis.

Hordeum nudum, Ger. em. 72.
Zephyrum, sive Triticum-speltum, Park. 1123.
Hordeum vulgare \( \beta \) caeleste, Lit. S. P. 125.


Grown by few, but praised by them as excellent for malting.

IV. 45. ZEOCRITON. C. Bauhin. Barley.

Locuste 3 in each tooth of the rachis, 1-flowered; the middle floret fertile, the two lateral florets neutral or barren; spatheles 2, awl-shaped; lower spatheles bristle-pointed; upper spatheles not nicked, blunt; lodicule blunt, not nicked, smooth; ovary bearded at the tip; stigmata villose; cariopsis husked, furrowed.—Rachis toothed, jointed, spiked; spike simple.

1. Zeocriton distichon. Two-rowed barley. Lateral flowers beardless; cariopsides angular, lying one over the other.

Hordeum distichum, Rait. Syn. 388, 1; Ger. em. 70; Park. 1130; Lin. S. P. 125.
Zeocriton distichum, Pallis. de Beauvois.
Barley. Spring barley.

Cultivated largely for malting, especially in England: the decorticated seeds make a cooling and demulcent drink by being boiled in water; and the flour is made in some parts into bread, which must be baked almost as soon as it is made up, as it grows sour very soon. The wort made of the malt is antiseptic, and still more the yeast, or froth that collects during the fermentation, which is also a valuable febrifuge. The fermented wort, of which there are many varieties, is stimulant, cordial, and well supplies the want of wine.

Beard more than twice as long as the spike.

\( \beta. \ nudum \). Spathelle not adhering to the cariopsis.

Turkie barley, Park. 1129.

Seeds elliptic, tawny, glabrous.
Lateral flowers beardless; carpelsides angular, patent.

Hordeum distichum, spica brevior et latior, granis confertis, Raii
Syn. 388, 2.
Hordeum distichum minus, Park. 1129.
Hordeum Zeocriton, Lin. S. P. 125.

Sprat barley. Battledore barley.

Cultivated, but not commonly.
Spike compressed, ovate, lanceolate; beard terminal, sometimes more than three times as long as the spike.

Flowrets three; spathe of the intermediate flowret linear, lanceolate, ciliated; spathe of the outer flowrets bristled, rough; sheaths smooth.

Gramen secalinum, Secale sylvestre, Raii Syn. 391, 1; Ger. em. 73.
Hordeum spartum vulgare, Park. 1147.
Hordeum murinum, Lin. S. P. 125.
Triticum murale, Salis. Prod. 27.
Zeocriton murinum, Palis. de Beauvois.

Ruins and waysides; annual; the whole summer.
Sculms many, a foot long, erect, bent at bottom, leafy; leaves light green, rough; sheaths nearly as long as the leaves, rather bellied, very bald; stipula very short; spike about 3 in. long.

Flowrets three; side-flowrets with short aristae; spathe of all the flowrets setaceous, rough; locustae smooth; sheaths smooth.

Gramen secalinum, Raii Syn. 392; Ger. em. 29*.
Gramen secalinum majus et minus, Park. 1144.
Hordeum nodosum, Lin. S. P. 126.
Hordeum muralum f., Lin. S. P. 126.
Hordeum pratense, Huds. Pl. Ang. 56.
Hordeum secalinum, Wild. S. P. 1, 45.
Zeocriton secalinum, Pal. de Beauvois.
Tall meadow rice-grass.

Meadows and pastures; perennial; June.
Sculm 18 in. high, erect, slender, leafy below, naked above; leaves spread, acute, roughish; sheaths a little bellied; ligula very small; spike short, narrow; setae short.

Spathe rough, inner spathe of the lateral flowrets, semilanceolate; the rest setaceous; leaves flat, soft.
V. 46. SECALE. Pliny.  

Locusta 1 sessile in each tooth of the rachis, 2 or 3-flowered, 2 lower fertile, sessile, opposite, uppermost abortive; spathelles subulate, opposite, not notched, shorter than the glumes; lower spathellule not notched, ending in a very long bristle; upper 2-cut, toothed; lodicule ob-ovate, not notched, pilose; ovary bearded; styles 2; stigmata feathered; cariopsis husked, furrowed.—Rachis jointed, toothed, spiked; spike simple; locustae crowded, imbricate.

Secale cereale.  
Outer spathellule prickly, ciliated.  

Secale, Rait Syn. 388, 1; Ger. em. 68,  
Secale vulgaris, Park. 1128.  
Secale cereale, L. S P. 124.  
Triticum cereale, Salis. Prod. 27.

Cultivated in fields; annual; sown in autumn, for bread either alone, or mixed with wheat to form meslin bread, not drying so soon as wheat bread: and still more for fermentation, and the manufacture of rye, malt, or corn-spirit. The straw is split, and plaited into women's hats, &c.  
Root fibrous; culm above naked, smooth, erect; leaves erect; sheaths long, smooth; ligula very short; spike erect; locustae glaucous, smooth.

2. compositum. Spike branching.  
γ. vernum. Spike small, slender; plant small.  

Secale vernum seu minus, Rait Syn. 388, 2.  
Secale aestivum seu minus, Park. 1129.

Sown in the spring.

VI. 47. ELYMUS. Micheli.  

Locustae 2 or more in each tooth of the rachis, 3 to 9-flowered; spathelles in pairs nearly equal; lower spathellule not notched, bristled; bristle sometimes very short; upper spathellule 2-cut, toothed; lodicule ovate, whole,

Gramen secalinum palustre et maritimum, Rait Syn. 392, 3.  
Zeocriton maritimum, Pal. de Beauv.  
Squirrel-tail grass. Marsh rye-grass.  

Grass lands by the sea; annual; June, July.  
Leaves rather glaucous; locustae pyramidal, compact; setae long, stiff, and strongly barbed.
hairy; ovary bearded; stigmata feathered; caryopsis husked, furrowed.—Rachis jointed, toothed, spiked; spike simple; locustae crowded.

a. Locusta more than 2-flowered. Elymus.

   Spike erect, close; locustae mostly 3-flowered, downy; in two rows in the top and bottom of the spike, in three in the middle; scarcely shorter than the ciliated glume; flowrets awnless; leaves involute, stiff.

   Elymus arenarius, Lin. S. P. 122.
   Hordeum villosum, Marnoch Meth. 199.

   Sandy sea-shores; perennial; July.
   Root creeping; culm 4 feet high, upright, stiff; leaves upright, firm, glaucous; ligula very short, crenulate; spike about 7 in. long, subcompressed, closely set.

   Spike loose, first erect, afterward bent and drooping; locustae 3 or 4-flowered, pubescent, lower ones remote; spat helles, short, smooth; leaves involute, stiff.

   Elymus geniculatus, Curtis Br. Gr. 46.

   Culm 6 feet high, slender; leaves very narrow; spike 18 in. to 2 feet long, flowrets remote, so that the rachis is visible, the lower flowrets at a great distance from one another; rachis bent twice, so that the tip hangs perpendicularly down; spat helles half as long again as the locustae, smooth; locustae 4-flowered.

b. Locusta 2-flowered. Cuvieria.

   Spike erect; locustae in threes, 1 or 2-flowered, bearded, rough; spat helles linear, awlshape, bearded, as long as the locustae; leaves flat, smooth; sheath hairy.

   Gramen secalinum majus sylvaticum, Rall Syn. 392, 3.
   Gramen secalinum maximum, Park. 1144.
   Elymus europaeus, Lin. Mant. 35.
   Triticum sylvaticum, Salish. Prod. 27.
   Secale villosum, Huds. Fl. ed. 1, 46.
   Cuvieria Europaea, Karel. Gram. 328.

   Great wood rye-grass.

   Woods on chalky soils; perennial; June.
Culm erect, 2 feet high, striated, bald, leafy at bottom; leaves spreading; sheaths ribbed, rather bellied; ligula small, crenulate; spike about 2 in. long, blunt, close set; flowers mostly perfect, bearded; beards twice as long as the flowret; locustae subpedicelled, twoflowered, often only oneflowered, as long as the spathelles.

VII. 48. LOLIUM. Pliny.

Locustae sessile, 1-glumed; terminal locusta 2-glumed; glumes opposite; lower spathelle pointed at the tip, or with a bristle; upper spathelle membranous, 2-cut, toothed; lodicule 2-teethed; teeth unequal; ovary rather 3-sided; stigmata feathered; cariopsis husked, furrowed.—Rachis jointed, toothed, spiked; spike compound.

1. Lolium perenne. Lasting darnel.

Spike beardless; locustae longer than the glume; root perennial.

Lolium q. Gramen loliaceum, angustiore folio et spica, Rait Syn. 395, 2.
Lolium rubrum, Ger. em. 78.
Lolium rubrum, sive Phoenix, Park. 1145.
Lolium perenne, Lin. S. P. 122.

Meadows, pathsides, and cultivated; perennial; June.

Culm a foot high; leaves deep green; spike nearly erect, 2-rowed, compressed; rachis bent alternately to take in the locustae; locustae alternate, erect, ovate, compressed, manyflowered; glume of one spathelle, lanceolate, not bearded, smooth, sometimes viviparous.

2. tenue. Locustae few-flowered.

Lolium tenue, Lin. S. P. 122.

Leaves and spike thin; locustae 3 or 4-flowered, not much compressed, yet longer than the glume.

In barren soils.

γ. paniculatum. Spike branched at bottom.

Phoenix multipli spicata panicula, Park. 1146.

δ. compositum. Spike compound, very short, 7 to 9-flowered, compressed, crowded.

ε. viviparum. Glume and glumelle changed into leaves.

ζ. purpurascens. Locustae purplish green.
*Spikes* bearded; *locustae* smaller than the glume; root annual; *culm* rough above.

*Lolium album*, *Rei* Syn. 395, 1; *Ger. em. 78; Park. 1145.
*Lolium annuum*, *Lamarck Fl. Franc.
*Crachalia temulentia*, *Schrank Fl. Bat. 255.
*Bromus temulentus*, *Bern. Erford. 49.

*Bearded darnel.*

Corn-fields and among flax; annual; June.
*Culm* erect, 2 feet high, very bald below, but rough above; *leaves* rough; *ligula* very short, blunt, crenulate; *spike* erect, large; *rachis* rough; *flowers* many, awned a little below the tip; *awn* twice as long as the flowret.

*Seeds* ground with bread-corn produce headache and vertigo, if the bread is eaten hot; malted with barley, and made into malt-liquor it renders the liquor very intoxicative: if eaten by itself, or with but a little wheat-flour, it is even deleterious.

*Spikes* mostly awnless; *locustae* and *glumes* of equal length; root annual.

*Lolium arvense*, *With. 168.
*Lolium annuum*, *Bern. Erford. 1801.
*White darnel.*

Fields; annual; July.
*Culm* and *rachis* entirely bald; *leaves* bald, but sometimes rough at top; *glume* mostly of one spathelle, sometimes of two; *locustae* rather longer than the glume; *flowret* apparently awnless; *awns* extremely short.

VIII. 49. AGROPYRUM. Gærtner. Wheatgrass.

*Locustae* sessile or with short footstalks; *glume* 3 to 9-flowered, acute, not notched, opposite, shorter than the flowret; *lower saphellula* not notched, sometimes toothed; bristled; *bristles* sometimes very short or none; *upper saphellula* nicked or 2-cut, toothed; *lodicle* ovate, not nicked, hairy; *ovary* smooth; *stigmata* feathered; *cariopsis* husked, furrowed.—*Rachis* jointed, toothed, spiked; *spike* compound.

*Glume* mostly 9-ribbed, blunt, 4 or 5-flowered; *flowret* awnless; *rachis* smooth; root creeping.
Triticum junceum, Lin. S. P. 128.
Bromus truncatus, Scopoli Fl. Carn. 121.
Agropyrum junceum, Pal. de Beauvois.

Sea-shores, on the sands; perennial; July.
Root creeping; culm purplish at bottom, naked top and bottom, leafy in the middle; leaves glaucous, very smooth underneath, rough on the upper face; ligulae very short; spike upright, 1 inch long; spatheles boatshape, furrowed, blunt.

β. crassum. Leaves less acute, convolute; spike thick.

γ. foliosum. Spike leafy.
Gramen caninum maritimum, spica foliacea, Rait Syn. 391, 6.

Glume with a short awn, 3 to 5-ribbed, mostly 5-flowered; flowrets bearded; root fibrous, perennial.
Gramen caninum aristatum, radice non repente, sylvaticum, Rait Syn. 390, 2.

Elymus caninus, Lin. S. P. 124.
Triticum caninum, Huds. Fl. Ang. 58.
Festuca nutans, Moench Meth. 191.
Agropyrum caninum, Pal. de Beauvois. Bearded dog-grass.

Woods and hedges in chalky soils; perennial; July.
Root not creeping; culm 2 feet high; leaves ribbed, green, rough on both faces; sheaths smooth; ligula very short; spike 3 or 4 in. long, rather upright, then drooping, loose; lower locustae often double, the rest alternate; spatheles equal, 3 or 5-ribbed, opposite; awns purplish, as long as the spathele, or longer; spathelettes ciliate.

Glume 3 to 5-flowered, awned; locustae lanceolate, imbricate; culm pubescent.


Rocks by sea-side; perennial; July, August.
Root creeping; culm upright, 18 in. high, procumbent at bottom, and taking root; leaves erect, close, striated; sheaths smooth; ligula short, truncate; rachis white, alternatingly toothed; locustae compressed; pale green, 3 to 5-flowered; spatheles with short awns; spathelettes 5-ribbed; flowrets crowded so as to depress each other.
4. Agropyrum pungens. 
**Pricking wheatgrass.**
Spike continued; rachis hispid; locustæ alternate 2-rowed; spatheles equal, acute, 5 to 7-ribbed; spatellules very short, mucronate; leaves flat at bottom, edge convolute at top, rather stiff, pungent; root creeping.

Triticum repens γ, *Smith Fl. Brit.* 1, 158.  

Sea-side.  
Root creeping; leaves flat, apex rolled, smooth or hairy.

5. Agropyrum repens. 
**Creeping wheatgrass.**
Root creeping, white, jointed, soboliferous; locustæ oblong, mostly 4-flowered; spatheles awnless; spatellules mucronated, as long as the spatheles.

Gramen of the medical writers.  
Bromus glaber, *Scop. Carn.* 1, 84.  
Triticum arvense, *Schreber.*  
Dogs grass. Couch grass. Quitch grass.

Fields and gardens; perennial; July to August.  
Root creeping; culm erect, 2 feet high, slender, leafy; leaves very spreading, nearly 1-rowed, rough on the upper surface and edge; spike rather erect, 2 to 3 in. long; locustæ small; spatheles often awned; awns of different lengths.

Root sweet, used as food for horses in many countries, also for man in time of scarcity, or medicinally as a demulcent and aperient, has also been proposed as a saccharine matter for brewing; but being a troublesome weed in gardens is mostly burnt; leaves eaten by dogs as an emetic, probably acting mechanically.

β. subulatum. Locustæ oblong, mostly 6-flowered; spatheles awlshape; spatellules mucronate, longer than the spatheles.

Triticum subulatum, *Schreber.*

γ. dumetorum. Locustæ either single, in pairs or in threes, oblong, 5 or 6-flowered; spatheles and spatellules awned; awns not a line long.

Triticum dumetorum, *Schreber.*  


IX. 50. TRITICUM. Pliny.

Wheat:

Locusta 1 sessile in each tooth of the rachis, 3 or 4-flowered; 2 lower flowerets sessile, opposite, fertile; uppermost often abortive; spatheles broad, boatshaped, nearly equal, opposite, toothed, ending in a short bristle; spathellices lower, toothed, ending in a short bristle; upper slightly nicked; lodicule ovate, not notched, hairy; ovary bearded at the tip; style 2-parted; stig mata feathered; cariopsis husked, furrowed.—Rachis toothed, jointed, spiked; spike simple; locusta crowded, imbricate.

Parina of the seed is in general use as food for mankind, very nutritious on account of the gluten which it contains, and which is in greater proportion in the wheats grown in warm countries than in cold; seed used for the manufacture of starch, and it is malted and fermented into a kind of beer called mum; husks of the seeds used as a food for horses and swine; straw cut into chaff given to horses as a mechanical stimulus to the appetite.

a. Cariopsis free; rachis flexible; glume coriaceous.

1. Triticum aestivum. Summer wheat.

Spike parallel. compressed, bristled; glumes glabrous, bristled, truncated; base contracted, plaited; bristle from the base, obtuse, very short.

Triticum aestivum, Rau Syn. 387, 6 *; Lin. 3, P. 126.
Triticum trimestre, Park. 1121.
Triticum segetale, Salis. Prod. 27.
Triticum sativum, Lam. Enc. Meth. 2, 554.

Cultivated in fields; annual; sown in spring.

Culm erect, many, glabrous; leaves flat; sheath round, smooth; ligula truncated; spike subquadratic; locusta smooth.

b. album. Spike white; cariopsides white.

g. albo-rubrum. Spike white; cariopsides red.

d. rubro-album. Spike red; cariopsides white.

e. rubrum. Spike red; cariopsides red.
Spike compound; locusta 3-flowered, turgid, ventricose, roundish, imbricate, bristled; uppermost flowret barren, awnless.
Triticum spica multiplici, Raii Syn. 387, 6; Ger. em. 66; Park. 1120, 4.
Triticum compositum, Lin. Suppl. 115.
Egyptian wheat.
Cultivated in fields; annual;
Culm not hollow at top; leaves smooth, flaccid; spike thick, less 2-rowed than summer-wheat, mostly villose, bristled; bristle long, coloured.

3. Triticum turgidum. Turgid wheat.
Spike parallel, compressed; locusta 4-flowered, ventricose, pubescent, imbricate, bristled; uppermost flowret barren; glumes obtuse.
Triticum aristatum spica maxima cinericea, glumis hirsutis, Raii Syn. 387, 4.
Triticum turgidum, L. S. P. 126.
Cultivated in fields.
Leaves smooth; locusta very turgid, velvety, villose, purplish; bristle red, shining.

β. submuticum. Glumes awned; awns short.
γ. aristatum. Glumes awned; awns as long as the spike.
Triticum spica villosa quadrata longiore aristis munitum, Raii Syn. 387, 3 *.
Triticum lucidum, Park. 1120.
Triticum arisic circumvallatum, Ger. em. 66.

Spikes parallel, compressed, nearly awnless; glumes gibbosus, truncated, mucronate; base contracted, plaited; rib obtuse, prominent.
Triticum spica mutica, Raii Syn. 386, 1; Ger. em. 65; Park. 1120.
Triticum hybernum, Lin. S. P. 126.
Triticum segetale, var. Salisb. Prod. 27.
Triticum sativum 2, Lam. Enc. Meth. 554.
Cultivated in fields; sown in autumn, and reaped the following year.

β. aristatum. Spikes bristled.
Triticum aristis circumvallatum, granis et spica rubescentibus, glumis laevibus et splendentibus, Raii Syn. 387, 2.
Red-eared bearded wheat.

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b. Cariopsis free; rachis flexible; glume leaflike.

Spike irregular; locusta 3 or 4-flowered, ventricose, rough, imbricate; awn long; 2 intermediate flowrets barren, awnless; glumes unequal, ciliated.

Triticum majus longiore grano glumis foliaceis inclusus, seu T. Polonicum dictum, Rail Syn. 387, 5.
Triticum glaucum, Moench Method.

Spike irregular, grey; locusta 3 to 5-flowered, long; awns very long; spatelles long; outer spatellule double the length of the inner; cariopsis long; apex pubescent.

c. Cariopsis husky; rachis brittle; spike obtusely compressed.

Spike simple, compressed; locusta 2-flowered, ventricose, imbricate, 1-seeded; awn of the fertile flowret long; apex of the glume 3-toothed; rachis bearded; barren flowret awnless.

Briza monococos, Ger. em. 73.
Zea monococos aristis munita, Park. 1124.
Triticum monococcum, Lin. S. P.
Brant barley. St. Peter's corn.

Cultivated in fields; annual; sown in autumn.
Culm 1 or 2 feet high; leaves ciliated; ligula toothed; spike like rye, white, very smooth, margin of the rachis pubescent; locusta shining.

β. rubrum. Spike pale red, pubescent.

d. Cariopsis husked; rachis brittle; spike parallelly compressed.

Spike simple, compressed; locusta 3-flowered, ventricose, rough, bristled; middle flowret barren, awnless; glumes obtuse; margin of the rachis very smooth.

Triticum amyleum, Ger. em. 69.
Olyra, Park. 1126.
Zea verna, Rail Hist. 1243.
Triticum spelta, Lin. S. P. 127.
Starch corn.

Cultivated in fields; annual; sown in spring.
Culm short, pubescent; leaves woolly; spike slender, long, 2-rowed, smooth.
B. CHLORIDEÆ. Rachis spiked; locustæ solitary, rarely many-flowered, upper-flowret abortive, 2-formed; glumes keeled, not opposite; lower spathe leaf very often awned, rarely awnless, upper 2-keeled; styles 2.

X. 51. CYNODON. Richard. 

Spathelles alternate, half 2-flowered, membranaceous, persisting, shorter than the flowrets; glumelle awnless; upper spathe leaf 2-cut, toothed; rudiment of the abortive flower pedicelled, smooth, clavate; lodicule obtuse, truncated; stigmata aspergilliform; cariopsis not furrowed; spike digitate; locustæ 4 or 5, filiform, simple, slender, unilateral, in a single row.

Cynodon sarmentosum. Creeping Dogtooth.

Runners creeping; spike digitate, spreading, inner base villose; locustæ single, sessile; glumes very spreading, rough; edge of the leaves ciliated.

Gramen Dactylon q. Gramen repens cum panicula graminis Mannæ, Radii Syn. 399, 1.
Gramen Canarium ischæmi paniculis, Park. 1179.
Gramen dactyloides radice repente, Ger. em. 28.
Panicum dactylon, Lin. S. P. 85.
Digitaria littoralis, Salisb. Prod. 10.
Digitaria dactylon, Scop. Carn. 73.
Paspalum dactylon, Lam. Ench. Meth. 5, 32.
Digitaria stolonifera, Schrad. Germ. 1, 165.
Fibichia umbellata, Koel. Gram. 309.
Cynodon dactylon sarmentosum, Per. Syn. 1, 85.
Creeping cocksfoot grass.

Sandy sea-shore; perennial; July, August.

Root sarmentose, jointed; runners prostrate, many; culm ascending, 9 in. long; leaves short, glaucous, spreading, slightly 5-ribbed, edge scariosse, back hirsute; sheaths hirsute; ligula pilose; spike filiform, spreading, purplish.
C. Bromée. Rachis panicled; locusta solitary, 1, 2, or many-flowered; glumes keeled; glumelles of the same consistence as the glumes; lower spathellule concave or carinate, awned or awnless; upper 2-keeled; styles 2.

XI. 52. SCLEROCHLOA. Beauvois. Spraygrass.
Spathelles parallel, unequal, 3 to 5-flowered, obtuse, shorter than the flowrets; lower spathellule cordately nicked, obtuse; upper not nicked; lodicule nicked? ovary beaked; stig mata feathered; cariopsis free, furrowed? beaked, beak 2-cut; rachis panicled or spiked; locustæ 2-rowed, sessile, hermaphrodite.

Sclerochloa procumbens. Procumbent spray-grass.
Panicle lanceolate, contracted, unilateral, rough; rachis round; locustæ 3, 4, or 5-flowered; flowrets bluntly ribbed.

Poa procumbens, Curtis Lond. 11.
Poa rupestris, With. 146, 166.
Sclerochloa procumbens, Pal. de Beauvois.

Inundated sea-rocks and ruins; annual; July, August.
Root fibrous, tufted; culm prostrate, mostly 6 in. long; leaves glaucous, very long sheathed, broad, acute, flat, acutely ribbed, rather rough; ligula torn; panicle stiff; locusta lanceolate, glaucous; s pathelles obtuse, very unequal, keeled, outer 5-ribbed; spathe llules linear, 5-ribbed, apex membranaceous, torn, inner ciliated.

XII. 53. MEGASTACHYA. Beauvois. Ferngrass.
Spathelles alternate, 5 to 20-flowered; shorter than the flowrets; lower spathellule nicked, mucronate between the teeth; upper 2-cut, toothed; stigmata villose; cariopsis free, not furrowed; panicle compound; locusta long, pedicelled; flowrets 2-rowed, imbricate, hermaphrodite.

Megastachya rigida. Stiff ferngrass.
Panicle 2-ranked, 1-rowed, contracted, stiff, smooth; locusta linear, acute, 5 to 11-flowered; rachis margined; s pathellules free, obsolescely 5-ribbed; root fibrous.

Gramen pratense q. Gramen exilis duriumculum in muris et aridis proveniens, Rall Syn. 410, 8.
Gramen minus duriumculum, Ger. cm. 4.
Gramen paniula multiplica, Park. 1151.
Megastachya rigida, Pal. de Beauv. 14.
Small hard grass.
Dry sandy places and walls; annual; June, July.

Culm many, 1 to 6 in. high, erect, stiff, rather compressed, smooth; leaves slender, acute, short, often convolute; sheath shining, bluish red; ligula short, obtuse, torn; panicle deep green, or purplish; peduncle short, alternate, 2-rowed; spathelles very slender, acute; spathellules very smooth, outer absolutely 3 to 5-ribbed.

**β. maritima.** Culm prostrate, thick, stiff, glaucous, small.

*Triticum maritimum,* Wulf in Jacq. Collect. 3, 34.

XIII. 54. POA. Theophrastus. **Meadow grass.**

Spathelles alternate, 2 to 20-flowered, shorter than the floescules; glumelles sometimes joined at the base with wool; lower spathellule awnless; upper 2-cut, toothed; lodicule obtuse, not notched, smooth; stamens 2 or 3; style short, 2-parted; stigmata villose; cariopsis free, furrowed; panicle compound, more or less branchy and effused.

a. *Locustae* very smooth; spathellules obtuse.

1. *Poa aquatica.* **Water meadow-grass.**

Panicle equal, erect, very large, much branched; locustae linear, 5 to 9-flowered; glumelles free at the base, 7-ribbed; leaves very broad, base spotted; root creeping.


*Poa aquatica,* *Lin.* S. P. 98.

*Poa altissima,* *Moench Meth.* 185.

*Reed meadow-grass.*

Marshes and banks of rivers; perennial; June and July.

Culm thick, smooth, bald, 6 feet high, erect, compressed, 2-edged; leaves ensiform, smooth; base having 2 or 3 angular spots; sheaths smooth, bald; ligula truncated; panicle obtuse; peduncle very long, rough; glume all white; locustae green and purple.

**β. vivipara.** Flowers viviparous.

2. *Poa maritima.* **Sea meadow-grass.**

Panicle equal, branchy, or rather spreading, becoming contracted; locustae 5 to 12-flowered, roundish; flowrets distant, obtuse, absolutely 5-ribbed; culm ascending; root creeping.


*Poa arundinacea,* *Moench Meth.* 186.

*Poa maritima,* Hudson *Pl. Angl.* 42.
Sandy shores; perennial; July.

*Culm* decumbent at bottom, 1 foot high, very smooth, round, leafy; *leaves* involute, glaucous; *ligula* obtuse; *panicle* erect; *peduncles* slightly flexuous, first spreading, then erect becoming divaricated; *locustae* purplish.


*Panicle* equal, becoming divaricated; fruit-bearing branches deflexed; *locustae* 4 to 6-flowered, roundish; *flowrets* distant, very obtuse, obsoletely 5-ribbed; *culm* ascending; *root* fibrous.


*Panicle* long, few-flowered, drooping; *locustae* 2 or 3-flowered, pale, ovate, small, as long as the glumes; *glumes* acute; *glumelles* acute, free, subvenose; *leaves* flat, plaited at bottom; *culm* weak.


*Panicle* pyramidical, many-flowered, erect; *locustae* 2 or 3-flowered, slightly coloured, ovate, longer than the glumes; *glumes* acute; *glumelles* acute, free, subvenose; *leaves* flat, plaited at bottom; *culm* firm.
Woods; perennial; June, July.
Culm erect, 2 feet high, naked above; panicle spreading; peduncles nearly verticillate, branchy, naked below.

Panicle spikeshaped, straight, few-flowered; locustae 2 or 3-flowered, coloured, much longer than the glumes; glumes acute; glumelles obtuse, villose; leaves flat, plaited at bottom; culm stiff, in bundles.

Mountains; perennial; June, July.
Root tufted; culms many, 2 feet high, smooth, leafy below, compressed; leaves flat, slender; sheath almost as long as the leaves; ligula very short, crenate; panicle almost 1-sided; peduncles short, 1 to 2-flowered, adpressed, in pairs or threes; locustae ovate, small, violet, scarcely ribbed.

Panicle pyramidal, many-flowered; locustae 4 or 5-flowered, elliptical, acute, coloured, larger than the glumes; glumes acute; glumelles constricted or free; leaves and culm glaucescent.

Mountains; perennial; June, July.
Root fibrous, tufted; herb glaucescent; culm 1 foot high, erect, round, striated, above naked; leaves flat; sheath round, keeled; ligula short, lanceolate, torn; panicle erect, diffused; peduncles nearly verticillate, branchy; locustae ovate, erect, glaucescent, and purple.

c. Locustae pulescens; glumelles free at bottom.

Panicle 1-sided; peduncles in pairs, divaricated; locustae oblong, ovate, 5 to 7-flowered; ligulae short, obtuse; culm oblique, slightly compressed; root fibrous, annual.
Fields, pastures, and roadsides; annual; all the year. Culm ascending, 9 in. long, leafy; leaves 2-rowed, spreading, flat, flaccid, obtuse; sheaths light green, compressed; panicle erect, smooth; peduncles slightly branched; locustae compressed, white and green, with short footstalks; spathelles carinate, acute, edge scariose, upper 3-ribbed, lower 1-ribbed; outer spathellule 5-ribbed, obtuse, edge scariose.

β. rubra. Locustae variegated with purple, white, and green.

γ. vivipara. Panicle viviparous.

δ. crispa. Leaves transversely crisp and waved.

β. vivipara. Spikelet vegetating.

9. Poa alpina. Alpine meadow-grass. Panicle equal, diffused; peduncles in pairs, many-flowered; locustae ovate, 5 or 6-flowered; lower ligulae truncated, very short; upper lanceolate; culm round, ascending, shining; root fibrous, perennial.

Poa brizoides, Wohllenh. Suppl. 5.
Poa glomerata, Knapp Gram.

Alpine meadows; perennial; July. Culm 18 in. high, erect, with 2 or 3 knots, naked above, purple; radical leaves many, spreading, flat, glaucous beneath, obtuse; sheaths short; stem leaves 2 or 3, short; sheaths very long; panicle broad, short, roundish; locustae compressed, green, violet, and yellow; lower spathelle 3-ribbed; outer spathellule obsoletely 5-ribbed, acute; edge scariose.

β. vivipara. Spikelet vegetating.

10. Poa bulbosa. Bulbose meadow-grass. Panicle ovate, almost 1-sided; peduncles mostly in pairs; locustae ovate, lanceolate, turgid, 4 or 5-flowered; ligula elongated, acute; culm bulbose at the base.

Poa bulbosa, Lin. S. P. 102, a et γ.

Sandy fields and pastures near the sea; peren.; Apr. May.
Root fibrous; culm 12 in. high, erect, smooth, round; leaves short, flat; radical very slender, convolute; uppermost very short; sheaths very long, smooth, angular; panicles slender, spreading before flowering, and afterwards contracted; peduncles usually in pairs, rarely solitary or ternate; locustae glauous, purple and white, large.

?β. vivipara. Viviparous, panicle large; sheaths roughish.

Poa prolifer, Schmidt in Mayer Phys. Sam. 1, 168.

May, June.

e. Locustae pubescent; glumes connected at the base with wool; peduncles in pairs; culm not bulbose.


Panicle subracemose; apex drooping, flexuous; peduncles few-flowered; locustae broad, ovate, pubescent, 2 or 3-flowered; spathelles free or connected; ligula long, acute; culm erect, compressed; root fibrous.

Poa laxa, Wild. S. Pl. 1, 386.
Poa elegans, De Cand. Pl. Fr. 1615.

Alpine mountains; perennial; July.

Root tufted; culm many, smooth, 6 in. high, slightly glaucous; leaves flat, slender, acute; sheaths long, dilated below, very smooth, coloured; panicle contracted; locustae broad, oval, green, white, and violet; glumes nearly as long as the flowrets.

β. vivipara. Flowrets viviparous; locustae 2-flowered.


Panicle contracted, 1-sided; peduncles many-flowered, ligula short, very obtuse; locustae lanceolate, 3 to 9-flowered, pubescent; spathelles connected; culm ascending, compressed; root creeping.

Gramen pratense paniculatum medium Tournefort, Rauí Syn. 409, 5.

Walls and dry pastures; perennial; July, August.

Root jointed; culm rooting, leafy, erect above, naked; leaves flat, short, rather glaucous; sheaths smooth, 2-edged; ligula exserted; panicle oblong; peduncles sometimes semi-verticillate, branchy, short; locustae green and purple.

β. erecta. Culm erect; panicle large, very branchy.

Gardens.
f. Locustae pubescent. Glumelles connected with hairs at the base; peduncles mostly semiverticillate.

13. Poa trivialis. Wayside meadow-grass. Panicle pyramidal, diffuse; locustae ovate, 3 to 4-flowered, black green; glumelles pubescent at bottom; leaves all flat, rough; sheaths and culm rough; ligula long, acute; root fibrous.

Poa pratensis, Roth Germ. 2, 1, 113.
Poa scabra, Koel. Gram. 161; Chr. Gram. 8, 72.
Poa dubia, Leers Herb. 28.

Fields and pastures; perennial; May, October.
Culm rooting at the base, decumbent, weak, 2 feet high; leaves erect, flat, flaccid; sheaths pale green; panicle large, erect, very spreading; peduncles many-flowered; locustae small, rather obtuse.

14. Poa setacea. Bristly meadow-grass. Panicle pyramidal, diffused; locustae ovate, 2 or 3-flowered, dark green; glumelles pubescent at bottom; lower leaves involute, setaceous, rough; culm and sheaths rough; ligula long, acute; root fibrous.


Dry sandy places; perennial; June, September.
Culms decumbent at bottom, 18 inches high, round; leaves not broader than the sheath; sheaths slightly compressed.

15. Poa pratense. Field meadow-grass. Panicle pyramidal, very spreading; locustae ovate, 3 or 4-flowered, variegated; leaves all flat, smooth, the upper much shorter than the sheath; sheaths smooth; ligula abbreviated, truncated; root creeping.

Poa pratensis vulgaris, Gaudin Agr. Helv. 212.

Meadows; perennial; May and June.
Root creeping, shoot-bearing; culm erect, smooth, round, 2 feet high; leaves obtuse, spreading; panicle becoming divaricated; locustae numerous, green and white.

*Panicle* pyramidal, very spreading; *locustae* ovate, 3 or 4-flowered, slightly coloured; *radical leaves* very long, slender, roughish; *culm* and *sheaths* smooth; *ligula* short, truncated; *root* creeping.


Fields and meadows; perennial; May and June.

*Culm* erect, smooth, 18 inches high; *radical leaves* 2 or 3-bundled, flat, very slender, long; *stem leaves* short, broad, both light green; *panicle* becoming divaricated, smaller than *poa pratensis*; *spathelle* green, or green and white.


*Panicle* contracted, almost spike-shaped; *locustae* ovate, 3-flowered, coloured; *leaves* slender, glaucous, becoming convolute; *sheath* and *culm* smooth; *ligula* short, truncated; *root* creeping.

*Poa strigosa*, Hoff. Germ. 111, 44.
*Poa angustifolia*, Poinet Encl. Meth. 3, 72.

Dry sandy places; perennial; May, June.

*Culm* 3 feet high; *radical leaves* very slender, setaceous, involute; *culm* broad, involute, all glaucous; *panicle* strigose.


*Panicle* diffused; *locustae* ovate, 3-flowered, glaucous; *leaves* flat, expanding, glaucous, smooth; *sheaths* and *culms* smooth, glaucous; *ligula* short, truncated; *root* creeping; *glumae* acute.

*Poa humilis*, Ehr. Gram. 115.
*Poa carulca*, Knapp. 118.

Mountainous pastures; perennial; June.

*Plant* glaucous, purple; *culm* 8 in. high, ascending, naked above; *leaves* short, straight; *sheaths* long, compressed; *locustae* broad, ovate; *spathelles* green, apex purple; *glumelles* white, purple, and green.
XIV. 55. BRIZA. Greeks.

Cowquake.

**Spathelles** alternate, boatshaped, compressed, cordate at bottom, rather eared, 3 to 12-flowered; flowrets 2-rowed, imbricate; glumelles awnless; lower spathellate cordate at bottom; upper almost orbicular, very short; lodicule ovate, lanceolate, not notched, smooth; style 2-parted; stigmata aspergilliform; ovary hemispherical, 2-beaked; cariopsis free, 2-beaked; beaks filiform, short; panicle compound; peduncles pendulous, very slender; flowrets hermaphrodite.


Panicle erect, base involuted in the upper leaves; peduncles rough; locustæ greenish, 3-angular, 5 to 7-flowered; glumes larger than the flowrets; ligula long, lanceolate.

Gramen tremulum minus, panicula ampla, locustis parvis triangulis,

_Raîj Syn._ 412, 2.


Briza aspera, Knapp. 61.

Fields; annual; July.

Root fibrous; culm erect, 9 in. high, round; base often branched; leaves erect, acute, flat, light green; sheaths smooth; ligula stem-clasping; panicle diffused; peduncles green; locustæ very numerous, green and white.


Panicle erect, base naked; peduncles smoothish; locustæ coloured, ovate becoming cordate, 7-flowered; glumes shorter than the flowrets; ligula very short, obtuse.

Gramen tremulum, _Raîj Syn._ 412, 1.

Phalaris pratensis, _Ger. em._ 86.

Briza media, _Lin. S. P._ 103.

Quaking grass. Lady’s hair. Shaker.

Fields and pastures; annual; May and June.

Root fibrous; culm erect, 1 foot high, naked above; leaves erect, acute, flat; sheaths very long; ligula obtuse; panicle diffused; peduncles brown; locustæ 10 to 30, ovate, smooth, white and brown.

_β. virens._ Locustæ green, small; panicle contracted.


Panicle ramose, drooping; base naked; locustæ oblong, cordate; 15 to 17-flowered; ligula long, acute.
Phalaris pratensis altera, Ger. em. 87.
Briza maxima, Lin. S. P. 103.
Briza grandis, Salisb. Prod. 21.
Pearl-grass or Garden-shaker. Garden-quaker.

Dunghills; perennial; June. A doubtful native.
Culm 2 feet high, naked above; leaves soft, lax; locustæ 4 to 8, nearly an inch long.

XV. 56. MONILIA. Moench. Singlejoint.

Spathelles alternate, 2 or 3-flowered, shorter than the flowrets; glumelles awnless, lanceolate, acute; lodicule rather truncated; style 2-parted; stigmata aspergilliform; caryopsis bimucronate with the persisting vestiges of the styles, slightly furrowed, furrows broad; panicle compound; locustæ roundish; culm with only one joint at the base.

Monilia cærulea. Blue singlejoint.

Panicle long, contracted, equal; locustæ erect, oblong, cylindrical.

Gramen miliaceum q. Gramen pratense serotinum, panicula longa purpureas, Rail Syn. 404, 8.
Gramen pratense spica lavendulæ, Merret Pinax.
Aira cærulea, Lin. S. P. 95.
Melica cærulea, Lin. Mont. 2, 325.
Monilia cærulea, Moench in Kel. Gram. 145.
Festuca cærulea, De Candolle Fl. Fr. 1518.
Monilia varia, Schrank.
Purple melic grass. Knotless grass.

Boggy barren meadows and pastures; peren.; June, July. Root tufted; culm erect, 2 feet long, base thickened into a bulb, naked above; leaves stiff; ligula densely hairy; panicle erect; locustæ violet, smooth.
The culms are made into a neat sort of broom.

β. sylvatica. Panicle pale; culm 2 to 3 feet high.
γ. multiflora. Locusta 5 to 6-flowered.

XVI. 57. MELICA. Dodonæus. Melick.

Spathelles alternate, unequal, membranous, almost the length of the flowrets, 3 to 5-flowered; upper flower incomplete, abortive, pedicelled; glumelles awnless; lodicule truncated, fringed; style short, 2-parted; stigmata villose; caryopsis free, not furrowed; panicle few-flowered, compound or simple; culm angular.
1. Melica uniflora. One-flowered melick.
Panicle branchy, spreading, 1-sided; locustae ovate, erect, long footstalked; hermaphrodite flower single; culm very smooth.

Gramen miliaceum q. Gramenavenaceum nemorese, glumis rario-ribus ex fusco xerampelinis, Raii Syn. 403, 6.
Melica Lobelii, Vill. Delph. 2, 90.
Wood melick-grass.

Woods and hedges; perennial; May and June.

Culms 12 in. high, filiform, slender, very smooth, leafy, ascending; leaves flat, thin, light green; sheaths short; ligula very short, truncated; panicle irregular; glumes purple.

Panicle scarcely branched, contracted, 1-rowed; locustae ovate, pendulous; hermaphrodite flowers 2; culm rough above.

Gramen miliaceum q. Gramenavenaceum locustis rubris montanum, Raii Syn. 403, 7.
Gramen locustis rubris, Park. 1151.
Melica nutans, Lin. S. P. 98.
Melica montana, Huds. Fl. Ang. 37.
Airae nutans, Willd. Prod. 143.
Mountain melick-grass.

Mountainous woods; perennial; June, July.

Root creeping; culm erect; leaves erect, short; ligula very short, torn; panicles racemose, few-flowered; glumes scariose, white, edge purple.


Spathelles alternate, 3 to 5-flowered, boatshaped, longer than the flowrets; glumelles 2-cut, toothed; lower spathella toothed, with a mucro between the teeth; mucro thick, toothshape; lodicile lanceolate, not notched, smooth; ovary beaked; beaks 2-cut, diverging; style 2-parted; stigmata aspergilliform; panicle not branched, few-flowered.

Triodia decumbens. Downlying three-cut.
Panicle contracted; locustae oblong, ovate, 3 or 4-flowered; leaves flat, pubescent.
112 58. Triodia. 10. GRAMINEÆ. Pl. end. ph.

Gramen avenaceum parvum procumbens, paniculis non aristatis, Rul Syn. 408, 11.
Festuca decumbens, Lin. S. P. 110.
Melica decumbens, Salib. Prod. 20.
Melica rigidu, Web. Werth. 117.
Sieglingia decumbens, Bern. Erf. 44.
Triodia decumbens, Pal. de Beauv.

Mountainous fields and pastures; perennial; June.
Root fibrous, rather creeping; culm ascending, becoming upright, 9 in. high, smooth, bald; ligula very short, longly ciliated; racemus oblong; locustæ swelled, green, grey, and purple.

XVIII. 59. BRACHYPODIUM. Beauvois. Shortfoot.
Spatheiles parallel, 3 to 15-flowered, shorter than the flowrets; glumelles not notched; apex of the lower spatheillule ending in a bristle; upper spatheillule obtuse, truncated, scarcely nicked, generally edged with stiff hair; lodicule ovate, not nicked, pilose; ovary obtuse; stigmata feathered; cariopsis slightly husked, furrowed; rachis jointed, spiked; spike not branched; locustæ hermaphrodite, 2-rowed, alternate.

a. Locustæ footstalked; footstalk broad, thick.

Spike upright, 2-rowed; locustæ rather distant, becoming spread, pubescent, bristled; bristle shorter than the glumelle; spatheillules blunt; leaves and sheath rather naked; root creeping.

Gramen spicæ brizæ majus, Rul Syn. 392.
Bromus pinnatus, Lin. S. P. 115.
Avena laeta, Salib. Prod. 22.
Triticum pinnatum, Moench Enum. 102.

Chalky fields and heaths; perennial; July.
Culm 2 feet high, jointed, slightly villose; leaves flat, rather stiff; sheaths smooth; spatheillæ acute; lower 5-ribbed; spatheillules blunt.

β. brevisus. Bristle as long as the glume.

γ. pubescens. Locustæ pubescent.
2. Brachypodium sylvaticum.  
Wood shortfoot.
Spike rather drooping, 2-rowed; locustae villose, rather remote, upright, bristled; bristles short; upper longer than the glumelle; spatellules pointed; leaves pilose; sheaths pubescent.

Gramenavenaceum dumetorum spicatum, Rail Syn. 394.
Festucagracilis, Moench Meth. 191.
Festucasylvatica, Huds, ed. 1.
Bromusgracilis, Weigel Obs. 15.
Bromus pinnatus, Fl. Dan. 164.
Bromus dummyus, Villars Delph. 2, 119.
Bromussylvaticus, Pollich, 1, 118.
Triticum teretifolium, Web. Wurth, 104. But all the synonymes are doubtful.

Woods, hedges, and fields; perennial; June.
Root fibrous, tufted; culms 3 feet high; knots twice villose; leaves flat, long, soft; ligula short, obtuse; locustae 6 or 9-flowered; spatellules acute, lower 5-ribbed; spatellules acute, outer 7-ribbed.

β. pubescens. Locustae pubescent.
Festucagracilis, β, Schrad. Germ. 1, 343.

b. Locustae sessile, facing one way.

Darnel shortfoot.
Spike upright, not branched; rachis flexuose; locustae smooth, oblong, blunt, awnless, facing one way; glume 3-ribbed, manyflowered; root fibrous; culms many, tufted.

Lolium q. Gramenpumilioliaceosimile, Rail Syn. 395, 4.
Triticumloliaceum, Engl. Bot. 221.
Dwarf sea wheat-grass.

Sea-shore; annual; June and July.
Culm stiff, branchy, ascending, smooth, 3 in. high; leaves flat, becoming revolute; sheaths smooth; ligula short; spike stiff, in sunny places brownish.

4. Brachypodiumramosum.  
Branched shortfoot.
Spike branched at bottom; rachis compressed; locustae oblong, smooth, blunt, awnless, facing one way; glume 3-ribbed, manyflowered; root fibrous.
Sandy shores near the sea.

Culm ascending, 9 in. high; spike 2 in. long; branches alternate.

XIX. 60. SCHEDONORUS. Beauvois. Schedonorus.

Spathelles parallel, 5 to 15-flowered, shorter than the flowrets; glumelles bristled; lower spathellule slightly notched below the apex, toothed; teeth often ending in a bristle; upper 2-cut, toothed; lodicule lanceolate, awlshape, not notched, smooth; stigmata villous; cariopsis rather husked, furrowed.—Rachis jointed, panicled; panicle racemose, branched; pedicle inflated, wedgeshape; ligula rather eared; leaves all flat.


Panicle racemose, spiked, long, rather drooping; locustae remote, becoming spreading; root fibrous.

Triticum patens, Brot. Fl. Lus.
Festuca fluitans β, Huds. Fl. Ang. 47.
Festuca elongata, Ehr. Beitr. 133.
Poa loliacea, Koel. 207.

Moist pastures; perennial; June, July.

Culm 2 feet high, smooth; leaves flat; ligula exerted, blunt; rachis angular, rough; spikelet linear, oblong, roundish, becoming compressed, 2-rowed; cariopsis addressed to the rachis, flat; outer spathellule 4 to 5-ribbed; inner 1-ribbed.

β. compositus. Lower spikelets in pairs.


Panicle spreading, branchy, rather upright, loose; locustae linear, compressed, blunt; root fibrous.

Festuca elatior, Lin. Fl. Suec. 32.
Festuca fluitans γ, Huds. Fl. Angl. 47.
Bromus elatior, Koel. 214.
Poa curvata, Koel. 207.

Damp fields and meadows; perennial; June, July.

Culm ascending, 2 feet high; leaves pointed; sheaths streaked, very smooth; ligula short; panicule upright; branches mostly simple, rough; locustae manyflowered; outer glumes 3-ribbed; spathellules scarcely ribbed.
Panicle rather diffuse, drooping, very much branched; 
locustae ovate, lanceolate, acute; flowrets cylindrical, scarcely ribbed; leaves linear, lanceolate; root rather creeping.

Gramen pratense q. Gramen paniculatum nemorosum, latiore folio glabrum, panicula nutante non aristata, Dillen in Rati Syn. 411, 15.

Festuca elatior, J in. S. P. 111.
Festuca arundinacea, Schreb. Spicil. 57.
Festuca spadicea, Moench. Meth. 190.
Bromus arundinaceus, Roth Germ. 2, 141.
Avena secunda, Salisb. Prod. 21.

Damp fields; perennial; June, July.
Calm 4 feet high, smooth; leaves broad, ribbed, smooth; panicle becoming slightly erect; locustae very numerous, ovate, acute, slightly flattened.

Panicle facing one way, upright, very much branched, becoming contracted; locustae oblong; glumes much shorter than the glumelles; outer spatellule 3-ribbed; leaves ensiform; root fibrous.

Festuca sylvatica, Villars Dauph. 2, 105.
Festuca calamaria, Smith Fl. Brit. 121.
Poa trinervata, Koel Gram. 171.
Poa sylvatica, Pollich 1, 83.

Hilly woods; perennial; July.
Roots in tufts; culm erect, 3 feet high, very smooth; joints purple; leaves flat, upright; sheaths cylindrical, hairy; ligula very short; panicle small, manyflowered; locustae small, whitish green or purplish.

5. Schedonorus deciduus. Falling schedonorus. 
Panicle facing one way, erect, very much branched, becoming contracted; locustae 2 or 3-flowered, oblong; outer spatellule 3-ribbed; leaves linear, streaked.


Mountain woods; perennial; August.
Plant small and slender; leaves acute; panicle manyflowered; locustae small, purplish; upper flowrets falling off.

XX. 61. ZERNA. Panzer.

Drank.
Glumes 3 to 6-flowered, flowrets 2-rowed, imbricate; spatellae alternate, linear, lanceolate, acute; lower short, 1-ribbed; upper large, 5, 7, or 9-ribbed, tip bristled; glumelle bristled; lower spatellule linear, convolute, 3 to
9-ribbed, heartshape lobed at the tip; bristle straight, placed below the tip; upper short; lodicule ovate, not notched, smooth; ovary blunt; stigmata feathered; cariopsis husked, furrowed.—Panicle very much branched; branches semi-verticillate, all one way; locustae linear, lanceolate; peduncles rather wedgeshape.

\[
\text{Zerna erecta.} \quad \text{Upright drank.}\]
\[
\text{Panicle erect; peduncles simple, semiverticillate; locustae upright, flattened; flowrets wedgeshape; bristle straight, shorter than the glume; radical leaves very slender, ciliate, pilose.}\]

Bromus agrestis, Allioni Pediem. 2, 249.
Bromus perennis, Vill. Delph. 2, 122.
Bromus angustifolia, Schrank Bauvar. 236.
Bromus arvensis, Pollich Palat. 113.
Bromus montanus, Flor. Wetter. 147.

Dry fields; perennial; May to September.
Roots in tufts; culm 3 feet high, erect, round; radical leaves very long; stem leaves broad, flat; sheaths long; ligula short; panicle contracted; peduncles upright, very unequal; locustae 5 or 6-flowered.

\[
\text{2. Zerna gigantea.} \quad \text{Giant drank.}\]
\[
\text{Panicle drooping, loose; peduncles long, in pairs, facing one way; locustae flattened, bald; flowrets imbricate; bristles flexuose, longer than the glume; leaves broad, bald.}\]

Festucaavenacea q. Gramen avenaceum glabrum, panicula e spicis raris strigosis composita, aristis tenuissimis, Raid Syn. 415, 11.
Bromus giganteus, Lin. S. P. 114.
Festuca gigantea, Vill. Dauph. 2, 110.
Bromus aquaticus, Gmel. Syst. Veg. 1, 189.
Avena gigantea, Salisz. Prod. 22.
Schedonorus giganteus, Gaud. Fl. Helv. MSS.

Damp woods and hedges; perennial; July, August.
Root fibrous; culm 4 feet high, firm, smooth; leaves nging, swordshape, firm; sheaths bald; ligula short; panicle a foot long; peduncles in pairs; locustae small, white and green, 4 to 7-flowered.

\[
\text{3. triflorus.} \quad \text{Plant smaller; panicle drooping and spreading; locustae 3 or 4-flowered.}\]


Dry barren places.

Panicle drooping, loose; peduncles very long, in pairs, facing one way; locustae compressed, pubescent; flowrets becoming remote; bristle straight, shorter than the glume; leaves villose, rough.


*Bromus asper,* Lin. *Suppl.* 111.


*Bromus nemoralis,* Huds. *Fl.* *Ang.* 51.

*Bromus hirsutus,* Curtis *Fl.* *Lond.* 8.

*Bromus nemorosus,* *Vill.* *Dauph.* 2, 117.

*Bromus altissimus,* *Web.* *Holst.* 94.

*Bromus montanus,* *Scop.* *Corn.* 117.


Moist woods; annual or biennial; July.

Root fibrous, horizontal; culm firm, upright, 3 feet high; knots blackish; hairs short, deflexed; leaves flat, broad; sheaths rough; ligula short, torn; locustae green, or green and purple, 7 or 9-flowered, hanging.


Panicle spreading, drooping at top; peduncles semiverticillate, mostly simple; locustae oblong, rough; flowrets becoming remote; bristle straight, longer than the glume; leaves pubescent.

Festuca avenacea sterilis clatior, seu *Bromus Dioscorides,* *Raiti Syst.* 412, 1.

*Bromus sterilis,* Lin. *S. P.* 113.


*Bromus distichus,* Moench *Meth.* 192.


Fields and hedges; annual; June and July.

Root fibrous; culm 3 feet high, upright, smooth; leaves flaccid, soft, hairy at bottom; sheaths pubescent, hairs deflexed; ligula short, blunt; panicle a foot long, loose; locustae hanging, green.


Panicle upright, rather spreading; peduncles simple, in bundles; locustae oblong, rough; flowrets becoming remote; stamens 2; bristles straight, not so long as the glume; leaves bald.


*Bromus Madritensis,* Lin. *S. P.* 114.

*Festuca Madritensis,* Desfart. *Atlant.* 1, 91.

*Bromus diandrus,* Curtis *Fl.* *Lond.* 6, 5.

*Bromus gynandrus,* Roth *Cat.* 1, 15.

*Bromus muralis,* Hudson *Fl.* *Angl.* 50.

*Bromus ciliatus,* Hudson *ed.* 1, 40.
Sandy places, sides of walls; annual; June.
Root fibrous; culm 1 foot high, upright, slender, leafy; sheaths rather keeled; ligula short; peduncle 3 inches long, upright, bundled; branches 3 to 6, mostly simple, one-flowered, upright; locustae upright, brownish.

β. triandra. Stamens 3.

Glumes manyflowered; flowrets crowded, imbricate, much shorter than the glumelles; spatheles alternate, oval, lanceolate; lower 5-ribbed; upper many-ribbed, bristled; glumelles awned; lower spatheelle, ovate, 5 to 9-ribbed, apex cordately lobed, awn straight below the tip; upper flat oblong; lodicule ovate, not notched, smooth; ovary obtuse; stig mata feathered; cariopsis husked, furrowed.—Panicle compound; locustae ovate.

Panicle spreading, drooping, compound; peduncles branched, long; locustae lanceolate, acute; spatheelles elliptical, imbricate, depressed, smoothish, with 2 close ribs on each side; awn straight, shorter than the flowrets; leaves slightly downy.

Festuca aveuacea q. Festuca elatior, paniculiss minus sparsis, locustis oblongis strigosis, aristis purpureis splendentibus Doudy, Rafi Syn. 414, 9.
Bromus versicolor, Pollich Palat. 109.
Bromus spicula tenuata, Knapp Gram. 81.
Bromus leptostachyos, Hull Brit. Fl. ed. 2, 32.
Corn-fields; annual; August.
Root fibrous; culm 3 feet high, upright; leaves spreading; peduncles first upright, afterward drooping, with 6 to 12 locustae; lower bracteate; bracteae 2, falling off.

2. Bromus pratensis. Meadow brome.
Panicle spreading, rather erect, branched; peduncles long, scarcely branched; locustae ovate, turgid; spatheelles elliptical, broad, imbricate, smoothish, with 3 equidistant ribs on each side; awn as long as the flowret; leaves pilose; lower sheath tomentose.

Fields; annual; June.
Culm 2 feet high; panicle small, upright.
   Panicle lax, drooping; peduncles semiverticillate, not branched; locustae oblong, ovate, compressed, bald; flowrets turgid, becoming distinctly remote; awn flexuose, shorter than the flowret; sheaths smooth; leaves rather hairy on their upper face.

Festuca avenacea spicis habitioribus, glumis glabris, Raill Syn. 414, 8.
Bromus secalinus, Lin. S. P. 112.
Bromus polymorphus γ, Huds. Fl. Angl. 49.
Bromus vittatus, Weigel Obs. 4, 1.
Avena secalina, Salisb. Prod. 22.

Corn-fields; annual; July.
Culm 3 feet high, smooth; leaves long, broad, eared at bottom, plaited; sheaths angular; upper always bald; ligula short; panicle 6 in. long, erect at first; locustae large, smooth.

   Panicle spreading, drooping; peduncles scarcely branched, stiff, semiverticillate; locustae ovate, lanceolate, ventricose, pubescent, becoming distant; flowrets depressed; awn straight, pubescent, nearly as long as the glume.

Festuca avenacea, q. Festuca graminea glumis hirsutis et glabris. Bauhin, Raill Syn. 414, 8.
Bromus secalinus 2, Lin. Fl. Suec. 956.
Bromus secalinus, Leers Herb. 36.
Bromus multiflorus, Weigel Obs. 2.
Bromus grossus, Desfont.
Bromus velutinus, Schrader Germ. 1, 349.

Fields; annual; July.
Culm upright, smooth, shining; panicle 9 in. long, at first upright, afterwards drooping; peduncles very unequal; locustae ovate, 10 or 12-flowered.

   Panicle upright, contracted; peduncles branchy, semiverticillate; locustae ovate, oblong, rather compressed, pubescent; flowrets imbricate, depressed; awn straight, as long as the glumelles; leaves soft, pubescent.

Festuca avenacea hirsuta, paniculis minus sparsis, Raill Syn. 413, 5.
Bromus mollis, Lin. S. P. 112.
Avena mollis, Salisb. Prod. 23.

Lobgrass. Oatgrass.

Meadows and pastures; perennial; July.
Root fibrous; culm 2 feet high, upright; leaves acute, dark green; sheaths pale; lower ligula obtuse, panicae ovate; peduncles 2 or 4-flowered; locustae upright.
Bromus.  

62. Bromus.  10. GRAMINEÆ.  Pl. end. ph.

β. nanus.  **Culm 2 in. high; panicle fewflowered.**  
Bromus nanus, Weigel Obs. 8.

6. Bromus racemosus.  **Bunched brome.**  
Panicle upright, diffuse; **peduncles not branched, semi-verticillate; locustae ovate, oblong, rather compressed, bald; flowrets imbricate, depressed; awn straight, as long as the glumelles; leaves scarcely pubescent.**  
Festuca avenacea spicis strigosioribus, e glumis glabris compactis, Raff Syn. 414,7.  
Festuca avenacea, q. Gramen avenaceum pratense, gluma tenuiore glabra, Bobarti, Raff Syn. 414,6.  
Bromus racemosus, Lin. S. P. 114.  
Bromus polymorphus β et 3, Huds. Fl. Angl. 49.

Fields and pastures; annual; June.  
**Culm slender, smooth; leaves pilose; sheaths hirsute; panicle not branched; peduncles long, not branched; locustae shining, white and green.**

7. Bromus squarrosus.  **Scurfy brome.**  
Panicle loose, not branched, nearly facing one way, drooping at top; **peduncles not branched, in pairs; locustae ovate, lanceolate, rather compressed, very smooth; flowrets imbricate, depressed; awn becoming divaricated; leaves pubescent.**  
Bromus squarrosus, Lin. S. P. 112.

Fields; annual; July.  **A doubtful native.**  
Roots fibrous; **culm 18 in. high, upright, smooth; leaves and sheaths pubescent; panicle rather racemose; locustae very large, shining.**

XXII.  63. FESTUCA.  **Fescue.**

**Glume 2 to 15-flowered; spatheles parallel, nearly equal; lower many-ribbed; glumelles bristled; lower spathele not notched, ending in a seta shorter than the glumelle; upper 2-cut, toothed; lodicule ovate, not notched, hairy; stamens 3; stigmata villose; cariopsis mostly husked, furrowed.**—**Rachis jointed, paniced; panicle branchy, facing one way; pedicels inflated, wedgeshape.**

a. Ligula very short, truncated; 2-cared; leaves all bristlelike; culm 4-angular.

1. Festuca ovina.  **Sheeps fescue.**  
Panicle spreading, becoming contracted; locustae ovate, 4 or 5-flowered, bristled; spatheleae roundish, smooth at bottom, inner margin very smooth; leaves setaceous, rough.
Meadows and hills; perennial; June.
Root fibrous, in tufts; radical leaves many, upright, glaucous; stem-leaves few, short; sheaths very long; culm 8 in. high; panicle spikeshape; peduncles solitary; locustae very small.

2. Festuca tenuifolia.

Panicle facing one way, spreading, becoming contracted; locustae ovate, 4 or 5-flowered, awnless, rough; spatellae roundish, upper edge very smooth; leaves hairlike, flaccid, rough.

Festuca tenuifolia, Sibthorp. 44.
Festuca ovina β, Leers Herb. 33.

Meadows; perennial; June.

3. Festuca vivipara.

Panicle contracted; locustae ovate, lanceolate, pubescent; flowrets compressed, keeled, awnless, pubescent; inner margin of the spatellae pubescent; culm rather naked; leaves very slender, smooth.

Festuca ovina β, Lin. S. P. 108.

Alpine mountains; perennial; July.
Root fibrous, in tufts; leaves recurved, angular, light green; panicle short, scarcely branched, upright; locustae green; glume and glumelle changing into leaves.

4. Festuca violacea.

Panicle branched, slightly spreading; locustae oblong, smoothish, bristled; leaves hairlike, soft; stem-leaves very short, doubled, capillary; culm threadlike.

Festuca violacea, Gaud Agr. Helv. 231.

Meadows and hills; perennial; June.
Root in tufts; culm very smooth, 4 in. high; leaves light green; stem-leaves 2 or 3; sheaths very long, smooth; panicle oblong; peduncles in pairs, violet; locustae violet.
Panicle contracted, glaucous; locustæ roughish, bristled; flowrets cylindrical; margin of the inner spatheellule pubescent; leaves compressed, channelled; ligula minute; root fibrous.

Dry barren heaths; perennial; June.
Roots in tufts; culm 9 in. high; naked above, sides convex; leaves narrow, carinate, smooth, channelled; panicle ovate, very glaucous, tinged with purple; flowrets 4 or 5, round; awn straight; glumelle downy at the edge.

b. Ligula very short, truncated, 2-eared; radical leaves bristlelike; stem leaves flat, broad; culm round.

Panicle facing one way, spreading, erect; locustæ oblong, elliptical, smooth, bristled, reddish; bristle long; leaves glaucous, stem-leaves woolly above; root creeping.

Alps and sea-coasts; perennial; July.
Root creeping, jointed; radical leaves glaucous, upright, smooth, stiff, bristlelike, angular; stem-leaves broader, closely villose above; culm smooth; locustæ purplish.

2. vivipara.  Spikelet viviparous.

7. Festuca glauca.  Seagreen fescue.
Panicle compact, becoming loose and spreading, glaucous; locustæ oblong, elliptical, 7 to 20-flowered, bristled; bristle short; leaves seagreen; culm stiff; root creeping.

Loose sands of the sea; perennial; June.
Root creeping; leaves narrow, involute, acute, in tufts; culm reedlike, 12 in. high.

Panicle oblong, upright, branched; locustæ ovate, smooth, bristled; leaves glaucous; stem-leaves smooth; roots fibrous.

Festuca Cambrica, Huds. Fl. Angl. 45.
Mountains of Wales; perennial; May, June.
Root fibrous; culm 9 in. high, cylindrical, smooth; radical leaves upright, channelled, acute; stem-leaves 2 or 3, acute, smooth; locustæ 6 or 7-flowered.
10. **Festuca** duriuscula.  
*Stiff fescue.*  
Panicle facing one way, upright, spreading; *locustae* lanceolate, smoothish, bristled; leaves stiff, bristlelike, sea-green; root fibrous.

**Festuca glabra,** Lightf. *Fl. Scot.* 1085.  

9. **Festuca** duriuscula.  
*Stiff fescue.*  
Panicle facing one way, upright, spreading; *locustae* lanceolate, smoothish, bristled; leaves stiff, bristlelike, sea-green; root fibrous.

**Festuca glabra,** Lightf. *Fl. Scot.* 1085.  

Dry pastures; perennial; June.  
Roots in tufts; radical leaves many, hard, smoothish; stem-leaves flat, stiff, short; sheaths smooth; ligula short, brown; panicle oblong, broad, green and white; peduncles single.

10. **Festuca** dumetorum.  
*Hedge fescue.*  
Panicle upright, spikeshape, facing one way; *locustae* pubescent, bristled; bristle shorter than the glumelle; leaves threadlike, sea-green; root fibrous.

**Festuca duriuscula,** var. Huds. *Fl. Ang.* 45.  

Dry pastures; perennial; June.  
Roots in tufts; leaves many; stem-leaves slender, flattish, rather stiff; panicle slender; *locustae* smaller than festuca duriuscula; glumelle entirely pubescent.

XXIII. 64. **VULPIA.** Gmelin.  
*Capons-tail.*

Glumes 4, 6, or 8-flowered; *spathelles* parallel, very unequal; inner 3 or 4 times shorter than the outer; glumelle bristled; lower *spathellula* ending in a bristle longer than the glumelle; upper 2-cut, toothed; lodicule ovate, entire, hairy; stamen 1; stigmata villose; cariopsis rather husked, furrowed.—Rachis jointed; panicle racemose, facing one way; pedicels inflated, wedgeshape; leaves bristlelike.

1. **Vulpia** murorum.  
*Wall capons-tail.*  
Panicle long, rather contracted, drooping, spiked, many-flowered; *locustae* smoothish; inner *spathelle* half the length of the outer; culm inclosed in a sheath nearly to the panicle; ligula short, 2-eared.

*Rati Syn.* 415, 12.  
**Vulpia** myurus, Gmel. *Fl. Bad.* 1, 8.
Walls and barren places; biennial; May to September.

Root fibrous, in tufts; culms many, 12 in. high, upright, very smooth; radical leaves none; stem-leaves 3 to 6, short; sheaths bellied above, inclosing part of the panicle; ligula white; panicle 6 in. long, pale green; lower peduncle many-flowered.


Panicle short, spikeshape, fewflowered, upright; locustae smoothish; inner spathele half the length of the outer; culm naked above; ligula scarcely visible.

Festuca bromoides, Lin. S. P. 110.
Bromus Derloniensii, Aiton Ped. 2, 2225.
Bromus ambiguus, Cynithii.

Walls and barren places; biennial; May to September.

Culm 6 in. high, usually branched at bottom; leaves bristlelike, short; ligula brown; panicle 3 to 9-flowered; peduncle 1-flowered; margin of the inner spatheleule pubescent.


Panicle scarcely branched, spikeshape, upright, fewflowered; locustae smooth; inner spathele very minute, scarcely perceptible; ligula short, obtuse.

Festuca avenacea sterilis humillima spica unam partem spectante, Raui Syn. 413, 3.

Sandy sea-shores; biennial; June.

Root fibrous; culms angular, many, branched, leafy, 6 in. high; leaves subinvolute, smooth; sheaths long, smooth; panicle 12 in. long; locustae upright.


Glume 5 to 7-flowered; spatheles parallel, truncated, shorter than the locustae; edge membranous, transparent; lower spatheleule torn, manytoothed, boatshape; upper 2-toothed, embracing; lodicule almost connate, cordate; stigmata feathered; cariopsis fewfurrowed.—Rachis panicled; panicle scarcely branched, facing one way.
Glyceria fluitans.                                     Floating manna-grass.

Panicle spread out, facing one way; locustæ linear, round, compressed, adpressed; spathellæ 7-ribbed; root creeping.

Gramen fluitatile, Ger. em. 14; Park. 1275.
Festuca fluitans, Lin. S. P. 111.
Poa fluitans, Salisbury Prod. 219.
Desvauxia fluitans, Palisot de Beauvois.
Glyceria fluitans, Brown Prod.

Flote-grass.

Rivers and watery places; peren.; April to September.

Culm ascending, lower joints rooting; leaves flat, obtuse, broad; lower leaves floating; sheaths long; ligula deltoid, short; panicle long; peduncles solitary or in pairs, very spreading; locustæ blunt, green and white.

β. terresiris. Panicle scarcely branched, very small.
γ. vivipara. Glume and glumelle changed into leaves.
δ. maritima. Leaves glaucous, blunt, broad; locustæ 6 or 8-flowered.

XXV. 66. DACTYLIS.                                     Roughgrass.

Glume 2 to 7-flowered; spathellæ alternate, nearly equal, shorter than the flowrets; glumelle bristled; lower spathellæ nicked below the tip, bristled; upper 2-cut, toothed; lodicule ovate, hairy; stigmata villose; cariopsis free, scarcely furrowed.—Rachis panicked; panicle branched; peduncles short; locustæ many, crowded into 1-sided heads.

Dactylis glomerata.                                     Bulled roughgrass.

Panicle very much branched; peduncles alternate, spreading; leaves carinate.

Gramen arundinaceum q. Gramen asperum, Raî Syn. 400, 2.
Dactylis glomerata, Lin. S. P. 105.
Bromus glomeratus, Scop. Carn. 111.
Festuca glomerata, Vill. Dauph. 2, 93.

Rough cockfoot.

Fields and hedges; perennial; June to August.

Root fibrous, tufted; culm erect, 2 feet high, naked above; leaves acute, dark green; sheaths compressed; ligula long.
XXVI. 67. KOELERIA. Persoon. Silver-grass.

Glume 2 or 3-flowered; spatelles alternate, nearly as long as the flowrets; glumelle bristled; lower spatellula shining, pointed beneath the tip, edge scariose; bristle very short; upper 2-cut; stigmata rather plumose; feathers aspergilliform; cariopsis free.—Rachis paniced; panicle not branched; peduncles crowded; locustae compressed, pubescent, nearly awnless.

Koeleria cristata. Crested silver-grass.

Panicle spikeshaped, base interrupted, smoothish; locustae 2 or 3-flowered, very slightly bristled, very acute; leaves flat, the lowest ciliately pubescent; culm smooth below the panicle.

Aira cristata, Lin. S. P. 94.
Festuca cristata, Vill. Dnph. 2, 93.
Koeleria cristata, Persoon Syn. 1, 97.

Barren pastures and walls; perennial; July and August. Root fibrous, in tufts; culm upright, leafy at bottom; leaves green, shorter than the culm; sheath rough; ligula very short; panicle oblong; peduncles pubescent, short, in pairs; locustae yellowish.

XXVII. 68. CYNOSURUS. Linnaeus. Dogs-tail.

Glumes 4 or 5-flowered; spatelles alternate, shorter than the flowrets; glumelle awnless; lower spatellula very acute, upper 2-cut, toothed; lodicule ovate, not nicked, hairy; stigmata villose; cariopsis husked, furrowed.—Rachis spiked; spike branched; locustae 2 in each involucrum; involucrum 1-leafed, lobed; lobes pinnatifid.

Cynosurus cristatus. Crested dogs-tail.

Panicle linear; leaves linear.

Gramen cristatum Anglicum, Park. 1159.
Gramen cristatum Bāhūṇi, Ger. em. 29.
Cynosurus cristatus, Lin. S. P. 105.
Phleum cristatum, Scop. Carol. 81.

Dry pastures; perennial; June to August. Roots in tufts; culm erect, 1 foot high, very smooth; leaves narrow, smooth; sheaths round, quite smooth; ligula short; spike facing one way, 1 or 2 in. long.

β. tetracus. Spike 4-rowed, 4-sided.

γ. viviparous. Spike viviparous.
PP. 10. GRAMINEÆ. 69. Sesleria. 127

XXVIII. 69. SESLERIA. Scopoli. Moor-grass.

Glume 3 or 4-flowered; spatheles alternate, shorter than the pedicelled flowrets; glumelle bristled; lower spatheulle irregularly 2-toothed, bristled below the apex; upper 2-cut, toothed; lodicule ovate, longer than the ovary, subulate; style simple; stigmata very long, feathered.—Rachis spiked; spike branched, involucrated; universal involucrum manyleaved; leaflets sometimes falling off.

Sesleria caerulea. Blue moor-grass.

Spike ovate, oblong; leaflets of the involucrum alternate, not notched; locusta 2 or 3-flowered; bristle of the spatheulle shorter than the glumelle; leaves flat, obtuse.

Sesleria caerulea. Scopoli. Moor-grass.

XXIX. 70. CHRYSURUS. Persoon. Gold-tail.

Spathelles alternate; locusta dissimilar; neuter locusta (involucrum of Linnaeus) manyflowered, flowrets distant; spatheles linear, awlshape; spatheulle 1, barren; hermaphrodite locusta 1-flowered; spatheles linear, awlshape; flowrets pedicelled; lower spatheulle bristled, under the unnicked tip; upper spatheulle not nicked; lodicule lanceolate; ovary nicked; style 2-parted; stigmata plumose; cariopsis 2-beaked, free, not furrowed.—Rachis panicled; panicle much branched.

Chrysurus echinatus. Rough gold-tail.

Panicle contracted, ovate; barren locusta scariosse, longly bristled; leaves lanceolate.

Chrysurus echinatus, Pal. de Beauvois. Rough-eared fox-tail.

Sandy grounds near the sea; annual; July.

Root fibrous; culm erect, branchy at bottom; leaves sharp-pointed, light green, flat; sheaths large, inflated; ligula long; panicle grey, growing silvery, shining.

β. purpureus. Awn purplish.
D. Arundinaceæ. Rachis panicked; locustæ single, manyflowered; glumes carinate; glumelles of nearly the same consistence as the glumes; lower spatheellule concave, awlshape at top; bottom generally girt with hairs; upper 2-ribbed; styles 2.

XXX. 71. ARUNDO. Pliny.

Glumes 5 or 7-flowered; spatheellæ alternate, unequal, acute, shorter than the flowrets; lower flowret male or neuter; glumelles naked; upper flowret hermaphrodite; glumelles girt at bottom with wool: lower spatheellæ long awlshape; upper 2-cut, toothed; lodicule truncate, fringed; stigmata aspergilliform; cariopsis husked.—Panicle very much branched, loose.

Arundo vallatoria. Bankside reed.

Panicle loose; locustæ upright, 5-flowered; leaves and sheaths smooth; root creeping.

Arundo vallatoria, Ger. em. 32; Raui Syn. 401, 1.
Harrudo vulgaris sive vallatoria, Park. 1209.
Arundo Phragmitis, Lin. S. P. 150.

Watery places; perennial; July.

Culm annual, erect, 6 feet high; leaves spreading, glaucous underneath; ligula very short; panicle rather erect, purplish.

Panicles dye woollen green; culm forms a very durable skreen in gardens against the wind, and is also used as a foundation for plaster-floors; the inner membrane of the culm forms a very sensible hygrometer.

β. variegata. Leaves variegated.

E. AVENACEÆ. Rachis panicked; locustæ fewflowered; glumes carinate; glumelles of the same consistence as the glumes; lower spatheellule awned; awn kneeed, twisted; upper 2-keeled; styles 2-cut.

XXXI. 72. TRISSETUM. Persoon. Threebristle.

Glumes membranaceous, 3 to 5-flowered; spatheellæ alternate, nearly as long as the flowrets; lower spatheellæ 2-cut, toothed, back awned above the middle; awn herbaceous, flexuose, rarely plaited; lodicule lanceolate, not notched, bald; style 2-parted; stigmata plumose, nearly aspergilliform; cariopsis slightly husked, furrowed.—Panicle branched.
Trisetum flavescens.  Yellow threestalk.
Panicle equally spreading, diffused, becoming contracted; locustae 2 to 5-flowered, shining, yellowish; lower leaves pubescent; ligula scarcely visible; outer spathellules 5-ribbed; root rather creeping.

Giamen aveuiaceum pratense elaticus, panicula flavescente, locustis parvis, Rati Syn. 407, 5.
Avena flavescens, Lin. S. P. 97.
Trisetum pratense, Persoon Syn. 1, 97.

Fields and pastures; perennial; June and July.

Culm upright, 2 feet high; leaves flat, acute; sheaths pubescent; panicle rather drooping, manyflowered; peduncles semiinvetricillate; locustae spreading; flowrets longer than the glume.

β. biflorum.  Locustae 2-flowered.

XXXII. 73. DANTHONIA. R. Brown.  Haver.

Glumes 2 to 5-flowered; spathelles alternate, nearly equal, longer than the flowrets; lower spathellule 2-toothed, awned between the teeth; awn plaited, twisted, tapewormshape; upper blunt, truncated, not nicked; lodicule ovate, not notched, bald; stigmata aspergilliform; cariopsis free, obtuse, scarcely furrowed.—Panicle not branched, facing one way.

Danthonia strigosa.  Rough haver.

Panicle oblong, slender, loose; locustae 2-flowered; lower spathellule streaked at the tip; leaves smooth.

Avena strigosa, Schreber Lips. 52.
Danthonia strigosa, Pal. de Beauvois, 92.

Corn fields; annual; July.

Root fibrous; culm 3 feet high, smooth; leaves flat, glaucous; ligula blunt; panicle upright, the tip drooping.

XXXIII. 74. AVENA. Pliny.  Oat.

Glume membranaceous; spathelles alternate, nearly equal, longer than the flowrets; glumelles awned; lower spathellule 2-lobed or 2-cut, toothed, awned on the back; awn leathery, plaited, twisted; upper spathellule 2-cut, toothed, sometimes torn; lodicule ovate, not notched, bald; stigmata villose; cariopsis husked, furrowed.—Panicle branched, loose.
Avena. 10. GRAMINEÆ.  

a. Locustæ 2-flowered.

Panicle loose; locustæ drooping, 2-fruited; cariopsides smooth, husked; upper flowret awnless.
Avena alba, Rait Syn. 389, 1.
Avena vesca, Ger. em. 68; Park. 1134.
Avena sativa, Lin. S. P.

White oats.

Cultivated in fields, principally in the northern parts; annual; June, July.
Culm 4 feet high; glumelles whitish.
Seeds used in the south for the food of horses, but in the north they are ground and the meal used either for bread, or for gruel: they are also malted for making an ale or a distilled spirit called whiskey: the ashes of the straw used to polish marble.

β. nigra. Glumelles blackish brown.
Avena nigra, Rait Syn. 389, 3.

Black oats.

γ. mutica. Flowrets all awnless.
Avena vesca, Park. 1134.

δ. uniflora. Glumes 1-flowered.
Avena alba Scotica, semine simplici, pediculo laxo pendente, Rait Syn. 389, 2.

Panicle facing one way, contracted; locustæ horizontal, parallel, 2-fruited; cariopsides husked, smooth; uppermost flowret awnless.
Avena orientalis, Schreber Spic. 52.

Occurs along with the former species, but rarely.

β. mutica. Flowrets all awnless.

b. Locustæ 3 or more-flowered.

Panicle contracted, slender; locustæ upright, 3-seeded; cariopsides smooth, free; uppermost flowret awnless.
Avena nuda, Rait Syn. 389, 6; Ger. em. 75; Park. 1134.

Pills. Pilkorn.

Cultivated in Cornwall, Staffordshire, and elsewhere; annual; July and August.
Glumelles yellow; flowrets very narrow.
10. GRAMINEÆ. 74. Avena.

4. Avena fatua.  
*Wild oat.*  
Panicle equally branched, loose; *locustæ* drooping, 3 to 5-seeded; *cariopsides* husky, very hairy at bottom; *flowrets* all awned; *leaves* flat.

Æglops bromoides, *Ger.* em. 77.  
Æglops bromoides Belgarum, *Park.* 1148.  
*Avena fatua*, *Lin. S. P.* 118.  
*Bearded wild oats*, or *haver*.

*Fields and corn-fields; annual; August.*  
*Root* fibrous; *culm* upright, 4 feet high, naked above; *leaves* broad, rather upright, plaited; *sheaths* bald; *ligula* blunt; *panicle* upright; *peduncles* unequal; *pedicles* drooping; *locustæ* pendulous; *glumelles* yellow, growing black; *awns* brown.

β. pilosissima. *Glumelles* entirely covered with hair.

5. Avena pubescens.  
*Downy oat.*  
Panicle upright, nearly simple; *locustæ* upright, long, 3-flowered; *cariopsides* husked; *partial rachis* bearded; *culm* simple; *leaves* all flat, pubescent.

*Avena pubescens*, *Lin. S. P.* 1665.  
*Avena pratensis*, *Gouan Hort.* 53.  
*Chalky fields and pastures; perennial; June.*  
*Root* fibrous, in tufts; *culm* 2 feet high, smooth, bald; *leaves* obtuse, uppermost smooth, bald; *lower ligula* very short; *upper oblong, blunt*; *panicle oblong*; *locustæ* large, becoming obovate, shining, silvery green.


6. Avena pratensis.  
*Meadow oat.*  
Panicle upright, spiked, long; *peduncles* single or in pairs; *locustæ* upright, 5 to 8-flowered; *cariopsides* husked; *partial rachis* hairy; *radical leaves*, involute, rough, bald; *upper flat*.

*Gramen avenaceum montanum, spica simplici, aristis recurvis*, *Raii Syn.* 405, 1.  
*Avena pratensis*, *Lin. S. P.* 119.  
*Calcareous fields and pastures; perennial; July.*  
*Root* fibrous; *culms* many, 2 feet high, upright, simple, naked above; *radical leaves* linear, acute, stiff; *stem leaves* broad; *sheaths* very long; *ligulae* lanceolate.

β. bromoides.
Spike upright; panicle nearly spikelike; leaves naked, finely serrulate; sheaths oblong, rough; culm compressed.

*Avena alpina,* Smith T. L. S. 10, 335.
*Trisetum alpinum,* Roemer Syst. Veg. 663.
*Gaudinia planiculmis,* Pal. de Beauvois, 95.

Mountain rocks; perennial; July.
Root tufted; culm 3 feet high; flowrets very large; rachis hairy at the top; locustae 3 to 5-flowered.


Glumes membranous, 2-flowered; spatheles alternate, shorter than the flowrets; lower flowret male; lower spathele 2-lobed at the tip, lobes often torn-edged, ciliate; awned on the back below the middle; upper membranous, hyaline, 2-cut, toothed; lodicule lanceolate, not notched, smooth; upper flowret hermaphrodite; spatheles 2-cut, toothed; lower awned above the middle of the back; awn short or none; stigmata featherlike; cariopsis free, furrowed.—Panicle branched, loose.

1. *Arrhenatherum elatius.* Tall dog-grass.
Panicle equally spread, rather contracted, drooping; glumelles smooth; hermaphrodite flowret nearly awnless; culm with smooth knots; root knotty; leaves smooth.

*Avena elatior,* Lin. S. P. 117.
*Avena elata,* Salisb. Prod. 23.
*Holcus avenaceus,* Wigger Fl. Holat. 72.

Fields and pastures; perennial; June, July.
Culm erect, 4 feet high; leaves dark green, flat, recurved; sheaths round; ligula short; panicle oblong; peduncles nearly verticillate; spikelet large, whitish, or white and purple.

β. muticum. Flowrets awnless.

γ. submuticum. Hermaphrodite flowret awnless.

δ. aristatum. Flowrets with long awns.

Panicle equally spread, verticillate; glumelles smooth; hermaphrodite flowret nearly awnless; knots of the culm pubescent; root bulb-bearing.
XXXV. 76. CATABROSIA. Beauvois. Sweetgrass.

Glumes 2 to 5-flowered; spatheles parallel, shorter than the flowrets, rather truncated, torn-edged, toothed; glumelles awnless; lower spatheulle rather truncate; torn-edged, toothed; upper slightly 3-cut; lodicule lanceolate; ovary slightly nicked; stigmata featherlike, rather aspergiliform; cariopsis 2-horned.—Panicle compound.

**Catabrosia aquatica.** Water sweetgrass.

Panicle loose, spreading; peduncles rather verticillate; locustae 1 or 2-flowered; lower spatheulle furrowed, plaited, smooth; leaves flat, smooth.

*Gramen milaceum aquaticum, Rau Syn. 402, 3.*
*Aira aquatica, Lin. 8. P. 95.*
*Poa dulcis, Salisb. Prod. 26.*
*Poa airoides, Koel. Gram. 194.*

Watery places; perennial; May, June.

Root creeping; culm floating, extended; branches ascending; leaves floating, broad; ligula not notched, white; panicle upright; locustae small, close together, coloured.

**b. uniflora.** Locustae 1-flowered; flowret sessile.

XXXVI. 77. AIRA. Theophrastus. Hairgrass.

Glumes scariose, 2-flowered; spatheles alternate, nearly equal, longer than the flowrets; glumelles awned; lower spatheulle torn or toothed at the tip, awned below the middle; awn coriaceous, plaited, twisted; upper 2-cut toothed; lodicule ovate, not nicked, bald; stigmata villose; cariopsis free.—Panicle branched; leaves bristlelike.

a. Spatheles equal; glumelles awned above the base; flowrets nearly sessile; plant annual. Canchium.

1. *Aira praecox.* Early hairgrass. Panicle contracted, spike-shaped; base of the spatheles naked; awn twice the length of the glumes; ligulae obtuse.
134  77. Aira.  10. GRAMINEÆ.  Pl. end. ph.

Avena præcox, *Pal. de Beauv. de*.

Barren sandy places; annual; May and June.
*Culm* erect, 3 in. high, very smooth, pale green; *sheaths* inflated, angular, smooth; *panicle* erect; *locusæ* upright.

Panicle diverging, 3-forked; *peduncles* rather straight; base of the spathellules rather naked; *awn* scarcely longer than the glumes; *ligula* long, acute.

Sandy places; annual; July.
*Culm* branched at bottom, leafy; *sheaths* slightly striated; *panicle* 3 or 4-forked; *locusæ* small, silvery purple.

b. Spathelles unequal; spathellules awned at the base; flowerets pedicelled; perennial.

*Leaves* long, bristlelike, smooth; *ligula* short, blunt; *panicle* expanding; *peduncles* in pairs, flexuose; *awn* double the length of the spathellules; *spathellules* toothed, spinous.

Wet mountainous places; perennial; June, July.
*Roots* in tufts; *culm* 18 in. high, smooth, round, nakedish; *leaves* radical, fascicled, smooth, shorter than the culm; *sheaths* rough; *locusæ* small, whitish.

*Leaves* short, bristlelike, rough; *ligula* long, acute; *panicle* rather contracted; *peduncle* becomes flexible; *awn* double the length of the spathellule; *spathellules* toothed, spinous.
Aira flexuosa b, *Smith Fl. Brit. 85*.
Aira scabro-setacea, *Knäpp Gram. 32*.

Woods and heaths; perennial; July.
XXXVII. 78. ANTHOXANTHUM. Lin. Spring-grass.

Glume 3-flowered; spathelles unequal, membranous, longer than the glumelles: side flowrets neuter, 1-spatheI lulled, awned; one flowret with a twisted, plaited awn below the middle; the other with a straight awn near the tip: middle flowret hermaphrodite, three times shorter than the side flowrets; spathellules membranous, rather blunt, awnless; style simple at bottom; stigmata very long, featherlike; cariopsis free, furrowed.—Spike branched.

Anthoxanthum odoratum.  
Sweet spring-grass.

Spike ovate, oblong; fertile flowret rather pedicelled, longer than the awn; spathellule of the barren flowret ciliated.

Gramen vernum spica brevi laxa, Raai Syn. 398, 1.

Anthoxanthum odoratum, Lin. S. P. 40.

Fields and pastures; perennial; May.

Root fibrous; culm 2 feet high, upright, smooth, bald, naked above; leaves lanceolate, acute, shorter than the sheath, ciliated; upper leaves very short; sheaths smooth, villous above; upper very long; ligulae nicked; spike interrupted, greenish becoming yellow, woolly; peduncles semiverticillate, fewflowered; locustæ very smooth, erect; plant while drying smells like woodroof.

β. pubescens.  
Locustae pubescent.

γ. effusum.  
Spike slightly branched; leaves pubescent.

δ. alpinum.  
Spike branched; awn longer than the flowret, leaves smooth. Perhaps a distinct species.

XXXVIII. 79. HOLCUS. Linnaeus.  
Softgrass.

Glumes 2-flowered; spathelles alternate, nearly equal, membranous, longer than the flowrets, mucronate; flowrets dissimilar, both hermaphrodite; lower flowret longer; spathellules not notched, awned on the back; awn bent or plaited; lower spathellule of the upper flowret mostly awnless; lodicule lanceolate, not notched, bald; style 2-parted; cariopsis free, not furrowed.—Panicle contracted, cylindrical.

1. Holcus lanatus.  
Woolly softgrass.

Awn of the upper flowret bowed, bent back; spathelles unequal, villous; root fibrous; leaves villous, soft.
136 79. Holcus. 10. GRAMINEÆ.  Pl. end. ph.

Gramen miliaceum pratense molle, Raiti Syn. 404, 14.
Gramen pratense paniculatum molle, Park. 1155.
Gramen lanatum Dalechampii, Ger. em. 30 *.
Avena lanata, Koel. Gram. 303.
Aira Holcus lanatus, Vill. Delph. 2, 87.

Fields and pastures; perennial; June and July.

Culms in tufts, 2 feet high, leafy above, pubescent; leaves broad, pubescent; sheaths woolly, grey; ligule short; panicle coloured becoming grey; peduncles in pairs or threes; locustæ ovate.


Awn of the upper flowret bent; spathelles nearly equal, rather naked; root creeping; leaves rather naked.

Gramen miliaceum aristatum molle, Raiti Syn. 404, 15.
Holcus mollis, Lin. S. P. 1485.
Avena mollis, Koel. Gram. 300.
Aira Holcus mollis, Vill. Delph. 2, 88.

Woods and fields; perennial; June and July.

Culm solitary, smooth; knots pubescent; leaves pubescent becoming smooth; sheaths rather smooth; ligula long; panicle greenish black; peduncles rough; locustæ ovate, lanceolate.

XXXIX. 80. DESCHAMPSIA. Beauv. Pearlgrass.

Glume 2 or 3-flowered; spathelles alternate, nearly equal, longer than the flowrets; lower spathellule many toothed at the tip, awned at bottom; awn straight, scarcely longer than the base; upper spathellule 2-cut toothed; lodicule roundish, not nicked, hairy; style 2-parted; stigma distant, villous; cariopsis free, scarcely furrowed.—Panicle branched, semiverticillate.

1. Deschampsia laevigata.  Smooth pearlgrass.  Panicle contracted; base of the spathellules pilose; peduncles very short, smooth; leaves and sheath very smooth.

Aira laevigata, Smith T. L. S. 10, 334.
Deschampsia laevigata, Roemer Syn. Veg. 687.

Mountains and sea-coasts in the North; per.; June, July. Culm 18 in. high.

2. vivipara.  Panicle viviparous.

2. Deschampsia caespitosa.  Tufted pearlgrass.  Panicle spreading; base of the spathellules pilose; pedicells of the upper flowrets long, hairy; leaves furrowed above; sheaths roughish; ligula lanceolate, acute.
Gramen miliaceum segetale majus, Raui Syn. 403, 5.
Gramen segetum paniculâ speciosa, Park. 1158.
Gramen segetale, Ger. em. 5.
Aira cespitosa, Lin. S. P. 96.
Aira alissima, La Mark Fl. Tr. 3, 581.
Deschampsia cespitosa, Pal. de Beauvois.

Woods and damp fields; perennial; July.

Roots in thick tufts; culm 3 feet high, upright; leaves slender; ligula long, 2-cut; panicle greenish purple; locustae small.

β. argentea. Panicle silvery white.

γ. vivipara. Panicle viviparous.

3. Deschampsia Doniana. Don’s pearlgrass.

Panicle rather spreading; base of the spathellule longly pilose; pedicell of the upper flowret long, pilose; leaves furrowed above; sheaths very smooth; ligula truncated at top.

Aira glomerata, Geo. Don.

Mountain Clova, Angus-shire; perennial; July.

Roots in tufts; culm erect, 2 feet high, very smooth; leaves stiff, flat, narrow, become revolute; sheaths short, lower white with a membranous edge; ligulae long; panicle upright, villous.


Glumes 2-flowered; spathelles alternate, membranous, longer than the flowrets; lower spathellule not notched, awned at bottom; awn woolly, jointed in the middle; the lower part coriaceous, twisted, threadshape; the upper clubshape, smooth; upper spathellule 2-cut toothed; stigma villous.—Panicle branched.

Corynephorus canescens.

Grey club-awn.

Leaves bristlelike; culm leafy; panicle spreading, becoming spikeshape, sheathed.

Gramen miliaceum maritimum molle, Raui Syn. 405, 16.
Aira canescens, Lin. S. P. 97.
Avena canescens, Weber Holsat. 9.
Weingaertneria canescens, Bern. Erford. 51.
Corynephorus canescens, Pal. de Beauvois.

Sands by the sea; perennial; July.

Root fibrous, in tufts; culm upright or ascending, 6 in. high, smooth; leaves erect, stiff, rough, glaucous; ligula lanceolate, acute; panicle upright, rather facing one way, rarely coming out of the sheath; locustae silvery-grey.
F. Agrostidae. Rachis panicled; panicle sometimes contracted, spikeshape; locustae solitary, one-flowered; glumes and glumelles of nearly the same consistence, often keeled; lower spathellule awned or awnless; upper sometimes 2-keeled; styles 2.

XLI. 82. CHILOCHLOA. Beauvois. Cats-tail.

Spathelles alternate, unequal, acute, longer than the flowrets, the edge and back often pilose; glumelles awnless, rather cartilaginous; rudiment of an abortive flowret pedicelled, threadshape; upper spathellule notched; lodicule lanceolate, not notched, bald; style short, 2-parted; stigmata villous; caryopsis detached, not furrowed.—Spike branched, cylindrical.


Spike cylindrical, lobed, loose; glumes naked, thickened above; glumelles blunt; culm branchy.

Phalaris paniculata, Aiton Hort. Kew. 6, 87.
Phalaris aspera, Retz. Obs. 414.
Phleum asperum, Villars Delph. 1, 61.
Chilochloa aspera, Pal. de Beauvois, 37.

Fields, walls, and heaths; annual; June and July.

Root fibrous; culms 9 in. high; leaves smooth, the uppermost very short; sheaths inflated, smooth; ligula long, acute; spike stiff, rather acute; peduncles verticillate; glumes with very short awns, keeled, gibbous above, edge opake, very bluntly truncated; smell like that of anthoxanthum.


Spike cylindrical, lobed; spathelles rather smooth, inner edge turned up; spathellules acute; sheaths slightly bellied; culm not branchy.

Phalaris phleioides, Lin. S. P. 80.
Phleum phalaroides, Koel. Gram. 182.
Phleum Boehmeri, Wibel Werth. 125.

Sandy fields; perennial; June and July.

Root fibrous; culm mostly single, purple, shining, 18 in. high; leaves and sheaths rather rough; spike dense, ovate-cylindrical.


Spike ovate, lanceolate, scarcely branchcd, obtuse; spathelles ciliated; spathellules short, torn-edged; sheaths bellied; culm branchy.
Gramen typhinum maritimum minus, Raii Syn. 398, 4.
Phalaris phleoides, Aiton Hort. Kern. 1, 86.
Chilochloa arenaria, Pal. de Beauvois.

Sandy places near the sea; annual; June.
Roots fibrous; culm many, leafy below, naked above, 9 in. high, purple, shining; leaves glauceous; sheaths smooth; spike scarcely lobed.

Panicle cylindrical, lobed, loose; spatheles lanceolate, keeled, ciliate hairy, with very short bristles; spatheles oblong, hairy.

Phleum phalarideum, Vill. Delph. 2, 60.
Phleum Michelii, Allioni Pedem. 2138.
Chilochloa Michelii, Pal. de Beauvois, t. 7, f. 2.

Alpine rocks; perennial; July.
Root creeping, thickened above; culm erect, very smooth, 18 in. high; leaves smooth, edge membranous, white; sheaths lax; upper very long, purplish; ligula obtuse; panicle soft, green or purplish.

XLII. 83. PHLEUM. Pliny. Timothy.

Spathelles alternate, boatshaped, compressed, nearly equal, twice as long as the spatellules, truncated at the tip, pointed with a prominent, bristlelike, intermediate rib; glumelle awnless; lower spatellule truncated, manytoothed, inclosing the upper twotoothed spatellule; lodicule lanceolate, acute, not nicked, bald; ovary beaked; beak inclined; style 2-parted; stigmata nearly aspergilliform, villous; cariopsis free, not furrowed, beaked; beak 2-parted.
—Spike cylindrical.

1. Phleum pratense. Meadow timothy.
Spike cylindrical, very long; spatelle much longer than the beard; keel ciliated; culm upright; root fibrous.

Gramen typhinum majus sive primum, Ger. em. 11; Raii Syn. 398, 1.
Gramen typhinum medium seu vulgarissimum, Park. 1170.
Phleum pratense, Lin. S. P. 87.

Fields and pastures; perennial; July to September.
Culm 3 feet high, naked above, smooth, bald; leaves flat, very acute, bald, rough; ligula obtuse; spike 3 to 5 in. long, green, rather blunt; locustæ very much crowded.

β. viviparum. Glumes and glumelles changed into leaves.
γ. minus. Culm short, not bulbosse at the base.
2. *Phleum nodosum*. Knotted timothy. Spike cylindrical, short; spathelles much longer than the beard; keel ciliated; culm ascending, bulbous at bottom; root fibrous.


Barren places; perennial; July to November.

*Culm* 9 in. high, rather naked above; leaves very acute; spike 1 to 2 in. long, obtuse.

3. *Phleum alpinum*. Alpine timothy. Spike ovate, cylindrical; spathelles the length of the beard; keel ciliated; culm ascending; root rather creeping.


Mountains in the North; perennial; July.

Root jointed; culm 18 in. high; upper sheaths very long, inflated; lower ligula very short; upper slender, acute; spike 1 in. long, blackish purple.

XLIII. 84. PHALARIS. Dioscorides. Phalaris.

Spathelles alternate, nearly equal, boatshape, gibbous on the back, often membranous winged, longer than the flowrets; glumelles awnless, hardened, leathery; rudiment of an abortive flowret sessile, like an appendix, awlshape, bald or hairy; upper spathellule slightly nicked; lodicule ovate, not notched, hairy; style short, 2-parted; stigmata villous; cariopsis free, included in the hardened glumelle, not furrowed.—Panicle spikeshape, or effused; locustœ crowded; peduncle often involucrated.

a. Panicle spikeshape; keel of the glumelles winged.

1. *Phalaris Canariensis*. Canary phalaris. Panicle ovate; margin of the upper spathelle truncate; culm rather upright; root fibrous.

*Phalaris major*, semine albo, *Rait Syn. 394, 1.*

*Phalaris*, Ger. em. 86.

*Phalaris Canariensis*, Lin. S. P. 79.

*Phalaris ovata*, Moench. Meth.

Canary grass.

Roadsides, ruins, also cultivated; annual; June to Sept.

*Culms* many, 2 feet high, smooth; leaves flat, lanceolate, edge white; upper sheaths inflated; ligula large; panicle very dense; peduncles short; locustœ broad, ovate, white with 2 lunate green lines.

Seeds used as food for singing birds.
b. Panicle loose; keel of the spathelle sharp.

Panicle upright, oblong, bellied, contracted; lodiculae facing one way; spathelles acute; leaves flat; culm upright; root creeping.

Gramen arundinaceum, acerosa glum., Jerseyanum, Raiz Syn. 400, 2.
Phalaris arundinacea, Lin. S. P. 80.
Calamagrostis colorata, Sibthorp Fl. Ox. 37.
Typhoides arundinacea, Moench. Meth. 99.

Bogs and river-sides; perennial; July.

Roots in tufts; culm upright, 3 feet high, knots smooth; leaves very broad, flat; sheaths round, long; ligula short, obtuse; panicle large, glomerate; peduncles in pairs or threes; involucrem small, white; lodiculae compressed, whitish or purplish; ribs 3, green.

β. glauca. Leaves glaucous.

γ. picta. Leaves elegantly streaked with white.


XLIV. 85. ALOPECURUS. Theophrastus. Foxtail.

Spathelles alternate, lower larger, distinct or grown together at the bottom; spathellule one, pitchershapes, split on one side, awned below the middle; lodicule linear, not nicked, bald; style 2-parted, nearly simple at bottom; stigmata very long, nearly aspergiliform.—Spike compound, stiff, cylindrical, not involucrated; peduncles very short.

a. Spathelles soldered together above the middle; keel dilated, bald above; awn long.


Spathelles acute, rough, almost bald; spike cylindrical, attenuated, acute; peduncles not branched, 1-flowered; culm erect, rather rough.

Gramen myosuroides majus, spica longiore, aristis rectis, Raiz Syn. 397, 1.
Gramen alopecuroides minus, Ger. em. 10.
Gramen alopecuroides spica longa maius et minus, Park. 1169.
Alopecurus agrestis, Lin. S. P. 89.
Alopecurus myosuroides, Huds. ed. 1, 23.

Great mouse-tail grass.

Fields and ways; annual; July.

Roots fibrous; culm 18 in. high, leafy; leaves rough above; ligula lanceolate; spike 3 in. long, slender, purplish.
7. minor. Small, brown; spike short.
Gramen myosuroides minus, spica breviore, aristis recurvis, Rail Syn. 397, 2.

b. Spathelles soldered at the base; keel ciliated; awn long.

Spathelles acute, villose; awn longer than the spathelles; spike cylindrical, obtuse; peduncles branched, manyflowered; culm upright, smooth; root fibrous.

Gramen alopecuroides q. Gramen alopecuro simili, glabrum cum pilis longiusculis in spica, Onocordon mihi denominatum, J. Bauhin, Rail Syn. 396, 1.
Gramen alopecuroides majus, Ger. em. 10.
Gramen phalaroides majus sive italicum, forte etiam Gramen phalaroides spica molli sive Germanicum, C. Bauhin, Park. 1164.
Alopecurus pratensis, Lin. S. P. 72.
Common foxtail grass.

Fields and pastures; perennial; May.
Culm 2 feet high, thick, very smooth; leaves broad, long; sheaths smooth; ligula short, blunt; spike 2 or 3 in. long, whitish.

b. lobatus. Spike much lobed.

Spathelles rather acute, villous; awn as long as the spathelles; spike ovate; peduncles branched, manyflowered; culm upright, smooth; root creeping.

Alopecurus ovatus, Knapp Gram. 15.

Scotch Alps; perennial; June and July.
Culm 1 foot high, upright; radical leaves linear, slender; stem-leaves short, broad, acute; sheaths long, bellied; ligula short; spike blunt, whitish.

c. Spathelles free; keel ciliated.

Spathelles acute, villose; awn longer than the spathelles; spike cylindrical, attenuated; culm upright, bulbose at bottom.

Gramen myosuroides nodosum, Rail Syn. 397, 3.
Alopecurus bulbosus, Lin. s. P. 1665.
Alopecurus geniculatus ß, Hud. Pl. Angl. 27.

Salt-water marshes; perennial; July.
1. **Pl. end. ph.** 10. **GRAMINEÆ.** 85. **Alopecurus.** 143

**Alopecurus geniculatus.**

*Roeis* in tufts; *culm* 9 in. high, smooth; *radical leaves* smooth, short; *stem-leaves* smooth, linear, spreading; *ligula* short; *spike* 2 in. long, dark sea-green; *anthers* deep greenish blue.

5. **Alopecurus geniculatus.**

*Spathelles* blunt, villose; *awn* longer than the *spathelles*; *anthers* linear; *spike* cylindrical, blunt; *peduncles* scarcely branched, 1 or 2-flowered; *culm* ascending, knee-jointed.

**Gramen** alopecuroides q. **Gramen** aquaticum geniculatum spicatum, *Raii Syn. 396, 2. 1.*

**Gramen** fluviatile spicatum, *Ger. em. 14.*

**Gramen** aquaticum spicatum, *Park. 1275.*

**Alopecurus** geniculatus, *Lit. 8. P. 89.*

**Watery places; perennial; May and June.**

**Root fibrous; culm** floating, very long, leafy, lower joint rooting; *leaves* rather smooth; *ligula* short; *spike* short, purplish; *anthers* linear oblong, purple, becoming dull yellow.

β. **bulbosus.** **Culm** rather upright, bulbous at bottom; *spike* dark green.

6. **Alopecurus fulvus.**

*Spathelles* blunt, villous; *awn* as long as the *spathelle*; *anthers* nearly round; *spike* cylindrical; *peduncles* branched, manyflowered; *culm* ascending, knee-jointed.

**Gramen** alopecuroides q. **Gramen** fluviatile album *Tabernæmontani,* *Dillen in Raii Syn. 396, 2.*


**Duck-grass.** *Spike* flote-grass.

**Watery places; perennial; August and September.**

**Root fibrous; leaves** broader than those of **alopecurus geniculatus; sheaths** inflated; *spike* 2 in. long, pale green; *anthers* fine orange, becoming quite white; *awn* very slender, soft.

**XLV. 86. PSAMMA. Beauvois.**  

**Marram.**

*Spathelles* alternate, acute, lower smallest; *spathellules* hairy below the tip, mucronate, nearly as long as the *spathelles*, acute; *lodicule* lanceolate, awlshape, acute, bald; *ovary* topshaped, rather 3-sided; *style* 3-parted; *stigma* 3; featherlike; *cariopsis* top-shape, rather 3-sided, free; *corculum* terminal?—*Spike* branched, erect, cylindrical; *peduncles* branched, very short; *locustae* many, crowded.
Psamma arenaria.  
Spike long; leaves involute, pungent; root creeping.
Gramen spartenum spicatum folis mucronatis longioribus, vel spicâ sectatina, Rauí Syn. 393, 1.
Spartum Anglicanum, Ger. em. 38.
Spartum marīnum nostras, Park. 1198.
Arundo arenaria, Lin. S. P. 121.
Ammophīlla arundinacea, Host Gram. Austr. 4, 41.

Sandy sea-shores; perennial; July.
Roots spreading; culm 4 feet high, stiff, leafy; leaves upright, spreading, glaucous, very smooth, bald; sheaths smooth; ligula long, acute; panicle 6 in. long; locustæ light glaucous green.

XLVI. 87. SPARTINA. Schreber.  
Sea-grass.
Spathelles alternate, very acute; lower smallest; spathellules 2-cut, nicked, toothed, shorter than the spathelles, awnless; lodiciule rather truncated, fringed; style very long; stigmata 3, villous.—Spike branched; spikelets alternate; locustæ 1-sided, sessile, in two rows.

Spartina stricta.  
Rough sea-grass.
Spathelles rather longer than the spathellules, keel rather smooth; spikelets adpressed; locustæ loosely tiled, upright; leaves convolute, pungent.
Gramen spartenum, q. Spartum Essexianum, spicâ gemina clausa Petiver, Rauí Syn. 393, 4.
Dactylis cynosuroides, Huds. Fl. Angl. 43; but not of Linnaeus.
Dactylis stricta, Solander in Ait. Hort. Kew. 6, 104.
Limnetis pungens, Persoon Syn. 1, 72.
Spartina stricta, Roth N. Beitr. 101.

Marshy fields at the mouth of large rivers; per.; July, Aug.
Root creeping; culm upright, 2 feet high, not branched, stiff, very smooth; leaves stiff, upright; sheaths long, very smooth, shining, very close to the culm, upper partly enclosing the lower spikelet; ligula very short; spikelets 2, hairy, soft; spathelles mostly mucronate below the tip.

β. triplex. Spikelets three.

XLVII. 88. VILFA. Adanson.  
Bent.
Spathelles alternate, not notched, rather longer than the spathellules, lower largest; lower spathellule 3-cut, toothed, acute or ending in a bristle; upper 2-cut; lodicule acute; stamens (1 to) 3; style 2-parted, short; stigmata villous; cariopsis free, not furrowed.—Panicle branched, more or less contracted or effused; peduncles semiverticillate.

*Culm* creeping, branched, rooting; *panicle* loose, spreading; *spathelellae* smooth, nearly equal, toothed, serrulate; *locustae* lanceolate; *leaves* flat, rough; *sheaths* smooth.

*Gramen miliaecum majus panicula spadicea*, Rait Syn. 405, 11.

*Gramen miliaecum majus panicula viridi*, Rait Syn. 401, 12.

*Agrostis alba*, Lin. S. P. 93.


_Marsh bent grass_. *White Squitch*. *Squitch*.

Marshes and woods; perennial; July.

_Root_ creeping, thick, white; *culm* naked above, 3 feet high, smooth; _ligula_ obtuse.

_β. conferta_. Short; _peduncles_ crowded at bottom, long, naked, not branched; _both spathelellae_ serrate on the back.

_γ. ramosa_. Short; _peduncles_ crowded at bottom, long, naked, branched; _upper half_ only of the inner _spathelellae_ serrate.

_δ. nuda_. _Peduncles_ all naked at bottom, and branched; _upper half_ only of the inner _spathelellae_ serrate.

_ε. sylvatica_. _Glumes_ and _glumelles_ growing longer after flowering; _lower branch_ of the _panicle_ naked at bottom.


*Agrostis polymorpha*, Huds. Fl. Angl. 32.


_Stolones_ creeping, branchy; _culm_ upright; _panicle_ scattered, fewflowered; _locustae_ lanceolate; _peduncles_ bare at bottom; _spathelellae_ unequal; _upper part_ of the lower _spathelellae_ serrulate; _upper spathele_ smooth; _leaves_ nearly smooth, slender; _sheaths_ smooth.


*Agrostis stolonifera*, Leers Herb. 26; not of Linnaeus.

_Black squitch_.

_Woods_ and moist places; perennial; July.

_Culms_ many, slender, 2 feet high; _leaves_ flat, weak; _ligula_ blunt; _panicle_ 2 to 4 in. long; _peduncles_ deep purple; _locustae_ brown, scattered.


_Culm_ creeping, taking root, branchy; _panicle_ compact, lower branches spreading, densely crowded at bottom with flowers; _locustae_ ovate, lanceolate; _spathelellae_ nearly equal, pubescent; _lower spathele_ serrulate at the upper part; _leaves_ flat.
Fields and damp pastures; perennial; July and August.
Root fibrous; culm smooth, blackish purple; leaves rough; sheaths rather smooth; ligula rounded; panicle upright, rather 1-sided; spatheles rather blunt, purplish.

Culm upright; panicle hairlike, upright, spreading; peduncles three-forked, naked at bottom; pedicells upright, locustae ovate, crowded; outer spathele serrate at the tip; inner smooth; inner spathele very short, blunt; stem-leaves rough; sheaths very smooth; ligula truncated.

Culm upright; panicle spreading out wide; peduncles hairlike, naked above half their length, 3-forked; pedicells spread out wide; locustae ovate, spread; outer spathele serrulate; inner smooth; inner spathele very short, obtuse; stem-leaves rough; sheaths very smooth; ligula truncated.
Agrostis tenella, Hoffm. Germ. 3, 1, 36.
Agrostis divaricata, Hoffm. Germ. 3, 1, 37.
Agrostis capillaris, Wild. S. P. 1, 369.
Agrostis vulgaris tenella, Gaud. Agr. Helv. 84.
Agrostis vulgaris seminuda, Knapp Gram. 115.

Fields and meadows; perennial; July.

Culm 2 feet long; leaves slender; panicle pyramidal, large; peduncles rather rough; locustae pale; style falling off.

p. pumila. Culms 2 in. high, in tufts; cariopsis long, covered with a dust (ustilago?) style remaining.

Agrostis divaricata; var. Hoffm. Germ. 3, 1, 37.

In barren ground.

XLVIII. 89. AGROSTIS. Theophrastus. Fiorin.

Spathelles alternate, membranous, longer than the spathellules, nearly equal or lower largest; lower spathellule 2-cut at the tip, lobes often nicked, awned below the middle; awn plafted, twisted; upper much shorter, 2 or 4-cut, toothed; lodicule obovate, not nicked, smooth; style short, 2-parted; stigmata villous; cariopsis free, not furrowed.

—Panicle branched more or less, contracted or effused.


Spathelles nearly equal; tip of the outer serrate; of the inner smooth; panicle upright, spreading; peduncles hair-like, three-forked; pedicels upright; locustae ovate, crowded; awn twice the length of the spathellule; culm upright.

Agrostis canina, Leers Herb. 21.
Agrostis vulgaris; var. Smith Fl. Brit. 79.
Agrostis capillaris; var. Vill. Delph. 2, 73.

Fields; perennial; July.

Culm 18 in. high, branchy at bottom, smooth; stem-leaves rough; ligula truncated; panicle 3 in. long, coloured; peduncle naked at bottom, smooth; locustae coloured.


Spathelles nearly equal; tip of the outer serrate, of the inner smooth; panicle spreading; peduncles hairy-like, three-forked; pedicells spread; locustae ovate, spread; awn twice as long as the spathellules; culm upright.

Agrostis vulgaris γ; var. Smith Fl. Brit. 80.

Fields; perennial; July.
Root creeping; culm 18 in. high, smooth, branchy at bottom; ligula very shortly truncated; panicle oblong, becoming pyramidal; peduncles rather long, naked; locustae pale.

ß. pumila. Culms in bundles, 2 in. high; cariopsis long, covered with a dust (ustilago?)

3. Agrostis pubescens. Downy flax. Spathelles nearly equal, pubescent, tip of the outer spathelle serrate, of the inner smooth; panicle contracted; peduncles short; locustae lanceolate, crowded; awn short; culm branchy, upright.

Fields and pastures; perennial; July, August.

XLIX. 90. APÆRA. Adanson. Silk-grass. Spathelles alternate, nearly equal, rather longer than the spathellules; lower spathellule not nicked at the tip, bristled below the tip; upper 2-cut, toothed; lodicule lanceolate, not nicked, bald; stamens 1 or 3; style short, 2-parted; stigmata villous; cariopsis free, husked, not furrowed.—Panicle branched, large.

1. Apæra effusa. Large-panicled silk-grass. Panicle spreading, rather 1-sided, manyflowered; shorter peduncles crowded with flowers; longer naked at bottom; leaves smooth; culm upright; awn 5 times as long as the spathellules.

Gramen miliaecum majus, glumis aristatis, spadiceis et pallidis, Raît Syn. 405, 17.
Gramen arundinaceum, Ger. cm. 5.
Gramen agrorum spica venti, Park. 1158.
Agrostis Spica venti, Lin. S. P. 91.
Apera Spica venti, Palis. de Beauvois.

Corn-fields in moist sandy soils; annual; June and July. Root fibrous; culm smooth, 3 feet high; leaves rather smooth; sheaths smooth; ligula torn; panicle very large; locustae minute, green or yellowish.

2. Apæra palustris. Marsh silk-grass. Panicle spreading, manyflowered; shorter peduncles crowded with flowrets; longer naked at bottom; awn shorter than the spathellules; culm creeping, taking root; leaves rough.
Swampy places; perennial; June and July.
Culm rather smooth, branched; leaves broad; sheaths rough; ligula rough, long; panicles 6 in. long; spatheles equal; keel serrate, of the inner only half way down; spatheles one fourth shorter than the spatheles, the inner shorter and narrow.

L. 91. AGRAULUS. Beauvois.

Field-grass.
Spathelles alternate, longer than the spathellule, nearly equal; spathellule 1, nicked at the tip, awned below the middle; awn twisted, plaited; lodicule ovate, lanceolate, bald, not nicked; stig mata villous; cariopsis free, furrowed.
—Panicle more or less spreading; radical leaves bristlelike; stem-leaves flat, broad.


Tips of the outer spathelle serrate, of the inner smooth; glumelles naked; locustæ ovate, acute, coloured; panicles spreading; peduncles 3-forked, manyflowered; leaves in bundles, smooth; culms ascending.

Agrostis canina, Lin. S. P. 92.
Agrostis vinealis, Schreber Spic. 57, 977.
Ischodium caninum, Schrader Germ. 198.

Damp fields and pastures; perennial; July.
Culm prostrate, often branched, leafy, smooth; leaves flat, smooth; uppermost broader, rough; sheaths short; upper very long, roughish; ligulæ long, obtuse, fringed; panicle upright, hispid; locustæ small, violet.


Keel of the outer spathelle serrate, of the inner at the tip only; glumelles naked; locustæ lanceolate, pale; panicle rather spreading; peduncles branchy, fewflowered; leaves rough.

Agrostis pallida, With. 169.

Forests; perennial; May and June.
Culm 18 in. high, smooth; ligulæ long, acute; panicle 3 in. long; peduncles capillary; locustæ pale green.


Spathelles serrate at the tip; spathellules hairy at bottom; locustæ lanceolate; panicle contracted; peduncles upright, manyflowered; culm ascending.
Agrostis setacea. Curtis Lond. 6, 12.
Agrostis mutabilis, Sibth. Oxj. 16?

Dry heaths; perennial; July and August.

Culm 1 foot high; leaves pale, rather glaucous; radical leaves in tufts, upright; ligula long, torn; panicle whitish; peduncles branched, rough, semiverticillate; spatheles slender, acute; spatheles mucronated at the tip; awn longer than the spathele.

γ. purpureus. Locustae slightly coloured.

LI. 92. ACHNATHERIUM. Beauvois. Bushgrass.

Spatheles alternate, lower largest; spatheles membranaceous; lower slightly nicked, awned; upper not nicked, pointed; awn terminal, not jointed, plaited, twisted; lodicule lanceolate, not nicked, bald: style short, 2-parted; stig mata villose; cariopsis furrowed.—Panicle branched, loose.

Achnatherium lanceolatum.

Spear bushgrass.
Panicle diffuse; locustae rather spread, upright; spatheles lanceolate, longer than the awn; culm rather branched; leaves linear.

Arundo q. Calamagrostis minor glumis ruffis et viridibus Petiveri, Dillen in Rar Sym. 401, 3.
Arundo Calamagrostis, Lin. S. P. 121.
Arundo epigejos, Huds. Fl. Ang. 54.
Calamagrostis lanceolata, Koel. Gram, 58.

Wood and hedges; perennial; July.

Root fibrous; culm erect, 4 feet high, leafy, very smooth; leaves slender, pointed, light green; sheaths long; ligula lanceolate; panicle rather upright; locustae small, purple or light brown.

γ. pilosum. Leaves hairy above.

LII. 93. CALAMAGROSTIS. Dioscorides. Reedgrass.

Spatheles alternate, very acute, longer than the spatheles; lower largest; spatheles membranous, often villous; lower 2 or 4-toothed; bristled between the teeth; upper 2-cut, toothed; bristle awlshape; lodicule lanceolate, not nicked, bald; style short, 2-parted; stig mata villous; cariopsis free, not furrowed.—Panicle branched, becoming effused.
1. *Calamagrostis epigejos*. Creeping reedgrass. 

Panicle upright; *locustae* imbricate, bundled, facing one way; *spathelles* longer than the spathellules, linear, bristled; bristle shorter than the hairs; leaves lanceolate; *ligula* long.


*Gramen tomentosum arundinaceum*, *Ger. em. 9.*

*Calamagrostis sive Gramen tomentosum*, *Park. 1182.*

*Arunundo epigejos*, *Lin. S. P. 120.*

*Arunundo calamagrostis*, *Huds. Fl. Ang. 54.*


Banks and damp woods; perennial; July.

Root jointed, creeping; *culms* in bundles, upright, 6 feet high; leaves very long, bald, dry, glaucous; *sheaths* long, bald; *ligula* lanceolate; *panicle* manyflowered, oblong, green or blackish violet, becoming grey, woolly; *locustae* long, drooping.


Panicle upright, spread; *locustae* upright, spread; spathelles the same length as the spathellules; bristles and hairs shorter than the spathellules; leaves linear; *ligula* very short, truncated.

*Arunundo neglecta*, *Ehrh. Calam. 118.*

*Arunundo stricta*, *Schrad. Germ. 1, 215.*

*Calamagrostis neglecta*, *Flor. Wett. 1, 84.*

Marshy places; perennial; June.

Root creeping; *culm* 2 feet high, ascending, slender, bald; leaves narrow, acute, rough above and on the edge, when dry convolute; *sheaths* bald, *ligula* not notched; *panicle* slender, 3 to 6 in. long, purplish or reddish brown; glumes acute, not bristled.

LIII. 94. GASTRIDIUM. Beauvois. Lentil-grass.

Glumés 1-flowered; spathelles alternate, bellied at bottom, 3 times as long as the spathellules; lower largest; spathellules leathery, hardening; lower 3 or 4-toothed, bristled beneath the tip; upper 2-cut, toothed; *style* short, 2-parted; *stigmata* hairy; cariopsis husked. — Panicle branched, contracted, approaching to a spike shape.

Gramen panicum q. Panicum serotinum arvense, spicà pyramidàta
Tounefort, Rail Syn. 394, 4.

Milium lendigerànum, Lin. S. P. 91.


Agrostis rubra, Huds. ed. 1, 26.


Agrostis ventricosa, Gouan Hort. 39.

Agrostis panicà, Lamarch Enc. Meth. 1, 58.


Sandy meadows and pastures; annual; August.

Root fibrous; culm branchy, upright, very smooth; leaves flat, slender, short, bald, rough; sheaths smooth; ligula long, 2-parted; panicle greenish white; pedicels branched; locustae crowded.

LIV. 95. POLYPOGON. Desfontaines. Beards.

Glumes 1-flowered; spatheles alternate, nearly equal or lower largest, much longer than the spatheles, slightly nicked and with a long bristle at the tip; spatheles cartilaginous; lower not notched, bristled below the tip; upper 2-cut, toothed; bristle of the glumelle straight, herbaceous; style 2-parted; stigmata villous; cariopsis free, not furrowed.

—Panicle branched, contracted, nearly spikeshape.

1. Polypogon littoralis. Shore beards.

Spatheles smooth; bristle scarcely longer than the spatheles; culm decumbent; root creeping.

Agrostis lutosa, Poiret Enc. Meth. Sup. 1, 949.


Salt marshes; perennial; August.

Culm decumbent at bottom, 12 in. high, smooth; leaves broad, flat, rough; ligula pubescent, torn; panicle close, lobed; locustae white, green or purple at the tip.


Spatheles pubescent, hispid; bristles 3 times as long as the spatheles; culm erect; root fibrous.

Gramen alopecuroides, q. Alopecurus maxima Anglica Parkinson, (1166), Rail Syn. 396, 4.

Alopecurus altera maxima Anglica paludosa, Ger. em. 88.

Alopecurus Monspeliensis, Lin. S. P. 89.


Agrostis panicà, Willh. S. P. 1, 363.

Agrostis tri-ariàsta, Knapp Gram. 23.
Damp fields on sea-coasts; annual; July and August.

Root small; culms many, 18 in. high, smooth, bald; leaves striated; sheaths long, bald; ligula torn; panicle upright, lobed, branched; locustae numerous, crowded, 1-sided, greenish yellow.

\[\beta.\  pani\ce.\  Culm\ 6\  in.\  high;\  panicle\  very\  small,\  scarcely\  lobed.\]

*Alopecurus pani\ceus*, Lin. *S. P.* 90.
*Cynosurus pani\ceus*, Lin. *S. P.* *ed.* 1,73.

LV. 96. LAGURUS. Linnaeus.  
Hares-tail.

Glumes 1-flowered; spathelles alternate, linear, rough-edged, longer than the spathellules, nearly equal or lower smaller; lower spathellule 2-bristled at the tip, awned on the back above the middle; upper not nicked; awn twisted, bent; lodicule ovate, not nicked, bald; style short, 2-parted; stigmata hairy; cariopsis free, not furrowed. — *Panicle* branched, spikeshape.

*Lagurus o\ ceus*.  
Egg-shaped hares-tail.

Spike ovate, drooping; leaves pubescent; awn twice as long as the spathelle.

*Lagurus o\ ceus*, Lin. *S. P.* 119.

Sandy fields; annual; June.

Culm solitary, 18 in. high, ascending, bald, naked above; lower leaves lanceolate, acute; upper ovate; sheaths long, bellied below; ligula oblong; locustae many, crowded; spathelles ciliated.

G. STIPA\CE.  
Rachis panicled; locustae solitary, one-flowered; spathelles membranaceous; lower spathellules slendered, leathery; upper not 2-keeled, involving, awned; stigmata 2.

LVI. 97. STIPA. Linnaeus.  
Feather-grass.

Spathelles membranaceous, longer than the spathellules; spathellules cartilaginous; lower convolute, awned at the tip; upper not nicked; awn long, jointed, falling off; lodicule oblong, not nicked, bald; stamens 1 or 3; style short, 2-parted; stigmata villous; cariopsis free, furrowed. — *Panicle* scarcely branched, loose.
Stipa pennata.

*Feathered feather-grass.*

*Lower spathellule smooth at bottom.*

Gramen spartenum pennatum, Dillen in Raii Syn. 393, 3.

Stipa pennata, Lin. S. P. 115.

Limestone rocks; perennial; July. A doubtful native.

Roots in tufts; culm not branched, 1 foot high, upright, without joints; leaves involute, bristlelike; ligula lanceolate; *locustæ* 4 or 5, very large; awn 6 to 10 in. long, acute, angular; hairs soft, pellucid.

H. **Paniceæ.** *Rachis* spiked or panicled; *locustæ* solitary, or many in pairs, 1-flowered; *flowrets* 1 barren, or unisexual; spathellules often stronger than the spathelles, more or less cartilaginous; *lower spathellule* semi-involute, awnless or rarely awned, not keeled; *stigmata* 2.


LVII. 98. **MILIUM.** Pliny.

*Millet.*

*Spathelles* herbaceous, longer than the spathellules, lower largest; *spathellules* leathery, hardened, placed somewhat contrary to the spathelles; *lodicule* lanceolate, not nicked, bald; ovary 2-cut; style 2 parted; *stigmata* aspergilliform; *cariopsis* free, 2-horned, wrapped in the persisting spathellules, not furrowed. *Panicle* branched, loose.

**Millium effusum.**

*Loose millet.*

*Locustæ* ovate, spreading; spathelles bald; *panicle* semi-verticillate.

Gramen miliaceum, Raii Syn. 402, 1; Ger. em. 6.

Gramen miliaceum vulgare, Park. 1153.

Millium effusum, Lin. S. P. 90.

Agrostis effusa, Lamarck Enc. Meth. 1, 59.

*Millet grass.*

Damp woods; perennial; June and July.

Root rather creeping; culm upright, 3 feet high; leaves long, dark green, drooping; sheaths bald, round; ligula obtuse, torn; *panicle* large, pyramidal, few-flowered; peduncles naked below far up, becoming reflexed; pedicells thickened; *locustæ* small, green; herb odoriferous while drying.

_Spathelles_ alternate, truncated, fringed, longer than the spatellules, lower smallest; lower spatellule torn; jagggs bristled; upper not nicked; ovary beaked; beak naked; stigmata villous; cariopsis free, not furrowed.—Spike simple, few-flowered; rachis flexuose; locustaœ nearly sessile.

_Mibora verna._ Spring dwarf-bent.

Spike filiform; locustaœ elliptical, large and truncated at top.

_Gramen minimum_ Anglo-Britannicum Lobelii, Raui Syn. K k 7. _Mibora verna, Adanson._

_Knappia agrostidea, Smith Fl. Br. 1387._

_Agrostis minima, Lin. S. P. 93._

_Sturnia minima, Sturm. Fl. Germ. 7, 1._

_Chamaagrostis minima, De Cand. Syn. Fl. Gall. 1650._

_Nardus, Guett._

_Sturnia verna, Persoon Ench. 1, 72._

_Sandy shores; annual; April and May._

_Root fibrous; culm upright, 2 in. high, scaly and leafy at bottom, naked smooth and knotless above far up; leaves hairlike, blunt, glandular, spotted; sheaths very short; ligula long, blunt; spike violet, 6 or 8-flowered._

b. _Locustaœ_ 2 or many-flowered; one barren.

LIX. 100. DIGITARIA. Haller. Fingers.

_Spathelles_ alternate; lower very small, often scarcely visible; lower flowret neuter; spatellule one, herba-
ceous, awnless; upper hermaphrodite; spatellules rather leathery, hardening, awnless; style 2-parted; stigmata aspergilliform; cariopsis free, very slightly furrowed.—Spikelets simple, linear, digitate or in bundles, with a flattened membranaceous back; locustaœ 1-sided; pedicells 2 or many-flowered.

1. _Digitaria sanguinalis._ Bloody fingers.

_Spikelets_ digitate, 3, 4, or 6; inside smooth at bottom; between upright and spreading; locustaœ elliptical; spatelles very unequal; leaves and sheaths slightly papillose.

_Gramen dactylon latiore folio, Raui Syn. 399, 2._

_Ischaemom sylvestre latiore folio, Park. 1178._

_Ischaemom vulgaris, Ger. em. 27._

_Panicum sanguinale, Lin. S. P. 84._

_Digitaria sanguinalis, Scop. Carn. 72._

_Syntherisma vulgaris, Schrad. Germ. 1, 161._

_Paspalum sanguinale, Poiret Enc. Meth. 5, 33._

_Cocks foot grass._
Digitaria. 10. GRAMINEÆ.  

*Pl. end. ph.*

Fields; annual; July and August.

Culm lying down, branchy, smooth, joints villous; *leaves* smoothish, 7 or 9-ribbed; *sheaths* broad, often spotted; *ligula* very short, fringed; *spikelets* 1-sided; *peduncles* short, 2-flowered, one nearly sessile; *locustae* green or purple.

2. *Digitaria glabra.*  
Bald fingers.

*Spikelets* mostly in pairs; inner knotted and forked at bottom; *locustae* ovate; *spathelles* nearly equal; *sheaths* and *leaves* bald.

*Panicum filiforme,* Jacquin *Obs.* 3, 70.


*Paspalum ambiguum,* De Cand. *Syn.* Fl. Gall. 1505

*Syntherisma glabrium,* Schrad. *Germ.* 1, 163.

*Panicum geminatum,* Gaed. *in Seringe* Cat. 8.


Sandy fields; annual; July and August.

*Culms* in tufts, smooth, shining; *leaves* short, soft, bald; *ligula* short, torn; *spikelets* facing one way; *rachis* flexuous; *peduncles* very short, 2-flowered; knees at the bottom subpellucid.

LX. 101. SETARIA. Beauvois.  
*Bristlegrass.*

*Spathelles* alternate, lower very small; *spathellules* leathery, hardened; lower *spathellule* pointed; lower floweret neuter or male; *lodicule* very blunt, almost sickleshaped; *ovary* nicked; *stigmata* aspergilliform; *cariopsis* free, enclosed in the persistent *spathellules.*—*Panicle* simple, spikeshape; *locustae* involucrated with 2 or more bristles.

1. *Setaria verticillata.*  
Whorled bristlegrass.

*Locustae* in whorls, by fours; *involucrum* 1-flowered, 2-bristled; *culm* diffused; *bristles* rough with reflexed teeth; *cariopsisides* smoothish.

*Gramen panicum spicû aspera,* Raî *Syn.* 394, 3.

*Panicum verticillatum,* Lin. 8, P. 82.

*Pennisetum verticillatum,* Brown *Prod.*

*Setaria verticillata,* Pal. de Beauv.

Corn fields; annual; August and September.

*Root* fibrous; *culm* branchy, ascending, rather compressed, bald, prickly above; *leaves* broad, 9-ribbed, bald; *sheaths* smoothish; *ligula* hairy; *panicle* green, with whorls at intervals at bottom; *locustae* smoothish.

β. *brevisetâ.*  
Bristles of the involucrum short, and scarcely longer than the *locustae.*

*Lolostae* crowded; involucrum 2-flowered, 8 or 10-bristled; bristles with upright teeth; cariopsides wavy crosswise.

*Panicum glaucum, Lin. S. P. 89.*

*Setaria glauca, Pat. de Beauvois.*

River-side by Wandsworth, near London; along with echinochloa crus-galli and *Fagopyrum* erectum; Aug. 1819.

Culm ascending; leaves scarcely visibly 9-ribbed; hairy on the back at bottom; sheaths smooth; *ligula* long, hairy; panicle rather thick, scarcely lobed.


*Lolostae* crowded; involucrum 2-flowered, 6 or 8-bristled; bristles rough with upright teeth; cariopsides very minutely dotted; panicle slightly lobed.

*Grauen panicum, spica simplici laevi, Ralf Syn. 393, 1.*

*Panicum sylvestre spica simplici,* Park. 1154.

*Grauen panicu effigie, spica simplici, Ger. em. 17.*

*Panicum viride, Lin. S. P. 89.*

*Panicum Crus-galli, Flora Dan. 852.*

*Setaria viridis, Pat. de Beauvois.*

*Panicum Germanicum, Host Gram. 2, 15.*

Sandy fields; annual; July.

Culms ascending; leaves many-ribbed; panicle cylindrical, sometimes interrupted at bottom, white or purplish; bristles 2 or 3 times as long as the *loloetae.*

3. *major.* Plant larger.


*Spathelles* hairy, acute; lower very small, convolute at bottom; lower flowret male or neuter; *spathellules* 2, herbaceous, hairy; lower either long-pointed or bristled; upper 2-cut, toothed; upper flowret hermaphrodite; *spathellules* leathery, hardened; lower pointed; lodicule subovate, not nicked; ovary nicked; style 2-parted; stigma aspergilliform; cariopsis 2-horned, free, not furrowed, inclosed in the persisting *spathellules.*—*Spike* branched; *spikelets* alternate; *loloetae* 1-sided.

*Echinochloa Crus-galli.* Cocks-foot hedgehog-grass.

*Spikelets* facing one way, alternate or in pairs, subdivided; peduncles 5-angled, smoothish; leaves linear, lancolate.

*Grauen panicum spica divisa, Ralf Syn. 394, 2.*

*Panicum vulgare, Ger. em. 85.*

*Panicum sylvestre herbariorum,* Park. 1154.

*Panicum Crus-galli, Lin. S. P. 84.*

*Echinochloa Crus-galli, Roemer Syst. Veg. 2, 473.*

*Milium Crus-galli, Moench Meth. 203.*
Corn-fields by rivers; annual; August.

Culm smooth; leaves soft, broad, 7 or 9-ribbed; sheaths smooth, bald; ligula a yellow spot; spike doubly branched, green or purple; peduncles flexuous; locustae ovate, acute; spatheles either long-pointed or with a short bristle.

8. aristata. Bristle 8 or 10 times as long as the spatheles.

Fam. VI. 11. RESTIACEÆ. R. Brown.

Perigonium free, 2 to 6-parted, rarely none; stamens definite, 1 to 6, when 2 or 3 opposite to the lobes of the 4 or 6-parted perigonium; ovary 1 or many-celled; cells 1-seeded; ovules pendulous; pericarp capsular or nutlike; seeds inverse, albuminous; perisperm fleshy, same shape as the seed; corculum basillary, lenticular, on the outside of the perisperm, opposite to the umbilicus.—Culm herbaceous, naked or sheathed; leaves simple, slender; sheaths cut, one edge overlapping the other; flowers aggregate, mostly dichinous; bractæ distinct.

I. 103. ERIOCAULON. Gronovius. Pipewort.

Head androgynous; bractæ 1-flowered, outermost often empty, involucrating; perigonium 4 or 6-lobed; lobes in a double series; male in the centre; inner lobes of the perigonium connate below; stamens 4 or 6; anthers 2-celled; female in the circumference; inner lobes of the perigonium distinct; style 1; stigmata 2 or 3; capsule 2 or 3-celled, 2 or 3-lobed, opening at the prominent angles; seeds one in each cell, pendulous.

Eriocaulon septangulare. Seven-angled pipewort.

Scape streaked; leaves cellular, compressed, swordshape, bald, shorter than the scape; head globose; external bractæ empty, bald; inner bractæ and perigonium hairy, fringed at the tip; stamens 4.

Eriocaulon decangulare, Lightfoot Pl. Scot. 569. 

Lakes in the Hebrides; perennial; September.

Herb reticulately cellular; roots simply fibrous, jointed; scape erect, a span high, single, 7-angled, leafless; leaves many, radical; head hemispherical, white and black; bractæ scariosæ; flower snow-white with 2 black spots, tip feathered; anthers black; capsule 2-celled.
Fam. VII. 12. JUNCEÆ. De Candolle.

_Flowers_ hermaphrodite, or diclinous; _perigonium_ free, often glumaceous, 6-sepaled; _stamens_ 6, rarely 3; _filaments_ inserted in the base of the sepals; _anthers_ 2-celled; _ovary_ 1; 3-celled, many-seeded, seeds on the partitions; or 1-celled, 3-seeded, seeds at the base; _style_ 1; _stigmata_ 1 or 3; _capsule_ 3-valved, valves partition-bearing; _spermodermis_ neither crustaceous, nor black; _perispem_ cartilaginous; _corculum_ enclosed.—_Root_ annual or perennial, mostly fibrous; _rhizoma_ often creeping; _leaves_ sheathing, or approaching to sheathing; _flowers_ panicled or corymbose, rarely spiked.

*Flowers in a round, lateral spike.*

_Perigonium_ 6-cut; _style_ 0; _capsule_ 3-angular, 3-celled....................... _Acorus_. 104.

*Flowers in a corymb or panicle.*

_Filaments_ naked; _caps._ 1-celled, 3-seeded _Luzula_. 106.

_Filaments_ naked; _caps._ 3-celled, many-seeded; _stigmata_ 3.................. _Juncus_. 105.

_Filaments_ woolly; _caps._ 3-celled, many-seeded; _stigma_ 1, capitate........ _Abama_. 107.

I. 104. _ACORUS_. Dioscorides.  

_Sweetflag._

_Spadix_ cylindrical, lateral, tessellated with flowers; _perigonium_ glumaceous, 6-lobed; _stamens_ 6; _style_ 0; _capsule_ 3-angular, 3-celled, 1-seeded.—_Rhizoma_ creeping; _leaves_ swordshape, sheathing one another at bottom; _spadix_ from the side of the leaf.

_Acorus undulatus._  

_Wavy sweetflag._

_Floral leaf_ much longer than the spike.

_Acorus verus_, sive Calamus officinarum, _Park._ 140; _Raii Syn._ 497, 1.

_Acorus verus officinis falso calamus_, _Ger._ em. 62.

_Acorus calamus_, _Lin._ s. _P._ 462.


_Banks_ of rivers; _perennial_; _June_.

_Spadix_ 3 in. long, close covered with florets in a spiral line; _leaves_ very large, 3 or 4 feet long; _root_ aromatic.
II. 105. JUNCUS. Pliny.

Perigonium 6-parted, glumaceous, persisting; bracteola 2 or 3-leaved; stamens 3 or 6; stigmata 3; capsules 3-celled, 3-valved; dissepsiments median; seeds on the dissepsiments. —Plants cespitose; roots fibrous or creeping, annual or perennial, in tufts; culm simple and leafless, or branched and leafy; sheathing at bottom; leaves none except the barren culms; or few, roundish, channelled, knotty, jointed, or smooth; flower terminal or lateral, in a panicle or corymbus; lowest peduncle longest; bracteae membranaceous, pungent or leaflike.

a. Culm naked.


Culm naked, pungent; panicle lateral; bracteae spinous; capsules mucronate, roundish, double the length of the perigonium.

Juncus acutus capitulis sorghi, Rail Syn. 431, 1.
Juncus maritimus capitulis sorghi, Park. 1192.
Juncus acutus, Lin. S. P. 463.
Juncus maritimus, Lamarck Encyc. Meth. 3, 253.
Great sharp searush.

Sandy shores of the sea; perennial; July.

Root fibrous; stem 3 feet high, stiff, pointed; barren stems shortest; panicle branched, many-flowered; bracteae membranaceous, dilated at bottom, prickling at top; flowers clustered; sepals ovate, blunt; capsule ovate, broad, roundish, 3-seeded, mucronate, shining; caruncle long, at the end of the seed.


Culm naked, pungent; panicle lateral, subproliferous; bracteae spinous; capsule oblong, acute, as long as the perigonium.

Juncus acutus maritimus Anglicus, Park. 1194; Rail Syn. 431, 2.
Juncus acutus f, Lin. S. P. 463.
Juncus acutus, Lamarck Encyc. Meth. 3, 253.
Juncus maritimus, Smith Fl. Brit. 375.
Lesser sharp sea rush.

Sea-shores; perennial; August.

Root fibrous; stem 2 feet high, glaucous; sheaths brown, polished; panicle doubly branched, slightly proliferous; bracteae membranaceous at bottom, awlshape at the tip, spinous; sepals lanceolate, acute, jagged at the tip; capsule linear, oblong; caruncle long, at each end of the seed.
Leaves none; panicle lateral, upright, slender; capsule elliptical, rather pointed, shorter than the perigonium.

Juncus acutus, Ger. em. 31; Rau Syn. 432, 3.
Juncus acutus vulgaris, Park. 1193.
Juncus inflexus, Leers Herb. 88.
Juncus glaucus, Ehr. Gram. 9, 83.

Common hard rush.

Pastures; perennial; July and August.
Root horizontal, creeping; culm in bundles, glaucous, 2 feet high, streaked above the panicle, often inflexed; sheaths obtuse, blackish brown, shining; panicle about one-third below the tip, loose, branched; peduncles very short, 1 or 2-flowered; bracteae 2 to each flower, ovate; tip scariose, pointed; lobes of the perigonium awlshape, streaked, the 3 inner shortest; capsule 3-sided, shining; seeds oblong pointed.

Leaves none; panicle lateral, conglomerate; stamens 3; capsules retuse.

Juncus laevis vulgaris panicula compactiore, Rau Syn. 432, 5.
Juncus laevis glomerato flore, Park. 1191.

Rough-headed rush.

Damp pastures; perennial; July and August.
Root horizontal, creeping; culms in tufts, rather stiff, smooth, dark green, 18 in. high, slender; sheaths smooth, oblong, obtuse, minutely streaked, ending in a short awn; panicle as it were sessile, 2 or 3-inches below the apex; pit dilated, edge scariose; common bracteae oblong, white; universal lanceolate, awned; flower small; bracteolae very minute, white, ovate, acute; lobes of the perigonium lanceolate, 2-ribbed; capsule obovate, small, retuse, 3-lobed, shining, as long as the perigonium.

Culm naked, erect; panicle lateral, effused, more than doubly branched; capsule toshape, tip rather truncate.

Juncus laevis vulgaris panicula sparsa, Rau Syn. 432, 4.
Juncus laevis panicula sparsa major, Park. 1191.
Juncus laevis, Ger. em. 39.

Common rush. Soft rush.

Moist pastures; perennial; July and August.
Juncus. 12. JUNCEÆ. Pl. end. ph.

Root black, creeping; culm 3 feet high, pale green, soft, brittle, very finely streaked; sheaths light brown, obtuse, awned; panicle very much effused and divaricated at the tip; involucrum small, white, slightly sheathing; flower small; bracteae very small, white, pointed; lobes of the perigonium lanceolate, linear; edge white; ribs 2, slightly prominent; capsule small, obovate, slightly retuse, very blunt, pale brown, not shining; style falling off.

Culm naked, threadshape, drooping; panicle lateral, scarcely branched, few-flowered; capsule roundish.

Juncus parvus, calamo supra paniculam compactam longius producto, Raii Syn. 432, 6.
Juncus filiformis, Lin. S. P. 467.
Least rush.

Mountain pastures; perennial; August.

Root creeping, horizontal, fibrous, slender, long; culm upright, threadlike, 6 in. high; tip pointed and channelled; light green; sheaths few, unequal, cut, obtuse, awned, or slightly leafy; panicle about the middle of the culm; flowers nearly sessile becoming peduncled; involucra small, scariose; upper long, bristlelike; edge of the pit broad, scariose; bracteae scariose, unequal; sepales 3-ribbed; capsule globose, obtuse, shining, the length of the perigonium.

b. Leaves channelled.

Culm naked; leaves bristlelike, channelled; panicle terminal, long; capsule obovate, obtuse.

Juncus montanus palustris, Raii Syn. 432, 7.
Moss rush. Goose corn.

Barren mountain heaths; perennial; June, July.

Root fibrous; leaves densely tufted, bristlelike, stiff, slender, pointed, smooth, dilated at bottom, sheathing; outer sheaths scaly, striped, broad; culm leafless, 12 inches long, strait, stiff, inclining to angled; panicle upright, branched, clustered; floral leaves membranaceous, cut, sheaths ending in a bristleshape leaf as long as the panicle; peduncles 1 or 2-flowered; flowrets large; bracteae ovate, acute, tip scariose; sepales nearly equal, lanceolate, obtuse; edge scariose; capsule obovate, 3-sided, obtuse, mucronate.
Culm not branched, leafy, compressed; leaves linear, edge incurved; capsule roundish, longer than the perigonium; panicule terminal, shorter than the bracteae.

Juncus parvus cum pericarpiis rotundis, Raili Syn. 433, 10.
Juncus bulbosus, Lin. S. P. 466.

Round fruited rush. Russia water-grass.

Moist fields; perennial; July.

Root creeping; culm upright, 12 in. high, simple; base cylindrical; tip compressed, smooth, leafy; leaves linear, shorter than the culm; sheaths cut, edge and tip scariose; panicle above decompound, erect, many-flowered; floral leaves upright, shortly sheathing; lowermost longer than the corymbous; flower single, at the division; sepales equal, brown, obtuse, shorter than the capsule, edge scariose; capsule round, very obtuse, mucronate.

Culm simple, leafy; leaves bristlelike, channelled; capsule obovate, obtuse, near the length of the perigonium; panicule terminal, nearly simple, longer than the bracteae.

Juncus caenosus, Bicheno T. L. S. 12, 309.
Mud rush.

Salt marshes; perennial; July and August.

Darker green than the preceding; leaves stiffer than it; edge of the inner sepales scariose; capsule rather one-sided.

Culm 2-forked, leafy; leaves angular; flowers solitary, sessile; perigonium bristlelike; sepales unequal; outer twice the length of the capsule.

Juncus palustris humilior erectus, Raili Syn. 434, 12.
Gramen juncenum, Ger. em. 4.
Gramen juncenum parvum sive Holosteum Matthioli et Gramen bufonium Flandrorum, Park. 1190.
Juncus bufonius, Lin. S. P. 466.
Toad rush. Toad grass.

Damp watery places; annual; June to August.

Root fibrous, tufted; culm below simple, above forked, round, leafy, 12 in. high; leaves shorter than the culm, slender, pale green, acute, upright; sheaths angular, edges whitish; panicle 2-forked, long; flowers solitary, 1-rowed, remote, lateral, and at the foot of the branches; sepales blackish green, ribless, edge scariose; the outer keeled; inner broad, ovate, flat; capsules elliptical, obtuse, half as long as the perigonium.
Juncus viviparus. Capsule gemmiparous.

Juncus minimus. Plant not 2 in. high.


Juncus macer. Slender junk.
Leaves linear; culm 2-forked, racemose; flowers solitary, sessile; sepals equal, setaceous, longer than the capsule.

Slender rush.
Alpine bogs; perennial; July.
Root fibrous, woolly; culm slender, 18 in. high, terminating in a few racemose forked branches, with 2 or 3 leaves at the base; radical leaves 1 or 2, much shorter than the culm, narrow, flat; edges rather involute, not channelled; flower solitary; bracteae linear, leaflike, round; valves of the capsules blunt, nicked.

Juncus trifidus. Three-cut junk.
Culm naked at bottom; capsule oblong, as long as the perigonium; bracteae foliaceous, channelled; flowers 3, terminal.

Juncus q. Gramen junceum, capsulis triangulis, minimum, Raut Syn. 434, 11.
Gramen junceum minor, Ger. em. 4.
Juncus uliginosus, Sibthorp Fl. Ox. 113.
Bulbous rush.

Juncus uliginosus.
Bog junk.
Leaves bristlelike, channelled; head 3-flowered, flowers sessile; capsule obtuse, longer than the perigonium; culm bulbose, rooting.

Moist sandy heaths; perennial; July and August.
Pl. end. ph. 12. JUNCEÆ. 105. Juncus. 165

Root fibrous; culm bulbose at bottom, leafy, slender, branching above; branches divaricated; leaves crowded, bristlelike, smooth, cellular; cells in a double row, alternating; heads 3-flowered, lateral and terminal, sessile; bracteæ small, scarioso, shorter than the flowers; sepa\les equal, lanceolate, pointed, 3-ribbed; edge scarioso, dark brown red, keel green; capsule acute, 3-sided, obtuse, opake, rather longer than the perigonium.

β. viviparus. Capsule gemmiparous, bracteæ lengthened out like the leaves.


Leaves channelled, threadshape; head 3-flowered, terminal, facing one way; bracteæ bristlelike, leafy; capsule nearly as long as the perigonium.

Juncus capitatus, Weigel Obs. Bot. 28.
Schæucus minimus, Symons Syn. 197.
Juncus verticillatus β, Willd. S. P. 2, 212.

Dwarf rush.

Bogs; perennial; July.
Root fibrous, bulbose at bottom; culm erect, simple, 3 in. high; leaves threadshape, channelled, cellular; flowers 3 together, terminal, clustered; bracteæ bristlelike, one or more, frequently leaflike, longer than the flowers, and forcing them on one side; lobes of the perigonium lanceolate, chestnut colour; capsule oblong, rather obtuse, 3-sided.

c. Leaves jointed.

Leaves cylindrical, bristlelike, rather nodosely jointed; heads 3-flowered; flowers sessile; culm bulbose, slender, rooting; capsule obtuse, longer than the perigonium.

Juncus uliginosus γ, Bicheno T. L. S. 316.
Juncus fluitans, La March Encyc. Method. 3, 270.
Juncus uliginosus, Fl. Dan. 817.
Juncus subverticillatus, Hoffm. Germ. 3, 166.

Watery places; perennial; July.
Very like isolepis fluitans; culm slender, feeble, floating; leaves long, threadshape, slender; panicle spreading, 3 or 4-flowered, subproliferous.
Leaves subulate; head terminal; flowers 3, sessile; capsules rather obtuse, as long as the perigonium; bracteae 3-leaved, as long as the flowers.

Scirpus q, Juncello accedens graminifolia planta capitulis armeriae prolifera Lhwyd, Rait S. 430, 9 §.

Juncus triglumis, Lin. S. P. 461.

Boggy places; perennial; July, August.
Culms 6 in. high; leaves rather jointed, furrowed, channelled; flowers large, erect, crowded; bracteae ovate, ribbed, light brown; 2 outer largest, opening so as to make the flowers stand all in the same plane; sepales nearly equal, obtuse, the outer brownish green, the inner paler; capsule elliptical, mucronate, obtuse, 3-sided.

Leaves awlshape; head terminal; flowers 2, one pedicelled; capsule longer than the perigonium, tip retuse; bracteae 2-leaved, unequal; upper leaflike.

Juncus biglumis, Lin. S. P. 467.

Moist alpine meadows; perennial; August.
Culm 3 in. high; leaves jointed; sheaths broad, scariose; flowers large, facing one way, one above the other; bracteae 2, unequal; upper leaflike, erect, acute, doubly striated, dark chesnut; lower shorter, ovate, rather acute; sepales acute, dark chocolate-colour; capsule long, turbinate, retuse, 3-sided; caruncle elongated at each end of the seed.

Leaves flat, stem-clasping; head terminal, mostly in pairs, many-flowered, leafy at bottom; bracteae acute; capsule longer than the perigonium.

Juncus Jacquini, Symons Syn. 87.

Micaceous rocks; perennial; July.
Root creeping; culm upright, 12 in. high, single, leafy; leaves upright, compressed, jointed; sheath keeled; heads 3 to 8-flowered, shining, blackish; bracteae membranaceous, linear; capsules oblong, pointed, 3-celled; caruncle of the seed awlshape, at each end.

Stem-leaves awlshape, knotted, jointed; panicle corymbose; head mostly 5-flowered, fasciculately whorled; capsule as long as the perigonium, obtuse; perigonium awned; culm lying down.
Juncus subverticillatus, Willd. S. P. 2, 212.
Lesser jointed wood rush-grass. Park. 1189.

Marshy places; perennial; July, August.
Culm slightly bulbose at bottom, sarmentose; 4 in. high, cylindrical, fistulous; radical leaves threadlike, jointed; stem-leaves larger, awlshape, knotty, jointed; sheaths scariosc; flowers in a corymbus, appearing proliferous, light brown; sepales lanceolate, pointed, stiff; capsules light brown, shining, mucronated.

Leaves knotty, jointed; panicle terminal, very much divided; sepales lanceolate, pointed, capsule pointed, as long as the perigonium.

Juncus nemorus, foliis articulato, Rail Syn. 433, 9.
Gramen junceum sylvaticum, Ger. em. 22.
Gramen junceum aquaticum magis sparsa paniculata, Park. 1269, 4.
Juncus acutiflorus, Ekrh. Gram. 66
Juncus articulatus, Roth. Fl. Cant. 198.
Juncus nemorus, Sibthorp Fl. Ox. 114.
Juncus sylvatica, Willd. S. P. 2, 211.

Watery places in woods; perennial; June, July.
Root fibrous, creeping; culm rather hard, leafy, slender, upright, slightly compressed, smooth, 3 feet high, joints fistular; leaves 3 or 4, on the stem, sheathing, compressed, smooth; panicle diffuse; branches long, slender, smooth; capsules 3-sided, ovate, oblong, light brown, shining.

Leaves compressed; panicle terminal, compound, upright; sepales unequal, inner obtuse; capsule 3-sided, acute, shining, longer than the perigonium.

Juncus folii articulati, floribus umbellatis, Rail Syn. 433, 8.
Gramen aquaticum, Ger. em. 12.
Gramen junceum aquaticum Bauhini, Park. 1270.
Juncus lampocarpus, Davis T. L. S. 10, 13.
Juncus articulatus, Willd. S. P. 2, 211.
Juncus compressus, Roth. Fl. Cant. 141.
Shining-fruited rush.

Boggy places; perennial; July, August.
Root creeping; culm 1 foot high, compressed, many-leaved; leaves compressed, sheathing, distinctly jointed, stiff, pointed; panicle terminal, upright; branches stiff, nearly simple; flowers 5 or 6 together, sessile.
Leaves round, knotted, jointed; panicle very much divided above, divaricated; sepals elliptical, obtuse, the length of the capsule.

Grámen junceum sylvaticum, Ger. em. 22, 9.
Juncus obtusiflorus, Ehrk. Gram. 76.
Juncus articulatus §, Smith Fl. Brit. 379, excluding the synonyms.

Stagnant watery places; perennial; July, August.

Root horizontal; culm upright, very smooth, fistulous, 3 feet high; leaves 2 or 3, long, thick, stiff, cylindrical, smooth, jointed, cellular; sheaths short, pale; ligula short, obtuse, 2-cut; corymbus terminal, very much branched, entangled; ultimate ones often retracted; flowers small, 4 or 5 in a head; edge of the sepales scariose, broad, brownish; capsules light brown, shining, oval, straight, blunt, mucronate.

III. 106. LUZULA.  

Luzula.

Perigonium 6-parted, glumaceous, persisting; bracteolæ 3 or 4, glumaceous; stamens 6, short; stigmata 3; capsule 1-celled, 3-valved; seeds 3, affixed at the base.—Root perennial; culm upright, jointed below the sheath, round, smooth, more or less leafy; leaves flat, lanceolate, edge fringed with hygrometrical hairs; sheaths smooth; ligula pilose; corymbus terminal, many-flowered.

1. Luzula pilosa.  
Hairy luzula.

Corymbus very much divided, becoming divaricated; flowers solitary; sepals ovate, acute; capsule cordate, obtuse; caruncle of the seed hooked.

Grámen nemoresum hirsutum vulgaré, Raiti Syn. 416, 3.
Grámen nemoresum hirsutum, Ger. em. 17.
Grámen nemoresum hirsutum majus, Park. 1181.
Juncus pilosus, Lin. S. P. 463.
Juncus luzulinus, Vill. Delph. 2, 235.


Woods and hedges; perennial; April and May.

Roots in tufts, stoloniferous; culm 12 in. high, slender, simple; leaves broad; corymbus spreading; flowers lateral and terminal; sepals acute, dark brown, edge white; capsules inversely heartshaped, narrowed towards the middle.
2. **Luzula Forsteri.**

*Forster's luzula.*

*Corymbus* slightly divided, irregular; *flowers* solitary, upright; *sepales* and *capsules* ovate, acute; *caruncle* of the seed erect, obtuse.


Chalky woods and hedges; perennial; May.

**Root** fibrous; **culm** 12 in. high, threadshape; *leaves* slender, upper largest; *corymbus* terminal, erect, slightly branched; *sepales* lanceolate, pointed, as long as the capsule, light brown; *capsule* mucronate; *seeds* oval; *caruncle* rather straight, obtuse.

3. **Luzula sylvatica.**

*Wood luzula.*

*Corymbus* divided, loose; *flowers* 3 together; *sepales* awned, longer than the capsule; *caruncle* obtuse.


Great broad-leaved wood-grass.

Shady stony places; perennial; May and June.

**Root** fibrous; **culm** 2 feet high, upright, leafy, striated; *leaves* broad, light green, 8-ribbed; *panicle* cymose, repeatedly divided, often divaricated; *flowers* small, above fasciculate; *bracteae* linear, hairy, acute; *sepales* equal, somewhat longer than the capsule, acuminate; *capsule* ovate, mucronate; *caruncle* elliptical, sitting close to the seed.

4. **Luzula campestris.**

*Field luzula.*

Spikes ovate, unequally peduncled, intermediate ones sessile; *bracteae* short; *sepales* lanceolate, longer than the capsule, mucronate; *capsule* obtuse.


Gramen nemorosum hirsutum minus angustifolium, *Park.* 1185.


Small hairy wood-grass.

Meadows and pastures; perennial; April, May.

**Root** fibrous, creeping; **culm** 4 in. high; *leaves* linear, flat, 5-ribbed; *flowers* in spikes, sessile, 10 or 12 together; head ovate, upright, afterwards nodding; *sepales* shining, keeled, edge white; *capsule* obovate, obtuse, 3-sided; *seeds* kidneyshape, rather rough, ash-green, opaque; *caruncle* enlarged at the bottom of the seed, attaching it to the receptacle.

Spikes many, ovate, umbelled; *bracteae* short; *sepales* lanceolate, longer than the capsule, mucronate; capsule obtuse.

Juncus congestus, Thull. Par. 2, 1, 179.
*Luzula congesta,* Forster Fl. Tunbridgensis, 44.
Fluxen rush.

Turfy bogs; perennial; June.

Root fibrous, in tufts; *culm* upright, 12 in. high; leaves with long hairs at the base; *umbel* large, compact; *spikes* 7 or 9, upright; *peduncles* long; *flowers* reddish brown; *capsules* large.


Spikes ovate, rather umbelled, very loose; *peduncles* stiff; *sepales* lanceolate, acute, half as long as the capsule.

Juncus intermedius, Thull. Par. 2, 1, 178.
Juncus erectus, Per. Syn. 1, 386.
*Luzula erecta* & Des Jour. 1, 156.
*Luzula multiflora,* Lejeune Spa, 160.

Turfy bogs; perennial; June.

Root fibrous; *culm* upright, 6 in. high; *flowers* reddish brown, in a corymbus of 5 or 6 unequally peduncled spikes; *bracteae* short; *sepales* reddish brown, edges white.


Spike racemose, drooping, divided; *spikelets* sessile, *bracteate*; *capsule* acute, the length of the *sepales*.

Juncus spicatus, Lin. S. P. 468.
*Luzula spicata,* De Cand. Syn. Fl. Gall. 1828?

Scotch spicata; perennial; July.

Root fibrous, in tufts; *culm* simple, 8 in. high, slender, leafy; *leaves* linear, channelled, hairy at the base; *stem-leaves* convolute or subulate; *spike* terminal, nodding, cylindrical; oblong, obtuse; *spikelets* sessile, many-flowered, bracteated; *bracteae* pale, lanceolate; *sepales* lanceolate, acuminate; *capsule* pointed, 3-sided.

Perigonium 6-sepaled; stamens 6, opposite to the sepals; filaments woolly, persistent; anthers linear; ovary pyramidal; style short; stigma capitate; capsule 3-celled; valves 3, bearing the dissepiments; seeds numerous, ovate, oblong, carunculated, imbricated on the inner margin of the dissepiments.—Root fibrous, aggregate; rhizoma creeping, threadlike; radical leaves equitant, ensiform, ribbed, sheathing at bottom, edge membranaceous; culm ascending, simple, slightly leafed; stem-leaves 1 to 3, alternate, short, submembranaceous; flowers spiked, persistent, peduncled, yellow; bracteae lanceolate, 2 to each peduncle.

*Abama ossifragum.*  Bonebreaking bastard-asphodel.

Leaves swordshape; flower loosely spiked, nearly sessile.


Asphodelus Lancastriæ verus, *Ger. em.* 97.


Lancashire bastard-asphodel.

Turfy bogs; perennial; July, August.

Culm 10 in. high, smooth; spike upright; peduncles alternate, sometimes two together, upright, angular; bracteae concave; ovary oblong, awlshape at the tip; capsule deep yellow, shining.


*Flowers* hermaphrodite; perigonium petaloid, 6-sepaled; sometimes tubular at bottom; sepals before expanding involute; stamens 6, adnate to the sepals; anthers often inverted; ovary one 3-celled (or 3?), many-seeded; style 3-cut or parted; stigmata 3; capsule 3-partite, 3-valved; edge of valves inflected and forming the dissepiments; seeds many, affixed to the inner marginal suture; spermodermis simple, membranaceous, neither black nor crustaceous; corculum inclosed: perisperm fleshy.

Plants have a strong action on the human body, as emetics, purgatives, and caustics; so as to require the utmost caution in using them as medicines.

Perigonium 6-sepaled; involucrum 3-leaved; flower pedicelled .......................... *Tofieldia.* 108.

I. 108. TOFIELDIA. Hudson.

Tofieldia  palustris.  
**Perigonium** 6-sepaled; **involucrum**  small, 3-cut at the bottom; **stamens** smooth; **anthers** roundish, incumbent; **style** vertical, short; **capsules** 3, joined at the base; **seeds** many, long, acute.—**Root** fibrous, perennial; **rhizoma** creeping; **stem** upright, naked or with 1 or 2 short leaves; **leaves** equitant, sword-shaped, ribbed, sheathing at bottom, edge membranaceous; **flowers** spike or capitulate, yellow or white; **peduncle** solitary, bracteate.

Marsh tofield.  
Spike ovate, obtuse; **scape** smooth, threadlike; **sepals** obovate, obtuse; **ovary** roundish; **flowers** nearly sessile.

**Phalangium Scoticum palustre minimum iridis folio**, Rait Syn. 375, 2.  
**Anthericum calycatum**, Lin. S. P. 441.  
**Nathericum pusillum**, Michaux Am. Bor. 1, 509.  
**Scotch asphodel. Lancaster asphodel.**

Mountain bogs; perennial; July to September.  
**Stem** 12 in. high; **spike** solitary, obtuse, dense; **flowers** yellowish; **bracteae** ovate, very small, concave.

II. 109. COLCHICUM. Dioscorides.  
**Meadow-saffron.**  
**Perigonium** tubular, radical; **limb** campanulate, 6-parted; **stamens** inserted at the top of the tube; **anthers** oblong, versatile; **ovary** 1; **styles** 3, very long; **stigmas** 3, hooked; **capsules** 3-lobed, lobes inflated, upright, joined at the base; **seeds** many; **corculum** opposite to the umbilicus.—**Bulb** ovate, 1 or 2 new ones arising from beneath the persistent tunics of the old plant in whose half-embracing sinuses they are lodged; **tunics** hard, coriaceous; **spathe** cylindrical, cloven on one side of the apex; **flowers** 2 to 6, half produced out of the spathe; **fruit** becoming peduncled; **leaves** coming out with the fruit, a long time after the flower; **radical leaves** sheathing; **stem-leaves** half-embracing; **stems** frequently two, one flowering, fruitful, as above; the other slender, above the first, seldom flowering.

**Colchicum autumnale.**  
**Autumnal meadow-saffron.**  
**Leaves** flat, broad, lanceolate; **sepals** ovate; **bulbs** rather many-flowered; **flowers** appearing long before the leaves.

**Colchicum commune**, Rait Syn. 373.  
**Colchicum Anglicum purpureum**, Ger. em. 127.  
**Colchicum autumnale**, Lin. S. P. 485.
Meadows; perennial; flowering in August and September, fruiting in the following May and June.

Leaves obtuse, 9 inches long, 2 inner narrower; flowers purple, 3-sided.

Colchicum album. Flowers white.

Colchicum Anglicum album, Ger. em. 127.

Flowers late, whitish green, long, abortive. Bulb violently emetic and purgative in the spring, less so in autumn: reputed a specific in gout, but requires caution in its exhibition.

Perigonium petaloid, free, 6-sepaled, regular; stamens 6, opposite to the lobes of the perigonium; anthers versatile; ovary 1, free; style 0; stigmata 3; capsule 3-celled, 3-valved; partitions on the middle of the valves; seeds many, flat, in a horizontal double series, affixed to the central margin of the partitions; spermoaemris double; testa crustaceous, black, brittle; tegmen membranaceous; corculum included, toward the hilum; perisperm rather cartilaginous.—Herb bulbose; leaves radical or cauline, sheathing or sessile, ribbed; ribs parallel, simple; flowers naked, terminal, solitary, or racemose.

Perigonium not nectariferous at the base Tulipa. 110.

Perigonium nectariferous ............ Fritillaria. 111.

I. 110. TULIPA. Gesner.

Perigonium bellshape, 6-parted; lobes not nectariferous at bottom; stigmata sessile, thick; capsule oblong, 3-sided; corculum one-third the length of the perisperm.—Bulb ovate, truncated, emitting the young bulbille on a long peduncle; stem solitary, leafy below the middle, sometimes bent down before flowering; leaves 3 or 4, tubular and sheathing at bottom; flowers solitary, upright or drooping, yellow or variegated; bracteae 0.

Tulipa sylvestris. Wild tulip.

Stem 1-flowered, smooth; flower somewhat drooping; lobes lanceolate, pointed, bearded, at the tip; stamens hairy at bottom.

Tulipa Bononiensis, Ger. em. 138.
Tulipa sylvetica, Lin. S. P. 498.
Tulipa Turicia, Roth. Cat. Bot. 1, 45.
Italian tulip, or Dalmatian cap.
Old chalk-pits; perennial; April.

Stem upright, 12 in. high; leaves glaucous; flowers before they open drooping, then become upright, sweet-scented, yellow.

II. 111. FRITILLARIA. Lobel.

Fritillary.

Perigonium cupshape, 6-parted; lobes flat at bottom, keeled, with a linear nectariferous pit on the inside; stamens as long as the perigonium; capsule 3-sided, blunt; corculum not one-fourth so long as the perisperm.—Combus smooth, round, solid? one above the other; stem upright, from one side of the bulb, simple; flower terminal, solitary, or on a loose raceme; bractee none.

Fritillaria tessellata. Chequered fritillary.
Leaves all alternate, linear, channelled; stem 1-flowered.

Fritillaria variegata, Ger. em. 149.
Fritillaria Meleagris, Lin. S. P. 436.
Fritillaria tessellata, Salisb. Prod. 236.
Fritillaria graminifolia, Stokes B. M. M. 222.

Moist fields and meadows; perennial; April.

Stem 18 in. high, upright, smooth, leafy; leaves rather acute; flowers drooping; fruit upright and much lengthened after flowering.

β. serotina. Flowers variegated, purple and black.

γ. multiflora. Stem 2 or 3-flowered.

δ. alba. Flowers white.

e. lutea. Flowers yellow.


Perigonium petaloid, 6-parted or 6-cut, regular, free; stamens 6, hypogynous, opposite to the lobes; outer lobes sometimes dissimilar; ovary 1, free, 3-celled, many-seeded; style 1; stigma 1, not nicked; capsule 3-celled, 3-valved; partitions on the middle of the valves; seeds roundish or angular, mostly in a double series, affixed to the central margin of the partitions; spermodermis single, crustaceous, black, brittle; corculum inclosed; perisperm fleshy.—Herb bulbose; leaves radical, sometimes cauline, sheathing, ribbed; ribs simple, parallel; flowers bracteated or naked, terminal, solitary, racemose, or umbelled.
1. Filaments smooth, not tricuspidate, inserted at the base of the perigonium.

   Root fibrous; scape 1-flowered; filaments threadlike, not dilated .... Phalangium 112.
   Root bulbose; flowers yellow, umbelled; filaments threadlike, not dilated .... Gagea 118.
   Root bulbose; flowers blue, racemose; filaments dilated, awlshape .......... Scilla 116.
   Root bulbose; flowers whitish, racemose; filaments dilated at bottom ....... Ornithogalum 117.
   Root bulbose; flowers umbelled; filaments dilated at bottom; spathe 2-leaved ... Cepa 121.

2. Filaments smooth, not tricuspidate, attached above the base of the perigonium; root bulbose.

   Perigonium 6-sepaled, persisting; flowers racemose; bracteae 2-leaved ... Hyacinthus 114.
   Perigonium 6-sepaled, persisting; flowers umbelled; spathe 3-leaved .......... Moly 119.
   Perigonium 6-toothed, ovate, ventricose; flowers racemose..................... Muscari 118.

3. Filaments alternately 3-cuspidate, inserted at the base of the perigonium.

   Flowers racemose; spathe none; bracteae 1, at the bottom of the peduncle. Honorius 115.
   Flowers umbelled; spathe 2-valved; bracteae none.............................. Allium 120.

A. Flowers solitary; perigonium 6-sepaled; root fibrous.

1. 112. PHALANGIUM. Dioscorides. Spiderwort.

   Perigonium 6-sepaled, spreading; stamens 6; filaments smooth, threadshape, equal, inserted in the base of the sepales; stigma 3-sided; seed 3-sided.—Root fibrous; leaves sheathing; sheaths membranaceous; upper leaves alternate, stem-clasping, lanceolate; flowers terminal, white, veined; bracteae none.

   Phalangium serotinum. Late spiderwort.
   Leaves 2, thick, semicylindrical; upper lanceolate, dilated, incurved, subulate; scape 1-flowered; capsule oblong, crowned.

Mountain spiderwort.

Alpine rocks; perennial; June.

Stem 8 in. high; root clubshape, covered with membranaceous scales; leaves 2 together, involved in awlshape scales; upper leaves 3 or 4, alternate, nearly embracing; flower terminal, whitish green; dorsal rib purplish.

b. multiflorum. Flowers 3 or 4.

B. Flowers spiked; perigonium tubular at bottom; plant bulbose.

II. 113. MUSCARI. Clusius.  Bluebell.

Perigonium ovate, inflated in the middle, 6-toothed; stamens 6; filaments simple, smooth, threadshape, inserted in the middle of the perigonium; stigma 3-sided; capsule 3-sided, angles prominent; seed ovate; corculum straight, the length of the perisperm.—Bulb truncated; flowers in spikes, blue or white.

*Muscari racemosum.*  Racemose bluebell.

Flowers ovate, 6-furrowed, crowded; the upper sessile, abortive; leaves linear, keeled, lax, dependent.

*Hyacinthus muscarius, Lin. S. P.* 455.

Fields and walls; perennial; May.

Scrape 9 in. high; spike 40 to 50 flowered; flowers blue or white; smelling like starch.

III. 114. HYACINTHUS. Theophrastus.  Hyacinth.

Perigonium 6-cut, persistent; sepals revolute, connivent at bottom into a tube; stamens 6; filaments single, threadlike, inserted about the middle of the perigonium; stigma obtuse; capsule 6-sided; seeds roundish; corculum straight, as long as the perisperm.—Bulb ovate, tunicated; leaves linear; scape simple; spike terminal; flowers pendulous, mostly blue; bracteae 2, linear, at the base of the peduncle.
Hyacinthus nutans.  
Drooping hyacinth. 
Leaves flaccid, linear, shorter than the scape; raceme before flowering drooping.

Hyacinthus nutans, Ger. em. 99; Raii Syn. 373, 2.
Hyacinthus non-scriptus, Lin. S. P. 453.
Hyacinthus pratensis, Lamarck Enc. Meth. 3, 190.
Hyacinthus cernuus, Thuill. Par. 2.

English hyacinth. 

Woods, hedges and pastures; perennial; May and June.

Bulbs large; leaves many, keeled; scape 18 in. high, upright; flowers facing one way, fine-scented.—Roots when fresh poisonous, may be converted into starch, or prepared as a substitute for gum Arabic.

β. albus. Flowers white.

IV. 115. HONORIUS.  

Star of Naples.

Perigonium 6-sepaled, connivent at bottom, spreading at top, persisting; outer sepales herbaceous, inner petaloid; stamens 6, unequal, inserted at the base of the lobes of the perigonium; filaments dilated, cohering, bellshape; the 3 on the outer sepales longer, 2-horned; style 3-sided, 3-grooved; stigma blunt; capsule ovate, 3-sided; seeds many, roundish; hilum sunk, or not tubercular; corculum central, curved, half as long as the perisperm; spermodermis simple.—Bulb tunicate; leaves linear; scape upright; flowers racemose, white, outside streaked with green; peduncles alternate, bracteate; bracteae slightly sheathing, single.

Honorius nutans.  
Drooping star of Naples.

Flowers racemose, facing one way, drooping; leaves strapshape, deep green, shorter than the scape; bracteae acute, shorter than the flowers.

Ornithogalum Neapolitanum, Ger. em. 168, 9.
Ornithogalum nutans, Lin. S. P. 441.

Star-flower of Naples, Park. Paradise, 133.

Fields and meadows; perennial; May.

Bulb ovate; leaves pale, acute; scape cylindrical; flowers 8 or 10, silvery white.

V. 116. SCILLA.  

Squill.

Perigonium 6-sepaled, spreading, falling off; stamens 6; filaments simple, threadshape, smooth, inserted at the bottom of the sepales; stigma obtuse; capsule obtuse, 3-sided;
seeds many, roundish.—Bulb solid or tunicated; leaves linear, keeled; scape upright; flowers peduncled, racemose or corymbose, blue or white; bracteae 1-leaved, lanceolate, at the base of the peduncle; or none.

1. Scilla autumnalis. 
   Autumn squill.
   Leaves threadshape, linear, shorter than the scape; flowers corymbose; peduncles ascending, as long as the flower; bracteae 0; root tunicated.
   Hyacinthus autumnalis minor, Ger. em. 110; Park, Paradise, 132; Ra'ii Syn. 373, 3.
   Scilla autumnalis, Lin. S. P. 443.
   Anthericum autumnale, Scop. Carn. 415.
   Ornithogalum autumnale, Lamarck Fl. Fr. 3, 271.
   Autumn star-hyacinth.

   Dry barren pastures; perennial; September.
   Bulb ovate; leaves spreading, many; scape twice as long as the leaves, upright; flowers come out before the leaves, bluish purple; stamens blue.

2. Scilla bifolia. 
   Two-leafed squill.
   Leaves 2, lanceolate, linear, rather shorter than the scape; flowers racemose, nearly upright; bracteae none; root solid.
   Hyacinthus stellatus Fuschii, Ger. em. 97; Ra'ii Syn. 372, 1.
   Hyacinthus stellatus vulgaris sive bifolius Fuschii, Park, Parad. 126.
   Anthericum bifolium, Scop. Carn. 414.
   Ornithogalum bifolium, Lamarck Fl. Fr. 3, 274.
   Star-hyacinth.

   Woods; perennial; March and April.
   Bulb ovate; leaves obtuse, slightly keeled; corymbus inclining to racemose; peduncles long; flowers 4 to 10, mostly pointing one way, blue; anthers brownish.

   Spring squill.
   Leaves linear, thick, slightly channelled, upright, 2 or more, shorter than the scape; flowers few, racemose, umbelbed; bracteae lanceolate, obtuse, persisting; root truncated.
   Hyacinthus stellaris vernalis pumilus Lobelli in Adv. Ra'ii Syn. 'Ind. plant. edb.
   Hyacinthus primus, Ra'ii Syn. 372, omitting some synonyms.
   Scilla verna, Huds. Fl. Angl. 142.
   Scilla bifolia, Lightfoot Fl. Scot. 181.

   Sea cliffs; perennial; April.
   Leaves seldom more than two; scape round; flowers 3 to 6, blue; bracteae as long as the peduncles.
VI. 117. ORNITHOGALUM.  Star of Bethlem.

Perigonium 6-sepaled, connivent at bottom, spreading at top, persisting; stamens 6, equal; filaments inserted on the base of the sepales; those inserted on the 3 outer dilated at bottom, the others threadshape, smooth; stigma bluntly 3-sided; capsule 3-sided, blunt; seeds many, roundish; umbilicus tubercular; corculum central, curved, half as long as the perisperm; spermodermis simple.—Bulb tunicated; leaves radical, linear, keeled; scape erect; flowers alternate, peduncled, whitish streaked with green, corymbose; bracteae membranaceous, from the base of each peduncle.


Raceme very long; lobes of the perigonium linear, obtuse; bracteae membranaceous, dilated at the base, very acute; peduncles when in flower expanding, when in fruit approaching the scape.

Ornithogalum angustifolium majus, floribus ex albo virenscentibus, Rauii Syn. 372, 1.
Asphodelus bulbosus, Ger. em. 97.
Ornithogalum pyreniacum, Lin. S. P. 440.
Ornithogalum flavescens, Lamarcq Fl. Fr. 3, 277.
Ornithogalum pallidum, Salisb. Prod. 239.

Woods and fields; perennial; June and July.

Bulb ovate; leaves very long, not in the least notched, smooth; scape 3 feet high, upright, many-flowered; flowers whitish green, pale yellow within; peduncles slender.


Raceme inclining to corymbose, few-flowered; outer peduncles longer than the central ones; lobes of the perigonium elliptical, lanceolate; bracteae long, membranaceous, acute.

Ornithogalum, Ger. em. 167.
Ornithogalum umbellatum, Lin. S. P. 441.
Ornithogalum Theliocharmos, Renealm, 88.

Fields, pastures, and woods; perennial; April, May.

Bulbs roundish; leaves linear, shrivelled at the tip; scape 18 in. high; flowers spreading, white.
Gagea fascicularis.  
Corymbus many-flowered; peduncle smooth, naked below, fascicled; sepales elliptical, lanceolate; scape angular; radical leaves solitary.

Ornithogalum luteum, seu Cepe agraria, Ger. em. 165.
Ornithogalum pratense, Pers. in Uster. N. B. A. 5, 8.
Yellow star-of-Bethlehem.

Moist shady places; perennial; April.
Bulb small; stem 6 in. high, erect; radical leaves mostly single; stem leaves 2, unequal, fringed; fringe white; corymbus 5 or 7-flowered.

β. multiplex. Stem-leaves 3 or 4, unequal.

Moly latifolium.  
Leaves ovate, lanceolate, petiolate; scape 3-sided.

Allium ursinum, Ger. em. 119; Lin. S. P. 431.

Woods and damp fields; perennial; May and June.
Bulbs attenuated, oblong; leaves acute, ribbed; scape upright; spathe deflected, shorter than the peduncles.
IX. 120. ALLIUM. Garlick.

Perigonium 6-sepaled, spreading; stamens 6, affixed at the base of the sepales, those of the outer sepales flat, 3-pointed, middle point antherbearing; the rest simple, threadlike; stigma acute; capsule 3-sided; cells deeply 2-parted, axis threadshape, remaining after the opening of the valves; seeds few, 2 or 3; corculum peripherical, more than half the length of the perisperm, curved or spiral; spermodermis simple.—Root tunicated; bulb simple or soboliferous; leaves flat or round, radical or cauline; flowers umbelled, terminal; umbells often bearing bulbs instead of capsules; spathe bivalve, dry, membranaceous, many-flowered; bracteae none.

a. Stem-leaves flat; umbells bearing capsules.

1. Allium laetum. Pleasant garlick. Umbells capsule-bearing, globose; leaves thick, rather keeled; bulb tunicated; outer sepales rough on the outside.

Porrum capitatum, Ger. em. 174.
Allium Porrum, Lin. S. P. 423.
Allium laetum, Salisb. Prod. 234.
Leek.

 Cultivated as a pot-herb; biennial.

Bulb oblong, fibrous at bottom, formed of the sheaths of the leaves; stem erect, 3 feet high; flowers campanulate.—Juice diuretic, dissolving calculi; root and seed vermifuge.

b. tonsile. Leaves and stem short, numerous.

Porrum sectivum, aut tonsile, Ger. em. 174.

Produced by cutting down the leaves for use.


Umbells globose, capsule-bearing; leaves thick, linear; bulbs soboliferous.

Allium Holmense sphaerico capite, Scorodoprasum dictum, Rati Syn. 370, 4.
Scorodoprasum primum Clusii, Ger. em. 180.
Scorodoprasum alterum Lobelli, Park. 872.
Allium Ampeloprasum, Lin. S. P. 423.
Allium Porrum b, Lamark Fl. Fr. 3, 256.
Porrum Ampeloprasum, Mill. Dict. n. 2.
Mountain garlick. Garlick leek.

Sunny hills; perennial; July.

Bulb roundish, composed of 5 or 6 ovate, acute, whitish bulbilles inclosed in the whitish sheaths of the leaves; stem 5 feet high, gradually attenuated; edge of the leaves rough; stamens all tricuspidate, the 3 outer slightly toothed at the sides.
b. Stem-leaves flat; umbells bearing bulbs.

   Umbells bulb-bearing, globose; leaves flat, linear, not in the least notched; bulbs soboliferous.
   Allium, Ger. em. 178; Park. Par. 511.
   Cultivated as a pot-herb.
   Peduncle straight.

   Umbells bulb-bearing, globose; leaves flat, linear, undulated, subcrenate; stem before flowering contorted, afterwards upright.
   Ophioscoridon, Ger. em. 181.
   Scorodoprasum alterum, convoluto capite, Park. 873.
   Vipers garlick. Rocambole.
   Cultivated as a pot-herb of superior flavour to garlick.
   Bulbilles in the umbel roundish, slightly compressed on the sides; skin tinged with violet.

5. Allium arenarium. Sand garlick.
   Umbells bulb-bearing, globose; leaves flat, linear, rough on the edge; spathe short, awnless; stem before flowering drooping.
   Allium sylvestre amphicarpon, foliis porracis, floribus et nucleis purpureis, Rait Syn. 370, 6.
   Allium arenarium, Lin. S. P. 426.
   Allium Scorodoprasum, Fl. Dan. 1, 290.
   Vine leek. French leek.
   Woods and mountains in the north; perennial; July.
   Bulbs ovate; stem 3 feet high; leaves linear, with long sheaths.

   Umbells bulb-bearing, globose; leaves round, fistulose; stem round; bulbs soboliferous; seta of the stamens exserted.
   Allium sylvestre, Rait Syn. 369, 1; Park. 870; Ger. em. 179.
   Allium vineale, Lin. S. P. 428.
   Crow garlick.
   Dry barren places in chalky soils; perennial; July.
   Bulbs 2, small, ovate; stem slender; leaves smooth; spathe falling off.
b. viceps. Stem with 2 or 3 heads of bulbs.
Ampeloprason sive Porrum sylvestre, Ger. em. 176.
Ampeloprassum, Park. 871.

d. Leaves radical; scape naked; umbells bearing capsules.

Umbells capsule-bearing, globose; leaves awlshape; scape round; bulbs soboliferous; stamens as long as the perigoneum.

Ascaloittides, Ger. em. 170.
Cepa Ascalonica, Park. Parad. 513.
Allium Ascalonicum, Lin. S. P. 429.
Scallions. Shallots.

Cultivated as a potherb.

Bulb composed of many little bulbs, not enclosed in a common tunick; scape 12 in. high; spathe membranaceous; flowers small, deep purple; perigonium upright, ovate, lanceolate; anthers yellow; stigma blunt.

IX. 121. CEPA. Onion.

Perigonium 6-sepaled, spreading; stamens 6, affixed to the bottom of the sepaes, simple at bottom, dilated at top; stigma acute; capsule 3-sided; cells deeply 2-parted; axis threadshape, remaining after the opening of the valves; seeds 2 or 3, roundish; corculum peripherical, more than half the length of the perisperm, curved or spiral; spermodermis simple.—Root tunicated; bulbs simple or soboliferous; leaves flat, linear or round, radical or cauline; flower umbelled, terminal, often bearing bulbilles instead of capsules; spathe bivalve, dry, membranaceous, many-flowered, crowded; bracteeae 0.

a. Leaves cylindrical, radical; scape naked.

Umbells capsule-bearing, globose; scape fistulous, bellied below; leaves round, shorter than the scape.

Cepa alba, Ger. em. 169.
Allium Cepa, Lin. S. P. 432.
Allium esculentum, Salsib. Prod. 255.
Silver-skinned onion. Deptford onion.

Cultivated for kitchen use, in mash land.

Bulb oblong, ovate, scarcely acrid, sweetish, containing a saccharine principle analogous to manna; scape simple.
β. rubra. Bulbs roundish, purplish, very acrid; scape simple.
   Common onion.
   Cultivated.

γ. Hispanica. Bulbs oblong, ovate, very sweet, large; scape simple.
   Spanish onion.
   Cultivated from seed obtained from Spain and Portugal; but grows less, and becomes more acrid every year, degenerating into the common onion.

δ. ramosa. Scrape branched.
   Tree onion. Bunch onion.
   Cultivated, but seldom.

   Umbells capsule-bearing, globose; leaves round, fistulous, ventricose; scape fistulous, as long as the leaves; outer sepales shorter than the inner.
   Cepa Hispanica oblonga, Ger. em. 169.
   Cepa longa, Park. Par. 511.
   Allium fistulosum, Lin. S. P. 434.
   Long Spanish onions. Welsh onions.
   Cultivated as a pot-herb.

   Umbells capsule-bearing, crowded; leaves round, awl-shape, threadlike; scapes in tufts, as long as the leaves; sepales equal.
   Schoenoprasum, Ger. em. 176.
   Allium Schoenoprasum, Lin. S. P. 482.
   Chives. Chives.

   Fields and pastures; perennial; June; also cultivated for a pot-herb.
   Bulbs cylindrical, in tufts; leaves attenuated, 6 or 7 in. high, acute, glaucous, sheathing; scape slightly curved; umbells dense; spathe purplish, ovate, persisting; flowers crowded, whitish purple; pistill very long.

   b. Leaves round, cauline; umbells bulb-bearing.

   Umbells bulb-bearing, lax; leaves half-round, furrowed; scape round.
Moly montanum tertium Clusii, *Ger. em.* 188.
Allium virens, *Lamarck Fl. Fr.* 3, 239.

Edges of fields; perennial; July.

Bulbs ovate; scape upright, 2 or 3 feet high, slender; leaves slender above, channelled, acute; spathe bellied at bottom, attenuated, much longer than the umbels; flowers few, campanulate, greenish purple.


Umbels bulb-bearing, fewflowered; leaves linear, keeled; spathe very long, unequal, 2-horned, acute.


Mountain garlic.

Rocks and mountains; perennial; July.

Root and plant scentless; stem upright, 4 feet high; leaves slender, flat, obtuse, very longly sheathing; spathe leafy; umbels fewflowered; flowers dull brownish purple.

Fam. XI. 16. ASPARAGI.

*Perigonium* petaloid, 6-sepaled, regular; stamens 6, at the base of the sepals; anthers upright, peltate; ovary free, 3-celled; cells 2-seeded; style 1; stigmata 3; berry 3-celled; seeds few, subglobose, affixed to the inner angles of the cells; spermodermis simple, black, crustaceous, brittle; perisperm cartilaginous, hard; corculum curved, transverse, opposite to the umbilicus.—Plant herbaceous or shrubby; leaves bundled, linear, inclosed at bottom in a sheathing stipule; flowers axillary, white.

I. 122. ASPARAGUS. Dioscorides. Spearage.

*Perigonium* 6-sepaled; sepals connivent at bottom; stamens 6; filaments awlshape, bald; style short; 3-furrowed.

*Asparagus officinalis.* Common spearage.

Stem herbaceous, round, very branchy; leaves bristle-like, bundled; flowers often abortive, diclinous; peduncle jointed in the middle.

*Asparagus maritimus crassiore folio, Raii Syn.* 267, 2.
*Asparagus palustris, Ger. em.* 1111.
*Asparagus officinalis, Lin. S. P.* 448.

Sea-side; perennial; July.
Stem cylindrical, lying down, very much branched, panicled; leaves linear, bristlelike, soft, 3 or 5 together; stipules very small; flowers yellowish, peduncled, mostly dioicus.

\( A. \) sativus. Stem upright.

Asparagus, Rait Syn. 267, 1; Park. 454.
Asparagus sativus, Ger. em. 1110.
Sparrow-grass. Cultivated spearage.

Cultivated in gardens and fields, for a pot-herb. The young shoots are diuretic, and communicate a violet scent to the urine.

Fam. XII. 17. SMILACEÆ. R. Brown.

Flowers hermaphrodite or unisexual; perigonium free, petaloid, 6-sepaled; stamens 6, inserted near the base of the sepals; ovary 3 or 4-celled; styles often 3-cut; stigmata 1 to 3; berry globose; seeds 1 to 6, roundish or angular, affixed one above the other to the inner angles of the cells; spermodermis simple, membranaceous, not hard, black, nor brittle; perisperm cartilaginous, hard; corculum cylindrical, opposite or near to the umbilicus.—Leaves curvedly ribbed, opposite, alternate or verticillate; flowers solitary, or racemose, whitish; berries before they are ripe usually spotted.

A. Flowers hermaphrodite.

Perigonium 6-toothed, tubular; stamens inserted above the base ....... Polygonatum. 125.
Perigonium 6-toothed, campanulate; stamens inserted at the base ......... Convallaria. 124.
Perigonium 8-parted, spreading ............ Paris. 123.

B. Flowers dioicus or unisexual.

Perigonium 6-parted; androphore cylindrical. Ruscus. 126.


Perigonium 8-parted (sometimes 6 to 10), expanding; 4 outer sepals, broad, herbaceous; 4 inner linear, coloured; stamens 8 (sometimes 6 or 10); anthers adnate to the middle of the filament; filaments inserted at the base of the perigonium; styles 4; stigmata 4; ovary free, rather globose; berry 4-celled; seeds 6 or 8, ovate, inserted in 2 rows at the inner angles of the cells; perisperm fleshy; corculum minute, near the hilum.—Rhizoma creeping, perennial; stem simple; leaves 3-ribbed, verticillate, about the middle of the stem; peduncle terminal, solitary.
Paris quadrifolia.  
Four-leafed herb-Paris.

Leaves mostly in one whorl, ovate.

Herba Paris, Rall. Syl. 264, 1; Ger. em. 405; Park. 390.


Woods and shady places; perennial; May.

Stem 12 in. high; leaves 3 to 5, acute, notched, smooth; peduncle angular; flowers greenish purple.—Leaves and berries narcotic; root emetic in doses of two scruples.

II. 124. CONVALLARIA. Lin.  
Lilly-of-the-valley.

Perigonium campanulate, 6-toothed; stamens 6; anthers terminal; filaments inserted at the base of the perigonium; style 1; stigma blunt, 3-cornered; ovary 3-celled, free; berry globose, 3-celled; seeds 2, one above the other, affixed to the inner angle of the cells, subglobose; perisperm cartilaginous, hard; corculum straight, opposite to the hilum. —Rhizoma creeping; leaves radical, curve-ribbed; sheaths scaly, cut; flowers racemose, peduncled, whitish, bracteate; scape solitary; bracteae lanceolate, solitary, at the base of the peduncle; berry spotted before it is ripe.

Convallaria majalis.  
May lilly-of-the-valley.

Scape semicylindrical; leaves ovate, lanceolate; flowers racemose, spiked; peduncle drooping.

Lilium convallium, Rall. Syl. 264, 1; Ger. em. 410.
Lilium convallium flore albo, Park. Par. 319.

May lilly. Lilly convallia.

Woods; perennial; May.

Flowers white, very fragrant; berries red.—Flowers narcotic, errhine; extract of the root and flowers bitter and purgative, in doses of two scruples; leaves dye a durable green.

III. 125. POLYGONATUM. Dioscor.  
Solomon’s seal.

Perigonium cylindrical, tubular, 6-toothed; stamens 6, inserted above the base of the perigonium; anthers terminal; style 1; stigma blunt, 3-cornered; ovary 3-celled, free; berry globular, 3-celled; seeds 1 or 2, round; perisperm cartilaginous; corculum straight, opposite to the hilum. —Rhizoma creeping, fleshy; stem simple, leafy, sheathed with scales at the base; leaves cauline, sessile, alternate or verticillate, longitudinally streaked; ribs prominent, curved; peduncles axillary, solitary, 1 or many-flowered; flowers drooping, whitish; bracteae 0; berry before it is ripe mottled.
Stem upright, angular; leaves lanceolate, verticillate.

*Polygonatum minus,* Ger. cm. 903.  
Small Solomon’s seal.

Shady mountains; perennial; June.  
*Stem* 2 feet high, naked at bottom; *leaves* 3 to 7 in a whorl, glaucous; *peduncles* branchy; *berries* red.

*Stem* drooping, round; *leaves* ovate, elliptical, alternate; *peduncles* axillary, 1 or many-flowered; *filaments* hairy; *style* flexuous.

*Polygonatum,* *Raii Syn.* 263, 1; Ger. cm. 903.  
*Polygonatum vulgare,* *Park.* 696.  
*Convallaria multiflora,* Lin. S. P. 452.  
Common Solomon’s seal.

Woods; perennial; May, June.  
*Stem* 2 feet high, drooping at top; *leaves* facing one way. — *Roots* may be made into bread; young shoots eaten as asparagus.

β. *humile.*  
*Polygonatum humile Anglicum,* *Raii Syn.* 263, 4.

γ. *latifolium.*  Leaves broad, obovate.  
*Polygonatum hellebori albi folio, caule purpurascente,* *Raii Syn.* 263, 3.  
*Convallaria latifolia,* *Hoffm. Germ.* 3, 162.

*Stem* 2-edged, angular, drooping; *leaves* ovate, elliptical, alternate; *peduncles* axillary, 1-flowered; *filaments* smooth; *style* straight.

*Polygonatum floribus ex singularibus pediculis,* *Raii Syn.* 263.  
*Polygonatum latifolium secundum Clusii,* Ger. cm. 904, 3.  
*Polygonatum majus,* *flore majore,* *Park.* 696.  
*Convallaria rupestris,* *Salsib. Prod.* 254.  
Odoriferous Solomon’s seal.

Woods; perennial; May, June.  
*Stem* 18 in. high, drooping; *flowers* fragrant; *leaves* facing one way. — *Roots* may be made into bread.

β. *bisflorum.*  *Peduncles* 2-flowered.
IV. 126. RUSCUS. Castor.  

Butchers-broom.

Perigonium 6-parted, expanding; androphore cylindrical, tubular; female naked, male with 6 sessile anthers; style 1; stigma 1, obtuse; ovary free, 3-celled; berry globose; seeds 1 or 2 in each cell, ovate; corculum rather straight, not half as long as the perisperm, opposite the hilum.—Root branchy, perennial; herb very stiff, evergreen, very much branched; leaves (leaflike peduncles?) ribbed, alternate, sessile, pungent, flower-bearing; flowers sessile, white, dioicus or unisexual.

Ruscus aculeatus.  

Prickly butchers-broom.

Stem stiff; leaves mucronate, pungent; flowers on the upper surface of the leaves, naked.

Ruscus, Rail Syn. 262, 1; Park. 253.
Ruscus sive Bruscus, Ger. em. 907.
Ruscus aculeatus, Lin. S. P. 1474.

Woods and heaths; perennial; March and April.

Herb biennial, upright, smooth; leaves sessile, not notched, dark green; flowers white; androphore violet, yellow at top.—Root aperitive.

2. laxus. Leaves elliptical, narrow at both ends; branches loose.


Fam. XIII. 18. TAMACEÆ. 

Flowers dioicus; perigonium adherent, petaloid, 6-sepaled, bellshape; sepales contracted at the orifice; stamens 6, at the base of the sepales; ovary 3-celled; ovules 2 in each cell; style 1; stigmata 3, acute, 2-cut; berry 3-celled; seeds few, ovate; spermodermis membranaceous.

I. 127. TAMUS. Gesner.  

Black-briony.

Perigonium bellshaped, spreading in the male flowers, contracted in the female, above the ovary; style 1; stigmata 3; berry 3-celled.—Root fleshy, tuberous, perennial; stem annual, climbing, twisting to the left; leaves alternate, petiolate, ribbed; stipulae 2, small, at the base of the peduncle, reflexed; flowers racemose, axillary.
Tamus communis. Common black-briony.
Leaves cordate, acute, undivided, not notched.
Tamus racemosus, flore minore luteo pullescente, Rall Syl. 262, 1.
Bryonia nigra, Ger. em. 871.
Bryonia sylvestris nigra, Park. 178.
Tamus communis, Lin. S. P. 1458.
Wild vine. Our lady’s seal.
Woods and hedges; perennial; June and July.
Root black, very large; stem branchy, round, 12 feet long, smooth; leaves smooth, deep green, varying greatly in shape from reniform to sagittate; flowers greenish; berries red.—Root acrid, stimulant, discutient used externally.

Fam. XIV. 19. AMARYLLIDEÆ. Brown.
Perigonium adherent, 6-cut, regular, imbricate before opening; 3 outer sepales longer than the inner; stamens 6, inserted in the base of the sepales or in the tube; filaments sometimes connate at the base; anthers adverse; ovary adherent, 3-celled; cells many-seeded; style 1; stigma 3-lobed; capsule 3-celled; valves 3, partition-bearing; seeds many, affixed to the inner angles of the cells; perisperm fleshy; corculum inclosed; spermodermis simple, membranaceous, neither crustaceous nor black.

A. Perigonium topshape; limb 6-cut; crown cupshape.

Crown shorter than the limb;
stamens unequal, 3 shorter .......... Narcissus. 128.
Crown as long as the limb;
stamens equal in length............... Ajax. 129.

B. Perigonium very short tubed; limb 6-parted; crown 0.

Lobes of the perigonium equal ...... Galanthus. 131.
Lobes of the perigonium unequal .... Leucojum. 130.

I. 128. NARCISSUS. Narcissus.
Perigonium funnelshape; limb spreading, longer than the crown, 6-cut; crown at the mouth of the tube cupshape; thick; tube cylindrical; stamens 6; 3 filaments shorter than the rest, adhering to the tube; anthers short, thick, boat-shape, upright, nestling in the mouth of the tube; stigma small.—Herb bulbose; bulb tunicated; leaves concave, semi-cylindrical, upright; scape 2-edged, compressed; spathe 1 or 2-flowered; tube of the flower white, thick; crown yellow, edge red.
1. Narcissus majalis. May narcissus.

Leaves erect, obtusely keeled, rather curved, glaucous; lobes of the perigonium imbricate, laterally deflexed, crowned; crown yellow, minutely plaited; edge rather scariose, white, slender; outer edge scarlet, crenulate; stigma as long as the shorter stamens.

Narcissus medio purpureus, Ger. em. 123.
Narcissus medio purpureus maximus, Park. Par. 76.
Narcissus patellaris, Salisb. Prod. 225.
Poets' narcissus. Purple circled daffodil.

Sandy heaths and fields; perennial; May.

Leaves about one-third in. broad, edge reflexed; scape erect; spathe 1-flowered, often 2-lobed; flower upright, very fragrant, snow white; crown scarlet edged.


Leaves acutely keeled; crown entirely yellow; spathe 2 or 3-flowered; scape kneed before flowering.

Narcissus medio luteus vulgaris, Ralii Syn. 371, 2; Park. 74.
Narcissus medio luteus, Ger. em. 124, 7.
Narcissus biflorus, Curtis Bot. Mag. 197.
Narcissus cothurnalis, Salisb. Prod. 225.

Sandy fields; perennial; April and May.

Edge of the leaves turned in; scape upright; spathe not notched; flowers drooping, sweet-smelling, yellowish white.

II. 129. AJAX. R. A. Salisbury. Daffodil.

Perigonium funnelshape, limb spreading, 6-parted, as long as the crown; crown large, cupshape; tube topshape, shorter than the lobes; stamens 6, free, equal, threadshape, inserted at the base of the tube, or slightly adnate to the sides, often 3 times as short as the crown; anthers linear, long.—Herb bulbose; bulb tunicated, rounded below, concave above; leaves 2-rowed, strapshape, thick, ribbed, streaked, flat, channelled, more or less glaucous, mostly upright before flowering; scape upright, 2-edged; spathe membranaceous, 1 or 2-flowered; flower yellow.

1. Ajax fenestralis. Window daffodil.

Scape 2-edged, roundish, straight, striated; outer lobes elliptical, lanceolate, scarcely longer than the tube; crown straight, crenate, serrate, the length of the lobes.

Pl. end. ph. 19. AMARYLLIDEÆ. 128. Narcissus. 191

Narcissus sylvestris pallidus, calyce luteo, Raiti Syn. 371, 1.
Pseudo-narcissus Anglicus, Ger. em. 133, 2.
Pseudo-narcissus Anglicus vulgaris, Park. Par. 100.
Common yellow daffodil. Daffodowndilly.

Woods; perennial; March.

Flower drooping, scentless; lobes of the perigonium pale yellow; crown bellshape, golden yellow.

b. Scoticus. Scape 2-edged, compressed, tortuous, deeply striated; lobes of the perigonium elliptical, lanceolate, much longer than the tube; edge of the crown expanded, cut, serrate, rather rugose.


Scape 2-edged, smooth, compressed; sepales rather erect, lanceolate; crown much longer than the tube; edge 6-cut, toothed, spreading.


Woods and pastures; perennial; April.

Leaves striated, smooth; sepales and crown yellow; tip of the anther black.

III. 130. LEUCOJUM. Dioscorides. Snow-flake.

Perigonium 6-parted, tube short, limb bellshape; lobes equal, thickened at the tip; stamens 6, inserted on a gland covering the ovary; anther obtuse, opening by two pores at the tip; style clavate; stigma simple, acute; capsule 3-celled; seeds many, roundish. — Herb bulbose; bulbs round, tunicated; leaves radical, many, keeled; scape 2-edged, upright; spathe 1-leafed, 1 or many-flowered, compressed; peduncle 1-flowered; flowers white, drooping, green at the tip.

Leucojum aestivum. Summer snowflake.

Spathe many-flowered.

Leucojum bulbosum majus polyanthemen, Ger. em. 148.

Damp fields; perennial; May.

Scape 18 in. long, upright; leaves blunt, smooth; spathe upright; flowers 5 or 6.
IV. 131. GALANTHUS. Linnaeus.  

Snowdrop.

Perigonium 6-parted; tube short, limb bellshape, lobes unequal; 3 inner half the length of the 3 outer, heartshape, thickened at the tip; stamens 6, inserted on a gland covering the ovary; anthers awlshape, opening at the top by 2 pores; style threadshape; stigma acute; capsule 3-celled; seeds many, globose.—Herb bulbose; bulb ovate, tunicated; leaves radical, 2, glaucous, keeled; sheaths membranaceous, not nicked; scape round, not inclosed in the sheath; spathe cylindrical; flower 1, peduncled, drooping, white, tipped with green.

Galanthus nivalis.

White snowdrop.

Leucojum bulbosum praecox minus, Ger. em. 147.
Galanthus nivalis, Lin. s. P. 413.
Early bulbous violet. Fair maids of February.

Fields and orchards; perennial; February and March.

Stem 12 in. high. One of the first flowers that appear, as a harbinger of summer.

Fam. XV. 20. IRIDEÆ. Ventenat. Irides, Jussieu.

Ensatae, Linnaeus. Liliacearum genera quaedam, Adanson.

Perigonium adherent, petaloid, tubular at bottom, limb 6-cut or parted, often irregular; stamens 3, inserted at the base of the exterior lobes; anther linear, opening outwards; ovary 1; style 1; apex 3-cut, lobed, often petaloid; stigmata 3; capsule 3-celled, 3-valved; valves partition-bearing; placentae linear, on the inner edge of the partitions; seeds many, roundish; perisperm horny or thick and fleshy; corculum inclosed, straight near the hilum.—Herb smooth; root tuberous or fibrous; leaves averse, equitant, 2-rowed or linear; flower radical, terminal, spiked, corymbose, or on a crowded panicle.

Tube of the perigonium long; limb regular; lobes of the style wedgeshape; spathe 1 or 2, outer tubular ......... Crocus. 132.

Tube of the perigonium short; limb regular lobes of the style linear; stigmata 2-parted; spathe 2-valved ......... Trichomeema. 133.

Tube of the perigonium short; limb alternately deflexed; lobes of the style petaloid; stigmata linear ......... Iris. 134.

Vol. II.
194  132. Crocus.  20. IRIDÆÆ.  Pl. end. ph.

I.  132. CROCUS. Theophrastus.  Saffron.

Perigonium funnelshape; tube long; limb 6-parted, regular; stamens 3; filaments awlshape, inserted in the base of the lobes of the perigonium; anthers linear; pollen globular; ovary 3-sided, adherent; style long, filiform; apex truncated, 3-lobed; lobes wedgeshape, erose or fringed at the tip; stigma terminal; capsule 3-sided; seeds many, roundish; shell succulent; perisperm horny; corculum central, straight, radicle descending.—Herb stemless, perennial; combus double, one above the other; tunices entire or reticulately fibrous; leaves slender, linear, radical; midrib broad, whitish; spathe 1 or 2 leaved, membranaceous, 1 to 3 flowered; capsules when ripe elevated.

a. Lobes of the style truncated, erose or toothed; spathe 1-leaved; tube of the perigonium closed above with hairs; flowers vernal, with the leaves, no part yellow.


Tunices of the combus ribbed, fibrous; midrib of the leaves white; style longer than the stamens; lobes of the perigonium lanceolate, attenuated, imbricated.

Crocus vernus flore purpureo, Ger. em. 154, 5.
Crocus sativus vernus, Lin. S. P. 250.
Crocus vernalis cerulca, Deering Notts. 60.
Crocus vernus, Wulfen.
Ixia vernalis, Salish. Prod.
Crocus vernus β, Gweler Bot. Mag. 2860.
Purple spring saffron.  Purple crocus.

Fields; perennial; March and April.  Flowers blue, white or violet.

b. Lobes of the style truncated, erose or toothed; spathe 2-leaved; tube of the perigonium bald; flowers autumnal, before the leaves, yellowish.


Lobes of the style reflexed, longer than the lobes of the perigonium; tube longer than the limb.

Crocus, Rail Syn. 374, 1; Ger. em. 151.
Crocus vernus sativus autumnalis, Park. Par. 167.
Crocus sativus officinalis, Lin. S. P. 50.
Crocus setifolius, Stokes Bot. Mat. Med. 104.
Ixia autumnalis, Salish. Prod. 33.
Saffron.  True saffron.
Fields and pastures; perennial; September to November; also cultivated.

Flowers pale blue, streaked with violet; tube yellow; spathe 2-valved; leaves fringed, come out after the flower, and remain all the winter.—Stigmata cordial.

c. Lobes of the style many cut; spathe 1-leaved; flowers autumnal, appearing before the leaves.

3. Crocus nudiflorus.

Tunics of the combus membranaceous, filamentous.

Crocus montanus autumnalis, Ger. em. 154, 6.
Crocus commune, Deering Nott. 51.
Crocus multifidus, Ramond Bull. de S. P. 41.

Meadows; perennial; October.

Lobes of the styles 7 to 12-cut, cuts linear; leaves appear in December, upright; edge scarcely revolute; not galled at the tips; flowers naked, purple violet; fruits in May.

II. 133. TRICHOMEMA. Kerr.  Wild-saffron.

Tube of the perigonium very short; limb large, 6-cut, regular; lobes equal; filaments upright, short, pubescent, inserted at the mouth of the tube; anthers connivent; stigmata 3-cut, lobes 2-parted, linear, spreading; capsule 3-sided; seeds many, rounded.—Combus ovate, conical; base capillary (with a fusiform root); tunicks crustaceous, smooth; toothed at the tip; sheath 2-valved, lanceolate, membranaceous; leaves mostly 4, slender, linear, ribbed, thickest in the middle; scape upright, 1 or 2-flowered; spathe 2-valve, lanceolate, acute, glumaceous, edge membranaceous; flowers terminal, sessile, blue.

Trichomema parviflorum.  Small wild-saffron.

Leaves linear, compressed; lobes of the perigonium lanceolate, retuse; inner one scarcely broader than the outer; stigma revolute.

Crocus vernus minor, Ger. em. 152.
Crocus Bulbocodium, Lin. S. P. 36?
Romulea, Miller Figures, 24.
Ixia parviflora, Salisb. Prod. 34.

Hills in Guernsey; perennial; May.
196 133. Trichome. 20. IRIDEÆ. Pl. end. ph.

Scape 3 in. high; leaves very narrow, flexuous, furrowed; perigonium blue, tube very short; spathe half as long as the perigonium; scape shorter than the leaves.

III. 134. IRIS. Theophrastus. Fleur-de-luce.

Tube of the perigonium short; limb 6-parted; lobes unequal, 3 outer lobes spreading or reflexed; 3 inner smaller, upright or inflexed; stamens 3, distinct; style 1, short, 3-lobed; lobes petaloid, often nicked, furrowed above; stigmata 3, on the duplicatures on the lower surface of the petaloid lobes; capsule 3-sided; seeds many, globose; spermodermis double; shell spongy, loose; corculum straight, half the length of the perisperm.—Leaves ensiform, 2-rowed; stem compressed, leafy; spathe 2 or 3 valved, 2 or 3 flowered; valves keeled, herbaceous, edge membranaceous; flowers fascicled, yellow or blue, striated or veined.

a. Leaves flat, equitant, ensiform, 2-rowed; rhizoma creeping, depressed, annulate; lobes of the perigonium beardless. Iris.

1. Iris palustris. Marsh fleur-de-luce.

Stem compressed, ovate, many-flowered; lobes of the perigonium beardless; inner erect, smaller than the stigmata; leaves ensiform.

Iris palustris lutea, Raiti Syn. 374, 1; Ger. em. 50, 2.
Iris Pseudacorus, Lin. S. P. 56.
Iris lutea, Lamarck Fl. Fr. 3, 496.
Iris palustris, Salisbury Prod. 44.


Ponds and watery-places; perennial; July.

Stem 4 feet high, 3 to 6 flowered, higher than the leaves; leaves 1 in. broad; flowers yellow, spotted with deeper yellow, veined with black; stigmata yellow.—Roots acrid when fresh, warm when dry, may be substituted for galangals; juice of the root purgative in doses of 80 drops every hour, but is very violent in its operation; seeds roasted resemble coffee, having more nearly the same aroma than any other substitute for that drug.

β. pallida. Flowers pale yellow or white.

Iris palustris pallida, Raiti Syn. 375, 2.

2. Iris foetida. Stinking fleur-de-luce.

Stem 1-edged, few-flowered; lobes of the perigonium beardless; inner larger than the stigmata, spreading very much; leaves swordshape; ovary 3-sided; angles furrowed, 2-cut.
Iris sylvestris, quam Xyrium vocant, Rauí Syn. 375, 3.
Xiris, Ger. em. 60.
Xiris seu Spatula factida, Park. 256.
Iris factiddissima, Liu. S. P. 57.
Iris factida, Saliíb. Prodr. 44.
Stinking gladdon. Spurge wort.

Woods and hedges; perennial; June and July.
Stem 2 feet high, half round, 2 or 4-flowered, scarcely higher than the leaves; leaves dark green; perigonium dull grey blue, streaked or veined with black; outer lobes roughly folded beneath.—Juice of the root errhine; root in infusion or decoction purgative, leaving a costiveness like rhubarb; seeds diuretic.

b. Bulb tunicated; leaves channelled; lobes of the perigonium beardless. Xyphium.

3. Iris variabilis. Changeable fleur-de-luce.
Scape 2-flowered; lobes of the perigonium as narrow as the lobes of the style; ovary round, 3-sided.
Iris bulbosa Anglica, Ger. em. 99, 2.
Iris Xyphium, Lin. S. P. 58.
Xyphium vulgare, Miller Dict.
Iris variabilis, Jacq. Coll. 2, 139.
Iris coronaria, Saliíb. Prod. 45.
Onion fleur-de-luce.

River sides; perennial; July.
Leaves channelled, awlshape, a little longer than the stem; perigonium purplish blue; stem sometimes one-flowered.

Fam. XVI. 21. ORCHIDÆ. Jussieu.

Perigonium petaloid, adherent to the ovary, 6-sepaled; sepales irregular, in two series, often variously soldered; outer series of 1 odd sepale and 2 alike; inner of 2 sepales alike and one odd one called the lip; anthers 1 or 2, sessile, on the gymnostemium; pollen agglutinated into a determinate figure; gymnostemium columnar; gynizus variously placed; pericarpium 1-celled, 3-valved, opening laterally by the ribs; placentaria 3, on the middle of the valves; seeds numerous, very minute; spermodermis membranaceous; perisperm fleshy; corculum at the base.—Plants herbaceous; root tuberous, gingiberaceous or fascicled; scape simple; leaves sessile, ribbed lengthways, sheathing at bottom; flowers spiked; bractea 1, at the bottom of each flower.
A. Pollen longitudinally divided; caudicle with a retinacle.

a. Retinacle bursiculate, single and common to both the pollen masses.

Perigonium galeate; lip long, linear;
base with a short scrotiform spur ....... LOROGLOSSUM. 135.
Perigonium galeate; lip long, linear;
base flat, or very slightly gibbous .......... ACERAS. 136.
Perigonium galeate; lip spurred;
claw bearing 2 scales longitudinally ... ANACAMPTIS. 137.

b. Retinacles bursiculate, 2.

Per. arched or galeate; lip spurred;
bursicles undivided .................. ORCHIS. 138.
Perig. spread; lip spurless, convex;
rostellum split into 2 bursicules......... OPHRYS. 139.

c. Retinacles naked.

Perigon. arched; lip spurred, 3-cut;
spur bristlelike; rostellum split ...... GYMNADENIA. 140.
Perigon. galeate; lip spurred, 3-cut;
spur short; rostellum split ............ ENTATICUS. 141.
Per. arched or galeate; lip spurred,
undivided; cells of the anther distant;
rostellum 0 .......................... PLATANTHERA. 142.
Per. nearly bellshape; inner sepales longest;
lip many-cut, purselike at the bottom... HERMINIUM. 143.

B. Pollen longitudinally divided; retinacle 0.

Per. connivent below; lip enclosed,
spurless, undivided; pollen unarmed .... GOODYERA. 144.

C. Pollen granular; anther 1.

Per. oblong, connivent; lip obovate;
gynizus rather elliptic; spike spiral ... SPIRANTHES. 145.
Per. globose, connivent; lip obcordate;
gynizus rather elliptic; stem leafless .... NEOTTIA. 146.
Per. globose, connivent; lip linear, 2-parted;
gynizus rather elliptic; stem 2-leaved .... LISTERA. 147.
Per. erect, connivent; lip embracing, entire;
ovary sessile; rostellum 0 .......... CEPHALANTHERA. 148.
Per. spread; lip spread, interrupted;
ovary pedicelled; rostellum on the apex EPIFACTIS. 149.
D. Pollen granular; anthers 2.

Per. cross-like, spread; lip inflated, slippershape. Cypripedium. 150.

E. Pollen solid, formed of two small masses.

a. Cells of the anther simple.

Per. much spread; lip subovate behind; gynostemium oblong; upper part winged. Pseudorchis. 151.

Per. spread vertically; lip behind, heartshape; gynostemium very short, not winged. Malaxis. 152.

b. Cells of the anther 2-parted.

Per. arched; perule adnate; lip obovate; gynost long, not winged Corallorhiza. 153.

A. Pollen divided; caudicle with a retinacle; retinacle bursiculate; perigonium galeate; gynicus at the base of the gynostemium, close to the lip; clinandrum 0; staminodia wrinkled; cells of the anthers divided by a septulum.—Root 2-tubercled.


Perigonium galeate; inner sepales very narrow; lip gibbous at bottom, very long, three parted, middle lobe 2-cut; gynostemium very short; retinacle 1, bursiculate.

Loroglossum hircinum. Goat lizard-flower.

Lip pubescent, 3 times as long as the ovary.

Orchis barbata fastida, Rail Syn. 376, 1.
Tragorchis maximus, and T. mas, Ger. em. 210, 1 & 2.
Tragorchis maximus, and T. vulgaris, Park. 1348.
Satyrium hircinum, Lin. S. P. 1337.
Great goat-stones. Male goat-stones.

Chalky soils; perennial; July and August.

Stem 2 or 3 feet high, fistulous; spike many-flowered; bractea linear, twice as long as the ovary; flowers dull purple, stinking.

β. minor. Plant smaller; flowers white.

Orchis barbata festiga minor, flore albo, Rail Syn. 376, 2.
Orchis coryophora, Huds. Fl. Angl. 383?
II. 136. ACERAS. R. Brown.  

*Perigonium galeate; inner sepales narrow; lip flat, pendulous, long, linear, 3-parted, middle lobe 2-cut; gymnostemium very short; retinacle 1, bursiculate.*

*Aceras anthropophora.*  
*Lip longer than the ovary.*

*Orchis anthropophora oreades, Rauí Syn. 379, 12.*  
*Orchis anthropophora oreades femina, Park. 1348.*  
*Ophrys anthropophora, Lin. S. P. 1343.*  
*Orchis anthropophora, Allioni Pedem. 1835.*  
*Aceras anthropophora, Brown in Ait. II. Kew. 119.*  
*Green man-orchis.*

Chalky pastures; perennial; June.  
*Scape 18 in. high; spike many-flowered; bractea membranaceous; flowers greenish purple.*

III. 137. ANACAMPTIS. Richard.  

*Perigonium arched, or galeate; lip spurred, spread, claw with 2 scales on the middle; gymnostemium very short; retinacle 1, bursiculate, the fore part grown together by the sides into a cylinder.*

*Anacamptis pyramidalis.*  
*Pyramidal anacamptis.*  
*Spur threadshape, as long as the ovary; spike dense, oblong.*

*Orchis purpurea spica congesta pyramidalis, Rauí Syn. 377, 6.*  
*Orchis pyramidalis, Lin. S. P. 1392.*  
*Anacamptis pyramidalis, Richard Mem. Mus. 4, 55.*  
*Purple late-flowered orchis.*

Dry chalky pastures; perennial; June and July.  
*Scape 18 in. high; leaves not spotted; spike pyramidal, close, many-flowered, afterwards long; bractea coloured, as long as the ovary; flowers purplish or white.*

IV. 138. ORCHIS. Theophrastus.  

*Perigonium arched, or galeate; lip spurred, spread; gymnostemium very short; gynizus entirely behind the orifice of the spur; rostellum prominent below, never before; bursicle undivided, 2-celled within; anther longer than the gymnostemium, upright, roundish-ovoid or inverse-ovate, not pointed at the tip; retinacles short-elliptic.*
1. Orchis fusca. \hspace{1cm} Brown orchis.
   Lip rough, 3-parted; lobes unequal, ragged; lateral ones linear; middle lobe broad, 2-cut with an intermediate point; sepales blunt, connivent; spur straight, one-third the length of the ovary; bractea very short.
   Orchis strateumatica, Ger. em. 215, 12; Park. 1344, 6.
   Orchis magna latis folis, galea fusca vel nigricante, Dillen in Rail Syn. 378, 11.
   Orchis militaris \& \& \&, Lin. S. P. 1334.
   Orchis purpurea, Huds. ed. 1, 334.
   Orchis fusca, Murray Syst. Veg. ed. 14, 809.
   Orchis moravica, Jacq. Ist. rur. 9, 182.
   Chalky soils; perennial; May and June.
   Stem 18 in. high; flowers large, greenish brown, brownish purple or pale ash-grey; sepales broad.

2. Orchis militaris. \hspace{1cm} Soldier orchis.
   Lip rough, 3-parted; lobes equal, incurved, broad; middle lobe 2-cut with an intermediate point; sepales pointed, connivent; spur straight, half as long as the ovary; bractea very short.
   Orchis strateumatica minor, Ger. em. 216, 13; Park. 1344, 8.
   Orchis militaris, Lin. S. P. 1333.
   White dogs-stones. \hspace{1cm} Man-orchis.
   Chalky places; perennial; May.
   Scape 12 in. high; leaves broad-lanceolate, spotless; spike many-flowered, dense; flowers purplish.

3. Orchis tephrosanthos. \hspace{1cm} Grey-spiked orchis.
   Lip roughish; lobes 3, equal, linear; middle lobe 2-cut, with an intermediate point; sepales pointed, connivent; spur rather bent, half as long as the ovary; bractea very short.
   Cynosorchis major altera, Ger. em. 205, 2.
   Cynosorchis latifolia minor, Park. 1344, 4.
   Orchis galea et alis ferre cinereis, Rail Syn. 378, 10.
   Orchis militaris, Lin. S. P. 1334.
   Orchis tephrosanthos, Villars Delph. 2, 32.
   Orchis Simia, De Cand. Fl. Fr. ed. 3, 249.
   Chalky places; perennial; May,
   Spike abruptly terminated; 2 outer sepales sometimes lip-shaped and spurred.

4. Orchis latifolia. \hspace{1cm} Broadleaf orchis.
   Lip smooth, 3-lobed, turned over at the sides; upper sepales connivent; spur conical, shorter than the ovary; bractea longer than the flower.
Orchis palmata major mas, sive Palma Christi mas, *Park.* 1356.

Marshes and meadows; perennial; May and June.

*Root* palmate; *scape* fistulous, 18 in. high; *leaves* 4 or 6, broad, lanceolate; *spike* 30 or 40-flowered; *bractea* leaf-like, strap-shape, slightly coloured; *flowers* rosy, or blood-colour; *lip* dilated, middle lobe short with dotted lines.

6. **obtusa.** Middle lobe of the lip blunt, as long and only half as broad as the side ones.

Palma Christi mas, *Ger. em.* 221, 1.
Orchis latifolia, *Curtis Fl. Lond.* 165.

5. **palmata.** Middle lobe of the lip ovate, pointed, twice as long as the side ones.

Marsh satyrion. Marsh dragon satyrion.

6. **rubra.** Leaves and flowers red.

Orchis palmata palustris, tota rubra, *Dillen in Raii Syn.* 382, 25.

5. **maculata.** Spotted orchis.

*Lip* nearly flat, 3-lobed; side lobes toothed, middle lobe pointed; *upper sepales* approximating; lateral spread; *spur* cylindrical, shorter than the ovary; *bractea* as long as the ovary.

Palma Christi femina, *Ger. em.* 221, 2.
Orchis palmata femina, seu Palma Christi femina foliis maculatis,

Park. 1357.
Female satyrion royal. Female handed-orchis.

Woods and rich meadows; perennial; June and July.

*Root* palmate, divaricated; *scape* slender, solid, 2 feet high; *leaves* lanceolate, generally spotted with black; *spike* long, or a short pyramid; *flowers* purple; *lip* marked with lines and spots.

6. **ustulata.** Coffee-colour orchis.

*Lip* 3-lobed, lobes linear, rough with dots; middle lobe 2-cut; *sepales* upright, pointed; *spur* hooked, one-third the length of the ovary and bractea.


Lesser Austrian dogs-stones. Little purple floowered orchis. Dwarf orchis.
Chalky pastures; perennial; June.

Scape 8 in. high, angular; leaves 4 or 6, lanceolate, not spotted; spike short, close, many-flowered; bracteae ovate, purple; flowers small, brown, greenish white on the inside; spur blunt, compressed; lip white, with elevated spots.


Lip 3-lobed, crenulate, obtuse; middle lobe 2-cut; sepales pointed, 2 inner upright, spread; outer reflexed, 3-ribbed; spur conical, ascending; as long as the germen.

Orchis morio mas, follis maculatis, Rail Syn. 376, 3; Park. 1346.
Cynosorchis morio mas, Ger. em. 268.
Orchis mascula, Lin. S. P. 1333.

Male fool-stones.

Woods and pastures; perennial; April and May.

Root 2-tubercled; scape 2 feet high; leaves broad, spotted with dark purple; bracteae lanceolate, coloured, scarcely as long as the ovary; flower uniformly coloured; spur blunt, horizontal; lip hanging down, base white with a few purple spots.—Root, as being the most abundant species, is made into salep, by being taken up when the stalks begin to fall, the new tubercles separated, washed, and the outer thin skin taken off: the prepared tubercles are then spread upon a tin plate, and stoved for 8 or 10 minutes in a heat sufficient to bake bread; by which they acquire a semitransparency like horn, without much diminution in size. Salep is one of the most nutritive species of food known at present, and extremely useful in travelling and in sea voyages. It is probable the other species of this genus might be prepared in the same manner.


Lip 3-lobed; lobes crenate, middle lobe nicked; sepales ascending, obtuse; spur conical, ascending, shorter than the ovary.

Orchis morio femina, Rail Syn. 377, 4; Park. 1347.
Cynosorchis morio femina, Ger. em. 208.
Orchis morio, Lin. S. P. 1333.

Female fool-stones.

Fields and meadows; perennial; May and June.

Root 2-tubercled; scape 12 in. high; leaves lanceolate; spike loose, 12-flowered; bracteae lanceolate, membraneous, coloured; flowers purple; sepales blunt; 3 upper with 3 or 5 greenish ribs; spur bent, thickened at the tip; lip dilated, middle lobe spotted.
V. 139. OPHRYS. Pliny.

*Ovary* not twisted; *perigonium* spread, inner sepales often manifestly smaller; *lip* spurless, wider backwards, convex, mostly silky and variously painted, cartilaginous, stiff; *rostellum* very short, split into 2 roundish bursicles; *retinacle* distinctly bursiculate, short-elliptical.—*Balbis* roundish; *stem* leafy; *leaves* lanceolate, rather glaucous; *spike* loose; *bracteeae* lanceolate, leaflike; *ovary* sessile.

1. *Ophrys apifera.*  
**Bee satyrion.**  
*Lip* 3-cut, middle lobe longest, rather 3-cut; terminal segment awlshape, recurved; *anther* pointed, hooked.  
Testiculii vulpinus secundus *sphegodes,* *Ger. em.* 212, 3.  
*Orchis* sphegodes seu *fuscus referens,* *Park.* 1350.  
*Orchis apifera,* *Huds.* Fl. Angl. 391.  
_Humble-bee orchis._ *Bee flower.*

Dry pastures on chalky soils; perennial; July.  
*Stem* 12 in. high; *leaves* broad; *bracteeae* longer than the *ovary*; *spike* few-flowered, loose; 3 outer *sepales* elliptical, obtuse, purple; 2 inner lanceolate, very short, greenish.

2. *Ophrys aranifera.*  
**Spider satyrion.**  
*Lip* 3-lobed; side lobes short, blunt; middle lobe nicked, turned back; *anther* acute.  
*Orchis* sive *Testiculus* *sphegodes* *hirsuto flore,* *Raii* Syn. 380, 16.  
*Ophrys aranifera,* *Huds.* Fl. Angl. 399.  
*Ophrys* fucitior, *Curtis* Fl. Lond. 6, 67.  
_Chalky places; perennial; April and May._  
*Stem* 12 in. high; *spike* few-flowered; *flowers* green; *lip* brown; *sepales* spread; 3 outer oblong, obtuse; 2 inner lanceolate, short, pointed.

3. *Ophrys muscifera.*  
**Fly satyrion.**  
*Lip* 3-lobed; middle lobe largest, cut into 2 segments, disk shining; *anther* obtuse.  
*Orchis* myodes *minor,* *Park.* 1352.  
*Ophrys insectifera* *myodes,* *Lin.* S. P. 1343.  
_Common fly-orchis._

_Chalky pastures; perennial; June._  
*Stem* 9 in. high; *spike* loose, few-flowered; *bracteeae* yellowish; 3 outer *sepales* green, 2 inner purple; *lip* oblong, dark red with bluish spots in the centre.
VI. 140. GYMNADEINA. R. Brown. Gymnadenia.

Ovary reclined at the tip; perigonium arched; lip spurred, 3-cut; spur linear; gynostemium very short; rostellum split; retinacle distinct, naked; gynizus usually surrounding the opening of the spur, crescent-like, dilated at each end forwards.—Bulb palmate; leaves radical, slender; spike loose; bracteae leaflike, lanceolate; flowers sweet-scented.

Gymnadenia conopsea. Gnat gymnadenia.

Spur twice as long as the ovary.

Gymnadenia conopsea, M. Brown in Ait. H. Kew. 5.

Serapias minor nitente flore, Ger. em. 222.

Orchis palmata minor flore rubro, Park. 1358.

Orchis conopsea, Lin. S. P. 1835.

Serapias minor nitente flore, Ger. em. 222.

Orchis palmata minor flore rubro, Park. 1358.

Orchis conopsea, Lin. S. P. 1835.

Gymnadenia conopsea, R. Brown in Ait. H. Kew. 5.

Red hand-ed orchis.

Meadows; perennial; June.

Spur 18 in. high; leaves bright green; flowers pale purple, smelling like cloves; lip bluntly 3-lobed, middle segment not nicked; side sepals much spread; spur bristle-like.

β. alba. Flowers white.

VII. 141. ENTATICUS. Apulejus. Hand-orchis.

Ovary reclined at the tip; perigonium galeate; lip spurred; spur short; gynostemium very short; rostellum split; retinacle distinct, naked; gynizus usually surrounding the opening of the spur, crescent-like, dilated at each end forwards.—Root fascicled or palmate; stem leafy; leaves broad; spike close, many-flowered; bracteae lanceolate, leaflike.


Spur blunt, one-third the length of the ovary; lip 3-parted; lobes acute, the middle divided.

Orchis pusilla alba odorata, radice palmata, Rau Syn. 381, 1.

Satyrium albidum, Lin. S. P. 1338.


Orchis parviflora, Lamarck Enc. Meth. 4, 599.

Habenaria albida, R. Brown in Ait. H. Kew. 5, 192.


White hand-ed musk-orchis.

Mountainous pastures; perennial; June.

Bulbs fasciculate, in pairs; stem 15 in. high; leaves lanceolate, oval; upper leaves lanceolate, pointed; flowers small, whitish, sweet scented; lip green.
2. major. Spike dense, whitish.

Orchis palmata, thyrsus specioso longus, dense stipato, ex viridi albente,
Dillen in Rau Syn. 382, 21.


Spur short, purselike; lip linear, 3-toothed; side lobes pointed; middle lobe very short; bracteae half as long again as the flowers.

Orchis palmata minor flore luteo-viridi, Rau Syn. 381, 22.

Serapis batrachytes altera, Ger. em. 224.

Orchis palmata batrachytes vel myodes, Park. 1538.

Satyrium viride, Lin. S. P. 1359.

Orchis viridis, Salisb. Prod. 1.


Frog satyrion. Frog orchis. Green hand-orchis.

Fields and pastures; perennial; June to August.

Bulb palmate; stem 12 in. high, leafy; leaves linear-ovate, upper lanceolate; spike loose; flowers dull greenish; tipped with brownish purple; ovary linear-ovate, yellowish green or brown.

VIII. 142. PLATANTHERA. Richard. Fox-stones.

Perigonium arched; lip spurred, narrow strap-like, undivided; cells of the anther widely distant, narrowed below, and the broad gynizus being placed between them separates them widely apart; pollen in long-tailed masses; vesicles very numerous, very minute, linear-prismatic; retinacle naked, orbiculate, peltate with a very short stalk, not terminating the caudicle as usual, but lodged as it were on the side and within; gynizus appearing as grown to the bottom of the connective, short and rounded, the lower part not going beyond the opening of the spur; rostellum none.—Root 2-tuberculate; leaves radical, 2 or 3; flowers white, fragrant; bracteae lanceolate.

Platanthera bifolia. Two-leaved fox-stones.

Orchis hermaphroditica bifolia, Rau Syn. 380, 17.

Orchis hermaphroditica, Ger. em. 211, 1.

Orchis serapias bifolia vel trifolia minor, Park. 1500.

Orchis bifolia, Lin. S. P. 1331.

Orchis alba, Lantarck Pl. Fr. 3, 502.


Butterfly satyrion.

Woods and thickets; perennial; May and June.
Pl. end. ph. 21. ORCHIDEÆ. 142. Platanthera. 207

Stem 2 feet high, smooth, 2 or 3-leaved at bottom; leaves ovate, linear or lanceolate; spike long; flowers about 12, white, fragrant; lip green, hanging down, spur awlshape.

β. minor. Stem 8 in. high; spur oblong; leaves 2 or 3 together, narrow; flowers yellow, a month later.

Orchis alba bifolia minor, calcari oblongo, Rail Syn. 380, 8.
Testiculus psycodes, Ger. em. 211, 2.
Orchis sphegodes, sive Testiculus vulpinus primus, Park. 1351.
Gnat satyrion. Small butterfly orchis.

IX. 143. HERMINIUM. R. Brown. Musk-orchis.

Ovary reclined at the tip; perigonium rather bellshape, 2 inner sepals long, 3-cleft; 3 outer ovate; tip 3-cut, hastate, with a very short baglike spur; gynostemium very short; cells of the anthers not narrowed below into a small sheath; retinacle naked, rather large, with a striking snail-like hollow underneath, joined to a short blunt rostellum; pollen in short, blunt-tailed masses, with only a few nearly cubical vesicles.—Bulbs roundish; one horizontally remote, peduncled, smaller; plant light green.

Herminium monorchis. One-tuberced musk-orchis.
Radical leaves lanceolate.

Orchis odorata moschata, sive Monorchis, Rail Syn. 318, 7.
Orchis pusilla odorata, Park. 1354.
Ophrys monorchis, Lin. S. P. 1342.
Orchis monorchis, Allioni Pedem. 1882.
Yellow sweet orchis. Musk orchis.

Barren chalky pastures; perennial; July.

Stem 8 in. high; radical leaves 2 or 3; spike close, many-flowered; flowers yellowish green; bractæ as long as the ovary.

B. Perigonium not galeate; pernle 0; anther stipitate, cells not divided by a septulum; retinacle 0; bursicle 0.


Ovary reclined at the tip; perigonium oblong arched; connivent below, bellying, rather spread out above; lip included, spurless, undivided, remarkably concavo-gibbous below; bent into a narrow, grooved strap above; gynostemium very short under the gynizus; gynizus superficial, circular, rather flat; rostellum laminated, upright, very blunt; proscolla a short inverted parabola; anther stipitate, marginal behind, roundish, acuminate; pollen in short
Goodyera repens. Creeping goodyer.
Radical leaves ovate; sepals and lip lanceolate.

Mossy Alpine woods; perennial; June to August.
Stems 9 in. high, pubescent, almost leafless; radical leaves small, tesselated with brownish purple; lip lanceolate, rose colour; 3 upper petals agglutinated.

C. Perigonium not galeate; lip mostly undivided, rarely spurred; retinacle 0; cells of the anthers divided by a septulum; bursicle 0.

Spike spirally twisted; ovarium bent at the tip; perigonium grown together in an oblong form, gaping and 2-lipped at the top; lip included, spurless, oblong-oval, undivided, bracing by a groove, bent back at top and rather crisp at the edge; gynostemium with a very short stipes; gynizus nearly elliptic; rostellum laminated, upright; proscolla oblong or linear; anther marginal, behind, heartshape; pollen in oblong masses, fastened at the tip; granules globular 3 or 4 cellulate.

Spiranthes autumnalis. Autumn ladies-traces.
Leaves radical, oblong, with a very short petiole; lip ovate.

Chalky soils; perennial; August to September.
Bulls 1 to 3, long; stem 6 in. high, smooth below, downy above, viscid; spike long, spiral, many-flowered; bracteae lanceolate, longer than the ovary, concave, pubescent; flowers small, white, odorous.

XII. 146. NEOTTIA. Lobel.

Ovary pedicelled; perigonium laxly connivent and bent into a globe; lip spurless, heartshaped; gynostemium shortly stipitate; gynizus transverse; rostellum longer than the gynizus, laminate, obliquely ascending; proscolla apiculate, minute, jointed and bent back to the hinder face of the rostellum; anther intra-marginal, short-heartshape; pollen in oblong masses, agglutinating a little below the tip; vesicles globular, 3 or 4-cellulate.—Root fascicled; scape leafless; herb brown, no part green.

Neottia abortiva. Abortive birds-nest.

Nidus avis, Raiti Syn. 383, 1.
Satirium abortivum, sive nidus avis, Ger. em. 298.
Orchis abortiva rufa, sive nidus avis, Park. 1362.
Ophrys Nidus avis, Lin. S. P. 1339.
Epipactis Nidus avis, Altoni Ped. 1849.
Birds-nest.

Woods; perennial; May and June.

Stem 18 in. high with alternate sheathing scales, leafless; flowers brownish; sepales blunt; lip obcordate, twice as long as the sepales.

XIII. 147. LISTERA. R. Brown. — Tway-blade.

Ovary pedicelled; perigonium loosely bent into a globe; lip spurless, hanging, linear, flat, 2-cut; gynostemium shortly stipitate; gynizus transverse; rostellum longer than the gynizus, laminate, obliquely ascending; proscolla apiculate, minute, jointed and bent back to the hinder face of the rostellum; anther intra-marginal, short-heartshape; pollen in oblong masses, agglutinating a little below the tip; vesicles globular, 3 or 4-cellulate.—Root fibrous; leaves 2, opposite, sessile, curvately ribbed; scape 2-leaved; flowers greenish, loosely spiked; capsules globular.
1. Listera ovata.  
Leaves ovate.  
Bifolium majus, sive Ophris major quibusdam, Raii Syn. 385, 1.  
Ophris bifolia, Ger. em. 403.  
Bifolium sylvestre vulgar, Park. 504.  
Ophrys ovata, Lin. S. P. 1940.  
Epipactis ovata, Swartz 162.  
Listera ovata, R. Brown in Ait. H. Kew. 5, 201.  
Common twayblade.  
Woods and meadows; perennial; June and July.  
*Stem* 12 in. high, 2-leafed; *flowers* pedicelled, green.

2. Listera cordata.  
Leaves heartshape.  
Bifolium minium, Raii Syn. 385, 2.  
Ophrys cordata, Lin. S. P. 1340.  
Epipactis cordata, Swartz 162.  
Listera cordata, R. Brown in Ait. H. Kew. 5, 201.  
Least twayblade.  
Spongy Alpine heaths; perennial; July  
*Stem* 6 in. high; *flowers* greenish.

XIV. 148. CEPHALANTHERA. Richard.  
Bastard-hellebore.  
Ovary sessile, bald, not twisted; *perigonium* upright, connivent; *lip* spurless, clasping, interrupted; *hypochilium* gibbous at the back; *epichilium* bent back at the tip; *gynostemium* long, straight; *gynizus* transversely oblong, prominent; *rostellum* 0; *anther* marginal, elliptical roundish, fastened to the back of the gynizus by its base, the other part overtopping the gynizus, the cells growing forwards on a connective wider than themselves; *pollen* in linear masses, adhering only to the back of the gynizus by their base; *vesicles* simple.—Rhizoma creeping; fibres fleshy; *stem* leafy; *leaves* amplexicaul, 2-rowed, lanceolate, ribbed; *spike* loose; *flowers* upright, bracteate; *ovary* linear.

1. Cephalanthera grandiflora.  
Large flower bastard-hellebore.  
*Leaves* oblong, lanceolate, sessile; *bracteae* longer than the flower; *lip* obtuse, shorter than the sepales.
Helleborine flore albo, *Raii Syn.* 388; *Ger. em.* 441, 2.

Woods; perennial; May and June.

Stem 12 in. high; flowers 3 to 8, upright, large, white.


*Leaves* lanceolate, pointed, nearly 2-rowed; *bracteae* very small, awlshape; *lip* only half as long as the sepals.

Serapias nivea, *Villars Dauph.* 2, 52.

Woods; perennial; June to August.

Stem 12 in. high; flowers white; lowest *bractea* as long as the flower.


*Leaves* lanceolate; *bracteae* longer than the ovary; *lip* pointed, with raised wavy lines.

Helleborine montana angustifolia purpurascens, *Dillen in Raii Syn.* 384, 7.

Narrow-leafed wild sneeze-wort.

Rocky mountainous woods; perennial; June.

Stem 12 in. high; flowers purple.


*Ovary* pedicelled, not twisted, pubescent; *perigonium* spread; *sepales* not quite alike; *lip* spurless, rather spread backwards, not clasping, interrupted; *hypochilium* con-cavely bunched; *epichilium* inwardly 2-bunched at the bottom; *gynostemium* very short, and in respect to the ovary declining backwards; *gynizus* rather square, prominent backwards; *rostellum* apiculate, very short, blunt;
anther marginal, placed behind, heartshape, blunt pointed; pollen in oblong ovate masses, agglutinating near the tip; vesicles appearing 3 or 4 globular.—Rhizoma creeping; fibres fleshy; stem leafy; leaves amplexicaul, 2-rowed, ovate, ribbed; spike loose; flowers drooping, bracteate; ovary ovate.

Lower bracteae longer than the flowers; lip pointed, shorter than the sepals; leaves ovate.
Helleborine latifolia montana, Raui Syn. 383, 1.
Helleborine, Ger. em. 442, 1.
Elleborine flore viridante, Park. 218.
Serapisas Helleborine a, Lin. S. P. 1344.
Serapisas latifolia, Murray Syst. Veg. 814.
Epipactis latifolia, Willd. S. P. 5, 83.
Wild white hellebore. Common bastard hellebore.
Shady woods; perennial; July and August.
Stem 2 feet high; flowers small, purplish.

2. atro-rubens. Flowers deep red, late; stem very downy.
Helleborine altera atro-rubente flore, Raui Syn. 313, 2.
Elleborine flore atro-rubente, Park. 218.

2. Epipactis palustris. Marsh hellebore.
Bracteae shorter than the flowers; lip crenate, blunt, as long as the sepals; leaves lanceolate.
Helleborine palustris nostras, Raui Syn. 384, 6.
Serapisas longifolia γ, Lin. S. P. 1345.
Serapisas latifolia palustris, Huds. Fl. Ang. 393.
Serapisas palustris, Scop. Carn. 2, 204.
Epipactis palustris, Willd. S. P. 5, 81.
Marsh hellebore.
Marshes; perennial; July and August.
Stem 12 in. high; sepals variegated with purple; 3 outer green; 2 inner white.

XVI. 150. CYPRIPEDIUM. Ladies-slipper.
Ovary not twisted, pedicell short; perigonium spread loosely and rather cross-like; lower or odd sepals grown together into one, placed under the lip, and more or less split at the tip; lip spurless, blown out like a slipper; gynostemium rather short, three-cut behind and above, with the side divisions anther-bearing before below the tip, the intermediate division very large, bent in, without any anther, and therefore an imperfect anther or staminodium; gynixus (or stigma) footstalked, rather peltate; nearly deltoid, placed between and above the anthers; clinandrium and rostellum 0;
anthers 2, joined nearly opposite, fixed immediately on their support, roundish; pollen pulpy-granular.—Rhizoma creeping; fibres fleshy; stem leafy; leaves amplexicaul, many-ribbed; flower single, drooping.

**Cypripedium ferrugineum.**  
Brown ladies-slipper.  
Stem leafy; sepals flat; staminodium elliptic, obtuse, channelled.

Calceolus Mariae, Raii Syn. 385, 1; Ger. em. 443, 1.  
Elleborine major seu Calceolus Mariae, Park. 217.  
Elleborine ferruginea, Dalech. Hist. 1146.  
Cypripedium Calceolus, Lin. S. P. 1346.

Mountainous woods; perennial; June.  
Stem 12 in. high, 1 rarely 2-flowered, leafy; sepals brownish purple; lip shorter than the sepals, compressed, yellow, veined; staminodium yellow dotted with red.

**D. Perigonium** not galeate; lip spurless; retinacle 0; sepal persistent; ovary pedicelled; bursicle 0.

**XVII. 151. PSEUDORCHIS.**  
Dwarf-orchis.

Ovary pedicelled, generally imperfect and abortive; perigonium loosely spread; lip behind, sessile at the base of the gynostemium, reverse-oval, channelled, above bent back, undivided; gynostemium oblong, rather bent, much thicker below, with winged edges on the side of the gyniûs at the upper part; gyniûs rather square, sunk in; edge prominent; rostellum 0; anther marginal, placed above, short-heart-shape; cells roundish, very simple within; pollen in globular nearly equal masses. — Herb light green; bulb ovate, scaly; base rooting; leaves 2 or 3, radical, petiolate, nerved; scape angular; racemus loose, few-flowered; flowers yellowish; bracteae short.

**Pseudorchis Loeselii.**  
Loesel’s dwarf-orchis.

Leaves 2, ovate, lanceolate, opposite; sepals linear; lip ovate, bent back at the tip; bracteae shorter than the pedicels.

Pseudo-orchis bifolia palustris, Raii Syn. 382, 1.  
Orchis bifolia bulbosa, Ger. em. 403.  
Chamiorchis latifolia Zelandiae, Park. 1534.  
Ophrys Loeselii, Lin. S. P. 1341.  
Ophrys paludosa, Fl. Dan. 877.  
Ophrys pulchella, Salisb. Prod. 8.  
Cymbidium Loeselii, Swartz.  
Malaxis Loeselii, Swartz. 165.  
Liparis Loeselii, Richard Mem. Mus. 4, 60.  
Bulbous twayblade.
Sandy moors; perennial; May to July.

Root bulbose, scaly; scape 4 in. high; flowers lemon-colour.

XVIII. 152. MALAXIS. Swartz.

Malaxis

Ovary pedicelled, generally imperfect and abortive; perigonium very much spread vertically; the odd sepal entirely spread out, hanging; the paired sepals upright, the inner much narrower, bent back or turned over on the sides of the former; lip behind, upright, expanded, rather heart-shape, pointed, generally undivided, rarely 2-cut with an intermediate point, embracing the bottom of the gynostemium by a slight or deep cut at the bottom, and enclosing the bases of all the sepals; gynostemium very short, upright, ending above and forwards in a truncate lamina, nearly undivided, or at most 3-cut; gynizus slightly depressed into a lamina; rostellum 0; anther for some time intramarginal, entirely behind, short; cells ovate, very simple within; pollen in oblong masses.—Bulb ovate, scaly, rooting at the base; leaves few, alternate, sheathing; scape angular; raceme many-flowered; bracteeæ small; herb light green; leaves few; flowers greenish.

Malaxis paludosa.

Marsh malaxis.

Leaves 3 or 4, spathulate, rough at the tip.

Orchis minima bulbosa, Dillen in Rall. Syn. 378, 9.
Bifolium palustre, Park. 505; Rall. Syn. 385, 3.
Ophrys paludosa, Lin. S. P. 1341.
Malaxis paludosa, Swartz, 165.
Malaxis palustris, Richard Mem. Mus. 4, 60.
Marsh twayblade.

Spongy bogs; perennial; June and July.

Scape 4 in. high, rather naked; flowers yellow-green; 3 outer sepals twice as large as the inner; lip only half as long as the sepals.


Ovary pedicelled, pedicell short; perigonium arched in an oblong form; lip oblong reversed-oval, channelled below, slightly cut on each edge with a small crenule, spread over on the inside with prominences disposed lengthwise, above spreading and turned back; perule very short, adnate; gynostemium long, wingless, rather channelled before with prominent edges; gynizus nearly semioberculaté; rostr
tellum apicular, prominent behind; anther marginal, placed at top, short, rather 2-globular; cells 2-celluluate, opening rather transversely; pollen in 2 distinct masses, nearly globular, one before, one behind.—Herb light brown, leafless; root zinziberaceous, fleshy; spike loose, few-flowered; bracteae very small.

Corallorrhiza innata. **Innate coral-root.**

Spur short, adnate; root very much branched.

Dentaria minor, Ger. em. 1585, 2.
Ophrys corallorrhiza, Lin. S. P. 1399.
Cymbidium corallorrhiza, Swarts, 176.

Moist woods; perennial; August and September.

Stem 9 in. high, yellowish brown, scaly; scales alternate; flowers small; capsules widely elliptic, hanging down.


Perigonium 6-sepaled; 3 outer sepales herbaceous, persisting; 3 inner petaloid, coloured; stamens 6 or indefinite; ovaries many, free, 1-celled, 1 or 2-seeded; styles and stig mata many; camares 1 or 2-seeded; seeds erect, on the sutures; perisperm 0; corculum incurved; radical below.—Root fibrous, with roundish tubers; herb aquatic, stemless, perennial; leaves petiolate, longitudinally ribbed; flowers verticillately spiked.

Stamens 6; flowers hermaphrodite.

Camares 2 or 3-seeded; etarion stellate

**Damasonium.** 156.

Camares 1-seeded; etarion globose ...... **Alisma.** 155.

Stamens many; flowers unisexual.

Camares 1-seeded; etarion globose .... **Sagittaria.** 154.

I. 154. **Sagittaria.** Lobell. **Arrowhead.**

Perigonium 6-sepaled; stamens many, indefinite; ovaries many, indefinite; etarion globose; camares 1-seeded, distinct, compressed, edged.—Leaves sagittate, palmate-ribbed; spike verticillate; flowers unisexual? the upper male.
Sagittaria aquatica.  Water arrowhead.
Leaves lanceolate, pointed, sagittate; lobes lanceolate, straight; scape simple.

Sagitta, Rail Syn. 258, 1.
Sagitta major et minor, Ger. en. 416, 1 and 2.
Sagitta minor latifolia, Park. 1247.
Sagittaria sagittatafolia, Lin. S. P. 1410.

Watery places; perennial; July and August.

First leaves strapshape, sunk; the succeeding sagittate, reticulately veined; scape 6-angled; flowers 3 in a whorl; bracteae ovate; male flowers with 1 to 6 styles. — Tuber nutritive, eaten by the Chinese, by whom the plant is cultivated in watery places.

§. minor. Plant much smaller.
Sagitta aquatica omnium minima, Rail Syn. 258, 2.

II. 155. ALISMA. Cordus.  Water-plantain.

Perigonium 6-sepaled; stamens 6; ovaries many, indefinite; etarion roundish; camares 1-seeded, distinct.—Root fibrous; leaves ovate or lanceolate, curved-ribbed; flowers umbelled or panicled; branches in threes, verticillate.

Leaves ovate, acute, 7-ribbed; etarion depressed; camares verticillate, obtusely 3-sided.

Plantago aquatica, Rail Syn. 257, 1.
Plantago aquatica major, Ger. em. 417, 1; Park. 1245.
Alisma Plantago aquatica, Lin. S. P. 486.
Plantaginoides sen Plantago aquatica, Knaut Comp. 156.
Alisma Plantago, Smith Fl. Brit. 400.

Watery places and river-sides; perennial; July.
Scape 4 feet high, 3-sided, upright; panicle verticillately branched; flowers bluish white.—Tubers farinaceous, much recommended in hydrophobia, juice used for drying up the milk in breasts.

§. lanceolata. Leaves strapshaped.

Plantago aquatica longifolia, Rail Syn. 257, 1 *.
Narrow-leaved water-plantain.

Leaves elliptical, obtuse; peduncles single; etarion depressed; camares verticillate, compressed, streaked.

Alisma natans, Lin. S. P. 487.
Alpine lakes; perennial; July and August.
Herb floating; stem branched, leafy; leaves alternate; lower submersed, linear; peduncles opposite to the leaves or terminal, 1-flowered; flowers white.


*Plantago aquatica minor*, *Rait Syn.* 257, 2; *Park.* 1245.
*Plantago aquatica humilis*, *Ger. em.* 417, 3.
*Alisma ranunculoides*, *Lin. S. P.* 487.

Dwarf water-plantain.

Watery places; perennial; August.
Scape 12 in. high, upright, round; peduncles simple, verticillate; flowers pale, purple.

β. repens. Stem decumbent, rooting.

*Alisma repens? Davis Welsh Botany.*

III. 156. DAMASONIUM. Dalechamp. Starhead.

*Perigonium* 6-sepaled; stamens 6; ovaries 6 or 8, joined at the base; camares 2-seeded; etarion stellate.—Leaves lanceolate or ovate; flowers umbellled, hermaphroditae.

*Damasosium Dalechampii*. Dalechamp’s starhead.
Leaves cordate, oblong, obtuse; etarion 6-rayed.

*Damasosium stellatum Dalechampii*, *Rait Syn.* 272.
*Plantago aquatica minor stellata*, *Ger. em.* 417, 2.
*Plantago aquatica minor muricata*, *Park.* 1245.
*Alisma Damasonium*, *Lin. S. P.* 486.
*Damasosium stellatum*, *Pers. Syn.* 1, 400.

Star-headed water-plantain.

Bogs and stagnant waters; perennial; June and July.
Scape 9 in. high, round, verticillately spiked; flowers white.


*Perigonium* nearly petaloid, 6-sepaled; stamens 9 or many; ovaries many, free, 1-celled, many-seeded; styles and stigmata many; pericarp many-seeded; seeds on the netlike veins on the sides of the valves, ascending; perisperm 0; corculum straight or bent like a horseshoe.—Plant aquatic, stemless; leaves ribbed lengthways; footstalks sheathing; foliation involute; flowers umbelled, terminal; bractee sheathing, at the base of the peduncles.

Perigonium 6-sepaled; outer sepals smaller; stamens 9; ovaries 6, longly beaked; pericarp twisted inwardly, opening at the edge; valves joined side by side at the base; seed linear, oblong, straight, round, streaked lengthways; corculum straight.—Rhizoma tuberous, creeping; leaves angular; scape round.

Butomus umbellatus. Umbelled gladiole.

Leaves long, linear, 3-sided.

Butomus, Rait Syn. 273, 1.
Gladiolus palustris Cordi, Ger. ed. 20, C. 1.
Juncus floridus, Park. 1197.
Butomus umbellatus, Lin. S. P. 532.
Flowering rush. Water gladiole.

Ditches and river-sides; perennial; June and July.
Leaves smooth, flat above, acute; scape 2 to 4 feet high; flowers reddish, beautiful.


Perigonium herbaceous or nearly petaloid, 6-sepaled; stamens 6; filaments short; ovaries 3 or 6, 1-celled; stigma 3 or 6, sessile; camaraes 1 or 2-seeded; seeds basillary, upright; perisperm 0; corculum straight.—Root fibrous; leaves linear, rushlike, sheathing at the base; flower spiked or racemose.

Sepales equal; etarion depressed;
camaraes inflated, spread........... SCHUECHZERIA. 158.

Sepales 3 inner petaloid; etarion upright;
camaraes pendulous, connivent........ TRIGLOCHIN. 159.

I. 158. SCHUECHZERIA. Linnaeus. Scheuchzer.

Perigonium herbaceous, 6-sepaled; sepals equal, persistent; stamens 6; filaments short; anthers linear, long; ovaries 3 or 6, compressed; stigma sessile, lateral; camaraes inflated, reflexed, distant; seeds 1 or 2, oblong.—Root scaly, creeping; leaves few, rushlike; scape round; spike loose; flowers greenish; bracteæ at the bottom of the peduncle.

Scheuchzeria palustris. Marsh scheuchzer.
Leaves bristlelike, channelled; raceme upright, few-flowered.
Juncus floridus minor, Bauh. Pinax, 12.
Scheuchzeria palustris, Lin. S. P. 482.

Spongy bogs; perennial; June.
Scape 9 in. high; leaves longer than the scape; spike 3 to 6-flowered.

II. 159. TRIGLOCHIN. Linnaeus. Arrowgrass.

Perigonium 6-sepaled; sepales deciduous, 3 inner nearly petaloid; stamens 6, very short; ovaries 3 or 6, connivent; stigmata 3 or 6, radiating at the tip of the ovaries; pericarps (camares) regmata? 3 or 6, 1 or 2-seeded, affixed at top to a common axis.—Root fibrous, thickened in the upper part as if bulbose; scape round; leaves semicylindrical, bundled, sheathing at the base; spike linear; many-flowered; bracteae 0.

Triglochin palustre. Marsh arrowgrass.

Capsules 3, smooth; etarion linear, narrowed at bottom.

Juncago palustris vel vulgaris, Raiti Syn. 435, 1.
Gramen aquaticum spicatum, Ger. em. 13, 2.
Gramen aquaticum spicatum alterum, Park. 1279.
Triglochin palustre, Lin. S. P. 482.

Spiked arrowgrass.

Meadows and sides of water; perennial; July.

Leaves linear, channelled; scape 12 in. high.

2. Triglochin maritimum. Sea arrowgrass.

Capsules 6, furrowed; etarion oval.

Gramen maritimum spicatum, Raiti Syn. 435, 1; Park. 1270.
Gramen spicatum alterum, Ger. em. 20.
Triglochin maritimum, Lin. S. P. 483.

Saltmarsh spikegrass.

Meadows near the sea; perennial; May to August.

Leaves broader and more fleshy than the former.

Fam. XX. 25. HYDROCHARIDEÆ. De Candolle.

Perigonium petaloid, 6-sepaled, adherent to the ovary; stamens 9 to 20, on the ovary in hermaphrodite flowers, or in its place in male flowers; ovary 1, 1 or many-celled; stigmata 3 or 6, 2-cut; pericarpium 1 or 6-celled; seeds many; spermodermis simple; perisperm fleshy; corculum basillary.—Herb aquatic, floating; root fibrous; flowers hermaphrodite or unisexual.

Stamens 6; capsules roundish, leathery

Hydrocharis. 160.

Stamens 20; capsules narrowed, fleshy

Stratiotes. 161.
I. 160. HYDROCHARIS. Linnaeus.  
Frog-bit.

Dioecious. — Male. Spathe 2-parted, 3-flowered; perigonium petaloid, 6-sepaled; 3 inner sepals largest; stamens 9, in 3 series, on a barren ovary.— Female. Spathe 0; perigonium petaloid, 6-sepaled, adherent to the ovary; styles 6; stigmas acute, 2-cut; pericarpium leatherlike, rounded, 6-celled, many-seeded.— Herb floating, knotted, stoloniferous; knots leaf and flower-bearing; leaves petiolate, in bundles, roundish; foliation involute; flowers whitish.

Hydrocharis asarifolia.  
Asarum-leaved frogbit.

Stratiotes foliis asari, semine rotundo, Rail Syn. 290, 1.  
Morsus ranae, Ger. em. 818.  
Nymphæa alba minima, seu Morsus ranae, Park. 1232.  
Hydrocharis Morsus ranae, Lin. S. P. 1466.  
Frog-bit. Least water-lily.

Ditches and stagnant waters: perennial; July.
Leaves floating, kidney-shaped; flowers white, footstalked.

β. odoratissima. Flowers double, very odoriferous.
Morsus ranae flore pleno odoratissimo, Rail Cat. Cant. 101.

II. 161. STRATIOTES. Dioscorides. Water-soldier.

Spatha compressed, persisting, deeply 2-parted, carinate, 1-flowered; perigonium adherent, 6-sepaled; sepals soldered at the base; 3 outer sepals smaller, greenish; 3 inner larger, coloured; stamens 10 to 20, on the edge of the ovary; styles 6, 2-cut; pericarpium 6-sided, attenuated, fleshy, 6-celled; cells divided by a double membrane filled with pulp; seeds many, rather angular, parietal; spermodermis simple, membranaceous.— Herb floating, soboliferous; leaves sheathing, crowded, radical, vascular, angular; scape axillary, 1-flowered; flowers often abortive, or dioecious.

Stratiotes aloides.  
Aloe water-soldier.
Leaves sword-shaped, triangular; edge serrate with cartilaginous teeth.

Stratiotes foliis aloes, semine longo, Rail Syn. 290, 1.  
Militaris aizoides, Ger. em. 825.  
Stratiotes sive Militaris aizoides, Park. 1249.  
Stratiotes aloides, Lin. S. P. 754.  

Ditches and stagnant water; perennial; July.
Leaves brittle, blackish green; scape 2-edged, serrated; flowers white.
SERIES III.

PLANTÆ EXOGENÆ,

*Dicotyledones*, Jussieu.

Plants composed of cellular texture, with lymphatic, spiral, and proper vessels; and with cortical pores. Root more or less conical, often without any pith, otherways like the trunk. Trunk more or less conical, and composed, at least, of two parts growing by different modes, as may be best seen in the arborescent species, in which we find 1°. a central pith enclosed in a medullary canal, emitting on all sides radiating medullary productions; 2°. annual layers, more or less woody, disposed concentrically round the pith, the outer layers being the youngest and the least hard; 3°. cortical layers, distinct from the wood, but scarcely distinguishable from one another, and differing from the last in the mode of growth, the inner ones being the youngest, and the external being the oldest. Leaves opposite or verticillate, sometimes becoming alternate by the growth of the stem, disposed more or less spirally on the stem, often articulated on the stem, or truly compound; always furnished with ribs that anastomose with one another. Flowers always distinct, usually furnished with a double perigonium, parts usually five in number, or divided into five segments. Stamens rarely 3, 6, or 9, or any multiple of 3. Corculum most commonly with 2 cotyledons. *Cotyledons* 2, placed opposite, never alternate; very rarely many, verticillate; and, in leafless plants, none.

This series contains full two thirds of the whole number of natural families; but the arrangement of these families among themselves has not yet been determined, and therefore the families of this series are arranged by De Candolle, for the present, into four artificial subseries resting upon the differences observable in their petals and stamens, until a natural arrangement by their affinities shall be discovered.
SUB-SERIES.

Perigonium single, petals 0, or soldered to the calyx ................. P. E. monochlamydeæ. A.
Perigonium double; petals soldered into one, stamen-bearing, inserted into the thalamus ....................... P. E. corolliflæra. B.
Perigonium double; petals many, distinct, or soldered together, inserted along with the stamens on the calyx ........ P. E. calyciflæra. C.
Perigonium double; petals many, distinct, inserted along with the stamens on the thalamus ....................... P. E. thalamiflæra. D.

Subseries III. A. PLANTÆ EXOGENÆ MONOCHLAMYDEÆ.

Dicotyledones apetalæ, Jussieu Gen. Plant.
Dicotyledones diclines irregulares, Jussieu Gen. Plant.
Dicotyledones incompletæ, De Candolle Syn. Fl. Gall.

Perigonium single; petals none, or soldered to the calyx.

FAMILIES.

A. Flowers unisexual, male amentaceous; perisperm fleshy; leaves biennial.

Nuculæ many, reversed, in a cone... ABIETIDEÆ. 1.
Nuculæ few, upright, in a galbulum CUPRESSIDEÆ. 2.
Nucula single, upright.............. TAXIDEÆ. 3.

B. Flowers unisexual, male amentaceous; perisperm none; leaves annual.

Nucula, in a cone .............. BETULIDEÆ. 5.
Gland or nucula, in a cupula...... CORYLIDEÆ. 6.
Capsule 1 or 2-celled; seed comose SALICINÆ. 4.

C. Flowers hermaphrodite; or unisexual, the male not amentaceous; ovary free.

Utriculus; perisperm 0; flowers unisexual URTICEÆ. 9.
Utriculus; perisperm farinaceous;
leaves sheathing at the base ....... POLYGONEÆ. 15.
**PLANTÆ EXOGENIÆ.**

**Utriculus; perisperm farinaceous;**

leaves naked at the base .......... **CHENOPODEÆ.** 16.  
**Pyxidium** 1-celled, 1-seeded;  
**styles** 3; **stamens** 3 or 5 .......... **AMARANTHACEÆ.** 17.  
**Regma** 2 or 3-coccous .......... **EUPHORBIACEÆ.** 10.  
**Samara; stamens** 3 to 6 .......... **ULMACEÆ.** 8.  
**Drupe; stamens** 8 .......... **THYMEÆÆ.** 14.  
**Drupe; stamens** 4 .......... **ELÆAGNEÆ.** 13.  

D. Flowers hermaphrodite; ovary adherent.  
**Stamens** hypogynous; **drupe** globose  
**SANTALACEÆ.** 12.  
**Stamens** epigynous; **carcerule** 6-celled  
**ARISTOLOCHIÆ.** 11.  

Fam. I. 1. **ABIETIDEÆ.**  
Flowers unisexual.—**MALE. Scales** of the ament imbricate; **anthers** 1, sessile, 2-celled.—**FEMALE. Scales** of the strobile many, imbricate, 2-flowered; **ovaries** 2, on the axilae of the scales; **style** deflexed; **stigma** near the base of the ovary; **nucula** 1-celled, winged; **kernel** pendulous; **perisperm** fleshy; **coryleum** central, straight; **cotyledons** many; **radicle** above. —**Trees** resinous; leaves biennial, slender, acerose, opposite, verticillate or fascicled.  
**Scales** of the cone clavate, angular;  
leaves biennial, 2 together .......... **PINUS.** 1.  
**Scales** of the cone slender, rounded;  
leaves biennial, single .......... **ABIES.** 2.  
**Scales** of the cone slender, rounded;  
leaves annual, in bundles .......... **LARIX.** 3.  

Gen. I. 1. **PINUS.** Pliny.  
Pine.  
**Monoicous.**—**MALE. Ament** racemose, compact, terminal, scaly; **stamens** 2, on the tip of the scales of the ament; **anthers** 1-celled.—**FEMALE. Ament** simple, imbricate; **scales** pointed; **ovaries** 2; **stigmata** 2, 3-cut; lobes tailed; **scales** of the cone oblong, clubbed, woody, imbricate; **tip** angular; **nucules** 2 on each scale, covered with a membranaceous appendage; **cotyledons** 4 to 8.—**Tree; branches** verticillate; **luds** large; leaves biennial, 2 or 3 from the same sheath.  
**Pinus sylvestris.**  
**Wild pine.**  
**Leaves** in pairs, stiff; **cones** generally in pairs, ovate, conical, acute, as long as the leaves, rounded at bottom; **tips** of the scales (especially of the lower ones) very pyramidal.
Pinus sylvestris foliis brevibus glaucis, conis parvis albentibus, Rail Syn. 442.  
Pinus sylvestris, Ger. em. 1356; Lin. S. P. 1418.  
Scotch fir. Pineaster.

Alpine mountains, also cultivated; arborescent; May.  
Trunk tall, straight, determinately branched, dark green; leaves smooth, pointed.—Wood used for timber, red or yellow deals; juice resinous, becoming solid; bark used to tan leather, and, mixed with meal, made into bread in the Northern countries.

II. 2. ABIES. Pliny.  
Fir.

Monoicus.—Male. Ament solitary, not racemose; stamen 1, on the tip of the scales of the ament; anther 2-celled.  
Female. Ament simple; ovaries 2; stigmata 2, 3-cut; lobes glandular; scales of the cone imbricate, thin, rounded at the tip and not thickened; back not umbilicated; cotyledons 3 to 9.—Trees very tall, conical; buds large; leaves alternate, 2-rowed, scaly, large, acrose, linear; aments terminating the secondary branches.

a. Cones hanging down; leaves scattered.

1. Abies excelsa.  
Tall fir.
Leaves 4-sided; cones cylindrical; scales rhomboidal, flat, edge torn and spread; bracteae minute.  

Abies, Rail Syn. 441, 1: Ger. em. 1363; Park. 1539.  
Pinus Abies, Lin. S. P.  
Abies excelsa, Salisb. T. L. S. 8, 314.  
Cultivated for timber.  
Tree evergreen, straight; bark rough, scaly, brown; branches verticillate.—Wood used for timber, white deals; juice resinous, becoming solid.

b. Cones upright; leaves 2-rowed.

2. Abies pectinata.  
Pectinate fir.
Leaves flat, nicked; scales of the cone very blunt, depressed.  

Pinus Picea, Lin. S. P. 1420.  
Abies taxifolia, H. P.  
Silver fir.  
Cultivated for timber.  
Tree tall; bark smooth, whitish.
III. 3. LARIX. Pliny.

Monoicous. — Male. Ament solitary, not racemose; scales stamenbearing; anther 1, 2-celled. — Female. Ament simple; ovaries 2; stigmata hemispherical, glandular, pubescent, scales of the cone imbricate, thin, rounded at the tip, not thickened, nor umbilicated; cotyledons 5 to 9.
— Trees tall, pyramidal; branches alternate; buds small: leaves acerose, in bundles, becoming single; annual or biennial; flowers terminal, above or lateral.

Larix Europaea. European larch.
Cone ovate, oblong, obtuse; edge of the scales reflex, torn.

Cultivated for timber.
Tree middling high; bark thick, wrinkled; leaves annual; aments reddish purple.—Wood hard, reddish in the middle, lasting; charcoal burns slow, used by smiths on the continent; juice resinous.

Fam. II. 2. CUPRESSIDEÆ.

Flowers unisexual; flower-buds naked. — Male. Ament many-flowered; scales imbricate, opposite, 1-flowered; anthers 1 or 2, sessile, 2-celled. — Female. Ament with few scales; scales peltate; ovary 1 or many on each scale; stigmata sessile, on the tip of the ovary; nucula 1-celled, in the enlarged woody scales of a gallculus, or the fleshy soldered scales of an arcesthide; kernel pendulous; perisperm fleshy; corculum central, straight; cotyledons 2; radicle above.


Dioicous. — Male. Ament peduncled, 10 to 14-flowered; scales imbricate, 3-sided, pedicelled, peltate; anthers 2 to 4, 2-celled, sessile. — Female. Ament sessile, globose; scales 3, fleshy, concave, becoming soldered; stigmata opening; arcesthide globose, 3-seeded; nucule glandular on the outside.
— Shrubs evergreen; leaves verticillate, long or linear; ament axillary, on the under side of the branches.
Leaves by threes, spreading, narrow, mucronate, longer than the arcesthides; arcesthides globose.

Juniperus vulgaris, baccis parvis purpureis, Rau Syn. 444, 1.
Juniperus, Ger. em. 1372, 1.
Juniperus vulgaris, Park. 1028.
Juniperus communis, Lin. S. P. 1470.

Heaths and commons; May.
Shrub very much branched, stiff; leaves glaucous above; ament solitary, ovate, male yellow; arcesthides globular, dark purplish-glaucous.—Arcesthides diuretic, used to flavour spirituous liquors; wood burned as antipestilential; charcoal covered with ashes retains fire long.

Leaves by threes, broad, mucronate, as long as the arcesthides; arcesthides elliptical.

Juniperus Alpina, Rau Syn. 444, 2; Park. 1028.
Juniperus Alpina minor, Ger. em. 1372, 3.

Alpine rocks; shrubby; May.
Stem low, lying down, very tough.

Fam. III. 3. TAXIDEÆ.

Flowers unisexual; flower-buds of many imbricated scales, 1 or 2-flowered.—Male. Androphore cylindrical; anthers many, sessile; 1 or many-celled.—Female. Ovary 1 or 2; style upright or none; stigmata glandular, on the tip of the ovary; nucule 1-celled, on the enlarged and soldered scales; kernel reversed, pendent; perisperm fleshy; corculum central, straight; cotyledons 2, obtuse; radicle above.

I. 5. TAXUS. Yew.

Dioicus, scales of the ament imbricate, round, concave.—Male. Androphore cylindrical; anthers 8 to 10, peltate, 6 or 8-celled, cells opening below.—Female. Ovary 1; stigma simple, sessile; utriculus ovate, hard, on a fleshy receptacle.—Trees or shrubs; branches many, alternate; leaves linear, alternate; flower-buds alternate, axillary.

Leaves 2-rowed, close together; receptacle globose.

Taxus, Rau Syn. 445, 1; Ger. em. 1370; Park. 1412.
Taxus baccata, Lin. S. P. 1472.
Yew-tree. Yough.
Mountainous woods and hedges.

*Stem* erect; *branches* horizontal, 2-rowed; *leaves* very dark green, smooth, narrow, unarmed; *receptacle* light red.

**Fam. IV. 4. SALICINÆ. Mirbell.**

*Flowers* unisexual, amentaceous; *scales* imbricate, one-flowered; *perigonium* free, scalelike or tubular.—**MALE.**

*Stamens* 1 to 30; *anthers* 2-celled.—**FEMALE.**

*Ovary* free; *style* 1, simple; *stigma* 2 to 4; *capsule* 1 or 2-celled, 2-valved, many-seeded; *seeds* comose; *spermodermis* membranaceous; *perisperm* 0; *corculum* straight.—**Trees** or shrubs; *leaves* alternate, deciduous, when young having 2 stipules at their base.

*Stamens* 2 to 5; *capsule* 1-celled;

*leaves* ovate or lanceolate .......... **SALIX. 6.**

*Stamens* 8 to 30; *capsule* 2-celled;

*leaves* angular, *peduncle* compressed ...... **POPULUS. 7.**

**I. 6. SALIX. Pliny.**

Dioicous, rarely monoicous; *ament* ovate or cylindrical; *scales* imbricate, lanceolate; *perigonium* scalelike.—**MALE.**

*Stamens* 2 or 3, rarely 1 or 5.—**FEMALE.**

*Ovary* round, pointed, spiked; *style* 2-cut; *stigma* 2; *capsule* (follicule?) 1-celled; *seed* upright, comose; *radicle* below.

The willows are here arranged first by their *ovaries*, whether sessile or pedicelled; then by their *styles*, whether short or long; to which succeed those whose female aments have not yet been found. A mode of division proposed by Dr. Hull.

**a. Ovary sessile; style short.**

1. **Salix purpurea.** Purple willow.

*Stamens* monadelphous; *leaves* obovate lanceolate, serrated, smooth; *stem* decumbent; *stigma* ovate, nearly sessile.

*Salix purpurea*, *Lin. S. P. 1444.*

*Salix monandra*, *Ard. Mem. 1, 67.*

Near rivers; shrubby; March.

*Branches* very tough, purple; *leaves* glaucous below, very bitter; *petioles* short; *ament* very slender; *ovary* silky.
*Stamens distinct; leaves scarcely notched, elliptical, lanceolate, nearly smooth above, whitish and woolly beneath; petiole decurrent; stipule convex rounded.*

*Salix glauca, Lin. S. P. 1446.*

Alpine mountains; shrub; May.

*Shrub 4 feet high; leaves particularly white, narrower and less veiny than those of salix arenaria.*

*Stamens distinct; leaves ovate, denticulate, smooth, compressed, keeled, minutely veined; capsules ovate, tomentose.*

*Salix carinata, Smith Fl. Br. 1055.*

Folded-leaf willow.

Alps of Scotland; shrub; April.

*Shrub 4 foot, upright; secondary branches downy, stiff; leaves arcuato-recurred; above shining, green; beneath pale, opaque, scarcely glaucous; ament small, ovate; ovary twice as long as the scales; stigmata become nicked.*

*Stamens monodelphious; trunk upright; leaves obovate, lanceolate, acute, serrate, bald; stigmata very short, ovate, nicked.*

*Salix Lambertiana, Smith Fl. Brit. 1041.*

Boyton willow.

Holts and marshes; tree; March and April.

*Tree slender, 10 feet high; branches glaucous, purple; leaves an inch long, glaucous beneath; ament slender; scales black, orbicular; ovary thick, silky.—Excellent for basket-work.*

*Stamens 4 to 7; leaves elliptical, lanceolate, crenulate, bald; ovary bald, shining, nearly sessile.*

*Salix folio lauroe seu lato glabro odorato, Raiti Syn. 449, 12.*

*Sweet willow. Bay-leaved willow.*

Sides of rivulets; tree; May and June.

*Tree small; branches shining; leaves elliptical, lanceolate, or broad-ovate, crenulate; crenules glandular, resinous, light green, shining; ament terminal, solitary, blunt, odorous, scales round, hairy at bottom; ovary lanceolate.*
Stamens 2 or 3; leaves lanceolate, acute, bald above, rather silky below, serrated, serratures cartilaginous; stipules small, deciduous, bald on the inside; stigmata nicked.
Salix folio longo subiuto, non auriculata, vuminibus luteis; eademque viminibus rubris, Raî Syn. 450. 22.
Salix folio utrinque glaeco, viminibus rubris, Raî Cant. 142.
Salix vitellina, Lin. S. P. 1442.
Yellow willow. Golden osier.
Low pastures and holts; tree; May.
Tree middle size; branches erect, yellow, shining; leaves nearly sessile, shining above; young leaves shining on both sides; ament cylindrical, coetaneous with the vernation; ovary bald.

7. Salix fragilis. Crack willow.
Stamens 2 to 5; leaves ovate, lanceolate, pointed, serrated, bald on both sides, shining above; petioles toothed, glandular; ovary ovate, nearly sessile.
Salix, folio longo latoque splendente, fragilis, Raî Syn. 448.
Salix fragilis, Lin. S. P. 1443.
Salix decipiens, Hoffm. Sâl. 2, 9.
Common willow.
Osier-grounds and hedges; tree; April and May.
Tree tall; branches crooked, very brittle at bottom; stipules rounded, toothed, often none; male ament loose.

Stamens 2; leaves ovate, serrate, bald, smooth above, glaucous below; secondary branches rather pubescent; capsules ovate, silky.
Salix myrsinites, Lightf. Scot. 599.
Alpine mountains; shrubby; May and June.
Stem 3 feet high; branches many, spreading, reddish; leaves petiolate; above dark green, smooth, shining; beneath veined, opake; stipules half-ovate, toothed; ament solitary, upright.

Stamens 2; leaves ovate, serrated; above bald, smooth; beneath silky, glaucous; capsules ovate, silky; stem decurrent.
South of Scotland.
Tree low, partly procumbent, small; branches slender; leaves narrower and more silky beneath than those of Salix prunifolia; aments thick.

   Stamin*es* 2; leaves ovate, serrated, bald, reticulately veined above, rather glaucous beneath; *capsules* elliptical, silky.
   *Salix venulosa,* Smith Fl. Br. 1055.
   *Salix forinosa,* Willd. S. P. 4, 680.
   Alpine mountains; shrub; May and June.
   Branches many, spreading; leaves light green beneath, neatly veined above; *veins* prominent, parallel, reticulate, anastomosing near the edge.

   Leaves orbicular, serrate, quite bald, reticulately veined, both faces shining; *capsule* bald.
   *Salix Alpina,* alni rotundo folio, repens, Dillen in Rall Syn. 448, 7.
   *Salix herbacea,* Lin. S. P. 1445.
   High micaceous mountains; shrub; June and July.
   Root creeping far, woody, much branched; stem 1 in.
   High, woody, slightly branched; leaves stiff, light green on both faces; *ament* single, terminal, few-flowered.

   Leaves elliptical, orbicular, obtuse, not in the least notched, bald, reticulately veined, green above, glaucous beneath; *capsule* villose.
   *Salix pumila,* folio rotundo, Rall Syn. 449, 13.
   *Salix reticulata,* Lin. S. P. 1446.
   Alpine mountains; shrub; June.
   Stem short, much branched, diffuse; second branches reddish, leafy; leaves stiff, green above, veins red; *petioles* long, red; *aments* single, terminal, short, dense, with a long peduncle.

   Stamin*es* 2; leaves elliptical, lanceolate, acute, serrate, silky on both sides, lower serratures glandular; *stigmata* 2-parted.
   *Salix, Rall Syn. 447, 1; Ger. em. 1389.
   *Salix folio utrinque glauco, viminisus albidioribus,* Rall Cant. 142.
   *Salix arborea angustifolia, alba vulgaris,* Park. 1430.
   *Salix alba,* Lin. S. P. 1449.
   Woods and damp fields; tree; April and May.
Bark green; branches many, spreading; leaves acutely and regularly serrulated; amenis terminal, long, very slender, many-flowered; capsules ovate, rather bald.

Stamens 2; leaves lanceolate, pointed, serrate, silky beneath, growing smooth, lowest serratures glandular; stigmata 2-parted.
Damp fields; tree; May.
*Plant* growing quick; leaves large, blueish.

b. Ovary sessile; style long.

Leaves lanceolate, linear, very long, pointed, not in the least notched; above green, bald; beneath silvery, silky; branches rodlike; style long.
Eleagnus, Dalechamp Hist. Lugd. 278.
Salix viminalis, Lin. S. P. 1449.
Osier.
Holts and boggy places; shrub; April and May.
Branches very long, silky; leaves spread, 7 to 9 in. long; waved; ribs parallel; stipules linear, lanceolate, often none; amens cylindrical, early, very hairy; capsules ovate, silky.

Stamens monadelphous; trunk upright; leaves lanceolate, pointed, serrate, bald, beneath rather glaucous; style long, filiform; stigmata linear.
Salix humilior foliis angustis subcaeruleus, ex adverso binis, Rail Syn. 448, 11.
Salix Helix, Lin. S. P. 1444.
Salix monandra, Hoffm. Sal. 1, 18.
Holts and boggy places; tree; March and April.
Tree slender, 10 feet high; branches tenacious, grey and purple, shining; leaves petiolate, bitter; amens long, thick, ovary silky; capsules woolly, white.

Stamens monadelphous; branches upright; leaves rather stipuled, lanceolate, toothed, bald, above dark green, beneath glaucous; stigmata linear.
Salix fissa, T. L. S. 6, 115.
Salix Forbyana, Smith Fl. Br. 1041.

Basket osier.

Holts; shrub; April.

Branches upright, flexible, tough, bald, yellow or purple; leaves petiolate, 2 or 3 in. long; stipule lanceolate; peduncle of the ament short, scales black; ovary ovate, silky.—Used for basket-work.

Stamens monadelphous; leaves linear, lanceolate, long, acute, toothed, bald, both sides light green.

Salix minime fragilis, foliis longissimis utrinque viridibus, non serratis, Réai Syn. 449, 14.
Salix virencens, Villars Dauph. 3, 783.
Salix fissa, Ehrard Arb. 29.

Osier grounds; shrub; April and May.
Branches very long, tough, grey, or purplish; leaves 4 in. long, slender; stipules linear, lanceolate, or none.

Stamens distinct; leaves elliptical, acute, serrate, rather bald, glaucous beneath; stipules indistinct; capsules entirely bald.

Salix Pontederœ, Villars Dauph. 3, 766.

Rocky sides of rivers; shrub; May and June.
Shrub 2 feet high; branches many, spread, while young pubescent; leaves an inch and half long, light green above, veins reticulate; stipules falcate and serrate, or none; capsule bald.

Stamens distinct; small branches hirsute; leaves elliptical, serrate, bald, shining, veined on both sides; capsules awlshape, pubescent.

Salix myrsinities, Lin. S. P. 1445.
Salix retusa, Dickson T. L. S. 2, 288.

Scotch alps; shrub; May and June.
Shrub 2 feet high; branches many, divaricating; leaves 3-4ths of an inch long, stiff; both sides light green, while young rather silky; stipules serrate, bald; ament terminal, erect.
Stamens distinct; leaves scarcely nicked, ovate, acute, above rather villous; beneath densely woolly.
Salix arenaria, Lin. S. P. 1447.
Salix Lapponum, Lightf. Scot. 604.
Salix Helvetica, Villars Dauph. 3, 783.
Scotch alps; shrub; June.
Stem 5 feet high, branchy; leaves sometimes rather serrate, blackish green above, white beneath; ament short, villous; capsule woolly.

Stamens distinct; leaves scarcely nicked, lanceolate, pointed, hairy above, densely silky beneath; stig mata two-parted, capillary.
Scotch alps; shrub; June.
Stem 3 feet high; branches dark brown; leaves small; flower-buds large; aments ovate; floral leaves large.

Stamens distinct; leaves scarcely nicked, obovate, lanceolate; above bald, smooth, shining; beneath reticulately veined, glaucous, rather villose; stipules heartshape, serrate.
Salix cinerea, Lin. S. P. 1449.
Salix daphuoides, Villars Dauph. 3, 765.
Woods; tree; May.
Tree 30 feet high; branches shining; leaves green above, reddish beneath; lower leaves not nicked; upper serrate; stipules small; ament short, very dense; capsule ovato-lanceolate, bald; style very long, 4-cut.

Stamens distinct; leaves elliptical, orbicular, rather toothed, above slightly pubescent, beneath villous, rectangularly veined.
Salix cotinifolia, Smith Fl. Br. 1066.
Mountain coppices; shrubby; April.
Shrub 2 feet high; branches spreading, pubescent, leafy; leaves stiff, pointed, dark green above, pale beneath; buds villous; ament short; capsule lanceolate, villous.
25. Salix bicolor. **Two-coloured willow.**
Leaves elliptical, pointed, denticulato-serrate; above bald, shining; beneath glaucous, veined, rather hairy; ovary pedicelled, lanceolate, silky.

Salix laurina, Smith T. L. S. 6, 122.

Woods; shrub; April and May.

Bark brown; leaves rather revolute, dark green above, when dry blackish; ament scarcely an inch long; stamens short; anther roundish.

26. Salix nigricans. **Blackish willow.**
Leaves elliptical, lanceolate, crenate, bald; beneath glaucous veined; ovary pedicelled, lanceolate, pointed, silky.

Salix phyllicifolia β, Lin. S. P. 1442.
Salix nigricans, Smith T. L. S. 6, 120.

Holts; shrub; April.

Bark blackish; branches rather straight; leaves slightly rounded at bottom, dark green above, when dry black; stipules, if present, rather large, oblique heartshape; ament an inch and half long, blunt; stamens hairlike; anthers oblong; capsule awlshape.

27. Salix amygdalina. **Almond-leaved willow.**
Stamens 3; leaves ovate, oblique, serrated, bald; ovary pedicelled; stipules very large.

Salix folio auriculato splendente flexilis, Rait Syn. 448, 9.
Salix amygdalina, Lin. S. P. 1443.

Holts and bogs; shrub; April, May.

Bark deciduous; branches bald, brittle; leaves rounded at the base, oblique; above light green; beneath glaucous; stipules rounded; aments coetaneous, thick, dense; scales bald; capsules quite bald.

28. Salix decipiens. **Deceiving willow.**
Leaves lanceolate, serrate, quite bald; petiole rather glandular; ovary attenuated, pedicelled; branches bald, highly polished.


Woods and hedges; tree; April.

Bark varnished; twigs reddish; floral leaves obtuse, dilated, obovate, recurved; ovary bald; stamens 2, rarely 3.
29. Salix arbuscula.  Treelike willow.
Leaves lanceolate, obsoletely toothed, bald; stipules 0; small branches pubescent; aments ovate.

Salix arbuscula γ, Lin. S. P. 1445.

Scotch alps; small tree; April.
Stem 1 foot high, slender; branches spreading, thread-shape, while young pubescent; leaves sharp at both ends; ament short, erect.

Leaves somewhat serrate, obovate, blunt, with a deflected point, villous on both sides, reticulately veined; stipules variously formed.

Salix folio rotundo minore, Raiti Syn. 450, 17.
Salix caprea rotundifolia, Ger. em. 1390.
Salix aurita, Lin. S. P. 1446.

Mountainous woods; shrub; April and May.
Branches many, horizontal, entangled; leaves crisped or waved, above greyish, soft, pubescent; beneath, villous; stipule persisting; aments very short; capsule awlshape, villous.

β. pumila. Leaves roundish, hoary beneath.
Salix caprea pumila, folio subrotundo subtus incano, Raiti Syn. 450, 18.

Leaves rather serrate, obovate, elliptical, pubescent, flat, beneath rather glaucous; stipules rounded, toothed.

Salix folio ex rotunditate acuminato, Raiti Syn. 449, 16.
Salix aurita, Hoff. Sal. 5.
Salix cinerea, With Bot. Arr. 54.

Woods and damp hedges; tree; April.
Tree upright; leaves scarcely wrinkled, soft, greyish, becoming bald above, venulose beneath and rather hairy; buds woolly; capsule awlshape, villous.

Leaves not notched, elliptical, flat, pubescent on both sides, rather withered at the tip; stipules very small; capsule awlshape, villous.

Salix lanata, Lightf. Scot. 602.
Salix caprea, var. Hoffm. Sal. 1, 23.

Alpine valleys; shrub; April and May.
Branches spreading; leaves flat, very rarely and slightly crenate, tips brownish; capsules narrowed at the end, becoming rather naked.

33. Salix caprea. Sallow willow.
Leaves ovate, pointed, serrate, waved; above smooth, bald; beneath tomentose; stipule rather lunate; capsules ventricose, villous.
Salix latifolia rotundata, Raii Syn. 449, 15.
Salix folio subrotundato auriculata, Raii Cant. 145, 2.
Salix caprea s, Lin. S. P. 1418.
Woods and hedges; tree; April.
Branches shining; small branches pubescent; leaves variously shaped, waved, veined beneath; stipules recurved; ament early, ovate; capsule ovate, villose.

34. Salix mollissima. Velvet willow.
Leaves lanceolate, pointed, subcrenated; beneath silky, woolly; stipules lunate, very small.
Salix mollissima, Smith Flor. Brit. 1070; Ehrh. Arb. 79.
Holts; shrub; March.
Branches erect, very tough, rather bald; leaves above green, smooth, quite bald; petiole attenuated; aments ovate, small; ovary shortly pedicelled; style short; stigmata linear, very deeply divided.

35. Salix acuminata. Pointed willow.
Leaves lanceolate, oblong, pointed, waved and slightly toothed; above smooth, rather bald; beneath tomentose; stipules kidneyshape; capsule ovate, narrowed, pubescent.
Salix caprea acuto longoque folio, Raii Syn. 450, 19.
Salix caprea latifolia, Ger. em. 1390, 4.
Salix caprea var. Lightf. Fl. Scot. 608.
Salix acuminata, Mill. Dict. 8, 14.
Woods and hedges; tree; April.
Branches rather smooth; leaves above light green; main-rib beneath reddish; stipules toothed; aments early, ovate, cylindrical; style rarely 2-cut.

36. Salix stipularis. Large-stipuled willow.
Leaves lanceolate, pointed, slightly crenate, above bald, beneath tomentose, stipules nearly heartshape, very large; perigonium cylindrical, long.
Holts; shrub; March.
Branches erect, woolly; leaves long, unequally and slightly crenate; stipules with a short petiole.
*Stamens 3; leaves lanceolate, serrate, narrowed at both ends, bald; ovary pedicelled, quite bald.*

*Salix folio amygadalino, utrinque aurito, corticem abjiciens, Raill Syn.*

Holts and sides of rivers; tree; May to August.
*Bark deciduous; small branches upright; leaves 3 in. long; serratures rounded, slightly glandular; above light green; beneath rather glaucous; stigmates ovate, oblique, sometimes none; aments terminal, slender; stamens rarely 2; capsule ovate, pointed.—Bark febrifuge.

*Leaves lanceolate, serrate, bald, glaucous beneath; ovaries pedicelled, ovate, silky; stigmates sessile, 2-lobed.*

*Salix petiolaris, Smith T. L. S.* 6, 122.

Holts and bogs; shrub; April.
*Branches slender, lax, brownish; leaves patulous; above light green, quite bald, shining; beneath glaucous; petioles long; stipules lunate, small; aments short.*

*Leaves elliptical, pointed; slightly toothed, bald on both sides, glaucous beneath; small branches quite bald; aments ovate, very short.*

*Salix myrtilloides, Smith Fl. Bor.* 1056.

Scotch alps; shrub; April.
*Stem a foot high, upright, branchy; leaves flat, smooth, teeth glandular at the tip, above light green, beneath very finely veined; petioles short; ovary ovate; stigmates thick.*

40. *Salix argentea.* Silver willow.
*Leaves not cut, elliptical, somewhat revolute with a reflected point; above villous; beneath silky, shining; small branches silky, silvery.*

*Salix pumila, foliis utrinque candicantibus et lanuginosis, Dillen in Raill Syn.* 447, 3.
*Salix arenaria, Lightf. Fl. Scot.* 604.

Sandy sea-shores; shrub; May.
*Stem diffuse or prostrate; leaves an inch long, shining; stipules very small; aments early, cylindrical, blunt; capsules ovate, lanceolate, silky.*
Leaves rather toothed, elliptical, pointed; beneath glaucous, silky; stem prostrate; petiole short, thick.

*Salix polymorpha*, Ehrh. *Arb.* 490.

Moist mountains; small shrub; June, July.
Branches long, slender; leaves scarcely revolute; above dark green, slightly veined, rather pubescent; ovary ovate, silky; pedicell very short; style short, thick; stigmata cloven.

Leaves rather denticulated, elliptical, oblong, pointed; above bald; beneath glaucous, silky; petiole attenuated; stem erect, spreading.

*Salix fusca*, *Lin. S. P.* 1447.

Moist heaths and mountains; small shrub; May.
Small branches rather straight, pubescent; leaves glandular on the edge; above brownish green; stipules lanceolate, awlshape; capsules awlshape, silky; stigmata 2-parted.

Leaves elliptical, scarcely cut, hooked; beneath glaucous, silky; stem decumbent; stipules ovate, not in the least notched.


Damp fields; small shrub; April, May.
Fœtid; branches many, entangled, wandlike, 18 in. long; leaves about half an inch long; female ament ovate, dense; ovary pedicelled, silky; style short, thick; stigmata thick, obtuse, deeply divided.

44. *Salix adscendens*. Ascending willow.
Leaves elliptical, oblong, somewhat serrated, hooked; beneath glaucous, silky; stem ascending; stipules ovate, serrated.


Moist places; shrub; May.
Shrub fœtid, low creeping, twice as large as salix parvifolia; branches long, straight, obliquely ascending; leaves oblong, slightly silvery; female ament ovate; ovary silky.
45. **Salix repens.** Creeping willow.
Leaves not in the least notched, elliptical, lanceolate, rather mucronulate; above rather naked; beneath glaucous, silky; stem depressed.

Salix depressa, *Hoffm. Sal.* 1, 63.

Sandy heaths; small shrub; May.

**Stem** creeping, rooting, very branchy; branches entangled; leaves rather revolute, above bald; stipule none; aments many, lateral; capsules pedicelled, lanceolate, pubescent; stigmata 2-parted.

β. *lanuginosa.* Leaves narrow; beneath downy.
Salix pumila angustifolia inferne lanuginosa, *Raii Syn.* 447.
Salix humilis repens, *Ger. em.* 1391, 8.

γ. *rotundifolia.* Leaves rounded below, ash-coloured.


46. **Salix rupestris.** Rock willow.
Leaves obovate, serrated, smooth; both sides silky; stipules pilose; ovary pedicelled, silky; stigmata undivided.


Scotch alps; small shrub; April.

**Stem** trailing, decumbent; branches slender, pubescent; leaves an inch long, even, flat; stipule ovate; ovary ovate; style prominent; stigmula ovate, entire or scarcely notched.

47. **Salix Andersoniana.** Anderson willow.
Leaves elliptical, pointed, crenulated, pubescent; stipules half-ovate, rather bald; ovary bald; stigmata 2-cut.


Scotch mountains; shrub; May.

Taller than salix rupestris; branches short, pubescent; leaves light green, paler beneath; stipules small; ament ovate; ovary taper, pointed, quite bald; style shortish; stigmata deeply cloven.

48. **Salix Forsteriana.** Forster willow.
Leaves elliptical, obovate, pointed, crenate, rather pubescent, beneath glaucous; stipules arched; ovary silky.


Woods of Scotland; tree; May.
Branches pubescent; leaves 3 inches long, dull green; stipules vaulted, toothed; ovary ovate, taper, pointed, silky; style short; stigmata entire.

d. Ovary pedicelled; style long.

49. Salix lanceolata. Lance-leaved willow.
Stamens 3; leaves lanceolate, serrated at both ends, attenuated, bald; petiole decurrent; ovary pedicelled.
Woods and bogs; small tree; April, May.
Bark deciduous; leaves 3 inches long, often with a small pair of leaflets at the base; stipules pointed.

50. Salix Russeliana. Russel willow.
Leaves lanceolate, pointed, serrated, bald; ovary pedicelled, subulate, smooth.
Leicestershire, Dishley or Gorgomet willow. Bedford willow.
Bogs and holts; tree; April and May.
Branches shining, very tough, flexible; leaves long, bald, shining, beneath glaucous; stipules half cordate, toothed; aments lax; stigmata parted.

51. Salix phylicifolia. Tealeaf willow.
Leaves lanceolate, waved, crenate, bald, beneath glaucous; stipules rather lunate; ovary pedicelled, silky.
Salix phylicifolia a, Lin. S. P. 1442.
Salix phylicifolia, Smith T. L. S. 6, 123.
Salix radicans, Smith Fl. Brit. 1053.
Scotch alps; small tree; May.
Branches smooth, rooting, spread; leaves not cut at top or bottom, unequally and broadly crenated in the middle; above dark green; beneath glaucous, reticulately veined; petiole attenuated; stipules lunate; ament early; style long; stigmata 2-cut.

52. Salix malifolia. Appleleaf willow.
Leaves elliptical, oblong, toothed, repand, scariosë, quite bald; stipules heartshape, very large.
Salix malifolia, Smith Fl. Brit. 1053.
Mountains? shrub.
Stem 3 feet high; branches upright, blackish, tortuous, hairy; leaves 2 in. long, scariosë, above light green, beneath rather glaucous, veined; veins divaricating, anastomosing; petiole very broad at bottom.
Leaves not in the least cut, linear, lanceolate, stiff, straight, beneath silky; stem erect; stipules upright, flat; aments recurved.

Salix pumila rhamni secundi Clusii folio, Dillen in Rall Syn. 447, 2.
Salix rosmarinifolia, Lin. S. P. 1448.

Damp sandy places; shrub.

*Stem* 3 feet high; *branches* many, straight; *leaves* upright, an inch long, edge glandular, above pubescent; *stipules* lanceolate; *aments* early, short, drooping; *ovary* pedicelled, ovate, lanceolate; *style* long; *stigmata* dark purple.

e. Female plants not discovered.

Stamens soldered; *leaves* elliptical, somewhat serrate, beneath glaucous.

*Salix Croweana*, Smith T. L. S. 117.

*Bogs*; small tree; *April* and *May*.

*Branches* short, spreading, rather brittle, shining; *leaves* spreading, elliptical, both sides quite bald; above light green, shining; beneath glaucous, veiny; *aments* short.

55. *Salix oleifolia*. Oliveleaf willow.
*Leaves* elliptical, heartshape, pointed, crenulate, both sides pubescent; *stipules* nearly heartshape, toothed, rather bald; *branches* hairy.


*Coppices*; small tree; *March*.

*Tree* 10 feet high; *branches* spread, loose, finely pubescent; *leaves* stiff, flat; above light green, finely pubescent; beneath ferruginous; *petioles* thick, above pubescent; *stipules* rounded; *buds* woolly.

*Leaves* elliptical, cordate, pointed, crenulate, both sides pubescent; *stipules* nearly heartshape, toothed, rather bald; *branches* hairy.


*Heaths*; small tree; *April* and *May*.

*Branches* thick, very hairy; *leaves* pale beneath; *petioles* long, very hairy; *male* *ament* cylindrical, rather slender.
II. 7. POPULUS. Pliny.

Flowers dioicous; ament scaly; scales oblong, loose, imbricate; edges torn; perigonium tubular, obliquely truncated, on the base of the scale: — Male, Stamens 8 to 20:— Female, Ovary 1, ovate, pointed, inverted; ovules many; stigmata 4, sessile; capsule 2-celled, 2-valved; seeds comose, radicle above.

a. Turions tomentose or hairy; stamens 8. Populus.

Leaves heartshape, roundish, lobed, toothed; beneath tomentose, snow-white; ament ovate, oblong.

Populus alba, Raui Syn. 446, 2*; Ger. em. 1486.
Populus major, Miller Dict. ed. 8, 4.

Damp woods; tree; March.

Branches horizontal; leaves above, black green, beneath very densely woolly; petiole one-third as long as the leaf; stipules lanceolate, obsolescently toothed; ament an inch long.

Leaves roundish, angularly repand, toothed; beneath tomentose, hairy; ament cylindrical, long, loose.

Populus alba foliis minoribus, Raui Syn. 446, 2*; Ger. em. 1487
Populus alba, Mill. Dict. ed. 8, 1.
Populus nigra, Mill. Illustr. 90.

River-sides; tree; March.

Roots widely creeping; branches ascending; leaves above light green, bald; beneath tomentose, woolly, greyish; sometimes rather smooth; stipules linear, falcate, toothed; ament 2 in. long.

Leaves nearly orbiculate, toothed, both sides smooth; ament oblong.

Populus Lybica, Raui Syn. 446, 3*; Ger. em. 1487.
Populus tremula, Lin. S. P. 1464.

Asp. Aspen.

Damp woods; tree; March and April.

Tree tall; small branches smooth; turions hairy; leaves tremulous; stipules bristlelike; aments 2 in. long, hairy.
b. Turions smooth, bald; stamens 12 to 16. Aegirus.

Leaves deltoid, pointed, serrate, both sides smooth; petiole short; branches pubescent.

*Populus nigra,* Rau i Syn. 446, 1; Ger. em. 1486; Lin. S. P. 1464.

Watery places; tree; March.

Tree tall, smooth; leaves dark green; petiole half as long as the leaves; amens smooth.

Fam. V. 5. BETULIDEÆ.

Flowers monoicous, amentaceous.—Male, Perigonium none, or 4-cut; stamens 4 or 12, inserted on the scales of the ament; anthers 2-celled.—Female, Perigonium 0; ovary free, 2-celled; stigmata 2 to 4, terminal; nucula 1 or 2-celled, in the scales of a cone; perisperm 0; corculum straight, flat; radicle above.—Tree or shrub; leaves alternate, annual, when young having 2 stipules at the base.

Stamens 12; nucula? edged ... Betula. 8.
Stamens 4; nucula? ovate, naked ... Alnus. 9.


Ament long, cylindrical.—Male. Scales in threes; middle scale stamen-bearing; perigonium 0; stamens 12.—Female. Scales deciduous, 3-lobed at the tip, 2 or 3-flowered at the base; styles 2; ovary compressed, 2-celled, 1 abortive; nucula heartshape, with a membranaceous edge.

Leaves deltoid, acute, doubly serrate, smooth; lateral lobes of the scales of the cone rounded.

Betula, Rau i Syn. 443; Ger. em. 1478.
Betula alba, Lin. S. P. 1393.

Woods and hedges; tree; April and May.

Bark white, epidermis peeling off; leaves petiolate, beneath pubescent; cone peduncled, drooping; scales cylindrical; twigs and buds blackish.—Bark used anciently for writing on; leaves applied outwardly and taken internally in dropsy, and other diseases, also used to dye yellow; twigs used for brooms, and for correcting children, on account of their toughness; juice obtained by piercing the tree under a large arm, nearly through to the bark on the
opposite side, is saccharine, lithontripic, and may be fermented either into a wine or beer; wood used for heels of women's shoes, and packing-boxes.

2. *Betula pendula.* Twigs pendulous, rough with tubercles; leaves small.


Spongy mountainous heaths; shrub; May.

Stem 3 feet high; branches numerous, stiff; leaves both sides smooth, 1 to 3 from each bud; petioles short; ament lateral, upright, blunt.


**Male.** Ament long, cylindrical; scales pedicelled, heart-shape, with 3 small scales beneath, flowering at the base; perigonium urceolate 4-cut; stamens 4. — **Female.** Cone ovate, globose; pedicell branched; scales imbricate, corky, persistent, 4-lobed at the tip, 2-flowered; perigonium 0; ovary compressed, 2-celled; stigmata 2; nucula compressed, ovate, naked, 2-celled, 2-seeded.

*Alnus glutinosa.* Glutinous alder.

Leaves roundish, cuneate, obtuse, rather retuse, glutinous; axilae of the ribs beneath villous.

Alnus, *Rail Syn.* 442, l.


*Betula Alnus,* *Lin. S. P.* 1394.


Watery places; tree; March.

Leaves serrate, dark green, shining; ribs pinnate, parallel; beneath pilose at the base; peduncles branched, terminal; aments pendulous; cones upright, scales not falling off. — Inner bark purgative.


Flowers unisexual. — **Male** amentaceous; perigonium simple or 0; stamens 5 to 20, on the scales; anthers 1 or 1.
2-celled.—Female. Cupula 1 or many-flowered; perigonium adherent, many-toothed; ovary 1, many-celled; ovules many; style 2 or many-cut; stigmata 2 or many; cupula containing 1 or many glands; glans or nucula 1-celled, 1-seeded by abortion of the rest; kernel pendent; perisperm 0; corculum straight, central; radicle adverse.—Stem ligneous; leaves alternate, simple, stipule, pinnately ribbed.

Cupula open at top.

Nucula angular; ament-scale rounded... Carpinus. 10.
Nucula ovate; ament-scale 3-lobed ...... Corylus. 11.
Glans ovate; cupula cupshape. .......... Quercus. 12.

Cupula closed, or valvular.

Ament globose; cupula hairy.......... Fagus. 13.
Ament linear; cupula spinous; flowers glomerated......................... Castanea. 14.

I. 10. CARPINUS. Pliny. 

Monoicous.—Male. Ament long, loose, cylindrical; scales ovate, pointed, concave, ciliated, imbricate; stamens 8 to 14; anthers bearded at the tip.—Female. Cupula 2-leaved, very large, 3-lobed, reticulately veined, 2-flowered; perigonium 6-toothed, unequal, persistent; ovary 2-celled, compressed; ovules 2, one abortive; style 2, filiform; stigmata 2; nucula bony, angular, 1-celled.—Stem arborescent; aments axillary and terminal; cupula racemose.

Carpinus ulmoides. Elmlike hornbeam.

Leaves of the cupula 3-parted; lobes not cut, lanceolate, middle one long.

Ostrya ulmo similis fructu in umbilicis foliaceis, Rair Syn. 451.
Betulus, sive Carpinus, Ger. em. 1479.
Ostrya, sive Ostrya, Park. 1406.
Carpinus Betulns, Lin. S. P. 1410.

Hornbeam, Hornbeech, Witch-hazel, Essex, Hardbeam, Yoke elm.

Woods and hedges; tree; May.

Bark white, smooth; leaves ovate, doubly serrate, petioled; ament lateral, scales brown; cupula terminal; nucula ribbed.—Inner bark dyes yellow; wood white, very tough, grows very hard like horn, used in millwork, burns like a candle.
II. 11. CORYLUS. Pliny.  
Hasel.  
Monoicous.—Male. Ament cylindrical; scales imbricate, hairy, 3-lobed, middle lobe broader, covering the narrow side ones; stamens 6 or 8, very short.—Female. Flowers many, in the scales of the bud, becoming peduncled; cupula 1-leafed, 1-flowered, fleshy below, above turgid, 2-lipped, torn; perigonium scarcely visible; ovary 2-celled? styles 2; ovules 2; nucula ovate, smooth, involucrated at the base, 1-celled, 1-seeded.—Stem shrubby; ament terminal; fruit-buds axillary.

1. Corylus sylvestris.  
Wild Hasel.  
Stipules oblong, ovate; cupula bellshape, tip patulous, torn, toothed; leaves ovate, heartshape, pointed.  
Corylus sylvestris, Rail Syn. 439; Ger. em. 1439, 2.  
Corylus, seu Nux avellana sylvestris, Park. 1416.  
Corylus avellana, Lin. S. P. 1417.  
Haselnut.  
Woods and hedges; shrubby; March and April.  
Leaves expanding after the flowers; petioles short; aments pendulous; fruit-buds ovate; styles blood-red, projecting.  
—Flowers the first of our trees, considered by country-people to prognosticate the future harvest: root used for inlaying and staining; wood clears turbid wine, used for walking-sticks, fishing-rods, crates, hoops, and for charcoal; nuts eaten, also expressed for oil.

2. Corylus tubulosa.  
Tubular hasel.  
Stipules oblong, blunt; cupula tubular, cylindrical, tip narrower, jagged, toothed; leaves rather round, heartshape, pointed.  
Nux avellana, sive Corylus, Ger. em. 1438, 1; Park. 1416.  
Corylus avellana 8, Lin. S. P. 1417.  
Corylus tubulosa, Willd. S. P.  
Filberd.  
Cultivated for its fruit.

III. 12. QUERCUS. Pliny.  
Oak.  
Monoicous.—Male. Ament threadshape; flowers distant; perigonium torn; stamens 5 to 10.—Female. Cupula one-flowered, scaly; scales many, coalescing into a cup; perigonium 6-sepaled; sepals very small, pubescent, girding the base of the style; ovary 3-celled, 2 cells abortive; style short, pyramidical, thickened; glans 1-celled, 1-seeded, base included in the cupula.—Stem arborescent; leaves annual (in exotics perennial).
1. Quercus longæva. *Longlived oak.* Leaves annual, nearly sessile, oblong, broader above, sinuses acute, angles blunt; fruit oblong, peduncled.

Quercus latifolia, Rall. Syn. 440, 1; Park. 1385.
Quercus vulgaris, Ger. cm. 1339, 1.
Quercus Robur, Lin. S. P. 1414.
Quercus Robur y, pedunculata, Martyn. Fl. Rust. 10.
Quercus pedunculata, Wild. Baum. 278.
Quercus fœminina, Fl. Dan. 1180.
Quercus racemosa, Lamarck Encyc. Meth. 1, 715.
Quercus longæva, Salisb. Prod. 392.

Common oak. English oak.

Woods and hedges; arborescent; April.

Tree formal; leaves above smooth, shining; beneath pale.

2. Quercus sessilliflora. *Squat-flowered oak.* Leaves annual, petioled, oblong, smooth; sinuses acute, opposite; fruit oblong, sessile.

Quercus latifolia mas, quae brevi pediculo est, Rall Syn. 440, 2.
Quercus Robur, Wild. Baum. 277.
Quercus Robur y, sessilis, Martyn Fl. Rust. 11.
Quercus sessilliflora, Smith Fl. Brit. 1027.

Bay oak.

Woods; arborescent; April and May.

Leaves smooth, more equally and regularly lobed than the former.

3. Quercus pubescens. *Downy oak.* Leaves annual, petioled, oblong, obovate, sinuate, pubescent beneath; lobes obtuse, angular; base rather heart-shape, irregular; fruit nearly sessile.

Quercus sessilliflora ß, Smith Fl. Brit. 1027.
Quercus pubescens, Wild. S. P. 4, 450.

Durmast oak, Martyn Fl. Rust. 12.

Woods; arborescent; April and May.

The wood of all the oaks is hard, tough, tolerably flexible, not easily splintering; and very durable; sawdust used to dye drabs and browns; bark tans leather, is also astrin- gent, and with a little copperas dyes woollen purplish blue; leaves eaten by cows, sheep, and goats; glans, called acorn, i.e. oak-corn, fattens swine and deer; balls, called oak-apples, produced by insects, dye with copperas a more beautiful black than nut-galls, but less durable.
B. Cupula closed, valvular.

IV. 13. FAGUS. Pliny.

Monoicous.—Male. Ament pendulous, globose, dense; perigonium 6-lobed; stamens 8.—Female. Cupula two-flowered, 4-lobed, outside armed with soft spines; perigonium 6-sepaled; sepales tomentose; style 1, 3-cut; stigmata 3; ovary 3-celled; 2 in each cell; glans 1-celled, 3-sided, 1 or 2-seeded.

Fagus sylvatica. Wood beech.

Leaves ovate, smooth, slightly toothed, edge fringed.

Fagus, Raii Syn. 439; Ger. em. 1444; Park. 1403.
Fagus sylvatica, Lin. S. P. 1416.

Woods and hedges; arborescent; April and May.

Bark smooth; leaves petioled, ribs few and straight.—Wood brittle, decaying in the air but lasting under water; leaves used for stuffing mattresses; glands, called mast, fatten swine, dried and made into bread, also roasted for coffee, and pressed for their oil.

V. 14. CASTANEA. Theophrastus.

Polygamous.—Male. Ament very long, cylindrical; flowers glomerate, scattered along the axis; perigonium 6-sepaled; stamens 5 to 20.—Hermaphrodite. Cupula 2 or 3-flowered, 4-lobed, armed with hard branchy spines; perigonium 5 or 6-sepaled; sepales covered on the inside with stiff hairs; stamens 12, red, abortive; ovary 6-celled; ovules 2 in each cell, 3 to 5 abortive; styles 6; glans one-celled, mucronate; seeds 1 to 3, wrinkled.

Castanea vesca. Eatable chestnut.

Leaves oblong, lanceolate, pointed, mucronately serrate, both sides smooth.

Castanea, Raii Syn. 440; Gr. em. 1442, 1.
Castanea vulgaris, Park. 1400.
Fagus Castanea, Lin. S. P. 1416.

Woods; arborescent; May.

Bark with broad cracks; leaves bald, annual, ribs parallel; aments necklace-like.—Wood durable, but now usually cut young for hop-poles; fruit esculent.

β. sativa. Leaves larger, more glossy; styles 6 to 9.

Spanish chestnut.

Glans 3 times as large as the wild, earlier, and better tasted.
Fam. VII. 7. MYRICÆ. Richard.

Flowers unisexual, amentaceous.—Male. Aments one-flowered; stamens 4 to 6; anthers 2-celled. — Female. Ovary 1, free; stigmata 2; nut 1-celled; shell bonelike; kernel inverse; perisperm 0. — Stem woody; leaves glandular; ament axillary; or spiked, terminal; drupe resinous, spotted.

I. 15. MYRICA. Theophrastus.

Dioicus, rarely monoicus; aments ovate, scales lunate. — Male. Stamens 4 to 6; anthers 4-valved. — Female. Ovary 1; stigmata 2; drupe 1-celled, 1-seeded.

Myrica Brabantica. Brabant gaule.
Leaves lanceolate, rather serrated; stem shrubby.
Myrtus Brabantica, sive Elaeagnus Cordi, Ger. em. 1414.
Rhus sylvestris, sive Myrtus Brabantica vel Anglica, Park. 1451.
Myrica Gale, Lin. S. P. 1453.
Bogs and fens; shrubby; May.
Branches many, upright; twigs rather bent; leaves nearly sessile; aments early, sessile. — Used instead of hops, but unless the wort is boiled a long time, the liquor occasions the head-ach; dyes wool yellow; drives away fleas and moths; yields an oil by distillation with water; powder or infusion vermifuge; tans calf-skins; aments boiled in water throw up a waxy scum.

Fam. VIII. 8. ULMACEÆ.

Flowers hermaphrodite, or unisexual by abortion; perigonium simple, free, 4 to 6-toothed; stamens 4 or 6, on the perigonium; ovary 1; styles 2; stigmata 2; samara one-seeded; seed pendent; perisperm 0; embryo straight; cotyledons plaited; radicle above.

I. 16. ULMUS. Pliny.

Flowers hermaphrodite; perigonium bellshape, 4 or 5-toothed, coloured, not falling off; stamens 3 or 6; ovary compressed; stigmata 2; samara suborbiculate, swelled in the middle, 1-seeded. — Stem arborescent; leaves rough, ribs parallel; flowers fascicled, scaly, axillary.
1. Ulmus campestris.  
*Field elm.*  
Leaves doubly serrate, rough, unequal at bottom; flowers nearly sessile, 4-cut; samara oblong, naked.  
Ulmus vulgarissima folio lato scabro, *Raii Syn.* 468, 1; *Ger.* em. 1480, 1.  
*Common elm.*  
Hedges; arborescent; April and May.  
Bark of the twigs smooth; flowers purplish. — Wood hard, tough; bark mixed with meal to make bread in time of scarcity; young leaves eaten greedily by silkworms; decoction of the inner bark diuretic.

2. Ulmus suberosa.  
*Cork-barked elm.*  
Leaves doubly serrate, rough, pointed, unequal at bottom; flowers peduncled, mostly 5-cut; samara rounded, naked.  
Ulmus minor, folio angusto scabro, *Raii Syn.* 469, 2; *Ger.* em. 1480, 2.  
*Narrow-leaved elm.*  
Hedges; arborescent; April.  
Bark of the twigs corklike, cut; branches spreading; twigs nearly 2-rowed.

3. Ulmus glabra.  
*Smooth-leaved elm.*  
Leaves doubly serrated, smooth, unequal at bottom; flowers nearly sessile, 5-cut; samara reverse-ovate, naked.  
Ulmus folio glabro, *Raii Syn.* 469; *Ger.* em. 1481, 4; *Park.* 1404.  
Ulmus glabra, *Cullum* 97; *Engl.* *Bot.* 2248.  
*Witch elm.*  
Hedges; arborescent; March.  
Bark smooth; branches spread, scattered and hanging down long; leaves rather stiff.

4. Ulmus montana.  
*Mountain elm.*  
Leaves doubly serrate, pointed, rough, unequal at bottom; flowers peduncled, effused, mostly 6-cut; samara rounded.  
Ulmus folio latissimo scabro, *Raii Syn.* 469; *Ger.* em. 1418, 3.  
Ulmus effusa, *Willd.* *Sp.* 1, 1325.  
Ulmus campestris b, *Rehan Cant.* 107.  
*Witch harel,* *Statutes,* as 8 *Eliz.* 10.  
*Broad-leaved elm.*
Woods and hedges; arborescent; April.

Bark of the twigs smooth, coming off easily; flowers larger than those of the witch elm, appearing on younger trees than those of the common elm; leaves much resembling those of the hazel, but the point is sharper.—Wood not so valuable as the common elm, used formerly for long bows for poor persons; and for magical purposes, whence its name.

5. *Ulmus major.*

Leaves unequally serrated, rough, unequal at bottom; flowers nearly sessile, 4-lobed; samara reverse-ovate, naked.


*Cultivated in hedges; arborescent; March.*

Branches spreading; bark corklike, wrinkled; samara scarcely cut.

Fam. IX. 9. URTICEÆ.

Flowers unisexual or hermaphrodite; perigonium simple, free, 3 or 5-cut, persisting.—Male. Stamens 3 to 5, inserted into the base of the perigonium.—Female. Ovary 1, free; styles 2, 1 or 2-lobed; stig mata 2; utriculus dry, 1-seeded; seed pendent; perisperm 0; corculum straight or spirally twisted; radicle above.—Stem herbaceous; leaves alternate, rarely opposite, mostly stipuled; flowers solitary, amentaceous or spiked.

A. Stamens 4; stigma 1.

*Flowers racemose, the female bivalve.* .... *Urtica.* 18.

*Flowers in a common involucrum.* .... *Parietaria.* 19.

B. Stamens 5; stigma 2.

*Flowers, the female in a dense spike.* .... *Lupulus.* 17.

*Flowers, the female axillary.* ....... *Cannabis.* 20.

*Flowers in a common involucrum.* .... *Xanthium.* 21.

I. 17. LUPULUS. Brunsfel.

Hop.

Flowers dioicous.—Male. Flowers racemose; perigonium 5-parted; stamens 5; filaments short; anthers oblong.—Female. Flowers in dense verticillate spikes; perigonium 2-sepaled; sepales membranaceous, persistent, unequal; outer very large, ovate, involute at the base; inner small, reversely ovate; ovary 1; styles 2; stig mata 2; utriculus
membranaceous; seed 1; shell crustaceous; corculum spiral; cotyledons linear.—Stem annual, twining, rough, angular; leaves petioled, opposite, palmately ribbed, lobed or not cut; stipule intrafoliaceous, reflex; flowers axillary or terminal, peduncled, solitary.

**Lupulus communis.**

- *Lupulus salictarius, Ger. em. 885.*
- *Lupulus seu sativus, seu sylvestris, Park. 176.*
- *Lupulus communis, Gärtn. 1, 358.*

Woods and hedges; also cultivated; perennial; July.

Root branchy; stem very long; leaves cordate; stipules not cut, reflex; female spike aromatic, bitter.—Stem makes excellent cloth, cordage, and paper, if steeped all the winter, then dried and dressed like hemp; female flowers infused in wort, or boiled with it, render the liquor bitter, and prevent it growing sour so soon as otherwise it would; a pillow stuffed with them produces sleep when opium fails; and a tincture made with spirit of wine or brandy is in general preferable to that of opium as a narcotic, although inferior as a spasmodic; young shoots eaten in spring as asparagus; a decoction of the roots, or an extract of them is sudorific.

The hopgrowers distinguish the garlick, long white, and oval hop.

**II. 18. URTICA.** Pliny.

Monoicous, rarely dioicous.—Male. Flowers racemose; perigonium 4-parted; stamens 4; filaments long, before the anthesis curved; barren pistill glandular, cyathiform.—Female. Flowers racemose, rarely capitate; perigonium 2-sepaled; ovary 1, free; stigma 1, sessile, pubescent; utriculus rather membranaceous, girded by the sepals; seed compressed; corculum straight; cotyledons leaflike; radicle above.—Herb generally covered with pungent, excretory hairs; stem 4-angular; leaves petioled, stipuled, opposite, rarely alternate, palmately ribbed; flowers axillary.

1. *Urtica dioica.*

Leaves opposite, cordate, ovate, lanceolate, largely serrated; racemes much branched, in pairs, longer than the petiole; plants mostly dioicous.
Urtica racemifera major perennis, Raii Syn. 139, 1.
Urtica urens, Ger. em. 706, 2.
Urtica major vulgaris, and Urtica media sylvestris, Park. 440.
Urtica dioica, Lin. S. P. 1396.

Common stinging-nettle. Great stinging-nettle.

Banks and hedges; perennial; July and August.
Root creeping; herb dark green; stem erect, 3 feet high; stipules ovate, erect; racemes many-flowered.—Stalk dressed as hemp, for cordage, cloth, or paper; young shoots eaten in spring as a potherb; leaves recover paralytic limbs by whipping; one pressed against the roof of the mouth will stop a bleeding at the nose; juice dyes wool green; a decoction of the herb with salt used to coagulate milk.

Leaves opposite, elliptical, 3 or 5-ribbed, acutely serrated; racemes in pairs, nearly simple, shorter than the petiole.

Urtica minor, Raii Syn. 140, 2; Ger. em. 707, 3.
Urtica urens, Lin. S. P. 1396.

Small stinging-nettle.

Fields and way-sides; annual; June to October.
Roots fibrous; herb light green; stipule reflexed; raceme androgynous.

Leaves opposite, ovate, broadly serrate; fruitbearing heads globose, peduncled, in pairs.

Urtica pilulifera, Raii Syn. 140, 3; Lin. S. P. 1395.
Urtica Romana, Ger. em. 706, 1; Park. 440.

Roman nettle.

Ruins by the sea-side; annual; June and July.
Root fibrous; stem blueish; leaves rarely rather heart-shape.


Flowers 2 hermaphrodite and 1 female in a 6 or 8-leaved involucrum. —Herm. Perigonium 4-sepaled; stamens 4; filaments at first incurved, afterwards spreading elastically; anthers double, opening elastically; ovary 1, above; stigma penecilliform; utriculus crustaceous, shortly pedicelled, in the persistent sepals; seed 1, inverse; corculum straight; cotyledons leaflike; radicle above.—Fem. Like the hermaphrodite, but without the stamens.—Herb rather rough, juicy; leaves alternate; flowers glomerate, axillary.
**Parietaria officinalis.** Common pellitory-of-the-wall.
Leaves lanceolate, ovate, pointed, above somewhat shining; beneath hairy, base 1-ribbed; leaflets of the involucre ovate; stem nearly erect.

*Parietaria*, *Raii Syn. 158*; *Ger. em. 330.*
*Parietaria vulgaris*, *Park. 437.*
*Parietaria officinalis*, *Lin. 1492.*

Walls and ruins; perennial; June to September.

Stem much branched, reddish, shining; leaves oblique, blackish green, lateral ribs palmate, springing out above the base.—Leaves strewed in granaries to drive away weevils; juice diuretic, contains nitre, sometimes in considerable quantities.

**IV. 20. CANNABIS. Dioscorides.** Hemp.

*Diouicus.*—Male. *Perigonium* 5-sepaIed; *stamens* 5; *filaments* short; *anthers* oblong.—Female. *Perigonium* oblong, opening on the side; *ovary* 1; *styles* 2; *stigmata* 2; *perc="carp* crustaceous, 2-valved, rather globose, enclosed in the perigonium; *corculum* curved, inverse; *cotyledons* ovate, thick; *radicle* incurved, above.—Herb erect; leaves stipuled, digitate, the lower opposite, the upper alternate, the floral sometimes simple; *male flowers* on panicles, axillary or terminal; *female* 2, sessile, on the top of the twigs, with the rudiment of a new shoot between them.

*Cannabis sativa.*

*Cannabis sativa*, *Raii Syn. 138*; *Lin. S. P.*
*Cannabis mas, et femina*, *Ger. em. 708, 1 and 2.*
*Cannabis sativa mas et femina*, *Park. 597.*

Cultivated in rich land; annual; *male*, July; *female* August.

Stem macerated in water, and dressed for its fibres, used for cordage, strong linen, and paper: seeds boiled in milk for coughs and the jaundice, also used to cause fowls and birds to lay eggs; and pressed for its oil.

**V. 21. XANTHIUM. Dioscorides.** Ditch-burr.

*Monoicous.*—Male. *Involucrem* many-leaved, many-flowered; *clinanthium* paleaceous; *perigonium* tubular, five-lobed; *stamens* 5; *anthers* approximate.—Female. *Involucrem* 1-leafed, oblong, 2-flowered, outside muricated, inside two-
Pl. ex. mon. 9. URTICEÆ. 21. Xanthium. 255
celled; perigonium 0; ovary 1; styles 2, persistent; utriculus membranaceous, enclosed in the hardened involu-
crum; seed erect, corculum straight; cotyledon ovate; radicle
below.—Herb hamous; leaves petiolate, alternate, rather rough, palmately ribbed; flowers spiked, axillary or terminal;
spike short; male flowers above, female below.

Xanthium inerme. Unarmed ditch-burr.
Stem not armed; leaves heartshape, 3-ribbed at bottom.

Xanthium, seu Lappa minor, Rail Syn. 140; Park. 1222.
Bardaha minor, Ger. em. 809, 2.
Xanthium Strumarium, Lin. S. P. 1400.

Deep rich soil; annual; August and September.
Root fibrous; stem much branched; leaves lobed, serrated; flowers green.

Fam. X. 10. EUPHORBIACEÆ.

Flowers unisexual; perigonium simple, free, 3 or 4-cut, sometimes 0.—Male. Stamens 1 to 12; filaments often joined in the middle, inserted on the receptacle; anthers double.—Female. Ovary free, often stipitate; styles 2 or 3; stigmata 2 or 3, 2-cut or lobed; regma 2 or 3-coccous; cocci 1 or 2-seeded; placentarium apicillate; seed appended; corci x2m straight, flat; radicle laterally adverse; perisperm fleshy, involute.—Stem herbaceous or frutescent; juice often milky, very acrid; flowers either solitary, spiked, or girt with an involucrium.

A. Monoicous; flowers in an involucrium; stamen 1.

Bractææ many; bracteolæ 2;
outer lobe of the involucrium ovate, not cut

Galarhœus. 22.

Bractææ many; bracteolæ 2;
outer lobe of the involucrium lunate, 2-horned Esula. 23.

Bractææ many; bracteolæ connate;
outer lobe of the involucrium lunate, 2-horned
Characias. 24.

Bractææ and bracteolæ 0;
outer lobe of the involucrium ovate, not cut
Chamaecyce. 25.
B. **Flowers unisexual, naked; stamens 4 to 12.**

*Monoicous; stamens 9 to 12; stem herbaceous*

**Mercurialis.** 26.

**Dioicous; stamens 4; stem arborescent**...... **Buxus.** 27.

A. **Monoicous, herbaceous; perigonium 0; involucrum 1-leafed, cup-shaped, 3 or many-flowered; flowers pedicelled; one of them female, trigynous; the others male, monandrous.**

II. 22. **GALARHŒUS.** Haworth.  

**Wartwort.**

*Bracteæ many; bracteola 2, cordate; involucrum campanulate, 8-cut; lobes alternate, the outer coloured, not cut, rounded; inner membranaceous, upright.—Male. Flowers many; perigonium many-parted; sepales rather feathery; filament jointed in the middle.—Fem. solitary, central; perigonium 0; ovary pedicelled; stigmata 3, 2-forked; regma exserted, 3-coccous, 3-seeded.—Root fusiform; herb milky, smooth; stem leafy; flowers terminal, umbellate, involucrated.*

a. **Regma bald, smooth.**

1. **Galarhoeus decussatus.** Crossing wartwort.

*Umbells 4-rowed, forked; leaves opposite, sessile, quite entire; base cordate, 4-rowed; seeds ovate, reticulated.*

*Lathyris, sen Cataputia minor, Ger. em. 503, 18.*

*Euphorbia Lathyris, Lin. S. P.*

*Tithymalus Lathyris, Lamarck Pl. Fr. 3, 99.*

*Euphorbia decussata, Salisb. Prod. 389.*

*Galarhoeus Lathyris, Haworth Succ. Pl. 143.*

*Caper spurge.*

Dry stony places; perennial; May and June.

*Stem 2 to 4 feet high; herb purple glaucous.*

2. **Galarhoeus helioscopius.** Sun wartwort.

*Umbells 5-rowed, forked; bracteola reversely ovate; leaves wedgeshape, serrated; seeds ovate, reticulated.*

*Tithymalus helioscopius, Rauf Syn. 313, 8; Ger. em. 498, 2; Park. 186.*

*Euphorbia helioscopia, Lin. S. P. 658.*

*Galarhoeus helioscopius, Haworth Succ. Pl. 154.*

*Sun spurge.*

Cultivated fields; annual; July and August.

*Herb light green; stem branchy at bottom; leaves bald; flowers yellow.—Juice of this and the other species corrodes warts, and destroys the nerves of aching teeth: also used to raise blisters behind the ears.*
Umbell 5-rayed, 3-rayed, forked; bracteola ovate rhomboidal, keeled, hairy; leaves lanceolate, serrulated; seeds ovate, smooth.

Tithymalus platyphyllos Fuchsii, Rail Syn. 312, 4 *.
Euphorbia platyphylla, Lin. S. P. 660.

Broad-leaved spurge.

Fields; annual; July and August.

Root fibrous; stem upright; leaves sessile, rather glaucous, subpilose, lower leaves rather petioled.

b. strictus. Smaller, slenderer; umbells 3 or 4-rayed; stem spreading at bottom.

Tithymalus verrucosus, Rail Syn. 312, 3.
Tithymalus verrucosus Dalechampii, Park. 187.
Euphorbia stricta, Lin. Syst. Nat. 1040.
Galarhceus strictus, Haworth Succ. Pl. 151.

Umbells 5 or 6-rayed, forked; bracteola oval; leaves reversely ovate, not cut in the least, blunt, rather bald; sterile branches 0; capsule prickly wartly.

Tithymalus Hibemicus, Rail Syn. 312, 5.
Tithymalus platyphyllus, Ger. em. 500.
Euphorbia Hyberna, Lin. S. P. 602.
Makinboy. Knotty-rooted spurge.

Fields; perennial; June.

Root fusiform; stem simple, 2 feet high; leaves uniform; umbells few-flowered; lobes of the involucrum kidney-shape.

II. 23. ESULA. Pliny.

Bracteae many; bracteolae 2, leaves distinct; involucrum lobed; lobes 8 or 10; the outer deflected, 2-cut, lunate; inner upright, membranaceous.—Male flowers many; perigonium many-parted; sepales rather feathery; filament jointed in the middle.—Female solitary, central; perigonium 0; ovary pedicelled; stigmata 3, 2-forked; regma exserted, 3-coccous, 3-seeded.—Root fusiform; herb milky, smooth; stem leafy; flowers terminal, umbelled, involucrated.

a. Regina bald, smooth; seeds angular; annual.


Umbells 3-rayed, forked; bracteolae ovate; leaves not in the least cut, reverse-ovate, petioled; seeds rather 6-sided, pitted.
258 23. Esula. 10. EUPHORBIACEÆ. Pl. ex. non.

Tithamylyus parvus annus, foliis subrotundis non crenatis, Peplus dic-tus, Raii Syn. 313, 9.

Peplus sive Esula rotunda, Ger. em. 503, 19.
Euphorbia Peplus, Lin. S. P. 653.
Esula rotundifolia, Rivotius Tetrup. irr. 118.


Cultivated fields; annual; July and August.
Root fibrous; herb light green, erect, branchy; flowers yellow, small.

2. Esula exigua. Dwarf esula.

Umbells 3 or 5-rayed, forked; bracteolae lanceolate; leaves sessile, linear, not cut; seeds nearly 4-sided, traversely corrugated.

Tithymalus leptophyllus, Raii Syn. 313, 7; Park. 193.
Esula exigua Trai, Ger. em. 503, 17.
Euphorbia exigua, Lin. S. P. 654.

Cornfields; annual; July.

Herb 6 in. high, bald; flowers very small, yellow.

b. Regma bald, smooth; seeds ovate; perennial.


Umbells 5-rayed, forked; bracteolae nearly heartshape, concave, mucronulate; leaves linear, reversely ovate, pointed, bald, spreading; seeds ovate, reticulate.

Tithymalus maritimus minor Portlandicus, Raii Syn. 313, 6.
Euphorbia Portlandica, Lin. S. P. 656.

Sea-coasts; perennial; August.

Root branchy; herb glaucous, 1 foot high; capsules rough at the angles; involucrum 8-cut, outer lobes yellow.


Umbell 5-rayed, forked; bracteolae cordate kidneyshape; leaves lanceolate, imbricate, concave; seeds ovate, smooth, spotted with red.

Tithymalus pararius, Raii Syn. 312, 4; Ger. em. 498, 1.

Tithymalus maritimus, Lamarck Fl. Fr. 3, 90.
Esula paralia, Haworth Succ. Pl. 144.

Sea spurge.

Sea-side; perennial; August and September.

Herb light bluish grey, very smooth; 12 in. high; involucrum 10-cut, outer lobes fulvous.
5. Esula cupressina. 
Cypress esula.

Umbell 7 to 15-rayed, forked; bracteolae rather heart-shape; leaves on the stem lanceolate; on the sterile branches linear, crowded; seeds ovate, smooth.

Tithymalus cupressinus, Ger. em. 499, 5.
Euphorbia Cyparissias, Lin. S. P. 661.
Esula Cyparissias, Haworth Succ. PI. 155.

Cypress spurge. Welcome to our house.

Woods and sterile fields; perennial; May and June.

Root creeping; stem a foot high.

Dalechamp esula.

Umbells 6 or 8-rayed, forked, crowded; bracteolae ovate, obtuse; leaves on the sterile branches and stem linear, obovate.

Tithymalus pineus, Ger. em. 499, 6.
Esula, Rivinus Tetr. irr. 116.

Pine spurge.

Woods; perennial; July.

Root woody; stem 18 in. high, branchy at bottom, bald.

III. 24. CHARACIAS.

Spurge.

Bracteae many; bracteolae connately perfoliate; involucrem 8 or 10-lobed; outer lobes distant, 2-cut, lunate; inner upright, membranaceous.—Male flowers many; perigonium many-parted; sepales rather feathery; filament jointed in the middle. — Fem. solitary, central; perigonium 6; ovary pedicelled; stigmata 3, 2-forked; regma exserted, 3-coccous, 3-seeded.—Stem simple, upright, shruhbby, pubescent, generally naked at bottom; leaves pubescent, perennial; umbells many-rayed.

1. Characias purpurea.

Purple spurge.

Umbells many-rayed, forked; bracteolae naked; leaves lanceolate, very short, pubescent; stem simple, shrubby regma hairy.

Tithymalus characias Monspeliensium, Raui Syn. 312, 2; Ger. em. 499.
Euphorbia characias, Lin. S. P. 662.
Tithymalus purpureus, Lamarck Fl. Fr. 3, 98.
Esula characias, Haworth Succ. Pl. 155.

Sweet wood-spurge.

Mountainous woods; shrubby; March and April.

Stem pubescent, 3 feet high, tubercular, reddish; lobes of the involucrem lunate, blackish purple.

s 2
2. Characias amygdaloides. 

*Almond spurge.*

-Umbels 5 to 8-rayed, forked, lanceolate, rather heart-shape; leaves lanceolate, not cut, obtuse, hairy; seeds ovate, smooth; regma bald.

Tithymalus characias amygdaloides, *Raii Syn.* 312, 1; *Ger. em.* 500, 9.
Unsavoury spurge.

Woods and heaths; perennial; March and April.

*Stem* simple, reddish, hairy, naked at bottom; *leaves* perennial; lobes of the involucrum lunate, pointed.

IV. 25. CHAMÆSYCE. Dioscorides.

*Bractea* and *bracteola* 0; involucrum 8 to 10-parted; outer lobes fleshy, not cut, rounded above; inner upright, membranaceous.—*Male flowers* many; *perigonium* many-parted; sepales rather feathery; *filament* jointed in the middle.—*Fem.* solitary, central; *perigonium* 0; *ovary* pocketed; *stigma* 3, 2-forked; *regma* exserted, 3-coccus, 3-seeded.—*Herbaceous*; *stem* angular, forked, leafy, rather prostrate; *leaves* opposite, unequal at the base, ribbed; *stipules* intrafoliaceous; *involucra* small, axillary, solitary.

**Chamæsyce maritima.**

*Leaves* not cut, nearly heartshape; *involucrum* solitary; *stem* procumbent; *seeds* ovate, smooth; *regma* bald.

Tithymalus maritimus supinus annuus, *Peplis dictus, Raii Syn.* 312, 10.
Peplis, *Ger. em.* 503, 20; *Park.* 194.
Luphurphi *Peplis, Lin. S. P.* 652.
Myssop *spurge.*

Sea-shore; annual; July and August.

*Root* long; *stem* divaricating, 4-angular, reddish; *leaves* petioled, rather fleshy, purplish green, 1-ribbed, unequally eared at bottom; *stipulæ* many, bristlelike.

V. 26. MERCURIALIS. 

*Mercury.*

-Dioicous, rarely monoicous; *perigonium* 3-sepaled.—*Male.* *Stamens* 9; *anthers* globular, double.—*Fem.* *Ovary* 2-bunched; *styles* 2; *stigma* 4; *regma* 2-coccus; *seeds* single; *perisperm* fleshy; *corculum* inverse; *radicle* above.—*Herb* annual; *leaves* opposite, stipuled; *stipulæ* intrafoliaceous; *flowers* axillary or terminal, spiked or fascicled.
a. Monoicous, barren filaments 0; herbaceous, smooth. Mercurialis.

   Stem brachiate; leaves bald; flowers glomerately spiked; root fibrous.
   Mercurialis annua glabra vulgaris, {Raii Syn. 139, 2}.  
   Mercurialis mas et fœmina, {Ger. em. 332, 1 and 2}.  
   Mercurialis vulgaris mas et fœmina, {Park. 295}.  
   Mercurialis annua, {Lin. S. P. 1465}.  
   {French mercury}.  
   Ruins; annual; July to September.  
   Herb light green, smooth, shining, upright, foetid; leaves ovate, serrated; capsules muricated.—Mucilaginous, used in clysters; juice takes away warts.

b. Dioicous; barren filaments 2; herbaceous, or shrubby; rough. Cynocrambe.

   Stem quite simple; leaves rough; flowers with long pedicells; root creeping.  
   Mercurialis perennis repens, cynocrambe dicta, {Raii Syn. 138, 1}.  
   Cynocrambe mas et fœmina, {Ger. em. 333, 1}.  
   Mercurialis sylvestris cynocrambe dicta vulgaris, mas et fœmina, {Park. 299}.  
   Mercurialis perennis, {Lin. S. P. 1465}.  
   Mercurialis nemoralis, {Salisb. Prod. 390}.  
   {Dag's mercury}.  
   Woods and hedges, male and female plants generally in separate patches; perennial; April and May.  
   Root much branched; stem 18 in. high, upper part densely leaved; leaves petiolate, ovate; stipulae membranaceous, reflex; capsules pilose, rough.—Mildly laxative when boiled as greens; but a case has occurred in which being eaten fried with bacon, it produced hypercatharsis and convulsions, and was fatal to three children, but their two parents escaped.

VI. 27. BUXUS. Pliny.  
   Monoicous; perigonium 3 to 4-sepaled. — Male. Stamens 4, inserted on the rudiment of the germen; barren filaments 2; anthers arrowshape.—Fem. Barren filaments 3; styles 3; stigmata 3, blunt; regma 3-coccous; cocci two-seeded.—Stem arborescent; secondary branches opposite, 4-sided, girt below with many bracteæ; leaves opposite, perennial; petiole decurrent, making the branches angular; flowers glomerate, axillary, nearly sessile, scaly; female single, central; male many, in the circumference.
262 27. Buxus. 10. EUPHORBIACEÆ. Pl. ex. mon.

Buxus sempervirens. Evergreen box.
Leaves ovate; edge of the petiole rather hairy; anthers ovate, arrowshape.

Buxus, Raii Syn. 445, 1; Ger. em. 1410.
Buxus arbor vulgaris, Park. 1428.
Buxus sempervirens, Lin. S. P. 1394.

Chalky hills; arborescent; April.
Tree low, bald; leaves often nicked, shining; flowers yellowish.—Wood yellowish, very hard, smooth and tough; also sudorific; leaves cathartic and vermifuge.

β. angustifolia. Stem arborescent; leaves lanceolate.
Buxus angustifolia, Raii Syn. 445, 2.

γ. sulfruticosa. Stem low, rather shrubby; leaves small, reverse ovate.

Fam. XI. 11. ARISTOLOCHIÆ. Jussieu.

Perigonium simple, adherent, 1-leaved, 1-sepaled, few-lobed, semi-petaloid; aestivation valvular; stamens definite 6 or 12, epigynous, sessile; style short; stigma many-lobed; carcerule coriaceous, 6 or 8-celled; dissepiments vertical; placentarium axillary; seed horizontal or ascending; corculum small, cordate, hidden, basilary; perisperm horny, radicle below.

Perigonium tubular, apex ligulate... Aristolochia. 28.
Perigonium campanulate, 3-lobed ...... Asarum. 29.


Perigonium tubular, bellied at bottom, dilated at top, ligulate; stamens 6, on the style; filaments very short, bearing the anther on one side; style very short, thick; stigma 6-cut; carcerule 6-celled, dissepiments membranaceous, not 2-partile; seeds horizontal, incumbent, flat, not margined, winged below.—Stem volubile or erect; leaves alternate, pedately veined; stipule 0; flowers axillary.

Aristolochia infesta. Troublesome birthwort.
Leaves petiolate, roundish, heartshape, rather blunt; stem upright; peduncles 1-flowered, aggregate; perigonium upright; hip oblong.

Aristolochia Saracenica, Ger. em. 847, 4.
Aristolochia Clematitidis, Lin. S. P. 1364.
Saracen's Birthwort.
Woods and ruins; perennial; July and August.

Herb light green, bald; rhizoma creeping; stem simple, rather flexuous; leaves not in the least cut; flowers yellowish green, secundated by the irritation of the tipula pennicornis.

II. 29. ASARUM. Dioscorides.

Perigonium bellshape, 3-lobed; lobes incurved; stamens 12; filamenis produced beyond the anthers; anthers 2-celled, one cell on each side of the filament; style 1, short; stigmata 3-rayed; carcerule adherent, coriaceus, 6-celled; dissepiments separate at the axis; seeds few, ascending, me-niscus, with an elevated ridge below.—Rhizoma creeping; stem simple, short, 2-leaved, 1-flowered; leaves petiolate, opposite; flowers terminal, peduncled.

Asarum Europæum.

Leaves 2, kidneyshape, obtuse, not in the least cut.

Asarum, Rail Syn. 158; Ger. em. 836, 1.
Asarum vulgare, Park. 266.
Asarum lucidum, Salis. Prod. 344.
Common asarabacca. Footfoot. Hazelwort.

Woods in the North; perennial; May.

Stem round, pubescent; flowers blackish purple, villous, drooping.—Root coarsely powdered purgative, finely powdered emetic; leaves infused in doses of a drachm or two are emetic, in powder sternutatory, the basis of most cephalic snuffs.

Fam. XII. 12. SANTALALCEÆ. Brown. Eleagnearum


Perigonium adherent, 4 or 5-cut, rather coloured; æstivation valvular; stamens 4 or 5, opposite to the lobes of the perigonium, and inserted at the base of the lobes; ovary 1-celled, 2 or 4-seeded; ovules affixed near the tip of the central placentarium, pendulous; style 1; stigma simple or lobed; pericarp (scleranthum?) 1-seeded, nut or drupe-like; perisperm fleshy, same form as the seed; corculum cylindrical, central, inverse; radicle above. — Shrubby or undershrubby; leaves alternate, or somewhat opposite, undivided, minute, rarely stipule-like; stipule 0; flowers small; rather spiked, rarely umbelled, or solitary.
30. THESIUM Linnaeus.

_Thesium._

_Perigonium_ tubular, funnel-shape or hypocrafteriform, 4 or 5-cut, persistent, not glandular, with no epigynous disk; _stamens_ furnished on the outside with a fine bundle of villi; _stigma_ nicked; _pericarp_ barked, crowned.—_Leaves_ alternate, slender, linear; _racemes_ terminal; _bracteae_ leaf-like, persistent, outer ones soldered to the peduncle; lateral ones small, sometimes wanting; _flowers_ whitish on the inside.

_Thesium linophyllum._

_Flax-leaved thesium._

_Steam_ erect, rather branchy; _racemes_ leafy; _flowers_ pedicelled; _bracteae_ 3; _leaves_ linear, lanceolate; _tube_ of the _perigonium_ very short.

Linaria adulterina, _Ralli_ _Syn._ 202; Ger. _em._ 555, 14.
_Pseudolinaria_ montana _alba_, _Park._ 459.
_Thesium linophyllum_, _Lin._ 3. _P._ 301.
_Thesium linifolium_, _Saud._ _Prod._ 146.
_Bastard toadflax._

High chalky pastures; perennial; July.

Root woolly; _herb_ stiff, bald; _stem_ 6 in. high; _leaves_ facing one way, edge rough; _raceme_ many-flowered.


_Perigonium_ free, not cohering to the ovary, 1-leaved, tubular, 2 to 5-lobed; _aestivation_ valvar; _stamens_ inserted on the base of the lobes, one or two in each lobe; _ovary_ simple; _ovule_ 1, upright; _stigma_ simple; _pericarp_ drupaceous, _persperm_ 0; _cotyledons_ plano-convex, _plumule_ minute; _radicle_ below, straight.—_Stem_ arborescent or shrubby; _leaves_ alternate, entire; _flowers_ hermaphrodite or unisexual, axillary.

31. HIPPOPHAE. Dioscorides.

_Dioicus._ — _Male._ _Perigonium_ 2-parted; _anthers_ 4, nearly sessile.—_Fem._ _Perigonium_ tubular, 2-cut; _style_ 1; _stigma_ oblique, exserted; _drupe_ globose; _shell_ crustaceous, hard, shining.—_Stem_ shrubby; _branches_ spinous at the tip; _leaves_ spread, spotted; _flowers_ axillary, solitary, greenish.

_Hippophaeae_ littoralis.

_Shore sallow-thorn._

_Leaves_ linear, lanceolate; above bald; beneath whitish, scaly.
Pl. ex. mom. 13. ELÆAGNEÆ. 31. Hippophae. 265

Hippophae fructifera, foliis salicis, baccis leviter flavescentibus, Rau Syn. 445.
Hippophae secundus Clusii, Ger. em. 1834, 2.
Hippophae primus Dioscoridis Lobelio, sive littoralis, Park. 1006.
Hippophae Rhamnoides, Lin. S. P. 1455.
Hippophae littoralis, Salisb. Prod. 71.

Sea buckthorn.
Sea-shore; arborescent; May.
Small tree; younger branches reddish; leaves dark green above, silvery beneath; petioles short; berry mucronulate, reddish yellow, one-spotted.

Fam. XIV. 14. THYMELEÆ.

Perigonium free, tubular, coloured; limb 4 rarely 5-cut; aestivation imbricate; stamens inserted in the mouth of the tube, definite, 8 rarely 2 or 4, if there is less or only as many as the lobes, opposite; but if twice as many, in two series, the upper series opposite to the lobes, the lower alternating; barren filaments few; anthers 2-celled; cells opening lengthways in the middle; ovary simple, ovule 1, pendulous, placentarium lateral, subapicular; style 1; stigma not cut; pericarp nutlike or drupaceous; perisperm 0, or very thin, fleshy; corculum straight, inverse; radicle short, above; cotyledons plano-convex; plumula inconspicuous.—Stem shrubby; bark very tough; leaves alternate or opposite, not in the least cut; stipule 0; flowers capitate, or spiked; terminal or axillary, solitary.

32. DAPHNE. Dioscorides.

Perigonium funnelshaped, withering; limb 4-cut; stamens 8, hidden; style terminal, very short; stigma capitate; drupe berrylike; putamen crustaceous, shining.—Stem shrubby, naked at bottom; leaves spread, or rarely opposite; flowers bracteated, axillary or terminal, often glomerate.

A. Perigonium separable into 2 lamina; flowers lateral, coloured; leaves annual. Mezereon.

1. Daphne florída.

Flowering daphne.

Flowers lateral, sessile, in threes; leaves lanceolate, bald, appearing after the flowers, annual.

Chamaelea Germanica, sive Mezereon, Ger. em. 1402.
Daphne Mezereum, Lin. S. P. 509.
Thyramea Mezereum, Garthn. Sem. et Fr. 1, 188.

Daphne florída, Salisb. Prod. 281.

German olive-spurge.

Woods; shrubby; March and April.
Twigs bearing flowers in the middle and leaves at the end; flowers bracteate, rose-colour or whitish, odorous; drupe red.—Drupes corrosive, gr. xij. killed a young woman immediately; bark of the root 2 drms, boiled in 3 pints of water to 2, and taken daily, resolves venereal nodes; chewed, it cured a palsy of the tongue.

B. Perigonium separable into 2 lamina; flowers axillary, racemose, greenish; leaves perennial. Laureola.

Flowers racemose; raceme axillary, drooping, 4 to 6-flowered; leaves lanceolate, bald.

Laureola, Rait Syn. 465; Ger. em. 1404; Park, 203, 1.
Daphne Laureola, Lin. S. P. 510.
Thymelea Laureola, All. Ped. 484.
Daphne major, Lamark Pl. Fr. 3, 221.
Daphne sempervirens, Salisb. Prod. 281.
Spurge laurel. Laurel. Lowry.

Coppices and fields; shrubby; March.
Stem round, 3 feet high, leafy at top; branches few; leaves drooping, pale green, crowded; flowers green; drupe black.
—Bark of the root useful in rheumatism, fevers, and worms; 10 gr. is a brisk and severe purge for a strong adult: this and the whole plant is very acrimonious.

C. Perigonium not separable into 2 laminae; flowers terminal, in bundles, coloured; leaves perennial. Cneorum.

Flowers panicled, terminal, sessile; leaves lanceolate, naked, mucronate.

Cneorum Matthioli, Ger. em. 1506, 4; Park, 201, 2.
Daphne Cneorum, Lin. S. P. 511.
Thymelea Cneorum, Allioni Pedem. 487.
Daphne prostrata, Salisb. Prod. 281.
Rock rose. Dwarf oleander.

Mountains of Wales; shrubby; May.
Stem woody, trailing; leaves crowded; flowers reddish, odorous; drupe juiceless.

Fam. XV. 15. POLYGONEÆ.

Perigonium 1-leafed, free, 4 or 6-cut, often coloured, persistent; aestivation imbricate; stamens definite, equal in number to the lobes of the perigonium and styles, inserted at the base; anthers 2-celled, cells opening longitudinally; ovary 1, free; ovule 1, upright; styles and stigmata 2 or 3; utriculus dry, hard, crustaceous, (the-
cidium) naked, or joined to the perigonium; perisperm farinaceous, rarely nearly wanting; corculum inverse, lateral, rarely central; plumula inconspicuous; radicle above.—Stem herbaceous, rarely shrubby; leaves alternate, sheathing at their base, or with an intrafoliaceous adnate sheath; younger leaves revolute beneath; flowers hermaphrodite, rarely unisexual, spiked or racemose.

Perigonium 4 or 8-parted, not falling off.
Flowers spiked, terminal .................. BISTORTA. 33.
Flowers spiked or panicled; spikes many PERSICARIA. 34.
Flowers axillary .......................... POLYGONUM. 35.
Flowers corymbose; thecidium 3-sided FAGOPYRUM. 36.

Perigonium 4 or 6-sepaled, inner ones persistent, outer reflexed.
Stigmata 3; corculum lateral;
inner sepals tubercular at the base ...... LAPPATHUM. 37.
Stigmata 3; corculum lateral;
inner sepals not tubercular at the base .... ACETOSA. 38.
Stigmata 2; corculum central;
inner sepals not tubercular at the base ..... OXYRIA. 39.

I. 33. BISTORTA.
Snakeweed.
Perigonium 5-parted, persistent; stamens 8; 3 opposite and 5 interposed; styles and stigmata 3; thecidium 3-angular; corculum lateral.—Rhizoma tortuous; stem simple; ocrea 2-valved, 2-flowered; flowers spiked; spike solitary, terminal.

Leaves ovate, waved; radical leaves decurrent into a petiole; spike-dense, obtuse.

Bistorta major, R. ed. 147, 1; Ger. em. 399, I.
Bistorta major vulgaris, Park. 391.
Polygonum Bistorta, Lin. S. P. 516.
Polygonum amemnum, Salsib. Prod. 258.

Fields and pastures; perennial; May and June.
Stem 18 in. high; leaves beneath, glaucous, veined; spike erect, many-flowered; flowers pedicelled.—Young shoots eaten as a potherb; root strongly astringent, used also in tanning leather.
2. Bistorta vivipara. Childing snakeweed. Leaves lanceolate, margin revolute; spike linear; flowers often gemmiparous.

Bistorta minor, Rau Syn. 147, 2; Ger. em. 399, 2.
Bistorta minor nostras, Park. 392.
Polygonum viviparum, Lin. S. P. 516.
Small bistort. Small snakeweed.

Fields and pastures; perennial; June and July.
Stem 9 in. high; spike obtuse; flowers rosy; lower flowers bulbiferous.

β. alpina. Radical leaves roundish, minutely serrated.

Bistorta minima Alpina, foliis imis subrotundis et minutissime serratis, Rau Syn. 147, 3.
Bistorta Alpina pumila varia, Park. 392.

II. 34. PERSICARIA. Pliny. Peachwort.

Perigonium 3 to 5-parted, persistent; stamens 5 to 7: filaments connected by a gland, 3 or 4 at the sinus of the lobes, the others opposite to the sides of the ovary; styles 2; stigmata 2, blunt; thecidium ovate, compressed; corculum lateral; cotyledons accumbent. — Stem much branched; ocrea 1 or 2-valved, 2 or 3-flowered; flowers spiked; spike terminal or axillary.


Persicaria salicis folio perennis, potamogiton angustifolium dicta, Rau Syn. 145, 9.
Potamogiton angustifolium, Ger. em. 821, 2.
Fontalis major longifolia, Park. 1254, 1 a.
Polygonum amphibium, Lin. S. P. 517.
Narrow-leaved pondweed.

Watery places; perennial; July and August.
Stem floating; stipules entire; leaves pleasant green, glossy, edge aculeated; flowers pedicelled; stamens shorter than the lobes of the perigonium.

β. terrestris. Stem erect; leaves dark, rough; stamens longer than the lobes of the perigonium.

2. Persicaria acris. Sharp peachwort. Stem upright; leaves bald, smooth, lanceolate, spotless; stipules fringed; spikes filiform, drooping; style cloven.
Persicaria vulgaris acris, seu hydropiper, 
Persicaria vulgaris acris, seu minor, Park. 856.
Polygonum Hydropiper, Lin. S. P. 517.
Persicaria acris, Lamarck Pl. Fr. 234.
Polygonum gracile, Salisb. Prod. 259.

*Arumsmart. Water-pepper.*

Watery places; annual; September.

*Stem* 2 feet high, much branched; *upper part of the joints* swelled; *leaves* pale green; *flowers* reddish, glandular on the outer side.

3. Persicaria pusilla. **Dwarf peachwort.**

*Stem* rooting at bottom; *leaves* linear, lanceolate, flat, spotless; *stipules* fringed; *spikes* slender, threadshape, rather upright; *style* very slightly 2-cut.

Persicaria pusilla rejets, Rail Syn. 145, 2; Ger. em. 446, 3; Park. 857.
Polygonum Persicaria, Lin. S. P. 518.
Persicaria pusilla, Lamarck Pl. Fr. 235.
Polygonum strictum, Allioni Ped. 2051.
Polygonum intermedium, Ehrh.
Polygonum mite, Schrank Bauar. 1. 668.
Polygonum angustifolium, Roth Germ. 2. 453.

Small creeping arsesmart.

Damp sandy places; annual; September.

*Stems* many, above erect, 9 in. high, slightly branched; *spikes* reddish; *flowers* not glandular on the outer side.

4. Persicaria maculosa. **Spotted peachwort.**

*Stem* erect; *leaves* ovate, lanceolate, often spotted, bald; *stipules* fringed; *spikes* ovate, oblong; *peduncles* smooth; *style* nearly 2-cut.

Persicaria maculosa, Rail Syn. 145; Ger. em. 445, 2. 
Persicaria vulgaris mitis seu maculosa, Park. 856. 
Polygonum Persicaria, Lin. S. P. 518. 
Polygonum nudicaule, Salisb. Prod. 259. 

Dead arsesmart.

Damp places; annual; July and August.

*Stem* 3 feet high, alternately branched; *leaves* spreading, deflexed; *spike* upright, rose-red.

ß. argentea. Leaves not spotted, silver coloured.

Polygonum folio salicis alba vulgaris, Rail Syn. 145, 7. 
Silver arsesmart, Petiver Herb. Brit. 3. 9.

5. Persicaria incana. **Grey peachwort.**

*Stem* ascending; *leaves* oblong, lanceolate, spotted, beneath pubescent; *stipules* fringed; *peduncles* smooth; *spikes* oblong, erect.
Persicaria folio subtus inacano, Dillen in Rait Syn. 145, 5.
Polygonum tomentosum, Schrank Bau. 1, 669.
Polygonum turgidum, Theutl. Par. 2, 199.
Polygonum scabrum, Moench Meth. 629.
Water pepper.
Corn-fields; annual; July.
Stem 18 in. high; leaves spread; spikes reddish.—Plant
acrid, like pepper.

Stem patulous; leaves ovate, lanceolate, bald; stipules
not fringed; peduncles rough, glandular; spikes ovate, erect,
becoming drooping; thecidium compressed, concave on
each side; style 2-lobed.

Hydroper, Ger. em. 445, 1.
Persicaria mitis major, folis pallidioribus, Rait Syn. 145, 6.
Polygonum lapathifolium, Lin. S. P. 517.
Polygonum pallidum, W. Bot. Arr. 381.
Polygonum Pennsylvanicum, Curt. Fl. Lond.

Dunghills and cornfields; annual; July and August.
Stem upright, 3 feet high; leaves pale green, mealy;
upper leaves glandular; spike thick, ovate.

β. rubra. Stem and flower red.

Stem patulous, spotted with red; leaves ovate, lanceolate;
beneath bald, whitish; stipules not fringed; peduncles rough,
glandular; spikes oblong, slender; style 2-lobed.

Persicaria latifolia geniculata, caulibus maculatis, Dillen in Rait Syn.
145, 8.
Polygonum Pennsylvanicum, var. Curtis Fl. Lond.

Ditches and watery places; annual; September.
Upper leaves smooth, dotted beneath; lower leaves blueish
white, downy, not dotted; spikes slender, whitish green,
becoming reddish.

Stem decumbent; leaves ovate, lanceolate, hoary be-
neath; stipules not fringed; peduncles rough, glandular;
spike ovate; stamens 6; styles 2.
Pl. ex. mon. 15. POLYGONEæ. 34. Persicaria. 271

Persicaria maculosa procumbens foliis subtus incanis, Dillen in Ræi Syn. 146, 10.
Polygonum Pennsylvanicum, var. Curtis Fl. Lond.

Ditches and watery places; annual; September.

III. 35. POLYGONUM. Dioscorides.  
Knotgrass.

Perigonium 5-parted, persisting; stamens 8; 5 opposite, 3 interposed, connected by a gland; styles and stigmata 3, very short; thecidium rounded; corculum lateral; cotyledons incumbent.—Root fibrous, slightly woody; stem procumbent, branchy; leaves alternate; flowers axillary; ocreæ cylindrical, 3 or 4-flowered.

Polygonum aviculare.  
Bird knotgrass.
Leaves elliptical, lanceolate, edge rough; stem procumbent, herbaceous; ocreæ acute, few-ribbed.

Polygonum mas vulgare, Ræi Syn. 146, 1; Ger. em. 565.
Polygonum mas vulgare majus, Park. 443, 1.
Polygonum aviculare, Lin. 5. P. 519.
Polygonum latifolia, Retz Observ.
Sinne’s grass. Bird’s tongue, North.

Roadsides and paths in gravelly soils; annual or biennial; April to October.

Stem divaricated, knotted at every joint; leaves ovate or lanceolate; flowers pink.—Herb given to sick swine that refuse their meat; seeds may be ground into a good flour for cakes, and are the principal food of small birds when wild.

b. brevifolium. Leaves oblong, a quarter of an inch long.
Polygonum brevi angustoque folio, Ræi Syn. 146, 2.

γ. angustifolium. Leaves strapshape.
Polygonum oblongo angustoque folio, Ræi Syn. 146, 3.

δ. rotundifolium. Leaves roundish, crowded.
Polygonum folio rotundo, Dillen in Ræi Syn. 147, 4.

ε. marinum. Stem rather woody.
Polygonum marinum, Ræi Syn. 147, 5. excluding his synonyms, which belong to Polygonum maritimum, Linn, a very different plant.

IV. 36. FAGOPYRUM. Theophrastus.  
Buckweat.

Perigonium 5-parted, unequal, 2 inner small, 3 outer keeled, persisting; stamens 5 interposed and 3 opposite, with 5 nectariferous glands; styles 3; stigmata 3; thecidium
3-angular; corculum central; cotyledon foliaceous, transversely pleated.—Root fibrous; stem much branched, upright or twining; leaves heartshape-sagittate, or with the base cut in; flowers corymbose or panicked, axillary or terminal.

1. *Fagopyrum esculentum*. Esculent buckwheat.
   Stem upright, flexuous, spineless; leaves heartshape-sagittate; angles of the thecidium equal, not sinuated.

Cultivated for its seeds, also as a green crop to plough in for manure, and to attract game to the place; sometimes wild by roadsides, but does not bear our winters well: annual; July to August.

Stem a foot high, smooth; leaves fleshy, the upper sessile; flowers purplish-white.—Seeds nutritive, make good crumpets; used also to feed poultry.

   Stem twining, smooth, angular; leaves cordate, sagittate; ocreae truncated, not notched; outer lobes of the perigonium obtusely keeled.

Fields; annual; June to September.
Leaves pedicelled; racemes terminal, leafy; flowers in bundles, drooping.

   Stem twining, streaked; leaves triangular, sagittate-waved; outer lobes of the perigonium winged, wings membranaceous.

Fields and hedges; annual; June and September.
Dock.

Perigonium 6-parted, unequal; outer small, reflexed; inner larger, persistent, enclosing the thecidium, tubercular at the base; stamens 6; styles 3; stigmata 3, many-cut; thecidium 3-angular; corculum lateral, peripherical; radicle above.—Root fusiform, perennial; herb slightly acid; stem branched; joints swollen above; leaves lanceolate; flowers in half whirls, panicled; terminal or axillary; hermaphrodite or unisexual.

a. Inner lobes of the perigonium not cut.

1. *Lapathum aquaticum.*

Leaves acute, rather glaucous; lower heartshape, lanceolate; upper lanceolate; sepales ovate, obsolesely tuberculated; tubercles becoming large, oblong, lanceolate.

Lapathum maximum aquaticum sive hydrolapathum, *Raii Syn.* 140, 1.
Great water-dock.

Ditches and river-sides; perennial; August.

Root thick; stem 5 feet high, upright; whirls near together; sepales ovate, veined, rarely slightly toothed.—Root antiscorbutic, and useful in chronic diseases from obstructions in the viscera; also a good tooth-powder.

2. *Lapathum crispum.*

Leaves lanceolate, waved, acute; sepales ovate, all tuberculate: tubercles large, ovate, gibbous.

Lapathum folio acuto crispo, *Raii Syn.* 141, 3.

Road-sides and pastures; perennial; June and July.

Root yellowish; stem angular; racemes closely leafed at the bottom.

3. *Lapathum conglomeratus.*

Balled dock.

Lower leaves heartshape, lanceolate; upper lanceolate; branches spreading; whirls distant; sepales linear, obtuse, all tubercled.

Rumex paludosus, *Aiton Hort.* Kew. 482.
Rumex conglomeratus, *Roth Germ.* 1, 423.
Rumex Nemolapathum.
Damp woods and bogs; perennial; July.
Stem erect; branches diffused; leaves ovate, lanceolate; whirls remote, glomerate.

Lower leaves heartshape, lanceolate; upper lanceolate, waved; ribs coloured; sepales oblong, often tubercled.

Lapathum folio acuto rubente, Raii Syn. 142, 11.
Lapathum sativum sanguineum, Ger. em. 390, 5.
Rumex sanguineus, Lin. S. P. 476.
Lapathum sanguineum, Lamarck Fl. Fr. 3, 2.
Bloodwort.

Woods and waysides; perennial; July.
Leaves petioled, veined; racemes leafless; thecidium small; 
—Leaves laxative; seeds astringent.

Lower leaves heartshape, lanceolate; upper lanceolate, veined; ribs green; sepales oblong, tubercled.

Lapathum viride, Dillen in Raii Syn. 141, 6.
Rumex acutus, Curtis Fl. Lond.
Rumex viridia, Sibthorp Fl. Oxon. 118.

Sandy places; perennial; July.

b. Inner valve of the perigonium toothed.

Leaves heartshape, oblong, pointed; stem smooth; racemes leafy, divaricated, long; valves oblong, rather toothed, tubercled.

Lapathum acutum, Raii Syn. 142, 7; Ger. em. 388, 1.
Lapathum acutum majus, Park. 1224, 1.
Rumex acutus, Lin. S. P. 478.

Fields and watery places; perennial; July.
Root dyes different shades from straw to olive green.

β. minimum. Plant small.

Lapathum acutum minimum, Dillen in Raii Syn. 141, 5; Ger. em. 388, 2; Park. 1224.

Radical leaves heartshape, oblong, obtuse; upper leaves ovate, lanceolate, acute; stem roughish; racemes leafless, linear, oblong; valves tubercled, toothed; teeth awlshape.
Lapathum sylvestre vulgatus, *Park.* 1225.
Lapathum obtusifolium, *Moench Meth.* 256.
Lapathum sylvestre a, *Lamarck Fl.* Fr. 3, 4.

Road-sides and ruins; perennial; July and August.
*Root* yellowish; *radical leaves* very large, exceeding grateful to deer.

Radical leaves pandurateform; upper leaves oblong; stem divaricating, smooth; racemes leafy; valves deltoid, veined, toothed, tubercled.

*Fiddle dock.*

Barren sandy places and roadsides; perennial; August.
*Stem* procumbent; *branches* long, inclined; *leaves* smooth.

Leaves linear; racemes spikelike, whirs crowded; valves deltoid, tubercled, 4-toothed; teeth bristlelike, longer than the valves.

Lapathum minus, *Lamarck Fl.* Fr. 3, 4.

Bogs and watery places; perennial; July and August.
*Stem* furrowed, rough; *leaves* flat, slender; *flowers* golden yellow.

Leaves linear, lanceolate; racemes interrupted; whirs distant; valves lanceolate, tuberculate, toothed at the bottom; teeth bristlelike, shorter than the valves.

Lapathum aureum, *Dillen in Raii Syn.* 142, 10.
Hydrolapathum minus, *Ger. em.* 389, 2; *Park.* 1225.
Rumex maritimus, *Curtis Fl.* Lond.
*Golden dock.*

Bogs and damp places; perennial; July and August.
*Stem* rough; *radical leaves* large, acute; *whirs* leafy.
VI. 38. ACETOSA. Brunsfel. Sorrel.

Perigonium 6-parted; 3 inner lobes persisting, girding the fruit, not tubercled at bottom; 3 outer smaller, reflected; stamens 6; styles 3; stigmata 3; thecidium 3-angular; corculum lateral, peripheral.—Root fibrous or creeping; herb acid; flowers in half whirs, racemose or panicled, hermaphroditic or unisexual.

1. Acetosa pratensis. Meadow sorrel. Leaves oblong, sagittate, with barbs turned backwards; root fibrous; flowers unisexual; valves not cut.

Acetosa pratensis, C. Bauh, Pin. 114; Miller Diet.
Lapathum acetosum vulgare, Raill Syn. 143, 12.
Oxalis sive Acetosa, Ger. em. 399, l.
Acetosa vulgaris, Park. 142.
Rumex Acetosa, Lin. S. P. 481.
Lapathum acetosum, Scopoli Carn. 2, 438.

Fields and pastures; perennial; June.
Stem leafy, 3 feet high; radical leaves petiolate, blunt; upper sessile, pointed; thecidium shorter than the valves.—Root dried gives a beautiful red colour to water, as if changed to wine; leaves acid, used in salads and sauces; expressed juice cleared by settling, and evaporated, yields an essential salt, sold for salt of lemons, and used to take iron-moulds out of linen.

β. Alpina. Herb much larger; thecidium longer than the valves.

Lapathum q. Acetosa montana maxima C. Bauhuii, Dillen in Raill Syn. 143, 12.


Lapathum acetosum repens lanceolatum, Raill Syn. 143, 13.
Oxalis tenuifolia, Ger. em. 379.
Acetosa minor lanceolata, Park. 744.
Rumex Acetosella, Lin. S. P. 481.
Acetosa tenuifolia, Moench Meth. 357.
Rumex Infestum, Salisb. Prod. 258.
Sheep's sorrel. Sheep's dock.

Barren sandy places; perennial; June and July.
Stem 12 inches high; radical leaves hastate; stem leaves lanceolate or hastate.

Leaves heartshape, hastate; barbs reflex, diverging; stems roundish; flowers hermaphrodite, valves not cut.

Oxalis Franca sen Romana, Ger. ed. 397, 4.
Romex scutatus, Liu. S. P. 481.


Stony, mountainous places; perennial; June and July: also cultivated.

Stem and leaves glaucous.

VII. 39. OXYRIA. Hill Welsh-sorrel.

Perigonium 4-parted; 2 inner lobes larger, erect, adnate to the seed, not granuliferous at bottom; 2 outer smaller, reflexed; stamens 6; styles 2, distant; stigmata 2, pencil-shape; thecidium rhomboidal, 2 outer angles winged; corculum central, straight; cotyledones linear, incumbent; radicle above.—Root perennial; leaves mostly radical, petiolate; flowers in bundles, panicked, hermaphrodite.


Leaves orbiculate, retuse or nicked; valves oval, not-toothed.

Acetosa rotundifolia hortensis, Rau Cat. Cant. 1, 6.
Acetosa Cambro-Britannica montana, Park. 745.
Runex digynus, Liu. S. P. 480.
Acetosa digyna, Miller Diet.
Lapathum digynum, Lamarek Pl. Fr. 3, 6.

Alpine places; perennial; June.

Stem a foot high, upright, rather naked; leaves pale green, ribbed.

Fam. XVI. 16. CHENOPODEÆ. De Candolle.

Atriplices, Jussieu.

Perigonium free, 1-leafed, deeply divided, persisting, rarely tubular at bottom; estivation imbricate; stamens inserted at the base of the perigonium, opposite the lobes, and as many or fewer than the lobes; ovary 1, free, one-seeded; ovule affixed at the base, upright or inverted; style divided, 2 or 4-cut; stigmata undivided; utriculus membranaceous, rarely fleshy; embryo curved, or spiral, round the farinaceous perisperm; radicle at the hilum, above or
below; plumula scarcely visible.—Herbs or undershrubs; leaves alternate, rarely opposite; stipulae or sheaths none; flowers small, greenish, rarely unisexual.

Stamens 1 or 2.

Perigonium not cut; utriculus membranaceous .................................. Salicornia. 46.
Perigonium 3-parted; utriculus fleshy .... Blitum. 40.

Stamens 5; perigonium not enlarging after flowering.

Utriculus half-adherent .................. Beta. 41.
Utriculus free ......................... Chenopodium. 44.

Stamens 5; perigonium enlarging after flowering.

Spermodermis double;
perigonium 3 or 4-cut ................. Spinachia. 42.
Spermodermis double;
perigonium in female flowers 2-leaved,
compressed .................. Atriplex. 43.
Spermodermis simple;
seed horizontal; corculum snail-like ........ Salsola. 45.

I. 40. BLITUM. Theophrastus.

Perigonium 3-cut, coloured; stamen 1; ovary above; styles 2; utriculus fleshy; seed lenticular; spermodermis double, the outer crustaceous; corculum annular.—Flowers glomerate; fruit like a strawberry, axillary or terminal.

Blitum virgatum.
Heads spread, lateral.


Dunghills, but scarcely a native; annual; July.

II. 41. BETA. Pliny.

Perigonium 3-parted, slightly adherent at bottom to the ovary; stamens 5; styles 2; utriculus depressed, immersed in the perigonium; seed horizontal; spermodermis double, the outer coriaceous; corculum annular.—Root fusiform, fleshy; stem furrowed; glomerules 2 to 4-flowered, sessile, axillary; bracteae 2 or 3 to each flower.
Stem prostrate at bottom; lower leaves triangular, petiolate; flowers solitary or in pairs; lobes of the perigonium quite entire.

Beta sylvestris maritima, Rall. Syn. 157; Park. 750. 
Beta maritima, Lin. S. P. 322. 
Sea-shores; perennial; August. 
Root black, internally white; stems many, much branched at the top; flowers racemose.

Stem erect; leaves ovate; flowers 3 or 4 together. 
Beta alba, Ger. em. 318, 1. 
Beta, Park. 487. 
Beta vulgaris, Lin. S. P. 322. 
Beta esculenta, Salisb. Prod. 152. 
Beta cicla, Murray Syst. Nat. 262. 
Beta hortensis, Mill. Dict. 2, var. 
Cultivated; biennial; July and August. 
Leaves green.—Roots saccharine, very nutritive, used as food for man and beast, and also to manufacture sugar, of the same kind as cane sugar.

β. rubricaulis. Leaves green with red veins; stem and branches red. 
Beta rubra, Ger. em. 318, 2. 
Beta vulgaris 3, var. Miller Dict. 

γ. rubra. Leaves red. 
Beta rubra Romana, Ger. em. 319, 3. 
Beta vulgaris ς, Lin. S. P. 322. 
Beta vulgaris 3, Miller Dict. 

δ. albo-rubens. Root tuberous, red, internally white. 
Beta hybrida, Salisb. W. 15. 
Root of scarcity. Mangel wurzel. 

ε. raposa. Root tuberous, red throughout. 
Beta vulgaris γ, Lin. S. P. 322. 
Beta raposa, Park. 489. 
Turnep-rooted beet. 

ζ. lutea. Root yellow. 
Beta vulgaris δ, Lin. S. P. 322. 

III. 42. SPINACHIA. 
Spinage. 

Flowers unisexual.—Male. Perigonium 5-parted; stamens 5.—Female. Perigonium 2 or 4-parted; styles 4; utriculus upright, in the hardened and enclosing perigonium; spermodermis simple, membranaceous; corculum annular.—Flowers glomerate, axillary.
Leaves sagittate; fruit horned, sessile.
Spinachia, Ger. em. 330; Park. 496.
Spinachia oleracea, Lin. S. P. 1456.
Spinachia spinosa, De Cand. Fl. Gall.
Spinachia sessiliflora spinosa, Stokes Bot. Mat. Med. 4, 537,
Winter spinach.
Cultivated; biennial; April to June.
Leaves used as a potherb, laxative.

Leaves oblong, ovate; fruit spineless, sessile.
Spinachia oleracea b, Lin. S. P. 1456.
Spinachia glabra, Miller Dict.
Spinachia sessiliflora inermis, Stokes B. M. M. 4, 537.
Spinachia inermis, De Cand. Fl. Gall. 2243.
Round-leaved spinach.
Cultivated; annual; April to June.
Leaves used as a potherb, laxative.

IV. 43. ATRIPLEX. Pliny.

*Orache,*

Flowers polygamous. — HERMAPHRODITE. Perigonium 5-parted; stamens 5; styles 2, rarely perfect; utriculus depressed.—FEMALE. Perigonium 2-cut; style 2-cut; utriculus compressed by the enlarging persistent perigonium; seed upright; spermodermis double, the outer crustaceous; corculum annular; radicle above.—Leaves alternate; rarely opposite; stem rarely shrubby; flowers glomerate, panicked.

Leaves opposite; stem shrubby. Halimus.

Stem shrubby, diffused; leaves opposite, obovate, lanceolate, not cut, powdery, glaucous.
Halimus vulgaris, sive portulaca marina, Ger. em. 529, 3.
Portulaca marina nostra, Park. 724.
Atriplex portulacoides, Lin. S. P. 1493.
Common sea-purslane.

Sea-shore; shrubby; July and August.
Root woody; stem 18 in. high, 4-sided; flowers yellowish,monoicous, female deltoid.
Leaves alternate; stem herbaceous. Atriplex.

Stem herbaceous, diffused, spreading, pubescent at top; leaves deltoid, sinuate, toothed, silvery underneath.
Atriplex maritima, Rait Syn. 152, 8.
Atriplex marina, Ger. ein. 325, 4.
Atriplex marina repens, Park. 758.
Atriplex laeziata, Lin. S. P. 1494.

Jagged sea-orache.

Sea-shores; annual; July.
Root fibrous; stem spreading; leaves unequally toothed, sinuated; hermaphrodite flowers spiked, conglomerate, small, axillary, pedicelled, crowded; fruit 3-ribbed, toothed.

β. truncata. Leaves angular, much sinuated.
Atriplex maritima nostras, procerior, foliis angulosis, incanis admodum sinuatis, Dillen in Rait Syn. 152, 6.

3. Atriplex patula. Spreading orache.
Stem herbaceous, spreading; leaves deltoid, lanceolate, rather hastate; fruit thorny on the disc.
Atriplex sylvestris, folio hastato sive deltoide, Rait Syn. 151, 1.
Atriplex sylvestris vulgaris, Ger. em. 326, 5.
Atriplex patula, Lin. S. P. 1494.

Ruins and common fields; annual; July and August.
Root fibrous; stem much branched, upright; leaves alternate; lower leaves deltoid; upper slender, lanceolate; racemes leafy; fruit deltoid, rhomboid; seed dotted.—Herb used as a pot-herb.

β. Stem procumbent, reddish; leaves less hoary.
Atriplex maritima perennis folio deltoide seu triangulari minus incano, Dillen in Rait Syn. 152, 5.

γ. aurita. Stem procumbent, reddish; leaves fleshy, eared at bottom, scarcely toothed, reddish.
Atriplex maritima ad foliorum basin auriculata procumbens, et ne vix sinuata, Dillen in Rait Syn. 152, 7.

Sandy sea-shores.

Stem herbaceous; leaves lanceolate, diverging, not cut; lower leaves somewhat hastate; fruit hastate, smoothish.
Atriplex sylvestris angustifolia, Rait Syn. 151, 2; Ger. em. 326, 7; Park. 748.
Atriplex patula, Huds. Fl. Angl. 443.
Spear orache.

Fields and ruins; annual; June to August.
Petioles short; leaves lanceolate, horizontal; lowermost broad, sometimes hastate; apex of the fruit long, acute; edge not cut.—Seeds useful in dysentery, emetic.
5. *Atriplex erecta.* Upright orache.  
*Stem* herbaceous, upright; *leaves* ovate, lanceolate; lower leaves sinuate; *fruit* deltoid, acute, muricated all over.  
*Atriplex angustifolia lacinata*, Dillen in *Raii Syn.* 152, 4.*  
Ruins; annual; August.  
*Stem* much branched; *leaves* rather powdery, pointed; upper leaves entire; lower indented; *racemes* terminal, nearly leafless; *fruit* small.

*Stem* herbaceous, upright; *leaves* linear; *fruit* ovate, pointed, muricated, indented.  
*Atriplex angustissimo et longissimo folio*, Dillen in *Raii Syn.* 153, 12*.  
*Atriplex maritima angustifolia*, obtusiori folio, Dillen in *Raii Syn.* 153, 12**.  
*Grass sea-orache.*

Muddy sea-shores; annual; August and September.  
*Stem* much branched; *leaves* not cut, powdery underneath; *spike* ovate, cylindrical, nearly leafless.

*β. serrata.* Leaves serrated.  
*Atriplex angustifolia maritima dentata*, *Raii Syn.* 152, 3.  
*Jagged long orache.*

7. *Atriplex pedunculata.* Footstalked orache.  
*Stem* herbaceous, flexuous, diverging; *leaves* obovate, very entire; *female flowers* peduncled, wedgeshape.  
*Atriplex marina semine lato*, *Raii Syn.* 153, 10.  
*Heart sea-purslane.*

Muddy sea-shores; annual; August and September.  
*Herb* powdery, woolly; *stem* 9 in. high, angular; *leaves* spreading, not cut; *flowers* terminal, crowded; *female flowers* deflexed, 3-lobed.  
*β. humilis.* Stem shorter; *plant* more diffused.  

V. 44. *CHENOPODIUM.* Pliny.  
*Goosefoot.*  
*Perigonium* 5-parted, persisting, not enlarging after flowering; *stamens* 5; *styles* 2-cut; *stigmata* 2 or 4; *utricle* membranaceous, depressed, girt by the *perigonium*;
seed orbicular, horizontal; spermodermis double, the outer crustaceous; corculum annular; radicle horizontal, centrifugal.—Herb succulent, mostly powdery; flowers glomerate, panicled.

a. Leaves ovate or rhomboidal; often toothed or lobed; flowers not bracteated.


   Blitum sylvestre, q. Blitum perenne Bonus Henricus dictum, Rall Syn. 156, 45.
   Bonus Henricus, Ger. em. 329, 1.
   Lapidatum unctuosum, sive Bonus Henricus, Park. 1925.
   Chenopodium Bonus Henricus, Lin. S. P. 318.
   At good. Good King Harry, Cambridgeshire. English Mercury.

   Ruins and waysides, also cultivated; perennial; May to August.

   Root much branched; stem unctuous, powdery; leaves petioled, powdery underneath; flowers crowded, powdery, many only female; perigonium dilated, erose; styles pubescent.—Herb laxative, eaten as a potherb; young shoots peeled and boiled eat like asparagus.

2. Chenopodium urbicum. Town goosefoot.

   Leaves triangular, rather toothed; racemes crowded, very long, stiff, approaching the stem, nearly leafless.

   Blitum sylvestre, q. Chenopodium erectum foliis triangularibus dentatis, spicis e foliorum alis plurimis longis, erectis, tenuibus, Dillen in Rall Syn. 155, 11.
   Chenopodium urbicum, Lin. S. P. 318.
   Broad-pointed bête.

   Dunghills; annual; August and September.

   Stem angular; racemes axillary; seeds much larger than those of chenopodium rubrum.


   Leaves rhomboidal, triangular, sinuate, toothed; racemes erect, compound, rather leafy, shorter than the stem.

   Blitum sylvestre, q. Blitum Pes anserinus dictum, Rall Syn. 154, 2.
   Atriplex sylvestris latifolia, sive pes anserinus, Ger. em. 328, 1; Park. 749.

   Chenopodium rubrum, Lin. S. P. 318.
   Goosefoot. Sowbane. Wild orach.

   Dunghills and ruins; annual; August.

   Leaves thick, shining, deeply toothed; racemes rather spreading, reddish; seed very minute.
*Leaves* triangular, rather toothed, the upper rather blunt; *racemes* upright, compound, rounded, leafless.


Sea-shores; annual; August.  
*Leaves* small, fleshy; *flowers* reddish.

5. *Chenopodium murale*.  
*Wall goosefoot*.  
*Leaves* ovate, shining, acute, unequally toothed; *racemes* very much branched, cymose, leafless; *stem* upright, spreading.


*Atriplex sylvestris* latifolia altera, *Ger. em.* 328; *Park.* 749.

*Chenopodium murale*, *Lin. S. P.* 318.

Ruins; annual; August.

*Herb* dark green, shining, foetid; *leaves* triangular, ovate, teeth incurved, petioles long; *seed* minutely punctured.

6. *Chenopodium angulatum*.  
*Cornered goosefoot*.  
*Leaves* heartshape, angular, toothed, pointed; *racemes* much branched, rather cymose, divaricating, leafless.


*Chenopodium angulatum*, *Lamarcke Enc. Bot.* 1, 194.

Maple Blite.  
*Maple-leaved goosefoot*.

Damp rubbish; annual; August.  
*Herb* smooth, foetid, slender; *leaves* large, light green; *seed* dotted.

7. *Chenopodium album*.  
*White goosefoot*.  
*Leaves* rhomboidal, ovate, crowded, not cut at the bottom, the upper oblong, not cut; *racemes* branched, nearly leafless; *seed* smooth.

Blitum sylvestre, q. *Atriplex sylvestris dictum, Raii Syn.* 154, 1.

*Chenopodium album*, *Lin. S. P.* 319.

Frost blite.

Dunghills, rubbish; annual; August.  
*Herb* oily, powdery.

β. rotundifolium.  
*Leaves* roundish.

Blitum (sylvestre) folio subrotundo, *Dillen in Raii Syn.* 155, 10.

γ. viride.  
*Herb* green; *leaves* narrow, scarcely cut; *racemes* loose.

*Atriplex sylvestris altera*, *Ger. em.* 326, 6.

*Chenopodium viride*, *Lin. S. P.* 319.


8. *Chenopodium ficifolia*. Fig-leaved goosefoot.

Leaves hastate, sinuate, erose, not cut behind; the upper oblong, not cut; seeds dotted.


Chenopodium viride, *Curt. Fl. Lond.*

Buddle's fig-blite.

Dunghill and rubbish; annual; August.

Herb green; axillæ of the branches purplish.


Leaves oblong, sinuate, repand, glaucous underneath; racemes glomerate, leafless; seeds dotted.


Oakleaved blite. Oakleaved goosefoot.

Sandy rubbish; annual; August.

Plant diffuse; leaves green above; racemes short, lobed.


Leaves rhomboidal, ovate, not in the least cut; racemes conglomerate.


Atriplex olida, *Ger. em.* 327.


Chenopodium olidum, *Curtis Fl. Lond.*


Stinking orache.

Ruins, especially near the sea; annual; August.

Herb very foetid, diffuse, prostrate, powdery, greyish.


Leaves ovate, not cut; stem prostrate; racemes cymose, diverging, leafless.
286 44. Chenopod. 16. CHENOPODEÆ. Pl. ex. mon.

Blitum sylvestre, q. chenopodium betæ folio Tournefortii, Rail Syn. 157, 18.
Atriplex sylvestris, sive Polyspermum, Ger. em. 325, 3.
Blitum polyspermum, Park. 753.
Wild orach. All-seed.

Rubbish and dunghills; annual; July and August.

Leaves ovate, pointed, not cut; stem upright; racemes somewhat cymose, long, leafless.
Chenopodium polyspermum, Curtis Fl. Lond.

Rubbish and waste grounds; annual; July and August.

β. dentatum. Leaves with a large tooth on one or both sides.

b. Leaves linear, not cut; bracteæ 2 or 3 to each flower.
Kali.

Leaves bald, subulate, fleshy, half round; flowers glomerate, axillary, sessile.
Blitum (sylvestre) kali minus album dictum, Rail Syn. 156, 14.
Kali minus, Ger. em. 535.
Kali minus album, Park. 279.
Chenopodium maritimum, Lin. S. P. 321.
White glasswort.

Sea-shore and salt-marshes; annual; August.

—An excellent potherb.

Leaves bald, fleshy, round, blunt, imbricate; stem shrubby, bald; flowers sessile, axillary, single.

Blitum (sylvestre) fruticosum minimum, Vermicularis frutex dictum Rail Syn. 156, 16.
Vermicularis frutex minor, Ger. em. 523, 4.
Vermicularis fruticosa altera, Park. 731.
Salsola fruticosa, Lin. S. P. 324.

—Shrubby glasswort.

Sea-shore; shrubby; August.
Shrub upright, branches many; leaves erect, perennial, rather glaucous; flowers greenish; bracteae 3, scariose.

VI. 45. SALICORNIA. Dodoneus. Glasswort.

Perigonium turbinate, not cut, ventricose, succulent; stamen 1 or 2, inserted at the base of the perigonium; style 2-cut; utriculus membranaceous, enclosed in the enlarged fleshy perigonium; seeds vertically compressed; spermodermis double, the outer coriaceous; corculum annular, cylindrical; perisperm farinaceous, radicle below.—Stem shrubby or herbaceous, leafless, round, jointed; branches opposite; joints 2-toothed at the tip, the terminal flower-bearing; flowrets small, sessile, three on each side of the joint.


Stem herbaceous, upright; internodes reverse-conical; joints compressed, nicked; spikes attenuated towards the tip; stamen 1.

Salicornia, Ric Jyn. 136, 1.
Salicornia, seu Kali geniculatum, Ger. em. 535; Park. 280.
Salicornia herbacea, Lin. S. P. 5.
Salicornia europaea a, Huds. Fl. Angl. 1.

Sea-shores; annual; August and September.

Branches many, jointed, succulent, fleshy.—Ashes alkaline.


Stem herbaceous, lying down; internodes reverse-conical; branches simple; spikes attenuated towards the tip; stamens 2.

Salicornia myosuroides procumbens, surculis longissimis, Dillen in Ric Jyn. 137, 2.
Salicornia herbacea y, Smith Fl. Brit. 2.

Sea-side; annual or biennial; August and September. Much subdivided at bottom; style nearly simple; spikes very long.

β. purpurea. Spike small, purplish; stem very much spread.

Salicornia ramosior procumbens, foliis brevibus purpurascentibus, Dillen in Ric Jyn. 137, 4.
Salicornia herbacea δ, Smith Fl. Brit. 2.

2

*Stem* woody, rooting at bottom; joints compressed, nicked; internodes subcylindrical; *spikes* oblong; *stamens* 2.

*Salicornia erecta,* foliis brevibus, cupressiforme, *Dillen in Raii Syn.*


*Salicornia biennis,* *Afscl. MS.* 2.


Muddy sea-shores; biennial or perennial; August.

Root creeping; *spikes* swelled.


*Stem* woody, ascending; joints and internodes cylindrical; *spikes* nearly subsessile, cylindrical, obtuse.


*Salicornia fruticosa,* *Lin. S. P.* 5.

*Jointed glasswort.*

Sea bogs; perennial; August.

*Stem* rather shrubby, very much branched; *spikes* many-flowered; *flowers* rather distant.

VII. 46. SALSOLA. Cæsalpinus. Saltwort.

*Perigonium* 5-parted, persistent; lobes furnished after flowering with a membranaceous keel, or periphyllum; *stamens* 5; *styles* 2, 3-cut; *stigmata* 2 or 3; *ulriculus* membranaceous, enclosed in the connivent *perigonium*; *seed* rather gibbose; *spermodermis* simple, membranaceous; *perisperm* 0; corculum spiral, horizontal; cotyledons very long, linear; radicle above.—*Stem* herbaceous or shrubby; *flowers* axillary, solitary, sessile; *bractee* 3.

*Salsola decumbens.* Trailing saltwort.

*Stem* herbaceous, decumbent; *leaves* subulate, spinous, rough; *bractee* 3, leaflike, spinous.

*Kali spinosum cochléatum,* *Ra ii Syn.* 159.

*Tragus Matthioli,* *Ger. em.* 1117, 2; *Park.* 1034.

*Salsola Kali,* *Lin. S. P.* 322.

*Prickly glasswort.* Bastard sea-grape.

Sandy sea-shores; annual; July.

*Stem* stiff, very much branched, pubescent; *leaves* spreading; *periphylla* reddish.
Fam. XVII. 17. AMARANTHIDEÆ. Amaranthi, Jussieu. Amaranthaceæ, De Candolle.

Perigonium free, often coloured; aestivation imbricate; stamens 3 to 5, hypogynous, free or monadelphous; ovary 1, free; styles many; stigmata simple; capsules 1 or many-seeded; seeds upright; perisperm farinaceous, central; corculum annular, peripherical; cotyledons incumbent; radicle below; plumule inconspicuous.—Herbaceous; leaves alternate or opposite, not cut; stipules 0; flowers small, often unisexual, capitate or spiked, often girt with coloured scales.

I. 47. AMARANTHUS. Dioscorides. Strawberry-blite.

Monoicous; perigonium 3-sepaled.—Male. Stamens 3, distinct.—Female. Styles 3; pyxidium 1-seeded, 3-beaked; seeds erect; umbilicus naked; spermodermis double, the outer crustaceous.—Stem streaked; flowers glomerate, axillary or panicked, terminal.

Amaranthus minor. Small strawberry-blite.
Stem spread; leaves ovate, retuse or nicked; flowers glomerate, lateral.

Blitum rubrum minus, Dillen in Rail Syn. 157; Ger. em. 321, 4.
Amaranthus Blitum, Lin. S. P. 1405.
Small garden-blite. Small red blite.

Fields and dunghills; annual; August.
Stem much branched; leaves alternate; petioles long; flowers green; seed compressed.
Subseries III. B. **Plantæ exogenæ corollifloræ.**

*Dicotyledones monopetalæ hypogynæ,* Jussieu Gen. Plant.

*Perigonium* double; petals soldered into a single one; inserted on the thalamus, and bearing the stamens.

**FAMILIES.**

A. **Pericarp a cariopsis.**

- *Cariopsides* 4 or 2, naked; corolla irregular; stamens 2 or 4 ...... *Labiatae.* 32.
- *Cariopsides* 4 or 2, naked; corolla irregular; stamens 5 ...... *Boraginae.* 31.
- *Cariopsides* 4, in an utriculus, bearing the style; stamens 4 ...... *Pyrenaceæ.* 33.

B. **Pericarp 1, capsular or drupeaceous;**


- Fruit 1-celled; corolla regular ...... *Primulaceæ.* 21.
- Fruit 1-celled; corolla irregular ...... *Lentibulares.* 24.
- Fruit 2 or 4-celled, becoming 1-celled; corolla regular; stamens 4 ...... *Plantaginaceæ.* 18.
- Fruit 2-celled, septifidal; corolla not lipped, plaited; stam. 5 ...... *Solaneæ.* 26.
- Fruit 2-celled, septifidal; corolla lipped; stamens 2 or 4 ...... *Scrophulariæ.* 25.
- Fruit 2-celled, loculicidal; retinacle 0; stamens 2 or 4, filaments separate ...... *Rhinanthaceæ.* 22.
- Fruit 3-celled, loculicidal; corolla regular; stamens 5 ...... *Polemoniaceæ.* 28.

- b. Seeds affixed at the base.

- Capsule 2 or 4-celled ...... *Convolvulaceæ.* 30.
- Berry 1-celled ...... *Jasminæ.* 32.
- Capsule 1-celled, 1-seeded; stamens 4 ...... *Littorellideæ.* 19.
c. Seeds affixed at the tip.

\textit{Utriculus} 1-seeded, seed erect . . . . \textit{STATICINÆ}. 20.
\textit{Samara} 2-seeded; seed reversed . . \textit{FRAXINEÆ}. 35.

\d. Seeds parietal.

\textit{Corolla} not lipped . . . . . . . . \textit{GENTIANS}. 27.
\textit{Corolla} lipped . . . . . . \textit{OROBANCHIDEÆ}. 23.

C. Pericarp\textit{s many}, capsular.

\textit{Follicles} 2 . . . . . . . . . \textit{VINCAE}. 29.


\textit{Calyx} 4-sepaled, persisting; \textit{corolla} 1-petaled, tubular, scariose, persisting; limb 4-parted; \textit{stamens} 4; \textit{filaments} inserted in the tube, alternate with the cuts, exserted, flaccid; induplicate at the aestivation; \textit{anthers} 2-celled; cells opposite, contiguous, opening longitudinally; \textit{ovary} sessile, without any girding disk, 2 or 4-celled; \textit{ovules} peltate, solitary or indefinite; \textit{style} 1, capillary; \textit{stigma} hispid, undivided; \textit{pericarpium} a pyxidium; dissepiment longitudinal, becoming free, seedbearing; \textit{seeds} sessile, peltate, single or in pairs, or many; \textit{shell} mucilaginous; \textit{perisperm} fleshy, same shape as the seed; \textit{corculum} straight, central, nearly as long as the perisperm; \textit{radicle} below; \textit{plumula} inconspicuous.—\textit{Stem} herbaceous, short or scarcely any; \textit{hairs} simple, jointed; \textit{leaves} mostly radical, crowded, stellate, not cut, or toothed, often flat, and ribbed, sometimes semicylindrical; \textit{scapes} axillary; \textit{flowers} spiked, sessile; \textit{bractea} 1 to each flower.

\textit{Ovary} 2-celled; \textit{dissepiments} flat;
\textit{cells} many-seeded . . . . . . . . . \textit{PLANTAGO}. 48.
\textit{Ovary} 2-celled; \textit{dissepiments} flat;
\textit{cells} one-seeded . . . . . . . . . \textit{ARNOGLOSSUM}. 49.
\textit{Ovary} 3 or 4-celled; \textit{dissepiments} 4-sided;
\textit{cells} one-seeded . . . . . . . . . \textit{ASTEROGEOUM}. 50.


\textit{Corolla} 4-cut; \textit{anthers} oblong; \textit{ovary} 2-celled; \textit{dissepiments} flat; \textit{cells} many-seeded.—\textit{Stem} scarcely any; \textit{leaves} crowded, radical, flat, ribbed; \textit{scape} radical.
1. Plantago major.  
Great plantain.  
Spike 30 or 40-flowered; bracteae membranaceous; leaves ovate, 7 or 9-ribbed, toothed, or not cut.  
Plantago latifolia vulgaris, Raff Syn. 314, 1; Park. 493.  
Plantago latifolium, Ger. em. 419, 1.  
Plantago major, Lin. S. P. 163.  
Broad-leaved plantain. Waybread.  
Pastures and waysides; perennial; all the year.  
Stem 7 to 18 in. high, rather rough, approaching to 2-edged; leaves with long petioles.—Leaves applied as a dressing to fresh wounds.  
β. paniculata. Spike abortive, panicked; bracteae leaflike.  
γ. dentata. Leaves with large teeth at the base.

2. Plantago bracteata.  
Bracteated plantain.  
Bracteae spreading, very long, leaflike; leaves ovate, bald, ending in a long petiole.  
Plantago rosea spicata, Ger. em. 419, 4.  
Plantago bracteata, Mennach, Meth. 439.  
Plantago major, var. Lin. S. P. 163.  
Spiked rose-plantain.  
Waysides; perennial; June.  
Leaves 7 or 9-ribbed; spike flat or pyramidal, and remains the same when cultivated.

3. Plantago minima.  
Small plantain.  
Spike 3 to 6-flowered; bracteae membranaceous; leaves ovate, 3-ribbed, toothed or not cut.  
Plantago latifolia glabra minor, Raff Syn. 314, 3.  
Plantago major β, Lin. S. P. 163.  
Plantago minima, De Cand. Fl. Gall. 22, 97.  
Dry barren pastures; perennial; June to August.  
Stem 18 in. high; leaves rough.

II. 49. ARNOGLOSSUM. Dioscorides. Lambs-tongue.  
Corolla 4-cut; anthers oblong; ovary 2-celled; dissepiments flat; seeds 1 in each cell.—Stem scarcely any; leaves and scapes radical.

1. Arnoglossum incanum.  
Hoary lambs-tongue.  
Leaves ovate, lanceolate, pubescent; spike cylindrical; scape round.  
Plantago major incana, Raff Syn. 314, 3; Park. 493.  
Plantago incana, Cor. em. 419, 2.  
Plantago media, Lin. S. P. 163.  
Hoary plantain.
Chalky soils; perennial; June to August.

Stem 10 in. high; spikes shorter than the scape; leaves 5-ribbed, often toothed and ovate.

\( \beta \). ramosum. Spike branched.

\( \gamma \). variegatum. Leaves variegated with yellow.

Leaves lanceolate; spikes ovate, bald; scape angular, downy.

Plantago quinquevexia, *Raii* Syn. 314, 5; *Ger.* em. 422, 1.
Plantago angustifolia, sive quinquevexia major, *Park.* 496.
Ribwort plantain. Rib-grass.

Pastures; perennial; June.
Leaves mostly 5-ribbed, dark green; spike variegated; scape 2 feet high.

\( \beta \). trinervium. Leaves narrow, 3-ribbed.

Plantago angustifolia minor, *Dillen in Raii* Syn. 315, 6.

\( \gamma \). roseum. Lower bracteae leaflike, longer than the spike.

Plantago quinquevexia rosea, *Ger.* em. 422, 2.

\( \delta \). ramosum. Spike with 2 or 3 heads.

3. Arnoglossum maritimum. Sea lambs-tongue.
Leaves half-round, not in the least cut, fleshy, woolly, at bottom; spike cylindrical, dense; scape round, downy, upright or ascending, longer than the leaves.

Sea buckshorn. Sea plantaine.

Sea-coasts; perennial; June and July.
Root woody, truncated; scape 6 in. high; spikes an inch long; leaves grooved above; bracteae keeled; tubes of the corolla woolly.

Leaves rather linear, flat, sparingly toothed, bald at bottom; spike cylindrical; scape round, scarcely as long as the leaves.

Plantago graminea, *Lamarck* *Illustr.* 343.

Sea-coasts; perennial; July.
Leaves 5 inches long, 3-ribbed; spike 2 in. long; bracteae ribbed, not keeled.
Leaves linear, lanceolate, flat, bald, not cut, soft; spike cylindrical; bractee shorter than the flower; scape round, double the length of the leaves.

Plantago, an Alpina angustifolia J. Bauhini, Raufl Syn. 315, 9.
Plantago Alpina, Lin. S. P. 165.
Plantago maritima γ, Huds. Fl. Angl. 64.

Alpine pastures: perennial; June.
Leaves 2 inches high; spike an inch long; flowers loose.

Leaves linear, awlshape, hard; spike cylindrical; bractee shorter than the flower; scape round, pubescent, rather flexuose.

Plantago subulata, Lin. S. P. 166.
Plantago Coronopus 3, With. 251.

Meadows on the sea-coast; perennial; June to August.
Leaves hard, pointed, dark green, hairy; spike cylindrical; flowers slightly distant.

III. 50. ASTEROGEUM. Star-of-the-earth.

Perigonium 4-lobed; anthers ending in a small lanceolate membrane; ovary 3 or 4-celled; dissepiments 3 or 4-seeded; cells 1-seeded.—Stem scarcely any; spike and leaves radical.

Leaves rather hairy, pinnatifid; scape round, downy; bractee hairy.

Plantago foliis laciniatis, Coronopus dicta, Raufl Syn. 315, 8.
Cornu cervinum, Ger. em. 427.
Plantago Coronopus, Lin. S. P. 166.
Harts-horn. Herb-ivy.

Sandy places; annual; May to August.
Leaves hairy, pinnatifid or bipinnatifid; scape an inch long.

B. capitatum. Spike very short, few-flowered, almost capitate; leaves nearly entire.

Plantago graminca folio hirsuto, minor, capitulo rotundo brevi, Dillen in Raufl Syn. 316, 10.


Flowers unisexual.—Male. Calyx 4-parted, persisting; corolla 1-petaled, tubular, scarious, persisting; limb 4-parted; stamens 4, inserted on the receptacle; filaments exserted,
flaccid; before aestivation induplicate; anthers 2-celled, opening longitudinally; rudiment of the pistill minute.—

Fem. Calyx none; bracteae 3; corolla urceolate, undivided, contracted at the mouth, slightly toothed; stamens 0; ovary 1-celled, 1-seeded; ovule upright; style 1, capillary, very long; stigma hispid, not cut; pyxidium 1-seeded.—Herb stemless; leaves linear, rushlike, dilated at bottom, rather sheathing; male flower peduncled, solitary; peduncle with a pellucid, reticulated, membranaceous bracteae about the middle; female flowers 2 or 3, radical, sessile.

51. LITTORELLA. Linnaeus.  
Shore-weed.
No other genus in this family.

Littorella lacustris. Lake shore-weed.

Plantago palustris gramineo folio monanthos, Parisiensis, Rait Syn.

11.

Littorella lacustris, Lin. Mant. 295.

Inundated sandy places; perennial; June.

Root fusiform; leaves bald, convex beneath; flowers upright, white; style nearly as long as the scape.

3. hirsuta. Leaves hairy.

Fam. III. 20. STATICINÆ. Hoffmansegg and Link.

Plumbaginum pars. Jussieu.

Perigonium double, persisting; calyx 1-leafed, tubular, not cut, plaited, persisting; corolla 5-petaled, equal; stamens 5, adnate to the claw of the petals; ovary 1, free, 1-seeded; ovule upright; placentarium apical; placenta threadlike, bent; styles 5; stigmata 5; utriculus membranaceous; spermodermis single, coriaceous; perisperm farinaceous; corculum central, compressed, erect, nearly as long as the seed; plumula inconspicuous; radicle below.—Herbaceous or under-shrubby; leaves simple, not cut, alternate or crowded, radical; rather sheathing at bottom; flowers hermaphrodite, capitate or spiked.

Flowers capitate, involucreted;

leaves radical.............................. Statice. 52.
Flowers sessile, spread;

leaves-spread.............................. Limonium. 53.
I. 52. STATICE. Dalechamp.  Thrift.

Involucrum many-flowered, scariose, many-leaved, reflexed at bottom, sheathing the scape; calyx scariose, plaited; stamens 5.—Leaves small, radical; scapes many, naked; flowers capitate, terminal.

Statice pulchellum.    Handsome thrift.
Leaves linear, flat, obtuse, flaccid.
Statice montana minor, Raii Syn. 203.
Caryophyllus marinus minus Lobellii, Ger. em. 602, 1.
Gramen marium minus, Park. 1279.
Statice Armeria, Lin. S. P. 894.
Sea-shores and alpine places; peren.; July and August.

Root woody; leaves in tufts, linear, bald; scape downy; flowers rose-coloured.

II. 53. LIMONIUM. Dioscorides.  Sea-lavender.

Involucrum scariose, 3 or 4-leaved, 1-flowered.—Leaves cauline, spread; flowers sessile, distant, in a longitudinal series.

Stem panicked, round; leaves oblong, bald, obtuse, beneath mucronate, edge undulated.
Limonium, Raii Syn. 201, 1; Ger. em. 411, 1.
Limonium majus vulgaris, Park. 1234.
Sea-shores; perennial; July and August.

Root woody; leaves not in the least cut; scape alternately branched; twigs corymbose; flowers sky-blue.

β. minus.  Plant much smaller; leaves pointed, tapering to the bottom.
Limonium minus, Raii Syn. 202, 2.
Limonium parvum, Ger. em. 411, 2.

γ. obtusum.  Plant smaller; leaves short, blunt, tapering at bottom.
Limonium Anglicum minus, caulibus ramosioribus, floribus in spicis rarius sitis, Dillen in Raii Syn. 202, 3.

Stem diffused, prostrate, panicked; barren branches naked, bent back; leaves wedgeshape, unarmed; scales of the involucrum smooth.

Statice reticulatum, Lin. S. P. 394.

Sea-shore; perennial; July and August.
Leaves oblong wedgeshape, petioled, acute; scape prostrate; twigs divaricating, lower ones barren; flowers terminal, blue.


Calyx 1-leaf, persisting, 5 or rarely 4-cut, regular; corolla 1-sepaled, regular; limb 4 or 5-cut; stamens as many as the lobes opposite to them; ovary free, 1-celled; style 1; stigma capitate; capsule valvate; spermophore central, free; seeds many, peltate; perisperm fleshy; corculum straight, enclosed, parallel to the umbilicus; radicle below (De Candolle) or vague.—Stem herbaceous; leaves simple, often not cut, opposite, whirled, or spreading.

Calyx 4-sepaled; corolla rather pitcher-shape; stamens 4, distinct, bald; pyxidium... CENTUNCULUS. 54.

Calyx 5-sepaled; corolla rotate; stamens 5, bearded; pyxidium............ ANAGALLIS. 55.

Calyx 5-sepaled; corolla nearly bell-shape; stamens 5, connate; pyxidium ............ IRASEKIA. 56.

Calyx 5-sepaled; cor. rotate; lobes distant; stam. 5, distinct, smooth; capsule 10-valved NAUMBURGIA. 58.

Calyx 5-sepaled; corolla rotate, 5-toothed; stamens 5, distinct, smooth; capsule 10-valved NUMULARIA. 59.

Calyx 5-sepaled; corolla salvershape; stamens 5, nearly sessile; capsule 5-valved... HOTTONIA...60.

Calyx 5-sepaled; cor. rotate, limb reflexed; stam. 5, short; capsule fleshy, 5-valved... CYCLAMEN. 63.

Calyx 5-sepaled; corolla rotate; stam. 5, connate, glandular; caps. 5 to 10-valved................. LYSIMACHIA. 57.

Calyx 7-sepaled; corolla rotate; stamens 7; capsule .................. TRIENTALIS. 61.

Calyx 5-toothed; corolla salvershape; lobes 2-cut; stam. 5, enclosed; capsule .... PRIMULA. 62.


Calyx 4-lobed; corolla rather pitchershape, 4-cut; stamens 4; filaments short, bald, distinct; pyxidium globose.

—Leaves alternate; flowers axillary; bracteæ 0.
Centunculus minimus. Small chaff-weed.
Leaves ovate; flowers sessile.

Bogs and inundations; annual; June and July.

Stem rather branchy; leaves sessile, spreading; flowers white or pink, shortlived, only open in the hottest part of the day.

II. 55. ANAGALLIS. Dioscorides. Pimpernel.

Calyx 5-lobed; corolla rotate, 5-lobed, spreading; stamens 5; filaments bearded, distinct; stigmata obtuse, crenate; pyxidium globose.—Stem 4-angled; leaves opposite, dotted underneath; flowers solitary, axillary.


Stem rather erect; leaves opposite or ternate, ovate, rather pointed; lobes of the corolla becoming reflex, edge toothed.

Anagallis feminina, Raii Syn. 282, 3; Ger. cm. 617, 2.
Anagallis caerulea flore, Park. 558.
Anagallis caerulea, Schreb.

Fields and gardens; annual; June and July.

Stem slightly branched, rather winged; flowers blue.

β. alba. Flowers white.

Anagallis terrestris flore albo, Raii Syn. 282, 4.


Stem diffused, slightly procumbent; leaves opposite and ternate, ovate, obtuse; peduncles longer than the leaves; lobes of the corolla not cut, dilated; margin glandular, hairy.

Anagallis flore phoeniceo, Raii Syn. 282, 1; Park. 558.
Anagallis max, Ger. cm. 617, 1.
Anagallis arvensis, Lin. S. P. 211.

Fields and gardens; annual; June and July.

Stem much branched, not winged; flowers scarlet.—Collected before the flowers expand, and given in powder 1 ser. 4 times a day, useful in epilepsy and madness; flower opens only when fine weather is coming on.

β. verticillata. Leaves in threes or fours.

Anagallis phoenicia folii amplioribus ex adverso quaternis, Raii Syn. 282, 2.
III. 56. IRASEKIA. Schmidt.  
Twopenny-grass.  
Calyx 5-lobed; corolla nearly bellshape, veined; limb 5-lobed, upright, spreading; stamens 5; filaments connate at the base, bearded; stigma acute; pyxidium globose.—Stem angular; leaves opposite, petiolated; flowers solitary.

Irasekia alpina.  
Alpine twopenny-grass.  
Leaves opposite, ovate, pointed, petiolate; stem prostrate, filiform.

Nummularia minor, flore purpurascente, *Raii Syn.* 283, 2; *Ger. em.* 632, 2; *Park.* 555.

Lysimachia tenella, *Lin. S. P.* 211.


Purpleflowered moneywort.

Inundated heaths and bogs; perennial; July and August.  
Stem creeping, thin; leaves spreading, light green; peduncles 2 or 3 times as long as the leaves.

IV. 57. LYSIMACHIA. Dioscorides.  
Loosestrife.  
Calyx 5-sepaied; corolla rotate, 5-lobed; stamens 5; filaments covered with capitulate glandular hairs, connate at the base; capsule globose, opening at the tip by many valves.—Stem 4-angular; flowers axillary, solitary, or racemose.

Flowers solitary, axillary.

1. Lysimachia repens.  
Creeping loosestrife.  
Stem creeping; leaves roundish, rather heartshape; peduncles solitary; sepales ovate, pointed.

Nummularia, *Raii Syn.* 283, 1; *Ger. em.* 630, 1.


Lysimachia Nummularia, *Lin. S. P.* 211.


Fields and damp pastures; perennial; June, July.  
Stem compressed, mostly simple; leaves pale green, often perennial; peduncles shorter than the leaves; corolla glan-
dular.

Flowers terminal, racemose, bracteated.

2. Lysimachia vulgaris.  
Common loosestrife.  
Leaves opposite, attenuated, ovate, lanceolate; sepales lanceolate.

Lysimachia lutea, *Raii Syn.* 282, 1; *Ger. em.* 474, 1.

Lysimachia lutea major vulgaris, *Park.* 544.

Yellow willow-herb.

Watery places and rivers; perennial; July.
Root creeping; stem upright; leaves pointed, veined, bald.

b. tomentosa. Leaves tomentose underneath.

V. 58. NAUMBURGIA. Moench.  
**Yellow herb.**
Calyx 5-sepaled; corolla rotate, 5-lobed; lobes distant with a tooth between each; stamens 5, longer than the corolla; filaments filiform, smooth, distinct; style long, filiform; pyxidium globose, many-valved.—Herb entirely covered with red glands; stem simple, round; leaves opposite, sessile, entire; racemes axillary, opposite, solitary; flowers peduncled, bracteated.

**Naumburgia guttata.**  
Spotted Yellow herb.
Leaves linear, lanceolate; racemes peduncled.

Lysimachia lutea, flore globoso, *Raitt Syn.* 282, 3; *Ger. em.* 475, 3; *Park.* 544.
Tufted loose-strife.

Watering places; perennial; July.
Root creeping; stem upright, 1½ in. high; leaves bald; racemes erect, close; flowers yellow, spotted.

VI. 59. NUMULARIA. Tragus.  
**Moneywort.**
Calyx 5-sepaled; corolla rotate, 5-lobed; stamens 5, shorter than the corolla; filaments distinct, smooth, bald; capsule globose, many-valved.—Stem recumbent, 4-sided; leaves opposite, petiolated, bald, entire; peduncles axillary, solitary, 1-flowered; bractea 0.

**Numularia sylvatica.**  
Wood moneywort.
Leaves ovate, pointed; peduncles longer than the leaves; sepals subulate.

Yellow pimpernel.

Woods and damp hedges; perennial; May to September. Stem rooting, shining; peduncle slender; flowers yellow.
VII. 60. HOTTONIA. Boerhaave. *Water-violet.*

_Calyx_ 5-sepaled; _corolla_ salvershaped; tube short; limb flat, 5 to 8-lobed; _stamens_ 5 to 8, nearly sessile; _stigma_ globose; _capsule_ globose, pointed, 1-celled.—_Herb aquatic; leaves_ whirled, pinnate or toothed, immersed; _flowers_ verticillately spiked; _spikes_ terminal; _bractea_ 1 to each flower.

_Hottonia palustris._ *Marsh water-violet._

_Leaves_ pinnately pinnatifid, not cut; _flowers_ peduncled, whorled.

_Hottonia, Rall. Syn. 285._
_Viola palustris, Ger. em. 826, l._
_Hottonia palustris, Lin. S. P. 208._
_Bog featherfoil._

_Watery places; perennial; June and July._
_Root_ sarmentose; _stem_ naked; _leaves_ bald, not in the least cut; _flowers_ flesh-coloured.

_β. rosea._ *Flowers* deep rose-colour.

VIII. 61. TRIENTALIS. Cordus. *Wintergreen.*

_Calyx_ 7-sepaled; _sepales_ subulate; _corolla_ 5 to 7-parted, equal, persistent; _stamens_ 5 to 7; _stigma_ nicked; _pericarp_ membranaceous.—_Rhizoma_ creeping; _stem_ simple, naked at bottom; _leaves_ verticillate, veined; _peduncles_ terminal, aggregate, 1-flowered.

_Trientalis europea._ *European wintergreen._

_Alsinanthenemos, Rall. Syn. 286._
_Trientalis europea, Lin. S. P. 488._
_Chickweed winter-green._

_Turfy mountains; perennial; May and June._
_Rhizoma_ rather tuberous; _stem_ 12 in. high; _leaves_ lanceolate, not cut, bald; _flowers_ spreading, snow-white, elegant; _anthers_ subulate.


_Calyx_ tubular, 5-toothed, persistent; _corolla_ salvershape; tube cylindrical, longer than the calyx; limb 5-cut; lobes nicked; _stamens_ 5, enclosed; _capsule_ ovate, opening at the top in 10 valves.—_Leaves_ radical, mostly wrinkly; _flowers_ fascicled; _bractea_ 1 at the bottom of each peduncle.
1. Primula grandiflora. **Large-flowered primrose.**

Leaves ovate, oblong, wrinkled, toothed; fascicles radical, few-flowered; lobes of the calyx lanceolate, pointed, as long as the tube; limb of the corolla flat.

Primula veris vulgaris, *Raib Syn.* 284, 1; Park. 335.
Primula acanulis, *Curt. Fl. Lond.*
Primula sylvestris, *Scopoli Carn.*

Field primrose.

Woods and hedges; perennial; April.

Leaves hirsute underneath; peduncle as long as the leaves; bracteae awlshape; flowers upright.—Leaves in doses of a drachm and a half, a strong but safe emetic.

\[ \beta. rufa. \] **Flowers reddish, liver-colour.**

2. Primula elatior. **Tall primrose.**

Leaves ovate, wrinkled, rather toothed; fascicles many-flowered; teeth of the calyx chaff-like, pointed, scarcely half as long as the tube; limb of the corolla flat.

Primula pratensis inodorata Lutea, *Raib Syn.* 284, 2; *Ger. em.* 780, 2.
Primula veris \[ \beta, Lin. S. P. 204. \]
Paralysis altera odorata, flore pallido, polyanthos, *Park. Par.* 244.

Great cows-lips. Ox-lips.

Fields and pastures; perennial; April.

Scape longer than the leaves; outer flowers often drooping; neck of the tube of the corolla hemispherical.

3. Primula veris. **Spring primrose.**

Leaves ovate, oblong, wrinkled, rather toothed; fascicles many-flowered; flowers drooping; teeth of the calyx very blunt; limb of the corolla concave, very small.

Primula veris major, *Raib Syn.* 284, 3; *Ger. em.* 780, 1.
Paralysis vulgaris pratensis, flore simplici odorato, *Park. Par.* 244.
Primula veris \[ \alpha, Lin. S. P. 204. \]
Common cows-lips. Paigles.

Fields and pastures; perennial; April to June.

Leaves contracted in the middle; scapes few, longer than the leaves; flowers scented; limb small; tube oblong.—Root scented like anise; leaves sometimes used as a pot-herb or as salad; flowers used to make a fine slightly narcotic wine.
4. Primula farinosa. **Mealy primrose.**
Leaves ovate oblong, rather crenate, bald, beneath powdery; fascicles many-flowered; flowers spreading; limb of the corolla flat.

Auricula ursi, q. Verbasculum umbellatum Alpinum minus C. Bauhini, Raini Syn. 285, 1.
Primula veris flore rubro, Ger. em. 783, 1.
Paralysis minor flore rubro, Park. Par. 246.
Primula farinosa, Lin. S. P. 205.

Bird's eye.

Mountain bogs; perennial; June and July.
Leaves light green, smooth, veined beneath; scape upright; limb of the corolla small, red, paler beneath; lobes linear, nicked; mouth of the tube glandular.

X. **62. CYCLAMEN.** Theophrastus. **Sow-bread.**

Calyx 5-cut; corolla rather rotate; tube short; mouth prominent; limb 5-parted, reflex; stamens 5; filaments very short; anthers approximating; stigma pointed; capsule fleshy, globose, 5-valved.—Root fibrous; combus roundish; leaves radical, veiny, often spotted; petioles long, flexuous; scape 1-flowered; flowers drooping, white or purplish; fruit twists up spirally, and buries itself in the ground.

Cyclamen vernum. **Spring sowbread.**
Leaves heartshape, angular, edge toothed.

Cyclamen vernum, Ger. em. 843, 3.
Cyclamen hederæfolium, Att. Hort, Kew. 196.

Woods and hedges; perennial; April.

Combus large; leaves bald, spotted and waved with white, beneath purplish; lobes of the corolla twisted.


Calyx divided, often tubular, persisting; corolla hypogynous, irregular, often lipped; stamens 2 or 4, inserted on the corolla, 2 often shorter than the others; anthers often 2-bristled at the base; ovary free, 2-celled; style simple; capsule 2-valved, valves joined together by the central placenta; perisperm fleshy; corculum straight; cotyledons half round; plumula inconspicuous.—Herb often becomes black by drying; leaves opposite or alternate; flowers often spiked; bractea 1 to each flower.
A. Corolla rotate, irregular; calyx 4 or 5-parted.

Stamens 2; corolla 4-lobed ............... Veronica. 64.
Stamens 4, didynamous; cor. 5-lobed .... Sibthorpia. 65.

B. Corolla ringent, 2-lipped; calyx 1-leaved, 4-cut; stamens 4, didynamous.

Seeds striated; lower anthers spinose .... Euphrasia. 66.
Seeds striated; anthers spinose ........ Odontites. 67.
Seeds angular; anthers tomentose ......... Bartsia. 68.
Seeds flat, imbricate; galea compressed Rhinanthus. 69.
Seeds 2, smooth; galea compressed Melampyrum. 71.

C. Corolla ringent, 2-lipped; calyx 1-leaved, 5-cut; stamens 4, didynamous.

Seeds mucronate; galea compressed Pedicularia. 70.

I. 64. VERONICA. Fuchs. Speedwell.

Calyx 4-parted; corolla rotate, 4-lobed, unequal; stamens 2; capsule compressed, ovated, or rather heartshape. —Stem herbaceous, rarely shrubby; leaves opposite or verticillate, flowers spiked, terminal or axillary; or leaves alternate, flowers solitary, axillary.

a. Spike terminal; leaves opposite; root perennial.

1. Veronica spicata. Spiked speedwell.
   Spike terminal; leaves opposite, oblong, crenate, blunt, not in the least cut at the tip; stem ascending.
   Veronica spicata recta minor, Raii Syn. 279, 2.
   Veronica recta minima, Ger. em. 637, 4.
   Veronica erecta angustifolia, Park. 550.
   Smallest fluellin. Smallest Pat’s Betony.

   Dry chalky pastures; perennial; July to September.
   Stem 9 in. high, rather woody, downy; leaves crenately serrate, hairy; flowers dark blue, mouth bearded.

b. linearis. Leaves linear, scarcely cut.

   Spike terminal; leaves opposite, elliptical, blunt, unequally crenately serrated; stem upright.
   Veronica spicata Cambro-Britannica, bugulae subhirsuto folio, Raii Syn. 278, 1.
   Veronica spicata β, Huds. Fl. Angl. 3.
Mountains; perennial; July.

Stem 18 in. high; spikes many.

3. Veronica saxatilis. 
Rock speedwell.

Spike corymbose, few-flowered; leaves elliptical, rather obtuse, scarcely cut; sepals rather blunt; capsules ovate, 4-valved; stem diffuse, rather shrubby.

Veronica fruticulosa. 
Fl. Dan, 342.


Veronica fruticulosa, Fl. Dan, 342.

Veronica fruticulosa, Ger. em. 628, 5.

Scotch Alps; perennial; July.

Stem much branched; branches simple; leaves dark green; flowers 3 or 5, large, violet blue; mouth red; peduncles longer than the bracteae.

4. Veronica fruticulosa. 
Shrubby speedwell.

Spike corymbose, loose, many-flowered; leaves lanceolate, ovate, rather toothed, pointed; sepals pointed; capsules ovate, 4-valved; stem rather shrubby, upright.

Veronica fruticulosa, Lin. S. P. 15.

Veronica frutescens, Scop. Carn.

Moist mountains; perennial; July.

Stem much branched, prostrate; branches upright, 9 in. high; leaves pale green; spike downy; peduncles the length of the bracteae; flowers pale flesh-colour with purple lines.

5. Veronica Alpina. 
Alpine speedwell.

Spike crowded; leaves oblong, lanceolate, bald, acute, toothed or scarcely cut; sepals fringed; stem simple, upright, leafy.

Veronica Alpina, Lin. S. P. 15.

Alpine spongy bogs; perennial; July and August.

Stem 6 in. high; leaves 3-ribbed, dark green, shining; flowers blue, small; capsule elliptical, nicked, 2-valved.

6. Veronica serpyllifolia. 
Thymeleaf speedwell.

Spike loose; leaves ovate, bald, blunt, crenate; bracteae leaflike, not cut; capsule reverse heartshape, shorter than the style; stem creeping at bottom.

Veronica pratensis minor, Rall. Syn. 279, 3; Park. 551.

Veronica minor, Ger. em. 627, 2.


Paul's betony. Little fluellin.

Fields and pastures; perennial; May and June.
Leaves petioled, shining, rather fleshy; flowers blue or flesh-colour, streaked with violet; sepalæ reverse ovate; bractæ twice as long as the peduncle.

Spike short; leaves heartshape, roundish, slightly scalloped; stem prostrate.
Veronica Alpina, Lightf. Scot. 72,
Mountains; perennial; June.
Stem only 3 in. high, creeping; leaves roundish, nearly sessile; flowers few, crowded, blue; peduncles short.

b. Spike lateral; leaves opposite; root perennial.

Leaves ovate, very blunt, serrate, petioled; stem creeping.
Veronica aquatica rotundifolia, Beccabunga dicta, minor, Raii Syn. 280, 8.
Anagallis sive Beccabunga, Ger. em. 620, 1.
Anagallis aquatica vulgaris, sive Beccabunga, Park. 1236.
Brook-lime.
Rivulets; perennial; June.
Leaves light green, shining, rather fleshy; spikes opposite, many-flowered; bractæ linear, shorter than the peduncles; flowers blue; capsules twin.—Leaves eaten in sallads as an antiscorbutic.

Leaves lanceolate, serrate, sessile; stem upright; spikes opposite.
Veronica aquatica longifolia media, Raii Syn. 280, 9.
Anagallis aquatica major, Ger. em. 620, 2.
Anagallis aquatica folio oblongo crenato, Park. 1237.
Great long-leaved brook-lime.

Bogs and ditch-sides; perennial; July.
Leaves pointed, bald, shining; flowers blue; capsules nearly twin.

Leaves linear, denticulate; spikes alternate; peduncles divaricataed.
Veronica aquatica angustifolia minor, Raii Syn. 280, 10.
Veronica scutellata, Lin. S. P. 16.

Sandy bogs and inundations; perennial; July and Aug.
Stem weak, diffused; flowers small, blue, flesh-colour, streaked.

\( \beta. \) pubescens. Stem and leaves downy.


Leaves ovate, petioled, serrate; stem hairy; petioles hairy; spikes alternate, loose, threadshape, few-flowered.

Veronica chamaedryoides, folis pediculis oblongis insidentibus, \textit{Raii Syn.} 281, 12.

Veronica montana, \textit{Lin. S. P.} 17.

Madwort.

Woods and hedges, chalky soils; perennial; May, June.

Stem weak; leaves shining; flowers pale blue streaked with purple; capsules margined, fringed.


Leaves ovate, sessile, wrinkled, cut, serrated; stem with 2 opposite rows of hairs; spikes opposite, many-flowered.


Chamaedrys sylvestris, \textit{Ger. em.} 657, 3.


Wild germander.

Fields and pastures; perennial; May.

Stem decumbent; flowers large, light contused-flesh colour; capsules reverse heartshape.—Leaves substituted for those of tea, more grateful than those of veronica officinalis.


Leaves reverse oval, toothed, hairy, rough; stem procumbent, hairy.


Veronica vera et major, \textit{Ger. em.} 696, 1.


Fluelin. Speedwell.

Bare sandy places; perennial; May and June.

Stem diffuse; spike solitary, many-flowered; flowers light blue, veined.—Leaves substituted for those of tea, but are rather too astringent and bitter.


Flowers solitary; leaves finger-parted; peduncles shorter than the leaves; stem upright, stiff.
Veronica verna, Lin. S. P. 17.
Dry fields; annual; April.
*Stem* 6 in. high, often much branched; *flowers* blue; *sepales* pointed.

*Flowers* solitary; *upper leaves* finger-parted; *peduncles* longer than the *calyx*; *seeds* flat.
Veronica flocculis singularibus, foliis laciniatis erecta, Raili Syn. 280, 6.
Alsine recta, Ger. em. 612, 5.
*Upright chickweed.*

Sandy fields; annual; April.
*Stem* much branched; *lower leaves* not cut; *upper leaves* nearly sessile, unequal, 3 to 5-lobed; *peduncles* long; *sepales* blunt, unequal; *flowers* dark blue; capsule nicked; *seeds* many, flat.—*Herb* dries black.

*Flowers* solitary; *leaves* ovate, heartshape, cut; *bracteae* oblong, scarcely nicked; *seeds* many, flat; *stem* upright.
Veronica flocculis singularibus, cauliculis adherentibus, Raili Syn. 279, 5.
Alsine foliis veronicae, Ger. em. 613, 7.
Alsine foliis subrotundis Veronicae, Park. 762.
*Speedwell chickweed.*

Dry fields and walls; annual; May.
*Stem* 6 in. high; *leaves* pale green; *sepales* lanceolate, pointed; *flowers* pale blue; *capsules* reverse heartshape; *seeds* elliptical.

*Flowers* peduncled; *leaves* heartshape, ovate, broadly serrate; *peduncles* longer than the *leaves*; *stem* spreading, diffused; *seeds* many; umbilicus concave; outside wrinkled.
Veronica floris singularibus, in oblongis pediculis chamædryfola, Raili Syn. 279, 4.
Alsine foliis trissaginis, Ger. em. 616, 1; Park. 764.
*Germander chickweed.* *Henbit.*

Fields and pastures; annual; May to September.
*Stem* hairy; *leaves* nearly sessile; *flowers* small, light blue; *sepales* blunt, fringed; *capsules* twin, hairy.

*Flowers* peduncled; *sepales* heartshape; *peduncles* longer than the *leaves*; *leaves* heartshape, flat, 5-lobed; *seeds* 2 to 4 in each cell; umbilicus concave, outside wrinkled.
Veronica flosculis singularibus, hederulae folio, *Raii Syn. 251, 7.*
Alsine hederacea, *Ger. em. 616, 3.*
Alsine hederulae folio minor, *Park. 762.*

Fields and cultivated places; annual; May to September. 
*Stem* semiprostrate; leaves longly petioled; *sepales* broad, fringed, pointed; *flowers* pale blue; *capsules* twin.

II. 65. SIBTHORPIA. Hudson.  
*Pennywort.*

*Calyx* 5-parted; *corolla* nearly rotate; tube short; limb 5-lobed, nearly regular; *stamens* 4, distant, very short; *stigma* peltate; *capsule* compressed, orbicular, opening at the apex, 4-seeded.—*Herb* creeping, hairy, rooting; *leaves* alternate; *peduncles* capillary, solitary; *flowers* yellow.

_Sibthorpia Europæa._  
*European pennywort.*
*Leaves* kidneyshape, rather peltate, crenate.

Alsine spuria pusilla repens foliis saxifragæ aureis, *Raii Syn. 352, 1.*
_Sibthorpia Europæa, Lin. S. P. 880.*
_Sibthorpia prostrata, Salisb. Icon. 2, 6.*
_Cornish pennywort. Cornish moneywort._

Damp boggy places; perennial; July and August.  
*Stem* prostrate, creeping, threadshape, rooting near the petioles; *leaves* peltioed, horizontal; *peduncles* shorter than the leaves; *calyx* hispid; *corolla* purplish yellow.

III. 66. EUPHRASIA. Brunsfell.  
*Eyebright.*

*Calyx* cylindrical, 4-toothed, equal; *corolla* tubular, two-lipped; *galeæ* nicked; lip 3-lobed, lobes equal, 2-cut; *stamens* 4, didynamous; *lobes* of the lower anthers spinose; *capsule* ovate, oblong; *seeds* few, rather angular, striated.  
—*Leaves* opposite or alternate; *flowers* axillary.

_Euphrasia officinalis._  
*Shop eyebright.*
*Leaves* ovate, linear, shortly toothed.

_Euphrasia, Raii Syn. 292 *, 1; Ger. em. 663, 1._
_Euphrasia vulgaris, Park. 1929._
_Euphrasia officinalis, Lin. S. P. 841._

Meadows and pastures; annual; July to September.  
*Stem* 8 in. high, purplish; *branches* racemose; *flowers* alternate, sessile, white with purplish lines; palate yellow; *capsule* nicked.—*Herb* weakly astringent, reputed ophthalmic.
47. Odontites. 22. RHINANTHACEÆ. Pl. ex. cor.

IV. 67. ODONTITES. Tabernæmontanus. Odontites.

Calyx coloured, 4 rarely 5-cut; corolla tubular, two-lipped; galea not cut, straight, enclosing the anthers; lip 3-cut; lobes linear, equal, blunt; anthers bald, lobes spinose; capsule ovate, compressed, naked; seeds many, striated.—Stem 4-angular; leaves opposite, sessile; bracteæ leaflike; flowers spiked, one-sided.

Odontites rubra. Red odontites.

Stem much branched, pilose; leaves linear or lanceolate, serrate.

Crataegonou Euphrosyne, Ger. em. 91, 3.
Euphrasia pratensis rubra major, Park. 1329, 3.
Odontites, Rivini Monop. irr. 90, 2.
Euphrasia Odontites, Lin. S. P. 841.

Wood chickweed. Eyebright cow-wheat.

Fields and pastures; annual; July and August.

Stem much branched; leaves rough; spikes many-flowered; flowers rose-colour; capsules hairy.

V. 68. BARTSIA. Linnaeus. Painted-cup.

Calyx tubular, not bellied, 4-cut, unequal, coloured at the tip; corolla tubular, 2-lipped; galea concave, long, not cut; lower lip reflexed, 3-cut; lobes equal, not cut; stamens 4, didynamous; anthers tomentose; capsule ovate, compressed; seeds many, angular.—Leaves alternate and opposite; flowers alternate, bracteate, spiked or terminal.


Leaves opposite, heartshape, ovate, bluntly serrated.

Clinopodium Alpinum, Ger. em. 676, 6.
Bartsia alpina, Lin. S. P. 839.

Wild basil of the Alps. Poley mountain.

Alpine rivulets; perennial; July.

Root creeping; stem simple; leaves sessile; bracteæ coloured: spike purple, terminal; calyx viscid, purple; flowers purplish violet; capsule pubescent; seeds winged at the angles, striated.


Pubescent; stem simple; leaves lanceolate, pointed, serrated; lower leaves opposite; flowers lateral, distant.

Bogs; annual; July and August.
Stem round, upright; leaves sessile, veined; flowers nearly sessile, yellow, lobes blunt; calyx villous; capsule roundish; seeds not winged.

VI. 69. RHINANTHUS. Linnaeus. 
Rattle.

*Calyx* bellied, 4-cut; *corolla* tubular, 2-lipped; *galea* arched, compressed; *lip* flat, 3-lobed; *lobes* equal; *stamens* 4, didynamous; *anthers* hirsute; *capsule* scarioso, compressed, blunt, covered by the calyx; *seeds* many, imbricate, compressed, flat, winged.—*Leaves* opposite, sessile; flows opposite, bracteated, spiked, terminal, yellow.

*Rhinanthus glaber.* Smooth rattle.
*Leaves* lanceolate, acutely serrated; *calyx* bald.

*Pedicularis seu crista galli lutea, *Raii Syn.* 284 *, 1; *Park.* 713.
Crissa Galli, *Ger. ex. 1071.

Fields and pastures; annual; June.

*Stem* much branched, smooth, often spotted; *flowers* rough, heartshape at bottom; *calyx* reticulately veined; *peduncles* short.

*Pedicularis major angustifolia ramosissima, flore minore luteo, labello purpureo, *Dillen in Raii Syn.* 284 *, 2.

VII. 70. PEDICULARIA. Tragus. 
Lousewort.

*Calyx* bellied, 5-cut; *corolla* tubular, 2-lipped; *galea* compressed, often nicked; *lip* 3-lobed, flat, spreading; *lobes* equal, or the middle smallest; *stamens* 4, didynamous; *capsule* compressed, mucronated, often oblique and longer than the calyx; *seeds* few, angular, mucronate.—*Leaves* opposite or alternate, mostly pinnatifid; *flowers* opposite or alternate, bracteated, spiked, terminal.

*Stem* much branched; *leaves* pinnate; pinna lanceolate, pinnatifidly toothed; *calyx* ovate, inflated, 2-parted, crested; *galea* obtusely truncated.

*Tall red rattle.*
Bogs and damp pastures; perennial; June and July. 

**Pedicularia sylvatica.** Wood lousewort.

Stem much branched at the bottom, simple above; leaves pinnate; **pinnae** ovate, acutely toothed; **calyx** oblong, inflated, unequally 5-cut, crested; **galea** blunt, truncated, acutely 2-toothed.

**Pedicularis pratensis rubra vulgaris,** Raut Syn. 284, 3; Park. 713.

**Pedicularis sylvatica,** Lin. S. P. 842.


Pastures; perennial; June and July.

**Melampyrum.** Theophrastus. Cow-wheat.

**Calyx** tubular, 4-cut; **corolla** tubular, 2-lipped, compressed; **galea** arched, edge repicate; lip furrowed, 3-cut; **stamens** 4, didynamous; **capsule** oblong, obliquely pointed, compressed; cells 2-seeded, gibbous, smooth.—**Leaves** opposite; **flowers** opposite, spiked, terminal; **bracteae** leaflike, edge of the base crested.

   
   **Spike** 4-angular; **bracteae** heartshape, compact, imbricate, toothed.

   *Melampyrum cristatum,* flore albo et purpureo, Raut Syn. 286, 1.

   *Melampyrum cristatum,* Lin. S. P. 842.

   Crested cow-wheat.

Woods and cornfields; annual; July.

**Stem** rough, 4-angular; **leaves** linear, not cut; **spike** solitary, many-flowered; **bracteae** compressed, coloured, pectinately toothed.


**Spike** conical, lax; **bracteae** lanceolate, pinnately toothed; teeth coloured, setaceous; teeth of the calyx rough.
Melampyrum purpurascensae coma, Raii Syn. 286 *, 3.
Melampyrum caeruleum, Ger. em. 90, 3.
Melampyrum arvense, Lin. S. P. 842.

Blue cow-wheat. Purple cow-wheat.

Sandy fields; annual; July.

Stem 2 feet high, much branched, upright; leaves lanceolate, not cut; spike many-flowered; bracteae spreading, purple; corolla closed; apex purple.


Flowers axillary, one-rowed, conjugately remote; corolla closed; lip porrected; calyx rather coloured; lobes ascending; stem much branched.

Melampyrum sylvaticum flore luteo, sive satureja lutea sylvestris, Raii Syn. 286 *, 2.
Crataegonon album, Ger. em. 91, 1.
Crataegonon vulgare, Park. 1326, 1.
Melampyrum pratense, Lin. S. P. 843.

Woods and hedges; annual; July and August.

Stem smooth; leaves lanceolate; bracteae pinnatifid; tube of the corolla white; mouth closed, yellow; palate fulvous.

β. album. Corolla white, with 2 yellow spots on the lower lip.

Melampyrum latifolium flore albo, labio inferiore duabus maculis luteis distincto, Ditten in Raii Syn. 286 *, 2.


Flowers axillary, 1-rowed, conjugately remote; corolla open; lip deflexed; galea hirsute; leaves linear; 2 lower ones reverse ovate.

Melampyrum sylvaticum, Lin. S. P. 843.

Alpine woods and pastures; annual; July and August.

Stem not much branched, roughish; leaves not cut; flowers small; lobes of the calyx broad at the bottom; corolla yellow, mouth fulvous.


Calyx divided, persistent, tubular; corolla hypogynous, ringent; stamens 4, inserted on the corolla, didynamous; anthers 2-celled; ovary free, 1-celled, glandular at the base; style simple; stigma 2-lobed; capsule 2-valved, 1-celled; valves distinct; placentarium longitudinal, on the middle
314 72. Orobanche. 23. OROBANCHELÆ. Pl. ex. cor.

of the valves; seeds numerous, minute; spermodermis simple, fungous; perisperm fleshy; corculum subglobose, eccentric; cotyledons very short; radicle centrifugal.—Herb rather fleshy, mostly parasitic on the root of other plants; root tuberous, scaly, imbricate; stem alternately scaly, mostly simple; flowers bracteated, spiked, terminal.

Calyx 2-parted; lobes 2-cut. Orobanche. 72. Calyx 4-cut, bellshape. Lathræa. 73.

Calyx 2-parted; lobes 2-cut; corolla tubular, 2-lipped, 4 or 5-lobed; stamens 4, didynamous.—Herb light-brown, simple; bractea 1 or 3 to each flower.

a. Bractea 1 to each flower; corolla 4-lobed.

1. Orobanche major. Great broomrape.
Stem quite simple; corolla 4-cut, inflated; lobes of the lip equal, acute; stamens below bald; stigma 2-lobed; lobes distant; style above pubescent.
Orobanche major garyophyllum oleum, Ralí Syn. 288 *, 1. Rapum genistae, sive Orobanche, Ger. em. 1311, 2; Par. 299. Orobanche major, Lin. S. P. 882.
Sterile places on leguminous plants; perennial; June and July.
Root rather tuberose; stem 1 foot high, pubescent; spike many-flowered; flowers scentless.

2. Orobanche elatior. Tall broomrape.
Stem not branched; corolla 4-cut, tubular; lobes equal, acute; filaments downy beneath; stigma reverse-heartshape; style bald above.
Margin of fields; perennial; July and August.
Herb yellowish; spike many-flowered, close; stigma yellow.

Stem not branched; corolla 4-cut, tubular; middle lobe 3-cut; filaments fringed beneath; style bald above.
Orobanche flore minore, Dillen in Raí Syn. 288 *, 2; Par. 1363. Orobanche minor, Eng. Bot. 422.
Clover fields; annual; July and August.
Herb pale purplish; stem rather bent; stigma purple.
b. Bractea 1 to each flower; corolla 5-lobed.

   Stem not branched; corolla tubular; galea cloven; lip equally 3-lobed; filaments fringed at bottom; style fringed above.
   Basalt rocks; perennial; August.
   Root creeping; herb purplish red; stem a foot high; spike 20-flowered; flowers glandular, hairy; bractea pointed; lobes of the calyx undivided; style red, sweet-scented.

c. Bractea 3 to each flower; corolla 5-lobed. Gymnocaulis.

5. Orobanche caerulea. Blue broomrape.
   Stem seldom branched; corolla tubular; galea 2-lobed, cut; calyx 4-cut, tubular.
   Orobanche flore majore, Ger. em. 1312.
   Nidus avis flore et caule violaceo purpureo colore, Ger. em. 228.
   Orobanche purpurascens, Gmel. Syst. Nat. 954.
   Orobanche purpurea, Jacc. Austr. 2176.
   Orobanche laxis, Lamarck Fl. Fr. 2, 327.
   Orobanche caerulea, Villar’s Dauffly. 2, 406.
   Large-flowered broomrape.

Mountainous pastures; perennial; July.
   Stem straight, bluish; spike few-flowered, loose; flowers bluish-violet, palate white; stamens bald; style downy; stigma yellowish.

5. ramosa. Stem branched.

   Stem branched; corolla 5-cut, lobes blunt, not in the least cut; calyx short, deeply 4-cut.
   Orobanche ramosa, Dillen in Rait Syn. 288 *; 3; Park. 1363; Ger. em. 1312; Lin. S. P. 882.

Hemp-fields; annual; August and September.
   Stem 1 foot high; spike many-flowered, pointed; flowers purplish-blue, tube yellowish; stamens rather fringed; style rather bald; stigma white.

II. 73. LATHRÆA. Linnaeus. Toothwort.

   Calyx bellshape, 4-cut; corolla tubular, 2-lipped; galea 2-cut; lip 3-cut; stamens 4, didynamous; anthers hirsute; stigma nicked; seeds globose. — Root scaly; scales close, imbricated; stem not branched, purplish; bractea 1 to each flower; flowers pedicelled.
**Lathræa simplex.** Branchless toothwort.

Stem not branched; flowers peduncled.

Anblatum Cordi sive aphyllon, *Rait Syn. 288*.

Dentaria major Matthioli, *Ger. em. 1585, 1*.


Clown's lungwort.

Dry woods, on hazel and elm; perennial; April.

Root white; scales heartshape; stem upright, 9 in. high, downy; bracteae ovate, bald; calyx white; limb of the corolla purple; tube white.—Used as a pectoral by country people.

**Fam. VII. 24. LENTIBULARIAE. Richard.** Utricul–
lariae, Hoffmannsegg and Link. Lysimachii affines, Jussieu. Personata–
rum sectio, De Candolle.

Calyx divided, persisting; corolla monopetalous, hypo–
gynous, irregular, spurred, 2-lipped; stamens 2, enclosed
at the tooth of the corolla; anther simple or contracted in
the middle; ovary 1-celled; style 1, very short; stigma two–
lipped; seeds small; perisperm fleshy; cotyledons sometimes
only 1?—*Herb aquatic or marsh; leaves radical, undivided,
fleshy, or compound rootshape and bladdery; scape naked,
or covered with minute scalelike or bladderlike stipules,
often undivided, 1 or many-flowered; bractea 1 to each
flower, or none.

Calyx 2-parted; lower lip not cut ... **UTRICULARIA. 74.**

Calyx 5-cut, bellshape; lower lip 2-lobed

**Pinguicula. 75.**

I. 74. **UTRICULARIA. Linnaeus.** Bladder–snout.

Calyx 2-leaved; lips equal, undivided; corolla personate,
upper lip sometimes nicked; lower lip large, not nicked,
spurred at the base; stamens 2; stigma 2-lipped.—*Plant
herbaceous, aquatic, free; leaves rootshape, under water,
many-cut, with many bladders full of air while flowering,
and of water before and after; scape leafless; flowers spiked
or solitary, yellow.

1. **Utricularia vulgaris.** Common bladdersnout.

Stem conical; scape few-flowered; upper lip of the cor–
olla as long as the palate, not nicked; leaves pinnatifidly
many-cut; lobes hairlike.
Pl. ex. cor. 24. LENTIBULARIAE. 74. Utricul. 317

Lentibularia, Raiti Syn. 288 *, 1.
Millefolium palustre galericulatum, Ger. em. 288, 5.
Millefolium aquaticum flore luteo galericulato, Park. 1258.
Hooded water-milfoil.

Stagnant waters and bogs; perennial; July.
Herb much branched; scape upright; spike 3 to 8-flowered; flowers large, golden-yellow with red lines; nectary bent, nearly as long as the lips.

Spur conical; scape 3 or 4-flowered; upper lip of the corolla flattened, not cut, double the length of the palate; leaves crowded, 3-parted; lobes hairlike, forked.

Utricularia minor, Fl. Danica, 128.
Irish lakes; perennial; July.
More leafy, and less bladdery, than utricularia vulgaris.

Spur keeled, blunt, very short; upper lip of the corolla nicked, as long as the palate; leaves 3-parted; lobes hairlike, forked.

Lentibularia minor, Raiti Syn. 286 *, 2.
Small hooded-milfoil.

Ditches and bogs; perennial; July.
Herb slender; flowers small, pale.

II. 75. PINGUICULA. Gesner. — Butterwort.

Calyx bellshape, 5-cut; corolla 2-lipped, upper lip three-lobed; lower lip shorter, 2-lobed, spurred at the base; stamens 2; stigma 2-lipped. — Leaves radical, fat; scape 1-flowered; flowers purplish.

Spur conical, obtuse, straight, the length of the corolla; upper lip 2-lobed; lower 3-parted; scape bald; capsule ovate.

Pinguicula Gesneri, Raiti Syn. 281 *, 1.
Pinguicula sive sanicula Eboracensis, Ger. em. 788, 2; Park. 532.

Spongy bogs and damp heaths; perennial; May, June.
Leaves bald, slightly involute; limb of the corolla unequal. — Warm rein-deer milk strained through the leaves,
and left for a day or two to turn sour, is coagulated without any separation of cream or curd, but not cow's milk; juice kills lice, and heals chaps in cows' udders.

Spur conical, subulate; scape drooping, downy; leaves reticulately veined; capsules globose.

*Pinguicula flore minore carneo,* Raui Syn. 281.  

Marshes; perennial; June and July.  
Leaves pale green, downy, lasting all the winter; veins red; flowers flesh-colour; limb regular.

Spur awlshape, straight, as long as the corolla; upper lip of the corolla spreading, nicked, very large; lower lip 3-lobed.

*Pinguicula grandiflora,* Lamarck Encyc. Meth. 3, 21.

Marshes in Ireland; perennial; May.  
Leaves much larger than those of *pinguicula vulgaris,* more veiny and yellower; scape 9 in. high; flowers reticulated with dark blue veins.


Calyx divided, persisting; corolla irregular; limb divided, mostly 2-lipped; stamens 4, didynamous, inserted in the corolla; ovary free; style 1; stigma simple or 2-cut; capsule 2-celled, 2-valved; valves concave, more or less separated from one another, sometimes 2-parted; dissepi-ments central, parallel with the valves, sometimes simple and free; sometimes double, formed of the united intro- flected valves; seeds many, on the middle of the dissepi-ments; perisperm fleshy; corculum straight; cotyledons half-round.—Stem herbaceous; leaves opposite or alternate; flowers bracteated.

Cor. small, bellshape, equally 5-lobed; stigma globose; capsule half 2-celled .... *Limosella.* 76.  
Cor. bellshape, unequally 4-lobed; stigma simple; capsule 2-celled ......... *Digitalis.* 82.
I. 76. LISEWELLA. Linneus.  
Mudwort.  
Calyx 5-cut, equal; corolla short, bellshape, 5-cut, equal; stamens 4 with 2 very slightly shortened, or only 2; stigma capitate; capsule half 2-celled, 2-valved; valves not nicked; dissepiments incomplete.—Herb very small, marsh, creeping; leaves bundled; petioles dilated, rather sheathing at the base; scape 1-flowered; bractea 0.

Limosella aquatica,  
Water mudwort.  
Leaves lanceolate, spathulate; scape shorter than the leaves.

Plantaginella palustris, Rett Syn. 278.
Plantago aquatica minima Clusii, Park. 1244.
Limosella aquatica, Lin. S. P. 881.

Dried-up ponds and stagnant pools; annual; July, Aug. Root fibrous; stolones creeping; leaves upright, acute, not cut, bald; scape becoming reflexed; flower flesh-colour; calyx pointed.

II. 77. SCROFULARIA. Brunsfell.  
Figwort.  
Calyx 5-lobed; corolla globose; limb contracted; 2-lipped; upper lip 2-lobed with a scale on the middle of the inside; lower lip short, 3-lobed; stigma 1; capsule roundish, pointed; valves not cut, introflected at the bottom; dissepiments double.—Stem herbaceous, angular; leaves mostly opposite; peduncles 2 or many-flowered; bracteae 2 at the divisions; flowers opposite, axillary or terminal, spiked.
Leaves heartshape, lanceolate, acute, toothed; 3-ribbed at the base; stem acute-angled; racemes terminal.

Scrofularia major, Rail. Syn. 283 *, 2; Ger. em. 716, 1.
Scrofularia vulgaris, Park. 610.
Scrofularia nodosa, Lin. S. P. 863.

Wood and hedges; perennial; July.
Root granulated; stem 3 feet high, upright, simple; leaves petioled; spikes terminal, forked; flowers blackish blood-colour.—Its rank smell and bitter taste indicate it to have some active qualities: a decoction of the leaves is used as a wash for the scab in swine.

Leaves heartshape, blunt, serrated, petioled; stem membranaceously winged; racemes terminal.

Betonica aquatica, Ger. em. 715, 1.
Betonica aquatica major, Park. 613.
Scrofularia aquatica, Lin. S. P. 864.

Watery places; perennial; July.
Root fibrous; stem 4 feet high; racemes mostly solitary, upright; flowers blackish blood-colour.

Leaves heartshape, doubly serrated, beneath tomentose; racemes terminal, 3-forked, leafy.

Scrofularia scorodonia, Lin. S. P. 865.

Watery places and fields; perennial; July and August. Calyx hairy; flowers paler than those of S. aquatica.

Leaves heartshape, acutely and doubly serrated, downy; peduncles axillary, solitary, forked, leafy.

Scrofularia flore luteo, Ger. em. 717, 3.
Scrofularia vernalis, Lin. S. P. 864.
Spring figwort.

Watery places and hedges; biennial; April and May. Stem 4-angular, hairy; leaves petioled, pointed; peduncles as long as the leaves, many-flowered; flowers crowded, yellow, bellied.
III. 78. ELATINE. Dioscorides.

_Calyx_ 5-sepaled; _sepales_ lanceolate, acute; _corolla_ personate, spurred; upper lip 2-cut, reflexed; lower lip 3-cut; mouth closed; palate gibbous; _stamens_ 4, didynamous; _stigma_ simple; _capsule_ globose, 2-celled; cells obliquely cut round; valve circular, from the upper part of each cell; _seeds_ oblong, wrinkled.—_Stem_ prostrate, weak; _leaves_ petiolated, penninerved.

1. Elatine hastata.  
*Sharp-pointed fluellin.*

_Upper leaves_ hastate; _lower leaves_ oval, alternate; _peduncles_ bald.

Linaria Elatine dicta, folio acuminato, Rail Syn. 282*, 5.  
Elatine altera, Ger. em. 625, 2.  
Elatine folio acuminato, Park. 553.  
Antirrhimum Elatine, Lin. S. P. 851.  
Elatine hastata, Moench Meth. 523.

Fields; _annual_; July to September.  
Leaves hairy; _sepales_ lanceolate; _corolla_ yellow, throat violet-colour, spur pale.

β. purpurea. _Corolla_ violet.

γ. regularis. _Corolla_ regular, 5-cut; _spurs_ 5.

2. Elatine ovata.  
*Round-leaved fluellin.*

_Leaves_ ovate, alternate, hairy; _lower leaves_ opposite, slightly toothed; _peduncles_ villose.

Veronica femina Fuchsi, sive Elatine, Ger. em. 625, 2.  
Elatine folio subrotundo, Park. 553.  
Antirrhimum spurious, Lin. S. P. 851.  
Elatine ovata, Moench Supp. 171.  
Female fluellin.

Fields; _annual_; July to September.  
Branches hairy; _peduncles_ longer than the leaves; _flowers_ yellow, upper one _violet._

β. regularis. _Flowers_ regular, 5-cut.

IV. 79. CYMBAULARIA. Matthioli. _Bastard navel-wort._

_Calyx_ 5-sepaled; _corolla_ personate, spurred; _galea_ 2-cut, reflexed; _lip_ 3-cut, mouth closed; palate prominent, two-lobed; _stamens_ 4, didynamous; _style_ 1; _stigma_ simple; _capsule_ valveless, 2-celled, opening by a rent at the top of each cell; _seeds_ wrinkled, angular.—_Stem_ prostrate, weak; _leaves_ alternate, fleshy, palmately ribbed; _peduncles_ axillary, 1-flowered.
Cymbalaria hederacea. Ivy bastard-navelwort.

Leaves heartshape, 5-lobed, bald.

Linaria hederacea, syn. Dillen in Rait 282 *; 4.
Cymbalaria Italica, Ger. em. 559, 6.
Antirrhinum Cymbalaria, Lin. S. P. 351.
Elatine Cymbalaria, Moench Meth. 522.
Cymbalaria, Rivinus Mon. irreg. 186.

Italian bastard-navelwort.

Old walls; perennial; May to November.

Stem rooting, bald; leaves petioled, fleshy; beneath purplish; corolla violet, palate yellow; spur short.

V. 80. ANTIRRHINUM. Theophrastus. Toad-flax.

Calyx 5-sepaled; corolla personate, spurred; galea 2-cut, reflexed; lip 3-cut; mouth closed, palate prominent; stamens 4, didynamous; style 1; stigma simple; capsule ovate, valveless, 2-celled, opening by a rent at the top of each cell; seeds compressed, edged.—Stem mostly upright; leaves not cut; flowers generally spiked.

a. Leaves alternate; spur long, pointed.

1. Antirrhinum vulgare. Common toad-flax. Leaves lanceolate, linear, crowded; stem upright, spiked; calyx bald, much shorter than the spur.

Linaria lutea vulgaris, Rait Syn. 281 *, 1; Ger. em. 550.
Linaria vulgaris nostras, Park. 458.
Antirrhinum Linaria, Lin. S. P. 358.
Linaria vulgaris, Moench Meth. 528.
Osyris, Fuchsii Hist. 545.


Fields and pastures; perennial; June and July.

Roots creeping; stem scarcely branched; leaves spread, bald, rather glaucous; spike many-flowered, close; flowers gold-yellow; palate villous, fulvous.—Juice mixed with milk a poison to flies; leaves in infusion diuretic and purgative; in ointment useful in the piles.

b. regulare. Corolla 5-cut, regular; 5-spurred; stamens 5, equal in length.


γ. album. Corolla nearly white.

δ. bicalcaratum. Corolla irregular, 2-spurred.
b. Lower leaves in whirls; spur pointed, longer than the sepal.

Leaves linear, glaucous; upper leaves crowded, alternate, spread; lowest leaves in whirls; stem panicled, nearly upright; root creeping; flowers streaked; calyx bald, as long as the capsule and spur.

Linaria caerulea foliis brevioribus et angustioribus, Raii Syn. 282*, 3.
Antirrhinum repens, Lin. S. P. 854.
Antirrhinum striatum, Lamarck Encycl. Meth. 4, 149.
Linaria decumbens, Moench Meth. 523.

Blue toad-flax.

Chalky hills; perennial; July to September.

Root creeping; stem decumbent at the base; leaves upright, 4 or 5 in a whirl; branches panicled, alternate, spiked; flowers sweet-scented; corolla greenish white; upper lip streaked with purple; seeds angular.

β. regulare. Flowers regular, 5-cut, 5-spurred.

Leaves linear, bald; lower leaves in whirls of 4; calyx pilose, viscid; flowers racemose; spur recurved; stem upright, branched.

Antirrhinum arvense, Lin. S. P.
Linaria comosa, Moench Meth. 523.

Sandy corn-fields; annual; July and August.

Leaves bald; flowers small, blue; bracteae recurved.

β. luteum. Flowers yellow.


c. Lower leaves opposite; spur blunt, shorter than the sepal.

Leaves lanceolate, blunt, elliptical, alternate; lower leaves opposite; stem very much branched, diffuse; calyx longer than the spur.

Linaria Antirrhinum dicta, Raii Syn. 283*, 7.
Antirrhinum minimum repens, Ger. em. 549, 5.
Antirrhinum sylvestre minimum, Park. 1394.
Antirrhinum minus, Lin. S. P. 852.
Linaria viscida, Moench. Meth. 523.

Small creeping snapdragon.

Sandy corn-fields; annual; June to August.
Stem pubescent; leaves viscid; peduncles axillary, one-flowered, as long as the leaves; sepales hairy, nearly as long as the corolla; corolla violet; lip white; palate yellow.

VI. 81. ORONTIUM. Dodonaeus. Snapdragon.
\[ Calyx 5-sepaled, 2 lower sepales distant; corolla personate, spurless, gibbous at the base; tube inflated; limb 2-lipped; galea 2-cut, reflexed; lip 3-lobed; palate prominent closing the mouth; capsule oblique at the base, opening often in 3 holes, 1 in the upper, and 2 in the lower cell; seeds oval, convex on one side, and concave on the other, edged.—Stem erect; leaves linear; flowers rather spiked. \]

1. *Orontium arvense.* Field snapdragon. Leaves lanceolate, slender; flowers rather spiked; sepales linear, longer than the corolla; stem and peduncle hirsute.

Antirrhinum angustifolium sylvestre, Rait Syn. 283 *.
Antirrhinum minus, Ger. em. 549, 4.
Antirrhinum sylvestre minimum, Park. 1334.
Antirrhinum Orontium, Lin. S. P. 860.
Orontium arvense, Persoon Syn. 2, 159.
Antirrhinum humile, Salisb. Prod. 98.
Small snapdragon.

Chalky and sandy fields; annual; July and August. Stem upright, much branched, hairy; leaves bald; flowers nearly sessile; sepales unequal; corolla flesh-colour; galea and lip rose-colour; palate yellow; capsule dotted.—Poisonous.

\[ \beta. album. \ \text{Corolla white; galea and lip violet.} \]

2. *Orontium majus.* Great snapdragon. Leaves lanceolate, spiked; sepales ovate, obtuse, hairy; hairs glandular.

Antirrhinum purpureum sive album, Ger. em. 549, 2.
Antirrhinum majus, Lin. S. P. 859.
Antirrhinum murale, Salisb. Prod. 100.
Orontium majus, Persoon Syn. 159.

Old walls; perennial; July and August. Stem seldom branched; leaves bald; spike terminal; flowers close; corolla very large, rose-colour; palate yellow.

\[ \beta. album. \ \text{Corolla white.} \]
VII. 82. DIGITALIS. Gesner.

_Calyx_ 5-sepaled; _sepales_ unequal; _corolla_ bellishape, bellied; _limb_ oblique, 4 or 5-lobed; _lobes_ unequal; _stigma_ simple; _capsule_ ovate, pointed, 2-celled; _dissepiments_ double from the inflected edges of the valves; _seeds_ very numerous, rather prismatic. — _Leaves_ alternate; _flowers_ spiked, terminal.

_Digitalis speciosa._ 
_Handsome foxglove._

_Sepales_ ovate, acute; _lobes_ of the _corolla_ blunt; upper _lobe_ not cut; _leaves_ ovate, lanceolate, wrinkled, pubescent.

_Digitalis purpurea, Raiti Syn. 233 *; Ger. cm. 790, 1; Lin. S. P. 866._
_Digitalis purpurea vulgaris, Park. 633._
_Digitalis speciosa, Salisb. Prod. 100._

_Woods; perennial; June and July._

_Stem_ 4 feet high, upright, downy; _leaves_ petioled, crenate; _spike_ upright, many-flowered; _flowers_ purple and white, with blood-coloured spots and hairs.—The old authors recommend it as a pulmonary and epileptic medicine boiled in wine or water, without any particular caution: the _leaves_ are now considered as one of our most valuable diuretics in dropsy, either in powder, infusion, or tincture, and as a sedative in pulmonary consumption; but it must be employed with care, as it has a great effect in reducing arterial action and retarding the pulse, and this action is frequently exerted suddenly, by the accumulated effects of small doses, so that if the practitioner be not constantly on his guard, he may be surprised by the occurrence of fatal symptoms and lose his patient, even after he has relinquished the use of the medicine.

Fam. IX. 26. SOLANEÆ. Jussieu.

_Calyx_ 5-cut or 5-parted, persisting; _corolla_ regular, 5-cut, deciduous; _æstivation_ plaited; _stamens_ 5, at the base of the _corolla_, alternate with the _lobes_; _ovary_ 1, free, 2 or 4-celled, many-seeded; _style_ 1; _stigma_ blunt, rarely 2-furrowed; _pericarp_ 2 to 4-celled; _capsular_ 2-valved; _dissepiments_ parallel and double, or berried; _placentarium_ central, _adnate_ to the _dissepiment_; _seeds_ numerous, sessile; _perisperm_ fleshy; _corculum_ enclosed, curved or spiral, excentric; _radicle_ near the hilum; _cotyledons_ half-round.—_Herbs_ or _shrubs; leaves_ alternate; _flowers_ mostly extrafoliaceous, pedicelled, bracteated, or rarely spiked.
1. Pericarp capsular.

Cor. rotate; stamens 5; filaments villous;
capsule 2-valved ......................... VERBASCUM. 83.

Cor. funnelshape; limb unequally 5-lobed;
capsule ovate, operculated.............. HYOSCYAMUS. 84.
Cor. funnelshape; limb regularly 5-lobed;
capsule 2-valved; stigma nicked ........ NICOTIANA. 85.
Cor. funnelshape, 5-angular, 5-pointed;
capsule 4-valved; stigma 2-lamellar .... STRAMONIUM. 86.

2. Pericarp berried.

Cal. and cor. campanulate; stam. 5, filiform; berry globose, on the calyx ........... ATROPA. 87.

Cal. 5-sepaled; cor. rotate, nectariferous at the base; anthers opening at top by 2 pores............... DULCAMARA. 88.

Cal. 5-sepaled; cor. rotate, naked at the base; anthers opening at top by 2 pores ... SOLANUM. 89.
Cal. 5-sepaled; cor. rotate; anthers opening longitudinally; seeds villous....... LYCOPERSICON. 90.


Calyx 5-parted; corolla rotate; limb 5-lobed, unequal; stamens 5, mostly unequal; filaments villous at the base; capsule 2-valved, 2-celled; dissepiments double, from the inflected edge of the valves; seeds many; spermodermis double; outer leathery; corculum straight; cotyledons oblong, rather leaflike; radicle central.

1. Flowers glomerate.


Leaves decurrent, tomentose on both sides; stem simple.
Verbascum mas latifolium luteum, Rait Syn. 287, 1.
Tapsus barbatus, Ger. em. 773, 1.
Verbascum album vulgare, sive Thapsus barbatus communis, Park. 60.


Chalky and sandy banks; biennial; July and August.

Root fusiform; stem 35 feet high, tomentose; leaves not cut, hairy, white, very much branched, entangled; spike terminal, many-shaped; flowers sessile, yellow or white.—Externally used it is emollient; given also to cows that are consumptive; a decoction, 2 oz. to the quart, given daily,
is useful in diarrhoea, or as a clyster in tenesmus; the down of the leaves is also used for tinder; the whole herb flung into ponds is said to intoxicate the fish so that they may be taken by the hand.

8. thapso-nigrum. Leaves ovate; lower leaves petioled; middle sessile; upper decurrent; stem branched; flowers in bunches, sessile.

A mule-plant of v. decurrens impregnated by v. nigrum, Robson.

γ. nigro-lychnitis. Leaves woolly; radical leaves petioled; stem leaves sessile; flowering branches numerous, axillary; flowers in bunches.

Near Yarmouth, probably a mule-plant, Turner.

Leaves decurrent; stem branched.

Verbascum thapsoides, Huds. Fl Angl. 90.
Verbascum Thapsi, Lin. S. P. 1669.
Verbascum Lychnitis 8, Smith Fl. Brit. 250.
Bastard mullein.

Chalky and sandy meadows, Kent, Hudson.

Leaves wedgeshape, oblong, naked on the upper surface; stem angular, panicled; beards of the filaments yellowish.

Verbascum flore albo parvo, R.ii Syn. 287, 3.
Verbascum lychnite Matthioli, Ger. em. 775, 3.
Verbascum mas, foliis longioribus, Park. 60.
Verbascum lychnites, Lin. S. P. 252.

Waysides in chalky soils; perennial; July and August. Stem 3 feet high, woolly; leaves very woolly beneath, reticulately veined above; stem leaves sessile; flowers pedicelled, in bunches, milk-white.

4. Verbascum pulverulentum Hoary mullein.
Leaves ovate, oblong, slightly serrated, powdery on both sides, tomentose; stem round, panicled; beard of the filaments yellow; anthers bright red.

Verbascum pulverulentum flore luteo parvo, R.ii Syn. 287, 2.
Verbascum Lychnitis 8, Huds. Fl. Angl. 90.
Verbascum pulverulentum, Salisb. Prod. 104.
Yellow hoary mullein. Norfolk mullein.

Waysides and hedges in chalky soils; biennial; July. Herb mealy, downy; stem 4 feet high; leaves all sessile, obsoletely serrated; flowers golden yellow; beard of the stamens whitish yellow.
5. *Verbascum mixtum.* 
**Mixed mullein.**
Leaves oblong, acute, slightly crenate, sessile, mealy tomentose; lower leaves petioled; branches panicled, villous; beards of the filaments violet.
*Verbascum mixtum*, De Candolle Fl. Fr. 2674.

**Black mullein.**
Leaves oblong, heartshape, petioled, crenate rather downy; beards of the filaments purplish.
*Verbascum nigrum* flore parvo, apicibus purpureis, Raiti Syn. 288, 4.
*Verbascum nigrum* vulgare, Park. 61.
Waysides; perennial; July and August.
Stem upright, angular, purplish, slightly branched; leaves dark green; spike very loose; flowers in bunches, pedicelled, golden yellow; anthers yellowish red.

7. *Verbascum virgatum.* 
**Rodlike mullein.**
Leaves oblong, lanceolate, toothed, sessile; radical leaves rather lyrate, downy; stem branchy; flowers aggregate, sessile.
*Blattaria flore amplo*, Ger. em. 778.
*Verbascum virgatum*, Stokes in With. B. Arr. 319.
*Verbascum Chaexii*, Villars Delph. 491.
Waysides and fields; biennial; August.
Stem 6 feet high, branched at bottom, round; branches simple, virgate; radical leaves wrinkled, pinnatifid at bottom, above shining, beneath venose; flowers yellow, very large, tube purplish.

b. Flowers solitary.

8. *Verbascum luridum.* 
**Dark mullein.**
Leaves amplexicaul, crenate, oblong, bald, serrate; radical leaves nearly lyrate, sinuate; peduncles 1-flowered, solitary; stem branched, angular; beards of the filaments purple.
*Blattaria lutea*, Raiti Syn. 288, 1.
*Blattaria Plinii*, Ger. em. 776.
*Blattaria flore luteo*, Park. 61.
Moth mullein.
Sandy places; annual; July.
Root fusiform; stem 4 feet high; spikes terminal, manyflowered; flowers golden yellow with purple lines.
II. 84. HYOSCYAMUS. Dioscorides. — Henbane.

Calyx tubular, 5-cut; corolla funnel shape; limb obliquely spreading, unequally 5-lobed; stamens 5; stigma capitate; capsule ovate, compressed, dehiscent, circumscisile; seeds ascending; corollum homotropous.—Herbaceous; bracteae mostly double; flowers solitary, axillary, mostly facing one way.

1. Hyoscyamus niger.  
Black henbane.
Leaves amplexicaul, sinuate; flowers nearly sessile.

Hyoscyamus vulgaris, Rall. S. 274, 1.
Hyoscyamus niger, Ger. em. 353, 1; Lin. S. P. 257.
Hyoscyamus niger vel vulgaris, Park. 362.
Hyoscyamus lethalis, Salisb. Prod. 131.

Common henbane.

Ruins and waysides; annual; July.

Root fusiform; herb viscid, fetid, woolly, clammy; stem-leaves alternate; flowers upright; calyx reticulately veined; tube of the corolla white, purple in the middle; limb pale yellow veined with purple; anthers and style deep purple.—Roots, leaves, and seeds, reputed poisonous; but the seeds may be eaten with impunity; the inspissated juice is added to opium to prevent costiveness; the smoke removes toothach.

2. Hyoscyamus albus.  
White henbane.

Stem-leaves petiolated, heartshape, pointed, sinuate; bracteae not cut; flowers nearly sessile; corolla bellied.

Hyoscyamus albus, Ger. em. 353, 2; Lin. S. P. 257.
Hyoscyamus luridus, Salisb. Prod. 132.

Rubbish by the sea-side; annual; July.

Leaves downy, paler than those of hyoscyamus niger.—Effects similar but milder than those of the black.

III. 85. NICOTIANA. Lonicerus.  
Tobacco.

Calyx 5-parted; lobes equal; corolla funnel shape; limb 5-plaited; stamens 5, equal, villous at bottom; stigma capitate, nicked; capsule ovate, conical; apex cut.

1. Nicotiana rustica.  
Country tobacco.

Leaves petiolated, ovate, not in the least cut; lobes of the corolla blunt.

Hyoscyamus luteus, Ger. em. 356.
Nicotiana rustica, Lin. S. P. 258.

Yellow henbane. English tobacco.

Dunghills, naturalized from America; annual; July.
Leaves may be smoked for the same purposes as American tobacco.

IV. 86. STRAMONIUM. Lobel. Thorn-apple.

Calyx large, tubular, bellied, 5-angular; apex 5-cut, falling off; base orbicular, peltate, persistent; corolla very large, funnel shape; tube long; limb 5-angular, 5-plaited, 5-pointed; stamens 5; stigma 2-lamellar; capsule rough or smooth, half ovate, 4-celled; valves 2 or 4; dissepiments prominent.

Stramonium foetidum. Stinking thorn-apple.

Capsules ovate, thorny, upright; leaves ovate, sinuate, bald, narrowed at bottom into a petiole.

Dunghills, waysides, naturalized from America; annual; July.

Atropa lethalis. Deadly dwale.

Stem herbaceous; leaves ovate, edge not cut.

Chalky ruins; perennial; July.

*Rhizoma* creeping, fleshy; *stem* erect, 2-forked, downy; *leaves* lateral, in pairs, dark green; *flowers* lateral, solitary, peduncled, drooping, dark-violet; *calyx* viscid; *anthers* white; *berry* blackish, shining.—Leaves externally applied with advantage to tumours of the breasts, even if cancerous; applied to the eye it causes a dilatation of the pupil, and affects it for some time, so that it will not contract even in the strongest light. A poultice of the roots boiled in milk cures hard, ill-conditioned tumours and ulcers. Juice of the ripe berries is poisonous, and has frequently been fatal to children; it also stains paper of a durable purple.

**VI.** 88. DULCAMARA. Dodonæus. *Bitter-sweet.*

*Calyx* 5-parted; *corolla* rotate, 5-parted; *lobes* equal, reflected, with 2 green spots at the base of each; *stamens* 5; *anthers* oblong, soldered together; opening at the tip with 2 pores; *stigma* simple; *berry* ovate, shining, 2-celled, many-seeded; *seeds* smooth.—*Stem* shrubby; *leaves* lobed or sinuate; *flowers* corymbose, opposite to the leaves.

*Dulcamara flexuosa.* *Bending bitter-sweet.*

*Stem* flexuous; *leaves* bald, ovate, heartshape; upper leaves lobed, eared.

Solanum lignosum, seu *Dulcamara, Raii Syn. 265, 1; Park. 350.

*Woody nightshade. Bitter-sweet.*

Damp hedges; shrubby; June and July.

*Root* woody; *stem* branched; *leaves* petioled, alternate, not cut, bald; *corymbus* opposite or terminal, drooping; *flowers* violet, flesh-colour, or rarely white.—*Root* smells like potatoes: twigs in infusion highly esteemed as a restorative and alterative, far superior to China or sarsaparilla. Two drms. of the sliced dry twigs infused in a pint of hot water for half an hour, then boiled for 15 min. dose two cupfuls, morn and even. Useful in acute rheumatism, inflammatory diseases, fevers, suppression of the lochææ, asthma, scurvy, and lues venerea.
Solanum hirsuta. Leaves rough with hairs.

Solanum lignosum, seu dulcamara marina, Ray Syn. 265, 2.

Sea-coasts, Ray, Hudson.

VII. 89. SOLANUM. Pliny. Nightshade.

Calyx 5-parted; corolla rotate, 5-lobes; lobes naked at bottom; anthers 5, oblong, opening at their tip by 2 pores; stigma blunt; berry smooth, fleshy, 2-celled, many-seeded; seeds smooth; corculum spiral.—Stem shrubby or herba-

ceous; leaves simple, sometimes pinnate with an odd one, in many doubly; peduncles solitary or many; one or many-

flowered; extra-axillary, or scattered or terminal.

a. Stem herbaceous, not armed; leaves sinuate or lobed; racemes forked, rather umbellled or panicled, drooping, extra-

foliaceous; peduncles short; flowers small, white, or light violet; berry small, globular. Maurella.


Stem angular; leaves ovate, toothed, angular, bald; berries black.

Solanum vulgare, Ray Syn. 265, 4; Park. 346.
Solanum hortense, Ger. em. 339, 1.
Solanum nigrum, Lin. S. P. 266.


Dunghills and gardens; annual; June to September.

Root much branched; stem spreading; leaves petioled; flowers smell like musk.—Leaves applied externally abate inflammation; internally, 1 or 2 grs. infused in boiling water, and taken at bedtime, occasions a copious per-

spiration, are diuretic, and generally purge the next day.


Stem round, villous at top; leaves ovate, angulate, rather villous; berries yellow.

Solanum nigrum 2, Huds. Fl. Angl. 93.
Solanum villosum, De Cand. Fl. Fr.

Dunghills and cultivated grounds; annual; July.

b. Leaves pinnately cut with an odd lobe; lobes not cut; racemes corymbose, terminal.


Root bearing tubers; stem herbaceous, not armed; seg-

ments of the leaves unequal, alternate; pedicells jointed; corolla 5-angular.
*Lycopersicon* tuberosum, *Miller Dict.*
*Battata. Virginia potatoes. Potatoes."

Cultivated, naturalized from Peru; peren.; June, July.

*Root* tuberous, abounding in starch, nutritive, yielding far more food on an acre than any other plant, hence the cultivation of it spreads rapidly over the globe; *tubers* nearly cylindrical; *skin* white; *leaves* dark green; *corolla* white.

β. *rubrum. Tubers* large, nearly cylindrical; *skin* red; *leaves* dark green; *corolla* reddish, variegated.

γ. *album. Tubers* oblong; *skin* red; *leaves* dark green; *corolla* whitish.

δ. *variegatum. Tubers* roundish; *skin* yellowish; *leaves* crisp; *corolla* variegated.

ε. *violaceum. Tubers* first round, growing rather cylindrical; *skin* mottled with yellow and red; *corolla* violet.

VIII. 90. **LYCOPERSICON. Anguillara. Love-apple.**

*Calyx* 5 to 20-parted; *corolla* 5 to 20-cut; *anthers* poly-adelphious, conical, tip lengthened by a membrane opening lengthways; *style* broad, nearly simple; *stigmata* many; *ovary* many-celled; *berry* bunched, broad, fleshy; *seeds* villous.—*Leaves* pinnately-cut with an odd lobe; *pedicell* jointed under the flower; *corolla* yellow.

*Lycopersicon esculentum. Eatable love-apple.*

*Stem* hairy, hairs diverging; *leaves* irregularly pinnately-cut; segments incised, beneath glaucous.

Pomum amoris majus, *Park. 353.*
*Lycopersicon Pomum amoris, Moench, Moeth.* 515.
Gold apples. Tomatoes.

Dunghills, and cultivated as a potherb; annual; June.

*Panicles* internodial; *fruit* shining.—*Fruit* boiled in soups; pulp of the fruit boiled with salt and spices used as a sauce.
Fam. X. 27. GENTIANÆ.

Calyx 1-leafed, 5 rarely 8-cut, persistent; corolla monopetalous, hypogynous, regular, withering or falling off; limbs lobed; lobes equal to the lobes of the calyx; aestivation imbricate; stamens as many as the lobes, alternating with them; ovary 1, free, 1 or 2-celled, many-seeded; style 1, rarely 2; stigma simple or 2-lobed; capsule many-seeded, 1 or 2-celled, 2-valved; valves with inflected edges, which, in the 2-celled, form the dissepiments; seeds small, on the edge of the valves; corculum straight, in the centre of the fleshy perisperm; radicle near the umbilicus.—Stipules 0; flowers terminal or axillary.

Corolla rotate; lobes fringed; base bearded; seeds margined, fringed...... Limnanthe. 98.
Corolla rotate; lobes bald; base 2-glandular; seeds margined, not cut...... Swertia. 97.
Cor. rotate, 8-cut; lobes bald; base naked; seeds ovate........................... Chlora. 96.
Cor. funnelshape; tube long; stigma 2-cut; anthers becoming spirally twisted.. Erythæa. 94.
Cor. funnelshape; lobes hairy; stigma capitate; leaves ternate ................. Menyanthes. 99.
Cor. funnelshape; mouth naked; lobes not fringed, eared; anthers distinct....... Ericala. 92.
Cor. hypocrateriform; mouth bearded:
lobes 4 or 5, not fringed; anthers distinct Erythalia. 93.
Cor. hypocrateriform; tube bellied;
lobes 4; anthers straight; stigma capitate Franquevillia. 95.

Cor. bellshape; mouth naked; lobes not fringed; anthers connate....... Pneumonanthæ. 91.

A. Gentianæ veræ. Leaves opposite, mostly sessile; edge not cut; capsule 1-celled; herb very bitter.

Calyx rather 5-sided, 5-toothed; corolla bellshape, 5-cut; mouth naked; teeth 5, alternating with the lobes; edge not cut; stamens 5; anthers grown together into a tube; stigmata 2, sessile; capsule oblong, 1-celled, 2-valved, opening at the tip; seed round, not margined.—Root perennial; flowers blue, plaitted.
Leaves linear, blunt; flowers axillary and terminal, peduncled.

- *Pneumonanthe,* *Ger. em.* 438.
- Pneumonanthe vulgaris, Schmidt in *Raem. Arch.* 1, 17.

Calathian violet. Autumn bellflower. Harvest bells.

Turfy heaths; perennial; August and September.

Root flagelliform; stem upright, simple, 4-angled; flowers deep blue, plaits of the corolla green.

2. *Pneumonanthe grandiflora.* Large lungflower.
Stem 1-flowered, scarcely as long as the flower; plaits of the corolla spotted on the inside; spots ovate; leaves ovate, lanceolate, 3-ribbed.

- Gentianella Alpina verna major, *Park.* 403.

Mountains of South Wales; perennial; May.

Flowers very large, blue.

II. 92. *ERICALA.* Renealm. 

Bastard-felwort.

Calyx tubular, 3 to 5-angular, toothed; corolla funnel-shape or hypocrafteriform; limb 5-lobed, lobes with a tooth on each side; edge not cut or crenate; mouth naked; stamens 5; anthers free; stigmata 2-lobed, fringed, sessile; capsule fusiform, 1-celled, 2-valved, opening at the top; seeds ovate.—Root perennial; stems many, mostly simple; flowers terminal and axillary, blue.

1. Ericala verna. 

Spring bastard-felwort.

Stems many, simple, 1-flowered; leaves ovate, acute; radical leaves crowded, large; corolla hypocrafteriform, longer than the stem, 5-cut.

- Gentianella serrata a, *Lamarck Fl.* Fr. 2, 294.

Spring alpine felwort.
Barren mountains; perennial; April.
Root creeping; stem short, branched at bottom, 4-angular above; flowers terminal; corolla deep blue, tube whitish green; lobes crenate.

Stems many, simple, 1-flowered; leaves ovate, blunt; radical leaves crowded, imbricate, smaller than the others.

Stem branched; branches alternate, 1-flowered; stem leaves lanceolate; corolla funnel-shaped, 5-cut.

III. 93. **ERYTHALIA.** Renealm.

*Erythalia.*

Calyx bellshape, 4 or 5-cut; corolla hypocrateriform, 4 or 5-lobed, edge not cut, with a many-cut scale or paraphyllum at the base of each lobe; stamens 4 or 5, distinct; styles 2; stig mata clubshape; capsule 1-celled; seeds ovate, not margined.—Root annual; leaves and lobes of the calyx minutely cartilaginously serrated at the edge; flowers fascicled, rather umbel lled.

Calyx 4 or 5-lobed; lobes equal; leaves ovate, lanceolate.

Chalky pastures; annual; August.
Root fusiform, twisted; stem upright, branchy above; leaves ovate, 3-ribbed; peduncles 1 or 2-flowered; tube of the corolla white, limb purple.

b. quadrifida. Corolla 4-cut.


γ. praecox. Flowering in April or May.

Gentiana fugax verna, seu praecox, Raîi Syn. 275, 3.

δ. multiplicata. Flowers double; lobes inflected.

2. Erythalia campestris. Field erythalia.

Calyx 4-lobed; 2 outer lobes larger, ovate, spearshape, overlapping the other 2; edge of the lobes of the calyx and of the leaves cartilaginous and minutely serrated.

Gentiana pratensis, flore lanuginoso, Raîi Syn. 275, 1.


Gentiana Amarella, Lamarck Fl. Fr.

Gentiana Amarella, Allioni Pedem. 353.

Erythalia campestris, Brockh. in Rœm. Arch. 1, 26.

Hippon campestre, Schmidt in Rœm. Arch. 1, 17.

Gentianella tetandra, Moench Meth. 482.

Chalky pastures and hills by the sea; ann.; September.

Stem 9 in. high, rather branchy; calyx appearing as if enclosed in 2 bracteae.

IV. 94. ERYTHRÆA. Renealm. Centory.

Calyx 5-sided, 5-cut; corolla funnelshape; tube cylindrical; mouth denticulated; limb 5-cut; stamens 5, equal, exserted, declined; anthers distinct, after the anthesis spirally twisted; style 1; stigma capitiate, 2-parted; capsule linear, 1-celled.—Flowers rose-coloured, in bundles, terminal or axillary.


Stem long, forked; leaves ovate, oblong; radical leaves crowded; flowers sessile, panicled, girt at the base with 1 or 2 scales; calyx shorter than the tube.

Centaurium minus, Raîi Syn. 287, 1.

Centaurium parvum, Ger. Fl. 947, 1.

Centaurium minus vulgar, Park. 272.

Gentiana Centaurium, Lin. S. P. 332.

Chironia Centaurium, Curtis Fl. Lond.

Centaurium vulgar, Rafinesque.

Chironia pulchella, Salisb. Prodr. 334.


Dry pastures; annual; July and August.
Root branched; stem 12 in. high, 4-angular, branched at bottom; leaves 3-ribbed, smooth.

\[\text{\textlt{\textsect} quadrijfida. Corolla 4-cut.}
\]

\[\text{\textlt{\textsect} alba. Corolla white.}
\]

2. Erythrea littoralis. Shore centory. Stem simple, stiff; leaves linear, obovate; lobes of the calyx subulate; flowers sessile, corymbose, capitate.


Erythrea conferta, Persoon Syn. 1, 283?

Northern sea-shores; annual; June.

\[\text{Stem 3 in. high; style scarcely declined.}
\]

3. Erythrea pulchella. Pretty centory. Stem short, much branched; leaves ovate; lobes of the calyx awlshape, little shorter than the tube of the corolla; flowers erect, pedicelled.

Gentiana Centaurium \[\text{\textsect}\], Lin. S. P. 333.


Sandy sea-shores; annual; August and September.

\[\text{Stem 2 in. high, forked; leaves 3 or 5-ribbed.}
\]

V. 95. FRANQUEVILLIA. R.A. Salisbury. MSS.

Gentianella.

Calyx cupshape, rather angular, 4-cut; corolla hypocra-teriform; tube ovate; limb 4-cut, regular; stamens 4, short, upright; anthers straight, distinct, slightly exserted; style 1; stigma capitate; capsule 1-celled, 2-valved, open at top; seeds angular, dotted.—Flowers upright, terminal, loosely paniced or solitary, yellow, persisting; peduncles long.

\[\text{Franquevilia minima. Least gentianella.}
\]

\[\text{Stem rather forked; radical leaves roundish; stem leaves awlshape, connected at the base.}
\]

Centaurium palustre luteum minimum nostras, Rauli Syn. 286, 2.

Gentiana filiformis, Lin. S. P. 333.


Hippion filiforme, Schmidt in Römer Arch.

Bogs; annual; July.

\[\text{Roots fibrous; stem forked or simple, roundish, 2 in. high; peduncles 4-sided, 1-flowered.}
\]
VI. 96. CHLORA. Renealm.  
Yellow-wort,  
Calyx 8 or 10-sepaled; sepals lanceolate; corolla hypocrateriform; tube short; limb 6 or 10-parted; stamens 6 to 10; filaments short, inserted in the mouth of the corolla; anthers upright, exserted; styles 1, short, 2-cut; stigmata 2, 2-cut; capsule oblong, 1-celled, many-seeded; seeds ovate.—Stem forked at top; leaves connate at the base; flowers solitary, from the forks of the stem.

Chlora perfoliata. Thoroughleafed yellow-wort.  
Herb glaucous; radical leaves ovate, stellate; stem leaves 3-angular, acute, connate.

Centaurium luteum perfoliatum, Naii Syn. 287, 4.  
Centaurium luteum Lobelli, Ger. em. 547, 2.  
Centaurium minus luteum et perfoliatum non ramosum, Park. 271.  
Gentiana perfoliata, Lin. S. P. 335.  
Chlora perfoliata, Lin. Mont.  
Chironia perfoliata, Salisbury Prod. 137.  
Yellow centory.  

Chalk hills; annual; July and August.  
Root tortuous; stem 1 foot high.

VII. 97. SWERTIA. Linnaeus.  
Fellwort.  
Calyx 4 or 5 sepaled; corolla rotate; tube very short, not spurred; limb 5-parted; lobes lanceolate; glands 2, fringed, at the base of each lobe; stamens 4 or 5, shorter than the corolla; anthers versatile; style very short, 2-parted; stigmata 2; capsule ovate, 1-celled, 2-valved, many-seeded; seeds margined, wing not cut.—Flowers blue, axillary and terminal; peduncles often 1-flowered.

Swertia perennis. Perennial fellwort.  
Stem simple; radical leaves lengthened into a petiole; peduncles 4-sided, opposite; corolla 5-cut.

Swertia perennis, Lin. S. P. 328.  
Spotted gentian. Marsh gentian.

Alpine bogs; perennial; August.  
Root white; stem a foot high; flowers upright, purplish, spotted with black.
B. MENYANTHEÆ. Leaves alternate, mostly toothed, or ternate; aestivation inflected.

VIII. 98. LIMNANTHES. Stokes. Water-rose.

_Calyx_ 5-parted; _corolla_ rotate, limb spreading, 5-parted; edge of the lobes ciliated, base bearded; _stamens_ 5; _style_ short; _stigma_ 2-lobed, lobes crenate; _glands_ 5, hypogynous, alternating with the stamens; _capsule_ compressed, 1-celled, valveless, suture seedbearing, in 2 rows; _seeds_ compressed, edge winged; wings fringed.—Herb floating; _leaves_ alternate, peltate, rough underneath; _petiole_ dilated at the base, rather sheathing; _flowers_ yellow, axillary, in bundles; _peduncles_ 1-flowered.

**Limnanthes peltata.** Shield-leaf water-rose.
Leaves heartshape orbicular; edge not cut.

_Nymphaea lutea_ minor, _flore fimbriato_, _Rauí Syn._ 368, 2.
_Nymphaea lutea_ minima, _Ger. em._ 820, 5.
_Nymphaea lutea_ minor, _Park._ 1859.
_Menyanthes nymphoides_, _Lin. S. P._ 207.
_Villarsia nymphoides_, _Ventenat._
_Menyanthes natans_, _Lamarck Fl._ _Fr._ 208.
_Menyanthes nymphoides_, _Engl._ _Bot._ 217.
_Limnanthes nymphoides_, _Stokes Bot._ _Med._ _Mat._ 300.
**Fringed buckbean.** Less yellow water-lily. Dwarf water-lily.

Ditches and slow streams; perennial; July and August.
_Sem_ very long; _leaves_ dark green, sometimes spotted.


_Calyx_ 5-parted; _corolla_ funnel-shape; inside densely villous; limb spreading, bent back, 5-lobed; edge not cut; _stamens_ 5: _style_ 1, exserted; _stigma_ capitate, 2 cut; _capsule_ 1-celled, 2-valved; _seeds_ ovate, compressed, shining.—_Leaves_ ternate, petioloed; _base_ of the petiole dilated, rather sheathing; _scape_ many-flowered; _flowers_ spiked; _bractea_ 1 at the base of each peduncle.

**Menyanthes palustris.** Marsh buckbean.
_Menyanthes palustris, triphyllum latifolium et angustifolium_, _Rauí Syn._ 285, 1.
_Trifolium paludosum_, _Ger. em._ 1191; _Park._ 1212.
_Menyanthes trifoliata_, _Lin. S. P._ 208.
_Marsh clover. Marsh trefoil._

Watery places and spongy bogs; perennial; June, July.
Root black; stem ascending, branched at bottom; leaflets toothed, repand; flowers peduncled, flesh-colour. — Leaves extremely bitter, used instead of hops, and to destroy worms, as also in rheumatism and dropsy; they are also smoked.


Calyx 1-leafed, divided, persisting; corolla 1-petaled, hypogynous, regularly 5-lobed; stamens 5, inserted in the middle of the tube of the corolla, alternating with the lobes; ovary 1, free, 3-celled, many-seeded, girt at the base with an annular gland; style simple; stigmata 4; capsule 3-celled, 3-valved; dehiscence loculicidal; spermophore axile, 3-sided, angles opposed to the middle of the valves; seeds many, peritropal; spermodermis membranaceous; perisperm fleshy; corculum straight, transverse; radicle below; cotyledons elliptical, leaflike. — Stem herbaceous; leaves opposite or alternate; flowers terminal or axillary.

I. 100. POLEMONIUM. Dioscorides. Jacob’s ladder.

Calyx pitchershape, 5-cut; corolla bellshape, rotate; tube short; limb 5-lobed; stamens 5; filaments dilated, villous at bottom; anthers oval, incumbent; capsule 3-celled; cells 2-seeded; seeds angular. — Herb erect; leaves alternate, pinnate with an odd leaflet; flowers subcorymbose, terminal.

Polemonium vulgare. Common Jacob’s ladder.

Flowers upright; calyx longer than the tube of the corolla; root fibrous.


Limestone rocks; perennial; June.

Stem pubescent, angular; leaflets 14 to 17 pair, ovate, unequal at the base; corolla blue or white.

Calyx 5-cut, persisting; corolla 1-petaled, hypogynous, regular, 5-lobed; estivation imbricate, deciduous; stamens 5, on the corolla, alternating with the lobes; filaments distinct; anthers 2-celled, opening longitudinally; pollen granular, applied immediately to the stigma; ovaries 2; style 1; stigma 1, capitate; follicles 2, long, 1-celled or half 2-celled; opening longitudinally on the inner edge; seeds naked, often margined, on the edges of the follicles; spermoderm simple; perisperm fleshy; corculum straight; radicle above; plumule inconspicuous; cotyledons leaflike. — Shrubs or under-shrubs often twining, lactescent; leaves opposite, edge not in the least cut, often fringed with glands; flowers axillary or terminal.

I. 101. VINCA. Pliny. Pervinkle.

Calyx 5-parted; corolla salvershape; tube long; mouth slightly prominent, 5-sided; limb flat, 5-lobed; lobes blunt; anthers approaching; stigma annulate at the base; follicles upright, round, half 2-celled; seeds ovate. — Stem shrubby, diffuse; flowers solitary, axillary.


Stem procumbent; leaves oblong, lanceolate, edge bald; peduncles 1-flowered, solitary, axillary, longer than the leaves; teeth of the calyx lanceolate.

Vinca pervinca minor, Rau Syn. 268, 1; Ger. em. 894, 1.
Vinca pervinca vulgaris, Park. 380.
Vinca minor, Lin. S. P. 304.
Vinca ellipticifolia, Stokes Bot. Mat. Med. 495.
Vinca humilis, Salisb. Prod. 146.

Woods and coppices; perennial; May.

Rhizoma creeping; stem upright; leaves perennial; flowers alternate, violet; mouth white.


Stem upright; leaves ovate, edge fringed; peduncles one-flowered, solitary, axillary; teeth of the calyx bristlike, long.

Vinca q. Clematis daphnoides major, Raui Syn. 268, 2.
Clematis daphnoides, sive Pervinca major, Ger. em. 894.
Clematis daphnoides latifolia, seu Vinca pervinca major, Park. 381.
Vinca major, Lin. S. P. 304.
Pervinca major, Scop. Cern. 274.
Vinca grandiflora, Salisb. Prod. 146.
Vinca ovalifolia, Stokes B. M. M. 497.
Woods and coppices; perennial; May.

*Stem upright; leaves rough; flowers blue; follicles shining.*

Fam. XIII. 30. CONVOLVULACEÆ. De Candolle.

Convulvuli, Jussieu.

Calyx 5-lobed, persisting; corolla 1-petal, hypogynous, deciduous, limb 5-lobed; lobes regular; stamens 5, inserted at the base of the corolla and alternate with the lobes; ovary simple, 2 or 4-celled, rarely 1-celled or 2 or 4-parted, few-seeded, girt at the base with an annular gland; ovules definite; style 1, simple or divided; stigma obtuse or acute; capsule 2 or 4-celled, mostly valvular, rarely valveless or opening transversely; edge of the valves opposite to the dissepiments; seeds bony, affixed at the base of the inner angles of the dissepiments; perisperm mucilaginous; corculum curved; cotyledons corrugated; radicle below.—Stem herbaceous, rarely shrubby, mostly twining, milky, bald or simply pubescent; leaves alternate, mostly undivided, rarely 0; stipules 0; inflorescence axillary or terminal: peduncles 1 or many-flowered; bracteae usually 2 to each flower.

Corolla bellshape; calyx 5-parted;
bracteae 2, leaflike, embracing the calyx. Calystegia. 102.

Corolla bellshape; calyx 5-parted;
bracteae 0, or very small, distant .... Convulvulus. 103.

Corolla bellshape, tube naked;
plant leafless, parasitic .............. Cassytha. 105.

Corolla funnelshape, tube 4 or 5-scaled;
plant leafless, parasitic .............. Cuscuta. 104.

A. Convulvuli. Ovary 1; capsule mostly valvate; cotyledons wrinkled; plant leafy.

I. 102. CALYSTEGIA. R. Brown. 

Bindweed.

Calyx 5-parted, inclosed in a 2-leaved bractea; corolla bellshape, 5-plaited, 5-angled; stamens 5, nearly equal, shorter than the limb; ovary half 2-celled, 4-seeded; style undivided; stigmata 2, blunt, round or globular; capsule 1-celled.—Herb milky, bald, twining or prostrate; peduncles solitary, 1-flowered.
   Stem twining; leaves arrowshape, acute, barb blunt; bracteae half the length of the corolla; peduncle 4-sided, longer than the petiole.
   Convolvulus major, Rau Syn. 275, 1.
   Smilax lenis sive laevis major, Ger. em. 861, 1.
   Convolvulus major albus, Park. 163.
   Convolvulus sepium, Lin. S. P. 212.
   Convolvulus repens, Lin. S. P. 218.
   Convolvulus laetus, Salisb. Prod. 123.

   Damp hedges and holts; perennial; July and August.
   Root creeping; stem angular; leaves hanging down; flowers white, flesh or deep rose-coloured.

   Stem prostrate; leaves kidney-shape, rather fleshy; peduncles 4-angled, angles winged; bracteae blunt, the length of the calyx.
   Convolvulus maritimus Soldanella dictus, Rau Syn. 276, 5.
   Soldanella marina, Ger. em. 838, 1.
   Soldanella vulgaris, Park. 161.
   Convolvulus Soldanella, Lin. S. P. 236.
   Convolvulus asarifolia, Salisb. Prod. 123.

   Sandy sea-shores; perennial; July.
   Root creeping; stem short, few-flowered; leaves smooth; peduncles upright; flowers flesh-colour, plaits yellow; stigma 2-lobed; lobes 2-cut; seeds angular.

II. 103. CONVOLVULUS. Pliny. Convolvulus.

   Calyx 5-parted; bracteae 0, or 2, slender, distant from the calyx; corolla bellshape, 5-plaited, 5-angled; stamens 5, nearly equal; ovary 2-celled; cells 2-seeded; style undivided; stigma 2, threadshape; capsule valvate. — Stem twining, milky; peduncles solitary, 1 or few-flowered.

   Stem twining; leaves arrowshape; barbs and tip sharp; peduncles 4-sided, 1-flowered; bracteae linear.
   Convolvulus minor vulgaris, Rau Syn. 275, 2; Park. 171.
   Smilax laevis minor, Ger. em. 861, 2.
   Convolvulus arvensis, Lin. S. P. 218.
   Convolvulus sagittifolia, Salisb. Prod. 123.

   Fields and hedges; perennial; June and July.
Root creeping; stem angular; leaves rather bald; peduncles bracteated in the middle; flowers flesh-colour, sweet-scented.

2. *Convolvulus auriculatus.*

Leaves linear, hastate, pointed; barbs not nicked; peduncles 4-sided, 1-flowered; bracteae lanceolate.

*Convolvulus arvensis minimus*, Raii Syn. 276.
*Convolvulus auriculatus*, Lamarck Encyc. Meth. 540.

Hedges; perennial; June.

Leaves and flowers much smaller than those of *C. arvensis*.

B. *Cuscute.* Ovary 1; capsule opening tranversely, two-celled; corculum spiral; cotyledons 0; plant leafless, parasitic.


*Cuscuta* minor. Small dodder.

Flowers sessile; nectariferous scale crenate; stigmata pointed.

*Cuscuta major*, Raii Syn. 281.
*Cuscuta sive cassuthae*, Ger. em. 577.
*Cuscuta*, Park. 10.
*Cuscuta campanulata*, Stokes Bot. Mat. Med. 239.

Parasitic on heath; perennial; August.

Stem twisted: flowers crowded; calyx reddish; corolla white.—Herb purgative; but believed to partake, in some measure, of the virtues of the plants on which it grows.

IV. 105. *Cassutha.* Gesner.

*Cassutha* 5-cut; corolla bellshape, 5-cut; stamens 5; filaments inserted in the throat of the corolla, naked; stigmata 2, pointed; capsule cut round, 2-celled, 2-seeded.—Stem annual, leafless, twining, parasitic; flowers peduncled, aggregate, capitale; bracteae 1.
Cassutha major.

Flowers nearly sessile; stigmata pointed.

Cuscuta major, C. Bauh. Pin. 219, 3.

Cuscuta europaea, Lin. S. P. 180.


Parasitic on thistles and nettles; annual; August.

Stem bald; flowers transparent, reddish.

Fam. XIV. 31. BORAGINEÆ, Jussieu. Buglossinae, Link.

Calyx 5-cut; corolla hypogynous, 1-petaled, mostly regular, 5-cut, rarely 4-cut; mouth naked or with 5 scales; aestivation inbricate; stamens on the corolla, equal, alternating with the lobes, rarely 0; ovary 1, free, 4-parted, 4-seeded, or simple 2 or 4-celled; ovules definite, pendulous; style 1, on the gynobasis; stigma 2-cut; cariopsides 4, distinct or connate at the base; perisperm 0; corculum straight; radicle above; cotyledons leaflike. Herbaceous or shrubby; leaves alternate, mostly rough; hairs conical, usually not partitioned, stiff; often rough, filled with a grumous mass, dilated at bottom, placed on a cellular tubercle, often girl with cells at bottom, and very rarely with other partitioned hairs placed among the others; stipules 0; flowers mostly in a 1-sided spike, rarely panicked or corymbose, something axillary, solitary.

A. Cariopsides 4, topshape, distinct, 1-celled, imperforate at the bottom; gynobasis flat; mouth of the corolla pervious.

Corolla funnelshape; mouth naked; tube 2 or 3 times as long as the calyx ...... MERTENSIA. 114.

Cor. funnelshape; mouth naked; tube twice as long as the calyx ................. AEGONYCHON. 115.

Cor. funnelshape, mouth with 5 gibbous warts; as long as the calyx ........... LITHOSPERMUM. 116.

Cor. funnelshape; mouth hairy; calyx tubed, or 5-angular ...................... PULMONARIA. 113.

Cor. tubular; limb swelled, unequal; calyx 5-parted ................................. ECHIUM. 118.

B. Cariopsides 4, topshape, distinct, 1-celled, imperforate at the bottom; gynobasis flat; mouth of the corolla closed.

Cor. funnelshape; mouth closed with scales; cariopsides smooth ............... MYOSOTIS. 106.
Corolla rotate; mouth closed with radii; cariopsides wrinkled.......................... BORRAGO. 109.

C. Cariopsides 4, topshape, distinct, 1-celled, perforated at the bottom; gynobasis flat; mouth of the corolla arched.

Cor. funnelshape; arches upright; calyx 5-parted, in fruit upright........ Buglossa. 111.
Cor. funnelshape; arches upright; calyx 5-parted, becoming bellshape, drooping ......................... ANCHUSA. 112.
Cor. bellshape; arches awlshape, conical; calyx 5-parted................................. SYMPHYTUM. 117.

D. Cariopsides 4, depressed, distinct, 4-celled; perforated at bottom; gynobasis columnar; mouth of the corolla arched.

Calyx becoming compressed; lobes sinuated; cariopsides smooth ..................... ASPERUGO. 110.
Calyx 5-parted; cor. funnelshape; arches convex; cariopsides prickly ............ CYNOGLOSSUM. 107.
Calyx 5-parted; corolla rotate; cariopsides smooth, cyathiform .......... OMPHALODES. 108.

I. 106. MYOSOTIS. Dioscorides. Mouse-ear.

Calyx 5-cut, or toothed; corolla salvershape, mouth with short convex, connivent scales; limb 5-parted; lobes blunt or nicked; stamens enclosed; cariopsides 4, turbinate, one-celled, bald, smooth, imperforated at bottom; gynobasis flat, small.—Flowers spiked; spike 1-sided, before flowering revolute.

1. Myosotis sylvatica. Wood mouse-ear.

Leaves oblong, lanceolate, rather blunt, with soft hairs; racemes very long, loose; bracteae 0; pedicells in fruit spreading, rather longer than the calyx; calyx 5-cut, close; limb spread out, longer than the tube.

Myosotis scorpioides latifolia hirsuta, Dillen in Rait Syn. 229, 2.
Myosotis sylvatica, Pers. Syn. 1, 156.
Myosotis montana, Besser Prod. Pl. Gall. 1, 142.

Woods; annual; all the summer.

Roots fibrous; stems many, upright, divided at top into very loose racemes; leaves fringed; upper leaves embracing; lower leaves reverse-ovate.
2. Myosotis alpestris.  
*Alp mouse-ear.*  
Leaves lanceolate, rather pointed, slightly 3-ribbed, hirsute; bracteae 0; pedicells in fruit spreading, rather longer than the calyx; calyx 5-cut, close; hairs long, spreading; limb spread out, longer than the tube.

- Myosotis scorpioides f, Willd.
- Myosotis suaveolens, Willd.

Alpine rocks; perennial; July.

Stems many, upright, hairy, spreading at bottom, simple at top; racemes terminal, short, conjugate, solitary; flowers before estivation conglomerate.

3. Myosotis palustris.  
*Marsch mouse-ear.*  
Leaves reverse-ovate, lanceolate, blunt, rather rough; bracteae 0; pedicells in fruit diverging, twice as long as the calyx; calyx 5-cut, blunt, open; bristles straight, closely adpressed; limb spread out, longer than the tube.

- Myosotis scorpioides repens, *Park. 691.
- Myosotis repens, *Don. Cat.

Water scorpion-grass.

Damp fields and rivulets; perennial; July and August.  
*Plant* light green; stems many, rather creeping at bottom, upright, simple; racemes terminal, revolute before flowering, becoming upright.

*Cornfield mouse-ear.*  
Leaves oblong, lanceolate, pointed, hirsute; bracteae 0; pedicells in fruit spreading, twice as long as the calyx; calyx 5-cut, upright; bristles spread, hooked; limb upright, spreading, nearly as long as the tube.

- Myosotis scorpioides hirsuta, *Raii Syn. 229, 1; Park. 691.
- Myosotis lamosa, *Stokes B. M. M. 269.*

Mouse-ear scorpion-grass.
Dry fields; annual; June.
Root fibrous; stems many, branched; racemes terminal, revolute becoming upright and long.

Leaves lanceolate, rather blunt, hirsute; racemes 0; pedicells in fruit upright, spreading shorter than the calyx; calyx 5-cut, pointed; bristles spreading, hooked; limb spreading, shorter than the tube.

Barren sandy places; annual; June.
Stems one or many, middle stem upright, side stems ascending; racemes terminal, spikeshaped; flowers small, sky-blue or pale yellow.

Calyx 5-parted; corolla funnelshaped; tube short, mouth arched; arches convex, connivent; cariopsides 4, 1-celled, compressed, not perforated at bottom; outer side covered with glochidated prickles; affixed at the side of the columnar gynobasis.—Leaves tomentose or bald; flowers spiked or glomerate, axillary.

Stem upright, leafy; lower leaves broad, lanceolate, narrower at bottom; upper leaves broader at bottom, pointed, downy, nappy; racemes paniculate during flowering; bracteae 0; stamens enclosed.

Cynoglossum, Raut Syn. 226, 1.
Cynoglossum majus vulgare, Ger. em. 804, 1; Park. 511.
Cynoglossum maximum montanum, Park. 512.
Cynoglossum officinale, Lin. S. P. 1, 192.

Ruins and waysides; perennial or biennial; June.
Plant fastid; stem upright, branched above, from the axillae of all the upper leaves, ending in racemes; leaves grayish, waved; flowers drooping, 1-sided; corolla one-third longer than the calyx; tube white; limb bellshaped, veined.

b. album. Flowers white.

Stem upright; lower leaves rather spatulate, lanceolate; upper leaves embracing the stem, ovate, oblong, pointed; above rather bald, shining; beneath rough; bracteae 0; stamens enclosed.
Cynoglossum folio virenti, Rait Syn. 226, 2.
Cynoglossum minus folio virente, Ger. em. 805, 4.
Cynoglossum semper virens, Park. 512.
Cynoglossum officinale γ, Lin. S. P. 193.
Cynoglossum sylvaticum, Gmelin Baden. 1, 421.
Cynoglossum montanum, Lamark Illustr. 1794.
Cynoglossum Virginicum, Willd. S. P. 1, 762.
Cynoglossum viriense, Schreber Fl. Lips. 162.
Cynoglossum officinale, Lin. S. P. 193.
Cynoglossum Virginicum, Flooring 157.
Cynoglossum officinalis, Lin. S. P. 197.

Small green-leaved hounds-tongue.

Wayside; biennial; June.

Root fusiform; stems many, below simple, above branched; branches upright, spreading; leaves flat, above light green, bald; racemes terminal, drooping at top before flowering.

III. 108. OMPHALODES. Venus-Navelwort.

Calyx 5-parted; corolla rotate; mouth arched; arches short, connivent; limb 5-parted; lobes blunt; carpelli 4, 1-celled, compressed, smooth; edge membranaceous, often cyathiform; bottom not perforated; gynobasis columnar.

—Flowers spiked, glomerate.

Omphalodes verna. Spring Venus-Navelwort.

Leaves petioled, smooth; root-leaves ovate, heart-shaped; stem-leaves ovate; racemes conjugal, few-flowered.

Omphalodes verna, Mutch. Muth.
Omphalodes repens, Schrank.

Rocks at Teignmouth, Mrs. Turner; perennial; March and April.

Rhizoma creeping, buried; stems many; flowering stems simple, emitting stools at the bottom; bracteae 2; flowers peduncled, blue.


Calyx 5-parted; corolla rotate, mouth arched, arches blunt, nicked; anthers distinct, oblong or lanceolate; carpelli 4, 1-celled, top-shaped, imperforated at bottom; gynobasis small, flat.

Borrago officinalis. Shop Borage.

Lower leaves reverse ovate, narrowed at the base; lobes of the corolla ovate, pointed, spread out.

Borrago hortensis, Rait Syn. 228; Ger. em. 796, 1.
Borrago, Park. 249.
Borrago officinalis, Lin. S. P. 197.
Road-sides; annual;

Root fusiform; stem upright, hispid, branchy; branches upright, spreading; leaves hispid; flowers drooping; pedicells long, 1-sided. — Racemes terminal, short, bracteated; corolla skyblue; stamens and arches black.

β. alba. Flower white.

Borrago flore albo, Ger. em. 797, 2.

V. 110. ASPERUGO. Pliny.

Calyx round, deeply 5-cut, with teeth between the cuts, becoming long and compressed; lamellae flat, parallel, sinuated, toothed; corolla rather funnelshape, mouth arched; arches convex, connivent; filaments short; anthers rounded; stigma capitate; cariopsides 4, 1-celled, smooth, compressed, not perforated at bottom; gynobasis columnar.

Asperugo procumbens. Procumbent madwort.

Asperugo vulgaris, Rauii Syn. 228.
Aparine major Plinii, Ger. em. 1122, 2.
Borrago minor sylvestris, Park. 765.
Great goose-grass. German madwort.

Rich waste land; annual; April and May.

Root slender; stem procumbent, flagelliform, branchy, with small hooked spines; leaves in threes or fours, oblong, obtuse; rough above; rather baldish beneath; edges hairy, hooked; flowers from the side of the leaf, solitary, purplish.

β. alba. Flowers white.

VI. 111. BUGLOSSA. Dioscorides. Bugloss.

Calyx 5-parted; corolla funnelshape; mouth closed; arches upright, blunt; cariopsides 4, 1-celled, topshape, concave, perforated at bottom; gynobasis flat, small. — Flowers race-mose; fruit upright.


Stem upright, branchy; leaves lanceolate, half-embracing, subrepend, toothed, strigose, very rough; racemes leafy; calyx as long as the bent tube; lobes of the corolla unequal, lanceolate.

Buglossa sylvestris minor, Rauii Syn. 227, 1; Ger. em. 799, 3.
Buglossum sylvestre minus, Park. 765.
Lycopsis arvensis, Lin. S. P. 199.
Anchusa arvensis, Hoffm. et Link Fl. Lusit. 1, 179.
Small wild bugloss.
Way-sides; annual; June and July.

*Root* fusiform; *stem* upright or ascending, branched; *leaves* wavy; *hairs* sitting on tubercles; *racemes* terminal; *pedicells* short; *corolla* blue, finely veined with white.


*Stem* upright; *leaves* ovate, scarcely toothed, *hispid*; upper sessile; lower longly peduncled; *peduncles* axillary, 2-leaved; *racemes* conjugate, rather capitate; *lobes* of the *corolla* equal.

Buglossum latifolium sempervirens, Dillen in Rati Syn. 227, 2.
Borago sempervirens, Ger. em. 797, 3.
Anchusa sempervirens, Lin. S. P. 192.
Buglossum sempervirens, Allioni Pedem. 166.

Waysides; perennial; May and June.

*Stem* upright, extremely rough, bristles turned backwards; *leaves* pointed, rough on both sides, edges waved; *calyx* deeply 5-parted; *corolla* nearly rotate, blue; tube very short; limb horizontal, 5-parted; *lobes* rounded, equal; *foramina* of the cariopsides closed with a scale.

VII. 112. ANCHUSA. Hippocrates. Alkanet.

*Calyx* 5-cut or toothed, becoming bellshaped and inflated; *corolla* funnelshaped, 5-lobed; *lobes* equal; mouth closed; arches upright, blunt; *cariopsides* 4, 1-celled, turbinate, perforated at the base; gynobasis flat, small.—*Flowers* racemose; *fruit* drooping.

Anchusa officinalis.

*Leaves* lanceolate, *hispid*; *bracteae* ovate, lanceolate, as long as the *calyx*; *calyx* 5-cut, pointed.

Buglossa vulgaris, Ger. em. 798, 1.

Waste places by the sea; perennial; June and July.

*Stems* many, upright, branched at top; *leaves* pointed, not in the least cut; *flowers* sessile, imbricated; *spikes* terminal; *tube* of the *corolla* as long as the *calyx*, constricted under the limb; limb upright, spreading; *lobes* rounded: *mouth* closed with 5 upright arches.

2. *incarnata.* *Flowers* red, variegated.

γ. *alba.* *Flowers* white.
VIII. 113. PULMONARIA. Gesner.  

**Lungwort.**

Calyx 5-cut, prismatic, 5-sided, when in fruit bellshape; corolla funnelshape; mouth pervious, hairy; cariopsides 4; 1-celled, topshape, not perforated at bottom; gynobasis flat, small.

Leaves pubescent, hirsute, lanceolate; root-leaves petiolate; stem-leaves sessile, half embracing the stem.

Pulmonaria *folii echii,* RaIi *Syn.* 226, 1; Ger. *em. ed.* 2, 808.  
Pulmonaria *maculosa,* Ger. *em. ed.* 1, 808, 1.  
Pulmonaria *angustifolia,* Park. *Par.* 251, 2; *Lin. S. P.* 191.  
Pulmonaria *maculata b,* Stokes *Bot. Mat. Med.* 278.

*Bugloss* *coves-lips.* Long-leaved stage of Jerusalem.

Woods; perennial; May.  
Root branched, black; stem upright, roundish, simple; leaves pointed; hairs short, pressed to the stem; flowers pedicelled; *bracteae* lanceolate; racemes 2, terminal, in bundles.

*β. oblongata.* Leaves small, short, broad, and blunt.

2. *Pulmonaria officinalis.* Shop lungwort.  
Leaves rough; root-leaves ovate, cordate, petioled; upper stem-leaves sessile, ovate, oblong.

Pulmonaria *folii echii,* Ger. *em. ed.* 1, 808, 2.  
Pulmonaria *latifolia maculosa,* Park. 251.  
Pulmonaria *officinalis a,* *Lin. S. P.* 194.  
Pulmonaria *maculata y,* Stokes *Bot. Mat. Med.* 290.  
Jerusalem *cows-lips.* Spotted lungwort. Broad-leaved lungwort.

Woods; perennial; May.  
Stems many, simple, upright; leaves pointed; upper stem-leaves with short petioles; lower sessile, ovate, oblong; flowers purple, pedicelled, when in fruit drooping.—Yields a large quantity of ashes when burned.

IX. 114. MERTENSIA. Roth.  

**Mertens.**

Calyx deeply 5-parted; corolla rather funnelshape; tube much longer than the calyx; limb rather bellshape; lobes short, rounded; mouth pervious, naked; filaments as long as the tube; anthers oblong; stigma capitate; cariopsides 4; 1-celled, ovate, imperforate at the base; gynobasis flat, small. — Radical leaves growing after flowering; flowers racemose.
Mertensia maritima.  
**Sea mertens.**  
Stem procumbent, branched; leaves ovate, blunt, fleshy, bald, glaucous; calyx bald.

- Echium marinum, *Raii Syn. 228, 1.*  
- Buglossum dulce ex insulis Lancastriæ, Park. 765?

Pulmonaria maritima, Lin.  
- *Sea bugloss.*
  - Sea-shore; perennial; July.
  - Root fusiform; stems many, procumbent or ascending; lower leaves petioled; upper half-embracing the stem; racemes terminal, rather corymbose; flowers pedicelled, upright.—Narcotic.

X. 115. **ÆGONYCHON.**  
**Bastard-alkanet.**

Calyx 5-parted, shorter than the corolla; corolla funnellike; mouth naked, pervious; anthers oblong, enclosed; cariopsides 4, 1-celled, ovate, imperforate at the bottom; gynobasis flat, small.—Leaves not growing after flowering, not veined; flowers axillary, solitary; racemes leafy.

1. **Ægonychon repens.**  
Creeping bastard-alkanet.  
Stem herbaceous: barren stems creeping; flowering stems upright; leaves lanceolate, pointed, attenuated at the base, rough; cariopsides stony, smooth, bald.

- Lithospermum majus, *Ger. em. 609, 1.*
- Lithospermum vulgare majus, Park. 2131.
- Lithospermum violaceum, Lamarck Fl. Fr. 271.  
  - Great gromwell.  
  - Pearl plant.  
  - Lichwale.

Chalk woods; perennial; May.

- Root branched, black; stems many; middle stems upright; all the rest decumbent, simple; leaves stiff; petioles short; corolla violet or flesh-colour, rarely white; cariopsides white.

2. **Ægomychon arvense.**  
Field bastard-alkanet.

Stem herbaceous, upright, branched; leaves lanceolate, narrowed at the base, pointed, hirsute, rather fringed; calyx rather shorter than the corolla, spreading when in fruit; cariopsides wrinkled, rough.

- Buglossum arvense annuum, lithospermi folii, *Raii Syn. 227.*
- Anchusa degener facie millii solis, *Ger. em. 610, 4.*
- Lithospermum arvense radice rubente, Park. 432.
  - Bastard gromwell.  
  - Bastard alkanet.
Fields; annual; May and June.

Root branched, reddish; stems upright, above branched; hairs adpressed; leaves sessile; flowers sessile; corolla whitish yellow; cariopsides oval, white. — Root tinges oil red; juice of the root used to dye the face red.


Calyx 5-parted; lobes unequal, growing connivent; corolla nearly bell-shape; mouth nearly closed with 5 upright rotate tubercles; anthers nearly sessile, oblong; cariopsides 4, 1-celled, ovate, imperforate at the bottom; gynobasis small, flat. — Leaves veined; radical leaves not enlarging after flowering; flowers axillary.

Lithospermum officinale.

Shop gromwell.

Stem herbaceous, round, upright, very much branched; leaves broad, lanceolate, veined, pointed, very rough; tube of the corolla as long as the calyx.

Lithospermum seu milium solis, Rait Syn. 228, 1.

Lithospermum minus, Ger. em. 609, 2.

Lithospermum vulgare minus, Park. 492.

Lithospermum officinale, Lin. S. P. 189.

Lithospermum ochroleucum, Stokes Bot. M. M. 270.


Edges of fields; perennial; May.

Root branched; stem straight, much branched above; leaves nearly sessile, above dark green, below paler; flowers yellow; cariopsides smooth, bald.

XII. 117. SYMPHYTUM. Dioscorides. Comfrey.

Calyx 5-parted; corolla cylindrical, bell-shape, mouth closed; arches awl-shape, forming a cone; nuts 4, 1-celled, perforated at the base; gynobasis flat, small.


Stem simple; leaves ovate, oblong, narrower at the base; lower leaves petiolate; upper leaves sessile, rather decurrent.

Symphytum tuberosum, Ger. em. 806, 3; Lin. S. P. 195.

Moist shady places; perennial; July.

Root tuberous, creeping, white on the outside; stem divided at top into 2 peduncles; leaves not in the least cut, above hairy, beneath smoother and paler, much veined; racemes terminal, drooping.
2. Symphytum officinale. Shop comfrey.
   *Stem* branched, above winged; *leaves* ovate, lanceolate, narrower at the bottom, decurrent, above very rough, beneath hirsute; *calyx* pointed, hirsute.

   Symphytum magnum, *Raii Syn. 290, 1.*
   Consolida major, *Ger. em. 505, 2.*
   Symphytum major vulgare, *Park. 523.*

   Watery places; perennial. May.

   *Root* cylindrical, black; *stems* many, 3 feet high; *leaves* waved; root-leaves ovate; *racemes* terminal, conjugate, 1-sided, drooping, becoming upright; *corolla* bellied, white or yellowish.—*Root* astringent, glutinous, mucilaginous; the decoction extracts the colour from seed lac; *leaves* flavour cakes and panada; shoots a good pot-herb.

   3. purpureum. *Corolla* purple or reddish; *calyx* expanding, shorter than the tube of the corolla.

   Consolida major flore purpureo, *Ger. em. 806, 1.*
   Symphytum patens, *Sibthorpe Fl. Ox. 70.*

XIII. 118. ECHIUM. Dioscorides. Vipers-bugloss.

   *Calyx* 5-parted; *corolla* funnelshape or bellshape; mouth enlarged, naked; lobes mostly unequal; *nuts* 4, 1-celled, topshape, rough, imperforate at bottom; gynobasis small, flat.—*Stem* herbaceous.

   1. Echium Italicum. Italian vipers-bugloss.

   *Stem* simple, stiff; *leaves* linear, lancedate, strigose, hispid; *racemes* very long, spike-like; spikelets 2-cut, short; *flowers* close; *lobes* of the corolla nearly equal; *stamens* twice as long as the corolla.

   Echium q. *Lycoptis, Raii Syn. 297, 2.*
   *Lycoptis, Park. 519.*
   *Echium altissimun, Jarg. Fl. Austr. 5, 33.*
   Wall bugloss.

   Sandy grounds, Jersey; biennial? July.

   *Stem* simple or many, upright, 4 feet high, spotted with dark purple; *flowers* sessile, imbricate, 1-sided, in many spikelets; *corolla* whitish.
2. Echium vulgare.  
Common vipers-bugloss.
Stem mostly simple, tubercular, hispid; leaves linear, lanceolate, hispid; racemes terminal, spikeshaped, very long; spikelets simple, spreading; stamens longer than the corolla.

Echium vulgare, Raui Syn. 217, 1; Ger. en. 802, 2; Park. 414; Lin. S. P. 200.

Fields and wastes; biennial; June and July.
Root branched, thick; stems many, simple, upright; leaves hispid; flowers imbricate; spikes short, axillary; pedicells upright, spreading.—Root chewed, used as a poultice in venemous bites.

3. violaceum.  
Stem branched from the bottom, spreading and often decumbent; stamens very long.

Echium alatum, sive lycopsis Anglica, Diller in Raui Syn. 228, 3.
Echium vulgare 2, Hudson Fl. Angl. 83.
Echium violaceum, Schmidt Fl. Bohem. 203, 3.

γ. album.  
Corolla white.

Fam. XV. 32. LABIATÆ. Jussieu.  
Stachydeae, R. A. Salisbury.

Calyx 1-leafed, tubular, persisting, 4 or 5-cut; corolla lipped, ringent, or irregular; stamens 2 or 4, often didynamous, inserted on the corolla; ovary 1, free, 4-lobed; style 1, on the receptacle or gynobasis, between the lobes of the ovary; stigma mostly 2-cut; microbasis (carioseides 4) at the base of the calyx; perisperm 0; corculum straight; radicle below; cotyledons flat.—Stem herbaceous, rarely shrubby, 4-sided; hairs distinctly partitioned; leaves opposite; flowers mostly in bundles, disposed in close panicles forming spurious whirls, rarely solitary, sometimes terminal and capitulate, bracteate.

a. Stamens 2, corolla not lipped.

Upper lobe of corolla nicked .............. Lycopus. 119.

b. Stamens 2; corolla lipped; filaments 1-toothed.

Galea arched; filam. toothed in the middle Salvia. 147.
Galea arched, not compressed ...... Horminum. 149.
Galea compressed ................. Sclarea. 148,

Galea arched; filam. toothed in the middle Salvia. 147.
Galea arched, not compressed ...... Horminum. 149.
Galea compressed ................. Sclarea. 148,

Calyx 5-cut, slightly hairy; upper lobe of the corolla nicked .............. Mentha. 120.
Calyx 5-cut; mouth hairy; upper lobe of the corolla not nicked ............ Pulegium. 121.

d. Stamens 4; upper lip of the corolla truncated.
Corolla truncated above, 2-toothed; cariopsides reticulated ............... Bugula. 122.
Corolla above deeply cut; calyx-teeth rather unequal ................ Chamædrys. 123.
Corolla deeply cut above; upper tooth very broad .................. Scorodonia. 124.

e. Stamens 4; corolla 2-lipped; lips distant; calyx irregular, not lipped.
Galea slender, spread, 2-parted; calyx spread ....................... Lavandula. 125.
Galea slender; mouth toothed on each side; anthers hirsute ........... Lamium. 132.
Galea slender, mouth 2-toothed below; anthers bald .................. Galeopsis. 134.
Galea slender, mouth not toothed; sarcoma round the ovary; anthers coherent .................. Glechoma. 131.
Galea slender, mouth not toothed; sarcoma 0; middle lobe of the lip rounded, concave .................. Nepeta. 126.

f. Stamens 4; corolla 2-lipped; lips distant; galea slender; mouth not toothed; sarcoma 0; middle lobe of the lip flattened or deflected; calyx irregular, not lipped.
Bracteæ 0; calyx baldish on the inside; tube of corolla short, rather gibbous ...... Stachys. 128.
Bracteæ 0; calyx baldish on the inside; tube long, curved, not gibbous .......... Betonica. 127.
Bracteæ 0; calyx bald on the inside; tube short; lip obtusely 3-lobed ............ Trixago. 129.
Bracteæ 0; calyx bald on the inside; tube short; lip acutely 3-lobed; anthers bald Galeobdolon. 133.

Bracteæ 0; calyx bald on the inside; tube short; lip acutely 3-lobed; anthers spotted ................... Cardiaca. 135.
Bracteæ 0; calyx woolly inside, enlarged above; tube short ............. Eriostomum. 130.
Bracteæ 0; calyx bearded inside, cylindrical; tube middling long ................. Satureja. 143.
Bracteated; calyx bearded inside, cylindrical; flowers densely spiked........... Orig anum. 138.

g. Stamens 4; corolla 2-lipped; calyx regular, not 2-lipped.
Galea not cut; lip unequally 3-lobed .... Ballota. 136.
Galea 2-cut; calyx 10-toothed .... Marrubium. 137.

h. Stamens 4; corolla 2-lipped; calyx 2-lipped, 5-cut; filaments not 2-forked.
Involucrum from the secondary bracteæ;
calyx bald inside; galea nicked .... Clinipodium. 144.
Involucrated; flowers densely spikes;
calyx cylindrical, inside bald ........... Majorana. 139.
Invol. 0; calyx cylindrical; middle lobe of the lip of the corolla not cut ........... Thymus. 140.
Invol. 0; calyx cylindrical; middle lobe 2-cut .................. Calamintha. 142.
Invol. 0; calyx gibbous at the base ...... Acinos. 141.
Invol. 0; calyx enlarged above ........... Melissa. 145.

i. Stamens 4; corolla 2-lipped; calyx 2-lipped, 5-cut; filaments 2-forked.
Stigma 2-cut ....................... Brunella. 150.

k. Stamens 4; corolla 2-lipped; calyx 2-lipped, 2 to 4-cut.
Calyx 3 or 4-cut ...................... Melittis. 146.
Calyx 2-cut ......................... Scutellaria. 150.

Calyx 4 or 5-cut, irregular, not 2-lipped; mouth naked;
corolla not lipped, tubular or 4-cut; upper lobe naked;
stamens 2, diverging; ovary girt by a yellow gland, or sarcoma.—Hairs distinctly partitioned, joints short, not swelled at the base; flowers axillary, sessile, in spurious whirls.

 Stem rather hairy; leaves oval, lanceolate, usually sinuate, serrated, rather hairy.
Lycopus riparius, Salisb. Prod. 72.

Water horehound. Bank-sides by water; perennial; July to September.
Stem upright; leaves petioled; calyx downy; corolla whitish purple; lower lobes spotted on the inside, sometimes with 2 filaments, which rarely have barren anthers.—Root astringent; juice strains the flesh brown, gives a durable stain to linen, woollen, and silk; and dyes a black with green vitriol.

L. incisus. Leaves deeply divided, nearly pinnatifid.

II. 120. MENTHA. Theophrastus. Mint.

Calyx 5-cut, irregular, not 2-lipped; inside bald or slightly hairy; corolla little longer than the calyx, 4-lobed; lobes nearly equal; upper lobe nicked; stamens 4, didynamous, diverging.—Rhizoma creeping; herb odoriferous.

Leaves heartshape, lanceolate, unequally toothed, serrate; tomentose beneath; racemes terminal, oblong; bracteae awl-shape; calyx villous; hairs longer than the breadth of the segments; stamens exserted.

Mentha spicata a. Menthastrum spicatum folio longiore candicante
J. Bauhini, Raii Syn. 234, 5.
Mentha sylvestris, Lin. S. P. 804.
Mentha sylvestris a, Huds. Fl. Angl. 250.
Mentha villosa 1, Sole Menth. Brit. 3.
Mentha tomentosa, Stokes Bot. M. M. 312.
Mentha candidans, Miller Dict.

Damp rubbish and road-sides; peren.; Aug. and Septem.
Stem tomentose; hairs deflexed; upper leaves lanceolate, pointed; racemes compounded of whirls, many-flowered; peduncles hairy; hairs closely deflected; bracteae the length of the flowers.—Aromatic.
2. Mentha villosa.  
**Villous mint.**
Leaves ovate or elliptical, wrinkled, unequally serrate; villous beneath; racemes terminal; bracteae awlshape; calyx rather hirsute; hairs straight; lobes triangular, awlshape; stamens as long as the corolla.

Mentastrum, Ger. em. 684, 3. Figure only.
Mentha sylvestris, Fl. Dan. 484.
Mentha villosa 2, Sole Menth. Brit. 610.
Mentha nemorosa, Willd. S. P. 375.
Mentha sylvestris β, Smith Fl. Brit. 610.

Road-sides; perennial; August and September.

Stem purplish at bottom; leaves sessile or with short peduncles, pointed; racemes narrow; sinuses of the calyx blunt.

β. candicans. **Leaves short; spikes blunt.**
Mentha candicans, foliis, spicis et odore vulgari sativae similis, Raib Syn. 294, 5.*

γ. alopecuroides. **Leaves elliptical, broad, blunt.**
Mentha alopecuroides, Hull Br. Fl. 126.
Mentha rotundifolia, Sole Menth. Br. 9.

3. Mentha rotundifolia.  
**Round-leaved mint.**
Leaves elliptical, blunt, wrinkled, crenate, pilose above, tomentose beneath; racemes terminal, hirsute, interrupted; bracteae lanceolate, hirsute; lobes of the calyx awlshape, triangular, fringed; fringe shorter than the breadth of the lobes.

Mentha spicata q. mentastraum folio rugoso rotundior spontaneum, flore spicato, odore gravi J. Bauhini, Raib Syn, 294, 6.
Mentastrum, Ger. em. 684, 3, description.
Mentha crispa, Lin. S. P. ed. 1, 446.
Mentha rotundifolia, Lin. S. P. 305.
Mentha sylvestris, Sole Menth. Br. 7, 3.

Rubbish; perennial; August and September.

Stem 3 feet high, pilose, hairs deflexed; leaves sessile, acutely crenated; lower leaves elliptical, oblong; racemes panicled; whirls rather remote; hairs of the pedicells deflexed; stamens exerted.—Odour peculiar, stimulant; of great use in chlorosis, and in removing the dull languor after epileptic fits.

β. variegata. **Leaves variegated with green.**
Mentastraum niveum Anglicum, Ger. em. 684, 4.

**Glomerated mint.**
Leaves ovate, petioled; terminal whirls rounded; pedicells hispid backwards; calyx hirsute on every side.
Mentha spicata, Sisymbrium hirsutum Doodle, Rauii Syn. 233, 7.
Mentha (spicata) aquatica seu Sisymbrium, Rauii Syn. 233, 6; Ger. em. 684, 2.
Mentha hirsuta, Lin. Mant. 81.
Mentha aquatica, HUDS. Fl. Angl. 252, a, b.

Water Mint.

Watery places; perennial; August and September. Very variable in form.

Flowers capitate; leaves pubescent; stem hirsute, hairs deflected, pressed to the stem; stamens longer than the corolla; bracteae lanceolate, hirsute; peduncles very hirsute; hairs white, reflexed; calyx furrowed.—Stimulant; used in sauces as a carminative, odour peculiarly grateful.

β. aurantiaca. Flowers capitate, head and leaves smaller and rounder than the preceding; odour like that of oranges.

Mentha (spicata) sisymbrium dicta hirsuta, glomerulis ac foliis minoribus et rotundioribus, Dillen in Rauii Syn. 233, 8.

γ. piperita. Flowers capitate; leaves nearly bald; stamens shorter than the corolla.

Mentha nigricans, Miller’s Dict.
Mentha piperita, Lin. S. P. 805.
Mentha piperita β, HUDS. Fl. Angl. 251.

δ. palustris. Flowers spiked or capitate; spike leafless; lower whirls peduncled; leaves hairy, pale beneath.

Mentha spicata q. menthastri aquatici genus hirsutum, spica latiore J. Bauhini, Rauii Syn. 234, 4.
Mentha aquatica, Miller Dict.
Mentha palustris, Sole Menth. 13, 6.

ε. paludosa. Flowers spiked, in whirls; whirls close together; stamens as long as the corolla; odour like marjoram.

Mentha paludosa, Sole Menth. 49, 22.

ζ. sativa. Flowers in whirls; whirls peduncled; stamens longer than the corolla, or variable; leaves hisurate.

Mentha verticillata; varietas hirsutie foliorum discrepans, Rauii Syn. 232, 4.

Mentha verticillata, Lin. S. N. ed. 10, 1099; HUDS. ed. 1, 222.
Mentha sativa, Lin. S. P. 805.
Mentha rivalis, β, γ, et δ, Sole Menth. 45.

η. glabra. Flowers in whirls; leaves roundish, bald.

Mentha aquatica verticillata glabra, rotundior folio, Dillen in Herb. Sherard.
6. **Mentha exigua.** Flowers in whirls, very small; odour very fragrant.


5. **Mentha acutifolia.** *Sharp-leaved mint.*

Leaves ovate, lanceolate, pointed at both ends, unequally serrate; flowers in whirls; whirs sessile; calyx covered with hairs; pedicels hairy; hairs horizontal; stamens shorter than the corolla.

*Mentha verticillata, Miller Dict.*
*Mentha acutifolia, Smith T. L. S. 5, 203.*

Edges of fields; perennial; September.

*Stem* nearly simple; hairs deflexed; petioles short; leaves not serrated at top and bottom; *whirls* nearly equal, many-flowered; *bracteae* linear; calyx tubular; hairs ascending; mouth of the corolla hairy.

6. **Mentha arvensis.** *Field mint.*

*Stem* very branched; *leaves* in whirls, ovate or elliptical, rather blunt; flowers in whirls; *calyx* bell-shape, hisrate in every part; *hairs* horizontal.

*Mentha aquatica, Rafi Syn. ed. 1, 78.*
*Mentha (verticillata) seu calamintha aquatica, Rafi Syn. 232, 1.*
*Calamintha aquatica, Ger. om. 684, 2.*
*Mentha arvensis, Lin. S. P. 806.*

*Water calaminth.

Inundated sandy meadows; perennial; June to September.

*Stem* very diffuse; *leaves* petioled; *whirls* many-flowered, nearly sessile; *bracteae* lanceolate; pedicels bald at bottom, very hairy at the tip; *calyx* short; corolla hairy within; stamens exserted.

3. **Mentha major.** Leaves broad; whirils and flowers large; stamens exserted; odour grateful.

*Mentha arvensis major, Sole Menth. Br. 29, 9.*

4. **Mentha praecox.** Stem erect; *leaves* recurved, elliptical; *flowering* early; corolla slightly hairy on the outside; stamens enclosed.

*Mentha praecox, Sole Menth. Br. 31, 13.*

5. **Mentha gentilis.** Leaves short, broad, round; stamens enclosed; odour like basil.

*Mentha verticillata arvensis folio rotundiore, odorae aromatico, Rafi Syn. 232, 3.*
*Mentha gentilis, Miller, Dict.*

6. **Mentha agrestis.** Stem upright; leaves very broad, nearly heart-shape; veins very strong, parallel; stamens enclosed.

*Mentha agrestis, Sole Menth. Br. 33, 14.*
b. Calyx bald at the base.

   Stem upright, very much branched; leaves lanceolate, acute, serrated, nearly sessile; flowers in whirls; peduncles and base of the calyx quite bald.
   Mentha (verticillata) fascen sive vulgaris, Raiti Syn. 232, 51 Park. 31.
   Mentha gracilis, Sole Menth. Brit. 37, 16.

Red mint.

Watery places and damp fields; perennial; August.

Stem rough-sided, much branched in the middle; leaves light green, both sides slightly hirsute; whirls nearly sessile; bracteae lanceolate; calyx tubular, bell-shaped, purple; apex and teeth hirsute; stamens enclosed; odour like that of m. viridis.

8. Portionitis. Stem upright, nearly smooth, dark brown; leaves smooth, long, narrow, deep green; lower leaves with short peduncles; upper sessile; odour like basil.

Mentha cardiaca, Ger. en. 680, 4.

Heart mint. Heart wort.

   Stem very much branched, spreading; leaves ovate, blunt, serrated; flowers in whirls; pedicell and base of the calyx bald.
   Mentha gentilis, Lin. S. P. 805.

Watery places and ruins; perennial; August.

Stem upright, 12 inches high, rough; branches long; leaves petiolcd, light green, rather hirsute on both sides; whirls nearly sessile; bracteae lanceolate; calyx hairy above; stamens enclosed.


Mentha nivalis a, Sole Menth. Brit. 41, 49. 20

γ. variegata. Leaves variegated with yellow and white; whirls sessile, rarely pedicelled; pedicellis rarely slightly hairy; hairs deflexed.

Mentha variegata, Sole Menth. Brit. 43, 19.

Stem upright, flexuous, bald; leaves ovate, petioled, inciso-serrated; flowers in whirls; whisks peduncled; peduncles and calyx quite bald; teeth of the calyx hirsute.

Mentha verticillata, Raiti Syn. 232, 4.
Mentha sativa rubra, Ger. em. 680, 1.
Mentha crispa, Park. 31.
Mentha rubra, Smith Tr. Lin. Soc. 5, 205.

Edges of rivers; perennial; September.

Stem 6 feet high, slightly branched, bald; leaves dark green, shining; upper small and roundish; bracteae linear; pedicells shining; flowers rather large, bald.

β. crispa. Leaves crisped.

Mentha crispa verticillata folio rotundiore, Raiti Syn. 232, 4.*

γ. pratensis. Stem branched at the top, changing from pale green to dark brown; leaves harsh, wrinkled, hairy, deeply serrated, hanging down close to the stem.


Leaves petioled, heartshape, rather blunt, serrated, both sides naked; pedicells and calyx quite bald; flowers capitate; head quite blunt.

Mentha rubra, Miller Dict.
Mentha odorata, Sole Menth. Brit. 21, 9.
Bergamot mint.

Watery places; perennial; July and August.

Herb quite bald, reddish; stem upright, much branched; spikes terminal, very short, dense; lower whirl remote, slightly peduncled; bracteae bristlelike; calyx slender, furrowed; tube and teeth entirely bald; stamens included; odour like oranges.


Spike blunt, interrupted below; leaves petioled, rather ovate, nearly bald; calyx quite bald at the base; stamens enclosed.

Mentha piperata officinalis, Sole Menth. Br. 15, 7.

Watery places; perennial; August and September.

Stem 2 feet high, much branched; hairs recurved; leaves ovate, lanceolate, acute, serrated, dark green, pale beneath; spike solitary, long; lower whirl very remote, peduncled;
bracteae fringed; odour pungent; taste bitter aromatic.—Stem and leaves covered with glands containing a carminative and antispasmodic oil.

\( \beta. \) vulgaris. Leaves ovate, short, rather elliptical; spikes short, blunt, and like a head.


\( \gamma. \) hircina. Leaves heartshape, ovate, bald; spikes pointed, long; lower whirl very remote, pedicelled; taste virose, ungrateful.


**Green mint.**

Spikes interrupted, attenuated; leaves sessile, heartshape, lanceolate, pointed, naked; bracteae and teeth of the calyx rather hirsute.


Bogs; perennial; August.

Stem 3 feet high, upright, bald; leaves bald; spikes panicled, whirs remote; bracteae twice as long as the flowers; pedicells and calyx bald; odour aromatic, acrid.—A conserve of the leaves, as also the distilled water and distilled spirit prevent and stop nausea and vomiting: leaves used also as carminatives to season flatulent food; made into poultices, or in fomentations, used to dissolve coagulations of milk in the breasts, milk with which mint leaves are mixed not curdling nearly so soon as pure milk.

\( \beta. \) angustifolia. Leaves rather hirsute beneath; teeth of the calyx fringed, fringes short.


\( \gamma. \) ciliata. Leaves rather hirsute beneath; teeth of the calyx fringed; fringes long, very copious.


\( \delta. \) latifolia. Leaves broad, short, wrinkled; teeth of the calyx fringed; fringes short.

Mentha spicata glabra, latiore folio, *Dillen in Raii Syn.* 234, 3.
III. 121. PULEGIUM. Pliny.  

Calyx 5-cut, irregular, not 2-lipped, mouth closed with hairs when in fruit; corolla little longer than the calyx, 4-lobed, nearly equal; upper lobe not nicked; stamens di-dynamous, diverging.—Rhizoma creeping; herb aromatic; whirs pedicelled; bracteae 0.

Pulegium aromaticum.  
Leaves reverse ovate, oblong, blunt, rather crenate; flowers in whirls; pedicells and calyx tomentose; teeth of the calyx fringed.

Pulegium, Rail Syn. 235, 1.  
Pulegium regium, Ger. em. 671, 1.  
Pulegium vulgare, Park. 29.  

Inundated places; perennial; September.  

Stem prostrate, much branched, downy, creeping; leaves petioled, blunt; whirs many-flowered; pedicells hairy; hairs short, horizontal; corolla purple; tube white; stamens exserted.—Herb antispasmodic, used in hysterical diseases, in infusion, or as a distilled water: syrup of the juice used in hooping cough.

β. album. Flowers white.

γ. erectum. Stem upright; pedicells hairy; hairs slightly deflected.

Pulegium mas, Ger. em. 671, 2.  

IV. 122. BUGULA. Dioscorides.  

Calyx 5-cut, irregular, not 2-lipped; corolla tubular, upper lip or galea very short, truncated, 2-toothed; lower 3-lobed; middle lobe large, reverse heartshape; stamens exserted, ascending; anthers all alike, short, 1-celled; microbasis reticulated.—Hairs short, tranversely parted.

a. Flowers axillary, spiked; leaves broad; root creeping.

Stolones creeping; leaves oval, oblong, baldish; stems solitary.

Bugula, Rail Syn. 245, 1; Ger. em. 631, 1.  
Bugula vulgaris, Park. 245.  
Ajuga reptans, Lin. S. P. 785.  
Teucrium reptans, Salisb. Prod.  
Bugula reptans, Scopoli Carn.  
Woods and damp pastures; perennial; April and May.  
*Flowering stem upright, simple, rather hairy; leaves elliptic, blunt, repand; upper leaves sessile; bracteae not in the least cut; middle lobe of the corolla cut.*  

*3. hirsuta.* Stolones short; herb hirsute; stem roundish.  
Dry mountains.  

2. Bugula pyramidalis.  
*Pyramidal bugle.*  
Stolones 0; leaves oval and oblong, villous; root-leaves very large, reverse ovate, crenate; bracteae not cut; whirrs pyramidically crowded, many-flowered.  

*Ajuga pyramidalis, Lin. S. P. 785.*  
Scotch mountains; perennial; May and June.  
*Root tuberous; stem single; root-leaves many, petioled, blunt, repand; stem-leaves very few, short; bracteae oval, cut, coloured; spike close; corolla purple.*  

*Alpine bugle.*  
Stolones 0; stems many, simple; leaves reverse ovate, unequally toothed, rather hairy; stem-leaves nearly as large as the root-leaves; whirrs rather distant, many-flowered.  

*Bugula cautules alpina, Rau Syn. 245, 2; Park. 525.*  
*Ajuga pyramidalis, Huds. Fl. Angl. 248.*  
*Ajuga Genevensis, Withering Bot. Arr.*  
*Ajuga alpina, Lin. Mant. 80.*  
*Mountain bugle.*  
Mountains; perennial; June.  
*Lower bracteae cut; upper not cut, coloured.*  

b. *Flowers axillary, solitary; leaves slender, mostly 3-cut or toothed; root annual.*  
*Chamaepitys.*  

*Field bugle.*  
*Stem diffuse; leaves 3-cut, edge of the lobes not cut; flowers shorter than the leaves.*  

*Chamaepitys vulgaris, Rau Syn. 244, 1; Park. 283.*  
*Chamaepitys mus, Ger. cm. 523, 1.*  
*Teucrium Chamaepitys, Lin. S. P. 787.*  
*Bugula Chamaepitys, Scop. Corn 718.*  
*Ajuga Chamaepitys, Engl. Bot. 77.*  
*Teucrium arvense, Salisb. Prod. 16.*  
*Ground pine. Herb thy. Forget me not. Field cypress.*  
Sandy fields; annual; April and May.  
*Stem much branched; leaves 3-cut to the middle; lobes revolute; lower leaves undivided; flowers nearly sessile, yellow spotted with red.—Herb bitter, acrimonious, useful in gout, intermitting fevers, and jaundice.*  

*3. tridentata.* Leaves linear; edge not cut; tip 3-toothed.
V. 123. CHAMÆDRYS. Dioscorides. Germander.

Calyx tubular, gibbous at the base, 5-toothed; teeth lanceolate, upper broadest, 2 lowest slender; corolla ringent; galea truncated, deeply cut; lobes falcate, connate at the tip; lower lip 3-parted, lateral lobes long, middle lobe concave, very large, slightly 3-lobed; stamens 4, didynamous, exserted, ascending; microbasis, or cariopsides, smooth.—Flowers axillary.


Stem decumbent; leaves pinnatifid; lobes 3-cut; flowers peduncled, in threes.

Chamaedrys fœmina, Ger. em. 525, 2.
Tenerium Botrys, Lin. S. P.
Chamaedrys Botrys, Manch Meth. 383.
Female ground-pine.

Cultivated places; annual; June to August.

Stem 4-sided, branched; hairs horizontal; leaves petioled, many-cut, lobes cut; flowers in threes from the base of each leaf; calyx much swollen at the base; corolla purplish.

2. Chamaedrys officinalis. Shop germander.

Stem rather procumbent, villose; leaves wedgeshape, ovate, cut, crenate, hirsute, petioled; flowers in threes.

Chamaedrys vulgaris sen sativa, Rait Syn. 231, 1; Park. 104.
Chamaedrys major latifolia, Ger. em. 656, 1.
Chamaedrys minor, Ger. em. 656, 2.
Tenerium Chamaedrys, Lin. S. P. 790.
Tenerium veronicaefolium, Salisb. Prod. 76.
Chamaedrys officinalis, Manch Meth. 383.
Walt germander. English treacle.

Old walls; perennial; July.

Rhizoma creeping; stem ascending, branched, nearly 4-sided; lower half of the leaves not cut, growing narrow; calyx hairy; teeth downy, edged with white; corolla purplish.—Herb diuretic, emmenagogue and diaphoretic; its decoction in wine recommended in gout.


Stem diffuse, downy; leaves oblong, sessile, toothed, rather naked; flowers peduncled, in pairs.

Scordium, Rait Syn. 246, 1; Ger. em. 660, 1.
Scordium legitimum, Park. 111.
Tenerium Scordium, Lin. S. P. 790.

Bogs; perennial; July and August.

Stem procumbent, 4-sided, hairy; leaves toothed, serrated; flowers in twos or threes, peduncled; calyx hairy.

PL. ex cor. 32. LABIATÆ. 123. Chamaedrys. 369
VI. 124. SCORODONIA. Val. Cordus.  
*Wood-sage.*

*Calyx* tubular, bellied at the bottom, 2-lipped; upper lip not cut, ovate, upright; lower lip 4-toothed; 2 side teeth short; 2 lower teeth jutting forwards; *galea* truncated, deeply cut; lobes rounded; lip 3-cut, side-lobe oblique spread; middle lobe reverse heartshape; *stamens* 4, didynamous, exserted; *gynobasis* or *cariopsides* smooth. — 
*Flowers* racemose, terminal, yellow; *racemes* leafy.

*Scorodonia solitaria.*  
*Single-flowered wood-sage.*

*Stems* upright; *leaves* heartshape, rather downy, toothed, petiolod; *racemes* axillary, facing one way.

*Scorodonia* suo *Salvia agrestis,* Raii *Syn.* 245, 1; Ger. *em.* 662, 1.
*Scorodonia* seu *scordium alterum quibusdam et salvia agrestis,* Park. 111.
*Teucrium Scorodonia,* Lin. *S.* *P.* 789.
*Teucrium salviaefollium,* Salisb. *Prod.* 76.
*Scorodonia heteromalla,* *Mönch Meth.* 384.
*Scorodonia solitaria,* Stokes *B. M. M.* 3, 374.

*Wood sage.* Garlick sage.

*Woods and heaths; perennial; July.*

*Rhizoma* creeping; *stem* 4-sided, panicked, racemose; *leaves* wrinkled; *flowers* peduncled, yellow; *stamens* violet.

VII. 125. LAVANDULA. Gesner.  
*Lavender.*

*Calyx* tubular, ovate; outside many-ribbed; inside bald; edge not cut or but slightly toothed; *periphylleum* ovate, projecting; *corolla* tubular, long, bellied above; *galea* large, narrower than the lip, flat, 2-cut; lip 3-lobed; lobes equal, blunt; *stamens* 4, didynamous, from the side of the tube, convergent, enclosed.—*Stem* herbaceous or shrubby; *flowers* spiked, bracteated.

*Lavandula Tragi.*  
*Tragus’s lavender.*

*Leaves* sessile, lanceolate, linear, not cut, edge turned under; *spike* interrupted; *bractee* lanceolate.

*Lavandula major,* sive *vulgaris,* Park. 73.
*Lavandula Spica,* Lin. *S.* *P.* 800.

*Lavender spike.*

*Cultivated shrubby; June and July.*

*Stem* upright; *stem-leaves* scarcely turned under; branch-leaves turned under, airy underneath; hairs stellate; *bractee* brown; *flowers* violet, sweet-scented.—*Spikes* yield much essential oil in distillation, oil very sweet-scented, containing a large proportion of camphire; *flowers* nervine, antispasmodic, cephalic.
VIII. 126. NEPETA. Pliny: Catmint.

Calyx cylindrical, not 2-lipped, striated, dry, bald on the inside, 5-toothed; teeth unequal, upper tooth broadest; tube of the corolla long; mouth spreading; edge reflexed; galea slender, short, 2-cut; lip 3-lobed; side lobes short; middle lobe very large, concave, crenate; stamens 4, didynamous, exserted, converging.—Flowers verticillate spiked, or terminal panicked; peduncles many-flowered, bracteate.

Leaves petoled, heartshape, toothed, serrate; whils pedicelled; flowers spiked.

Nepeta major vulgaris, Rail Syn. 237, 1; Park. 38.
Mentha felina, seu cattaria, Ger. em. 682, 1.
Nepeta cattaria, Lin. S. P. 796.
Nepeta mollis, Salisb. Prod. 78.

Edges of chalky fields; perennial; July and August.
Herb very soft, sometimes woolly; stem upright; leaves wrinkled; spikes blunt, many-flowered; corolla white, lip spotted with red.—Odour aromatic, much liked by cats.

IX. 127. BETONICA. Pliny: Betony.

Calyx irregular, not lipped, 5-toothed; teeth unequal, awned; mouth hairy; corolla lipped; tube bent at bottom; galea upright, not cut; lip 3-cut; middle lobe deflexed at the sides; stamens 4, didynamous, short, not converging.—Stem simple; flowers terminal, spiked; true bracteae 0.

Betonica officinalis. Shop betony.
Leaves heartshape, crenate, rather hairy; hairs of the stem adpressed; calyx rather bald; galea not cut; middle lobe of the lip nicked.

Betonica, Rail Syn. 238; Ger. em. 714, 1.
Betonica vulgaris flore purpureo, Park. 614.
Betonica officinalis, Lin. S. P. 810.

Wood betony.

Woods; perennial; July and August.
Stem with rough and stiff bristles; leaves blunt, serratures broad; lower leaves petioled; spikes leafy; corolla purple or white.—Root emetic; herb sternutatory, also smoked as tobacco: formerly in high esteem as cephalic.
X. 128. STACHYS. Dioscorides.  

Wound-wort.  

**Calyx** irregular; not lipped, sometimes closed, 5-toothed; teeth awlshape, irregular, sometimes distorted; **corolla** lipped; tube short, gibbous, prominent; galea arched, nicked; lip 3-lobed, lobes reflexed sideways; **stamens** 4, didynamous, becoming reflexed sideways.—**Flowers** axillary or verticillately spiked; **true bracteae** 0.

1. *Stachys sylvatica.*  

Wood wound-wort.  

**Stem** solid; leaves heartshape, wrinkled, pointed, serrate, petioled; **whirls** 6-flowered.

*Galeopsis legitima* Dioscoridis, *Raii Syn.* 237, 1; *Park.* 908.  
*Galeopsis vernum* Ger. em. 709, 1.  
*Stachys sylvatica*, *Lin. S. P.* 811.  
Hedge nettle.  

Woods and hedges; perennial; July and August.  

**Rhizoma** rather creeping; **stem** simple; leaves dark green; **spike** ovate, interrupted; **calyx** hispid; **corolla** brownish blood-colour; **lip** white, spotted.  

β. minus. Leaves angular.  

*Galeopsis q. lamium sylvaticum spicatum foetidum, folio anguloso minus Plukeneti, Dillen in Raii Syn.* 237, 2.

2. *Stachys ambigua.*  

Doubtful woundwort.  

**Stem** pipey; leaves oblong, serrate, petioled; **whirls** 6-flowered.  


Fields in north of Scotland; perennial; September.  

**Rhizoma** creeping, white; leaves paler than those of *s. sylvatica*; **corolla** bright red; lip variegated; **teeth** of the calix lanceolate.

3. *Stachys palustris.*  

Marsh woundwort.  

**Leaves** heartshape, linear, lanceolate, rather bald, sessile, acutely serrated; **whirls** 6 to 10-flowered.  

*Sideritis Anglica strumosa radice, Raii Syn.* 242, 1; *Park.* 587.  
*Panax coloni*, Ger. em. 1005.  
*Stachys palustris*, *Lin. S. P.* 811.  
Clovins allheal. Clovins woundwort.  

Moist places; perennial; August.  

**Rhizoma** creeping; stolones becoming tuberous; **stem** rough; bristles deflexed; leaves silky above, woolly beneath; lower leaves slightly petioled; **spikes** dense, long; **corolla** purple, lip variegated.—**Herb** astringent, used to cure wounds by the first intention, by being bruised and applied to them; also in ointments.
XI. 129. TRIXAGO. Lonicerus.  

_Calyx_ irregular, not lipped, 5-toothed; teeth unequal; mouth nearly naked; _corolla_ lipped; tube not so long as the _calyx_; _galea_ arched, not cut; lip 3-lobed, middle lobe larger, blunt; _stamens_ 4, didynamous, becoming diverged sideways.—Flowers verticillate, spiked; _true bracteae_ 0.

_Trixago arvense._  
Leaves heartshape, blunt, crenate, rather hirsute; lower leaves petioled; upper leaves sessile.  

_Sideritis humilis lato obtuso folio, Rauis. 242, 2; Ger. em. 699, 5._  
_Sideritis hederula folio, Park. 587._  
_Stackys arvensis, Lin. S. P. 814._  
_Glechoma marriubasti, Villars Delph._  
_Trixago cordifolium, Manch Math. 398._

Fields in light soils; annual; July and August.  

Root fibrous; stem weak, branched; leaves 3-ribbed at the bottom, broadly crenate; teeth of the _calyx_ fringed; _corolla_ purplish.

XII. 130. ERIOSTOMUM. Link.  

_Base-horehound._  
_Calyx_ irregular, not lipped, 5-toothed; teeth unequal, spinose; mouth with long hairs; _corolla_ lipped, tube short; _galea_ arched, nicked; lip 3-lobed; middle lobe very large, reverse heartshape; _stamens_ 4, diverging.—Flowers verticillate, spiked; _true bracteae_ 0.

_Eriostomum Germanicum._  
Leaves narrow at bottom, silky above, woolly beneath; root leaves ovate; upper leaves acutely crenated.

_Stackys Fuchsii, Rauis. 239, 1; Ger. em. 695, 2._  
_Stackys major Germanica, Park. 48._  
_Stackys Germanica, Lin. S. P. 812._  
_Wild stinking horehound._

Fields and hedges in chalky soils; perennial; July.  

_Stem_ woolly, very soft; _leaves_ veined; _spikes_ leafy; _calyx_ very closely villose; _corolla_ purplish, very villous on the outside.

XIII. 131. GLECHOMA. Dioscorides.  

_Ground-ivy._  
_Calyx_ tubular, cylindrical, striated, naked on the inside, 5-cut, rather unequal, not 2-lipped, 3 upper teeth long, 2 lower short; _corolla_ tubular, tube twice as long as the _calyx_, bellied above; _galea_ distant, slender, 2-cut; lip 3-cut, side lobes narrow, middle lobe large, nicked; _an_
thers 4, bent, cohering in pairs; ovary girt with a sarcoma. —Herb creeping; hairs distinctly articulated; flowers axillary, peduncled.

**Glechoma hederacea.** Ivy ground-ivy.

*Leaves* heartshape or kidneyshape, crenate; *teeth* blunt.

Hedera terrestris, *Ger.* em. 856, 1.
Chamelema hederacea, *Aenth Meth.* 393.

*Althoof. Tun hoof. Cats foot. Gill go by the ground.*

Woods and hedges; perennial; April and May.

Herb downy; stem creeping, branches upright, flower-bearing; *leaves* petioled, spreading; flowers in whirls 3 or 4 together, blue.—Herb astringent, vulnerary, and pectoral, used to fine malt liquors; powder of the leaves used in cough, consumption, and jaundice; juice as an errhine useful in headache.

**b. parvifolia.** *Leaves* small, finely cut.

Calamintha folis eleanter dissectis, cauliculis erectionibus, brevioribus; foliis minoribus, *Dillen in Rait Syn.* 243, 3.

**γ. grandifolia.** *Leaves* heartshape, kidneyshape, large.

2. **Glechoma hirsuta.** Hairy ground-ivy.

*Leaves* heartshape, toothed; *teeth* acute; pedicells usually 3-flowered; *teeth* of the calyx awlshape; *filaments* bearing the anthers below the tip.

Calamintha q. hedera terrestris montana C. Bauhini, *Dillen in Rait Syn.* 243, 4; *Park.* 677.
Glechoma hederacea γ, *cordifolia,* *Stokes Bot.* M. H. 329.

Woods and hedges; perennial; April and May.

*Stem* 3 feet long, rougher and more hairy than the former; *teeth* of the leaves terminated by a white spot; flower large.

**XIV. 132. LAMIUM.** Pliny.

*Dead-nettle.*

*Calyx* bellshape, irregular, not 2-lipped; apex spreading, inside naked, 5-toothed; 1 upper slender, long; 4 lower nearly equal; *corolla* tubular, long; mouth inflated; edge reflexed; galea distant, slender, arched, not cut; lip 3-lobed; side lobes very short, with 1 or 2 bristlelike teeth; middle lobe reverse-kidneyshape, crenated; *anthers* hirsute. —*Flowers* in whirls, axillary.
1. Lamium album. **White dead-nettle.**  
Leaves ovate heartshape, pointed, acutely serrate, petioled; whirls 20-flowered.

*Lamium album*, *Raii Syn.* 240, 1; *Ger. em.* 702, 1; *Lin. S. P.* 809.  
*White archangel. Dead nettle.*

Ruins and waysides; perennial; May to September.  
*Rhizoma* creeping; *leaves* deeply serrated; *flowers* upright, white, rarely flesh-colour; *galea* villous; *calyx* bald, with a brown spot; *anthers* black.

2. Lamium maculatum. **Spotted dead-nettle.**  
Stem hirsute; *leaves* heartshape, wrinkled, pointed, hirsute, broadly serrate; whirls 10-flowered.

*Lamium maculatum*, *Lin. S. P.* 809.  
Banks; perennial; April.  
*Stem* ascending; *hairs* deflexed; *petioles* long; *root leaves* with a white spot; *flowers* large, purple or white; *galea* irregularly crenated; *anthers* tawny.

3. Lamium purpureum. **Purple dead-nettle.**  
Leaves heartshape, blunt, petioled, toothed; teeth blunt and unequal; upper leaves crowded; whirs 8 or 10-flowered; *tube* of the corolla bearded on the inside at the bottom; *galea* not nicked.

*Lamium rubrum*, *Raii Syn.* 240, 2; *Ger. em.* 703, 3.  
*Lamium purpureum*, *Lin. S. P.* 809.  
*Lamium nudum*, *Mach Meth.* 393.  
Small dead nettle. *Red archangel.*

Ruins and waste places; annual; May to September.  
*Stem* bald, branched at bottom; *leaves* unequally crenated; *flowers* purple or white; *anthers* red; *calyx* bald; teeth fringed.—This, as well as the 1. album, is used as a pot-herb.

*Integrum.* *Leaves* not cut; *flowers* small.

*Lamium rubrum* foliis per ambitum nec serratis nec crenatis, flore minore, *Prof. Martyn's MS.*

4. Lamium incisum. **Cut-leaved dead-nettle.**  
*Leaves* heartshape, dilated, petioled, acutely and unequally cut; upper leaves crowded; *tube* of the corolla bald on the inside, slenderer than the calyx.
Lamium rubrum minus, foliis profunde incisis, Rati Syn. 240, 3.
Lamium incisum, Wild. S. P. 89.
Lamium dissectum, Withering Bot. Arr. ed. 3.

Kitchen-gardens; annual; May.
Stem branched at bottom; leaves cut, lobes pointed; flowers small, purplish.

5. Lamium ampléxiaule. Stem-embracing dead-nettle. Floral leaves sessile, embracing the stem, blunt, crenate or cut; tube of the corolla slender.
Lamium folio caulem ambiente majus et minus, Rati Syn. 240, 4.
Alsine Hederula altera, Ger. em. 616, 4.
Alsine Hederulae folio minor, Park. 762.
Lamium ampléxiaule, Lin. S. P. 809.
Henbit. Great henbit.

Sandy fields; annual; February to June.
Lower leaves petioled, heartshape, bluntly and deeply serrated; upper leaves heartshape, sessile, 5-lobed; lobes crenated; flowers rose-colour; early flowers very short, barren; later flowers 4 times as long as the calyx, fertile.

XV. 133. GALEOBDOLON. Dioscorides. Archangel.
Calyx bellshape, 5-cut; teeth 5, unequal, pointed; 2 lower teeth narrow; tube of the corolla longer than the calyx, 2-lipped; galea arched, not cut; lip 3-cut; lobes broad, pointed, middle lobe longest; anthers bald.

Galeobdolon luteum. Yellow archangel.
Leaves ovate; involucrum 4-leaved.
Lamium luteum, Rati Syn. 240, 5; Ger. em. 702, 2; Park. 606.
Galeopsis Galeobdolon, Lin. S. P. 810.
Leonorus Galeobdolon, Scop. Carn. 703.
Lamium Galeobdolon, Crant. Austr. 292.
Policchia Galeobdolon, Roth. Germ. 1, 254.
Galeobdolon Galeopsis, Curtis Fl. Lond.
Galeobdolon vulgar, Persoon Syn. 122.
Cardiaca sylvatica, Lamarck Fl. Fr. 384.
Yellow dead-nettle. Weasel snout.

Damp meadows and woods; perennial; May.
Stem erect, simple; hairs deflexed; leaves petioled; whirls many-flowered; calyx bald; teeth hairy; corolla yellow; mouth spotted with red.

β. montanum. Upper leaves lanceolate; involucrum 6 or 8-leaved.
γ. regulare. Terminal flower salvershape, 6-cut.
PL. ex. cor. 32. LABIATÆ. 134. Galeopsis. 377

XVI. 134. GALEOPSIS. Dioscorides. Hedge-nettle.

Calyx bellshape, irregular, not lipped, 5-toothed; teeth rather spinose; mouth bald; corolla lipped, tube longer than the calyx; galea arched, crenate; lip 3-lobed; middle lobe broadest, with a tooth on each side between that and the lateral lobes; mouth with 2 elevated, hollow, blunt horns on the lower side; anthers bald.—Flowers whirled, axillary.

a. Teeth of the calyx triangular, pointed; stem rather bald; internodes of the stem equal. Ladanum.


Ladanum segetum, Rivinus Monop. Irr. 24, 1.
Tetrahitum Ladanum, March Meth. 394.

Cornfields; annual; June to August.

Stem 4-angled; leaves beneath pubescent; flowers small, reddish; whirls girt with 1 or 2 leaves and 4 bracteae.

β. regularis. Terminal flower regular, 4 or 5-cleft.

2. Galeopsis segetum. Harvest hedge-nettle. Leaves lanceolate, scarcely cut; whirls distant; calyx downy.

Galeopsis Ladanum, Lamarck Enc. Meth. 2, 600.

Fields; annual; June to August.


Galeopsis Ladanum, Lin. S. P. 810.
Galeopsis parviflora, Lamarck Enc. Meth. 600.
Galeopsis intermedia, Villars Deiph. 2, 387.
Galeopsis latifolia, Hoff. Germ. 418.

Fields; annual; August and September.

Stem mostly simple; leaves spreading, ovate; petioles short, serratures large; flowers in rather distant whirls; corolla purple and white.

4. Galeopsis ochroleuca. Yellowish hedge-nettle. Leaves ovate, lanceolate, serrate, petioled, villose; tube of the corolla very long; galea crenately incised.
Galeopsis grandiflora, Gmelin Syst. Veg. 905.
Galeopsis ochroleuca, Lamark Enc. Meth. 2, 600.
Galeopsis prostrata, *Villars Deph.* 388.
Yellow iron-wort. Downy hemp-nettle.
Sandy fields; annual; July and August.
Leaves equally and regularly serrated; calyx villous; tube of the corolla 3 times as long as the calyx, yellow; palate fulvous; anthers rather villous behind.

b. Teeth of the calyx awlshape, distant, spinous, hispid; internodes of the stem thickened above. *Tetrahit.*

Stem hispid; internodes thickened above; leaves ovate, serrate; upper whirls contiguous; tube of the corolla twice as long as the calyx; galea rather straight.

*Cannabis* spuria, Ger. em. 709; *Park.* 599.

Fields; annual; July and August.
Stem every where hispid; hairs turned back; leaves pointed, hispid on both sides; tube of the corolla white, galea convex, purple; lip white, or purple and white.

*b. regularis.* Terminal flower regular, 4-cut; stamens equal.

Stem hispid; internodes thickened above; leaves broad ovate, serrate; whirls contiguous; tube of the corolla 3 times as long as the calyx; galea bellied.

Galeopsis versicolor, *Curtis Fl. Lond.*
Large-flowered hemp-nettle. Bee nettle.

Sandy fields; annual; July and August.
Leaves pale; corolla yellow; lip with yellow lines, and a central violet spot.
XVII. 135. CARDIACA. Gesner.  
**Mother-wort.**

*Calyx* bellshaped, 5-sided, 5-toothed, irregular, not lipped; mouth naked; teeth unequal, spinose, expanded, 2 lower longest; *corolla* lipped, tube as long as the calyx; galea upright, concave, not nicked; outside very villous; lip turned back, 3-lobed, lobes pointed, nearly equal; *stamens* 4, didynamous; filaments villous; *anthers* speckled with shining dots; ovary tomentose at the tip, margined.—Leaves cut; flowers in whirls, axillary.

**Cardiaca vulgaris.**  
*Common mother-wort.*

Leaves petioled; lower leaves wedgeshape, ovate, 3-lobed, toothed; upper leaves lanceolate, undivided.

Cardiaca, *Ratit* *Syn.* 239, 1; *Park.* 41, 42; *Ger.* 705, 1.
Leonurus *Cardiaca*, *Lin.* *S.* *P.* 817.
Cardiaca *triloba*, Lamarch *Fl.* *Fr.* 389.
Stachys *triloba*, Stokes *Bot.* *M.* *M.* 339.
Leonurus ruderalis, *Salisb.* *Prod.* 84.

Chalk fields; perennial; July and August.

Stem downy; villi bent back; leaves spreading, linear tomentose, veiny; *corolla* white and woolly on the outside; red and variegated on the inside; *anthers* spotted with white.—Antispasmodic, the decoction used in palpitation of the heart, hysteria; and also given to cattle against coughs and fever.

XVIII. 136. BALLOTE. Dioscor.  
**Bastard-horehound.**

*Calyx* bellshape, 5-sided, 10-ribbed, 5-toothed, regular; teeth equal; *corolla* 2-lipped; galea concave, crenated; lip 3-lobed; side lobes roundish, middle lobe large, heart-shape, cut; seeds triangular.—*Flowers* axillary; *whirls* peduncled, many-flowered.

**Ballota foetida.**  
*Stinking bastard-hellebore.*

Leaves rather heartshape, ovate, crenate, hirsute; *calyx* veined, enlarged above, rather truncated; teeth ovate, mucronated, spreading.

Ballote, *Ratit* *Syn.* 244, 1.
Marrubium *nigrum*, *Ger.* *em.* 701, 1.
Marrubium *nigrum foetidum* Ballote *dictum*, *Park.* 1230.
Ballota *nigra*, *Lin.* *S.* *P.* *ed.* 1, 592.
Mentha *aquatica*, *Fl.* *Dan.* 618.
Ballota *foetida*, *De Cand.* *Fl.* *Fr.* 2576.
Ballota *sordida*, *Salisb.* *Prod.* 83.
Black horehound.  
*Stinking horehound.*

Hedges and ruins; perennial; July and August.
Stem branched; hairs recurved; leaves petioled; whirled bracteate; bracteae bristlelike, fringed, shorter than the calyx; calyx funnelform; teeth very short, awned; corolla purple; galea yellow; odour acrid, pungent.—Decoction of the herb useful in hypochondriacal and hysterical diseases.

XIX. 137. MARRUBIUM. Pliny.  
Horehound.
Calyx hypocrateriform, ridged, 10-streaked, regular, 10-toothed; 5 alternate teeth smaller; corolla lipped; tube as long as the calyx; galea linear, straight, 2-cut; lip 3-cut; middle lobe reverse heartshaped.—Flowers in whirled, axillary; whirled sessile, many-flowered, bracteate.

Marrubium vulgare.  
Common horehound.  
Stem upright; leaves rather round, ovate, toothed, wrinkled, veined; teeth of the calyx bristlelike, hooked.

Marrubium album, 
Marrubium album vulgare, Park. 44.  
Marrubium vulgare, Lin. S. P. 816.  
Marrubium uncinatum, Stokes Bot. M. M. 335.  
White horehound.
Ruins and waysides; perennial; July.
Stem woolly; leaves petioled, white, woolly beneath; whirled very hairy; bracteae bristlelike; corolla white.

XX. 138. ORIGANUM. Theophrastus.  
Organy.
Calyx cylindrical, 5-toothed; teeth unequal, mouth closed with hairs; corolla lipped; tube compressed; galea upright, nicked; lip 3-cut, nearly equal; seed roundish.—Flowers densely spiked; bracteae ovate, imbricate, 1-flowered; spikes many, terminal or axillary.

Origaniurn vulgare.  
Common organy.  
Leaves ovate; spike roundish, panicled; paniccles conglomerate; bracteae ovate, coloured, as long as the calyx.

Origaniurn vulgare spontaneum, 
Origaniurn Anglicum, Ger. em. 666, 4.  
Origaniium, Rivinus Mon. 60.  
Majorana sylvestris, Park. 12.  
Origaniurn vulgare, Lin. S. P. 821.  
Origaniurn floridum, Salish. Prod. 85.  
English wild marjoram.  Grove marjoram.
Chalk-fields and hedges; perennial; July and August.
Stem hirsute; hairs turned back; leaves ovate, slightly and rarely serrated; spikes crowded, ovate; bracteae deep
brownish purple; corolla purplish.—Plant warm, aromatic; dried leaves make a good tea; essential oil very acrid, used as a caustic to rotten teeth and horses: tops dye purple.

β. rufescens. Leaves ovate, lanceolate; spikes topshape; bracteae dull purplish brown.

Origanum Orites, Rail Syn. 236, 2, not of Linnaeus.
Marjorana major Anglica, Ger. em. 664, 2.
Majorana latifolia, see major Anglica, Park. 12.
Pot marjoram. Winter marjoram.

Cultivated for a potherb.

XXI. 139. MAJORANA. Brunsfel.  Marjoram.

Calyx 2-lipped; mouth oblique, when fruitbearing naked; upper lip large; lower lip 2-lobed; corolla lipped; tube compressed; galea upright, nicked; lip 3-cut; lobes nearly equal; seeds roundish.—Flowers in dense spikes; bracteae ovate, imbricate, 1-flowered; spikes 4-sided, terminal or axillary.


Stem undershrubby; leaves petioled, elliptical, slightly serrated, blunt, tomentose; spikes roundish, many, globose, peduncled; bracteae pointed.

Marjorana tenuifolia, Ger. em. 664, 3.
Origanum Majorana β, Lin. S. P. 825.
Origanum majoranoides, Wild. S. P. 3, 137.
Marjoram gentle.

Cultivated for an aromatic pot-herb; peren.; June, July.


Root annual; stem herbaceous; leaves petioled, elliptical, blunt, nearly bald, edge not nicked; spikes roundish, in threes, compact, peduncled.

Marjorana major, Ger. em. 664, 1.
Marjorana vulgaris, Park. 33.
Origanum Majorana, Lin. S. P. 825.
Origanum odorum, Salisb. Prod. 85.
Great sweet marjoram. Fine marjoram.

Cultivated for an aromatic pot-herb; peren.; June, July.

Stem upright, downy; hairs drooping; branches few at the bottom; upper branches spreading, flower-bearing; bracteae ovate, longer than the calyx.
XXII. 140. THYMUS. Theophrastus.  Thyme.

Calyx bellshape, or ovate, 2-lipped; 3 upper lobes broad, recurved; 2 lower lobes awlshape, bent in, fringed; mouth closed with hairs; corolla short, lipped: galea nicked; lip 3-lobed; side lobes ovate; middle lobe oblong, broad, entire.—Stem undershrubby; leaves small; flowers glomerate, axillary or terminal; plant odoriferous.

1. Thymus campestris.  Field thyme.

Stem lying down; leaves flat, blunt, fringed at bottom; flowers capitate.

Serpyllum vulgare, Rau Syn. 230, 1; Ger. em. 570, 1.
Serpyllum minus vulgare, Park. 8.
Serpyllum flore minore, Rivinus Mon. 42.
Thymus Serpyllum, Lin. S. P. 895.
Thymus campestris, Salisb. Prod. 55.

Dry sandy heaths, and cultivated; peren.; July, August.  Stem branched; leaves petioled, edge not nicked; heads leafy; flowers pedicelled; corolla purplish; galea upright.

—Aromatic, used as a pot-herb in soups.

β. albus.  Flowers white.

γ. grandiflorus.  Flowers large.

Serpyllum vulgare flore ampio, Rau Syn. 230, 2.
δ. citratus.  Leaves yellow-green; odour like that of lemon-peel.

Serpyllum citratum, Rau Syn. 231, 4; Ger. em. 571, 7.
Serpyllum Pannonicum Clusii, Park. 8.
Lemon thyme.


Stem creeping, hirsute; leaves ovate, obtuse, villous; flowers in heads.

Serpyllum vulgare hirsutum, Rau Syn. 231, 6.
Thymus Serpyllum, Lin. S. P. 825; a variety.
Thymus lanuginosus, Pers. Syn. 133.
Serpyllum montanum hirsutum, Rivinus Mon. 421.
Hoary wild thyme.

Sandy heaths; perennial; July and August.  Stem undershrubby; leaves roundish, everywhere hirsute; corolla purple. —Infusion relieves headach after drinking.

β. minor.  Stem creeping, small; plant scentless.

Serpyllum hirsutum minus repens, inodorum, Rau Syn. 231, 8.
Stem lying down; leaves wedgeshape, linear, fringed at bottom; flowers capitate.

Serpyllum angustifolium glabrum, Dillen in Raia Syn. 231, 5.
Thymus Serpillum, Lin. S. P. 825; a variety.
Thymus angustifolius, Pers. Syn. 130.

Dry sandy places and rocks; perennial; July and Aug.

Stem upright, undershrubby; leaves ovate or lanceolate, turned over at the edge; flowers spiked, in whirs.

Thymum durius, Ger. em. 573, 1; Park. 7.
Thymus vulgaris, Lin. S. P. 825.
Thymus collinus, Salisb. Prod. 86.

Cultivated as an aromatic pot-herb; peren.; July, Aug.

XXIII. 141. ACYNOS. Dioscorides. Basil-thyme.

Calyx furrowed, hairy, hispid; gibbous at bottom, mouth closed with hairs; limb 2-lipped; upper lip 3-toothed; lower lip 2-bristled; tube of the corolla short; mouth rather inflated; galea upright, nicked; lip 3-parted, spreading, middle lobe concave, nicked.—Flowers in whirs, axillary.


Stem ascending, branched at bottom; leaves ovate, acute, serrate at bottom; whirs 6-flowered.

Acinos multis, Raia Syn. 238, 1.
Ocymum sylvestre, Ger. em. 675, 1.
Clinopodium minus, sive vulgar, Park. 21.
Thymus Acinos, Lin. S. P. 826.
Acinos, Rivinus Mon. 43.
Acinos thymoides, Mench Meth. 401.
Calamintha arvensis, Lamarck Fl. Fr. 391.
Thymus concinnus, Salisb. Prod. 86.
Small wild basil.

Sandy and chalky fields; annual; July and August.

Stem villous; leaves ovate, rather turned over, rough, not dotted; peduncles 1-flowered: corolla light violet, coloured; lip white and black.

Calyx streaked, dry, flattish above; mouth closed with hairs 2-lipped; upper lip even, 3-toothed; lower lip 2-cut; corolla lipped; mouth rather inflated; galea nicked; lip 3-parted; middle lobe slightly nicked or crenulated; stamens 4, didynamous.—Flowers in whirls, axillary; whirls peduncled; peduncles forked.


Stem weak, hirsute; leaves ovate, blunt, serrate, hirsute, punctured; peduncles axillary, many-flowered, forked, corymbose; lower lobes of the calyx villous, twice as long as the upper lobes.

Calamintha vulgaris, Rari Syn. 243, 1; Park. 36.
Calamintha vulgaris officinarum, Ger. em. 687.
Calametha, Rivinus Mon. 46.
Melissa Calamintha, Lin. S. P. 827.
Thymus Calamintha, Scop. Carn. 733.
Calamintha montana, Lamarck Fl. Fr. 391.
Calamintha officinalis, Marsch. Meth. 409.

Roads and waysides; perennial; July and August.

Stem upright: leaves petioled, veined, acutely serrated, pale beneath; hairs at the mouth of the calyx enclosed; corolla twice as long as the calyx, light violet; galea arched; odour aromatic, pleasant.

2. Calamintha trichotoma. Three-forked calamint.

Stem ascending, rather hirsute; leaves ovate, blunt, slightly serrate, rather bald; peduncles axillary, many-flowered, forked, corymbose; teeth of the calyx nearly equal.

Calamintha odore pulegii, Rari Syn. 243, 2; Ger. em. 687, 4.
Calamintha minor incana, Park. 31.
Calamintha folio incano, Rivinus Mon. 47.
Melissa Nepeta, Lin. S. P. 928.
Calamintha parvisflora, Lamarck Fl. Fr. 396.
Calamintha trichotoma, Marsch. Meth. 409.

Hedges and waysides; perennial; August.

Stem rather woody; leaves broadly and bluntly serrated; 2 upper teeth of the calyx upright or recurved; hairs at the mouth prominent, white.
XXV. 143. SATIREJA. Pliny.

Savory.

Calyx bellshape, upright, not lipped, 10-ribbed; mouth bearded, 5-toothed; teeth rather unequal; tube of the corolla as long as the calyx; galea erect, 2-cut; lip 3-cut; lobes all nearly equal; stamens 4, didynamous, distant.—Stem woody; leaves punctured; flowers in whirls, axillary.

1. Satureja hortensis. Garden savory. Stem brachiata, fastigiate; leaves linear, lanceolate, rather blunt, dotted, edge not cut; peduncles axillary, nearly corrymbose.

Satureja hortensis, Ger. em. 575,1; Lin. S. P. 795.
Satureja brachiata, Stokes Bot. M. M. 300.

Winter savory. Cultivated for an aromatic potherb; peren.; July, Aug.

2. Satureja montana. Mountain savory.

Leaves linear, lanceolate, mucronate, dotted, edge not in the least cut; peduncles axillary, cymose, nearly facing one way; teeth of the calyx pointed.

Satureja hortensis aestiva, Ger. em. 575,2.
Satureja montana, Lin. S. P. 794.
Satureja mucronifolia, Stokes Bot. M. M. 300.

Summer savory. Sussex, also cultivated for an aromatic potherb; annual; June.

Leaves keeled, fringed at bottom; racemes terminal, leafy; corolla rose-coloured.

XXVI. 144. CLINOPODIUM. Dioscorides. Wild-basil.

Calyx tubular or ribbed, downy, lipped; upper lip 3-cut, lower lip 2-parted, awlshape, smooth, naked; tube of the corolla short; mouth enlarged; galea upright, nicked; lip 5-lobed, lateral lobes roundish; middle lobe nicked.—Flowers in whirls, axillary; whirls involucrated; bracteae many, bristlelike.

Clinopodium vulgare. Common wild-basil. Stem mostly simple; leaves petioled, ovate, blunt, remote, slightly toothed, hairy; bracteae bristlelike.

Clinopodium origano simile, Radii Syn. 239,1.
Acinos, Ger. em. 675,2.
Acinos sive clinopodium majus, Park. 92.
Clinopodium, Rivinus Mon. 43.
Clinopodium vulgare, Lin. S. P. 821.

Stone basil.
Fields and hedges; perennial; August.
*Clinopodium.*

*Stem* fulvous, hairy; *whirls* terminal and axillary, many-flowered, peduncled; *peduncles* branched.—Aromatic.

XXVII. 145. **MELISSA.** Brunsfels.  

*Bau.m.*

*Calyx* tubular, rather naked or slightly hairy, spreading at top, mouth 2-lipped; upper lip flat, 3-toothed; lower 2-lobed; *galea* arched, half 2-cut; *lip* long, 3-parted; middle lobe largest, ovate; *stamens* 4, didynamous.—*Flowers* in whirls, axillary.

*Melissa officinalis.*  

*Stem* much branched; *leaves* ovate, acute, serrate; *whirls* halved, nearly sessile; *bracteae* oblong, pedicelled.

*Melissa, Ger. em. 669, 1.*  
*Melissa vulgaris, Park. 40.*  
*Melissa officinalis, Lin. S. P. 827.*  

*Shop bau.m.*

Cultivated; perennial; July.  
*Leaves* rather bald; *flowers* reddish.—*Plant* aromatic; infusion used in cephalic, cardiac, uterine, and stomachic affections, as also in stinking breath.

XXVIII. 146. **MELITTIS.** Pliny.  

*Bastard-bau.m.*

*Calyx* tubular, larger than the tube of the corolla, mouth naked, unequally 2 lipped; upper lip not cut, sometimes 2-cut; lower lip 2-cut; *corolla* lipped, tube cylindrical; *galea* arched, cut; *lip* 3-lobed, middle lobe reverse heart-shape, large, crenate; *anthers* bent, cohering by pairs.—*Flowers* axillary, 6 in a whirl, not bracteated.

*Melittis grandiflora.*  

*Stem* simple; *leaves* petioled, ovate, serrate, hairy; *whirls* 6 to 8-flowered; *peduncles* 1-flowered.

*Melissa Fuchsii, Rail Syn. 242, 1.*  
*Melissa Fuchsii flore purpureo, Ger. em. 690, 3.*  
*Melissophyllum Fuchsii, Park. 41.*  
*Melissophyllum, Rivinus Mon. 21, 2.*  
*Melittis Melissophyllum, Lin. S. P. 832.*  

*Woods and hedges; perennial; May and June.*  
*Root* fibrous; *stem* hairy; *flowers* axillary; *calyx* coloured, 3-lobed; upper lobe not cut, pointed, nicked or deeply 2-cut, even on the same plant; *corolla* downy, flesh-colour; *lip* deep purple with a white border.
β. alba. Flowers yellowish white; middle of the lip violet, edge white.

Melissa Fuchsii flore albo, Ger. em. 690, 3.
Melissophyllum, Rivinus Mon. 21, 1.
Melittis Melissophyllum, Curtis Fl. Lond.

XXIX. 147. SALVIA. Pliny. Sage.

Calyx bellshape, streaked; mouth naked, 2-lipped; upper lip 3-toothed; middle tooth broad, short; lower lip 2-cut; corolla ringent; galea arched, concave, nicked; lower lip 3-cut; side lobes slender; middle lobe rounded; stamens 2; filaments with a traverse pedicell in the middle.—Flowers in whirs, spiked.

Salvia officinalis. Shop sage.
Leaves lanceolate, ovate, crenulate, reticulated; racemes in whirs; calyx longer than the bracteae; teeth pointed.

Salvia major, Ger. em. 764, 1.
Salvia major vulgaris, Park. 49.
Salvia officinalis, Lin. S. P. 34.
Great sage.

Cultivated; perennial; May and June.

Stem villous; leaves unequal at bottom, whitish-green; calyx slightly woolly; corolla purple.—Aromatic, used in cookery, also diuretic; infusion drank as an emmenagogue, and useful in palsy, giddiness, trembling, and other nervous affections.

β. rubra. Leaves reddish.
Red sage.

γ. absinthites. Leaves bitter, like wormwood.

Salvia absinthites, Ger. em. 764, 7.
Salvia minor altera, flore rubentis, Park. 51.
Wormwood sage.

ε. auriculata. Leaves eared at the base.

XXX. 148. SCLAREA. Matthioli. Clary.

Calyx bellshape; mouth naked, 2-lipped; upper lip 3-toothed; lower lip 2-cut; corolla lipped; galea arched, compressed, nicked; lower lip 3-lobed; side lobes slender; middle lobe rounded; stamens 2; filaments with a traverse pedicell at bottom.—Flowers axillary, in whirs, often spiked.
Sclarea pratensis. Meadow clary. Leaves heartshape, oblong, crenate; uppermost pairs of leaves embracing the stem; whirs rather naked; bracteae pointed, coloured, longer than the calyx; teeth of the upper lip of the calyx connivent; galea glutinous.


Clear-eye. Dry fields and hedges on chalk; perennial; July. Leaves wrinkled; lower leaves petioled; whirs 6-flowered; calyx hirsute; hairs with heads, glandular; corolla violet-colour, 4 times as long as the calyx.—Seeds in water acquire a thick mucilage round them, used to put into the eyes to get out substances which have flown into them.

XXXI. 149. HORMINUM. Hippocrates. Oculus-Christi. Calyx bellshape; mouth naked, 2-lipped; upper lip 3-toothed; lower lip 2-cut; galea arched, compressed, nicked; lower lip 3-lobed; side lobes slender; middle lobe rounded; stamens 2; filaments with a traverse pedicell at the bottom.—Flowers axillary, in whirs, spiked.

Horminum sylvestre. Wild Oculus-Christi. Leaves heartshape, oblong, sinuately and doubly crenated, wrinkled; teeth on the upper lip of the calyx connivent; corolla much slenderer and a little longer than the calyx.


Fields and pastures on chalk; peren.; June to October. Stem ascending; leaves rather bald; bracteae longer than the calyx; calyx hirsute; hairs with heads, glandular; teeth inflected; corolla blue, not twice as long as the calyx; tube constricted; seeds round, black, smooth. —Seeds in water acquire a mucilaginous envelope, so that they are used, like those of meadow clary, to extract things from the eyes.
XXXII. 150. BRUNELLA. Brunsfels.  
Selfheal.
Calyx tubular; mouth naked, lipped; upper lip flat, truncated, 3-cut; lower lip shorter, 2-cut; galea concave, either nicked or not; lip 3-lobed; middle lobe largest, nicked; stamens 4, didynamous; filaments forked or two-toothed; one branch antherbearing, the other naked; stigma 2-cut.—Stem simple; flowers spiked, terminal, in dense whirls; bractee large, fringed or torn.

Brunella vulgaris.  
Common selfheal.
Stem ascending; leaves petioled, oblond, ovate, toothed at the bottom; upper lip of the calyx truncated, 3-toothed, ending in short bristles; middle tooth as broad again as the others.

XXXIII. 151. SCUTELLARIA. Cortusus.  
Skullcap.
Calyx tubular, short; mouth naked, lipped; lips not cut, pointed; paraphyllum concave, incumbent on the upper lip; tube of the corolla longer than the calyx, bent at bottom; upper lip compressed, arched; mouth 2-lobed; lower broadest, nicked; seeds closed up in the calyx by the enlarged paraphyllum.—Flowers solitary, axillary; bractee 2 to each peduncle.

1. Scutellaria galericulata.  
Hooded skullcap.  
Leaves heartshape, lanceolate, distantly crenated; flowers solitary, axillary.

XXXII. 150. BRUNELLA. Brunsfels.  
Selfheal.
Calyx tubular; mouth naked, lipped; upper lip flat, truncated, 3-cut; lower lip shorter, 2-cut; galea concave, either nicked or not; lip 3-lobed; middle lobe largest, nicked; stamens 4, didynamous; filaments forked or two-toothed; one branch antherbearing, the other naked; stigma 2-cut.—Stem simple; flowers spiked, terminal, in dense whirls; bractee large, fringed or torn.

Brunella vulgaris.  
Common selfheal.
Stem ascending; leaves petioled, oblond, ovate, toothed at the bottom; upper lip of the calyx truncated, 3-toothed, ending in short bristles; middle tooth as broad again as the others.

XXXIII. 151. SCUTELLARIA. Cortusus.  
Skullcap.
Calyx tubular, short; mouth naked, lipped; lips not cut, pointed; paraphyllum concave, incumbent on the upper lip; tube of the corolla longer than the calyx, bent at bottom; upper lip compressed, arched; mouth 2-lobed; lower broadest, nicked; seeds closed up in the calyx by the enlarged paraphyllum.—Flowers solitary, axillary; bractee 2 to each peduncle.
Watery places; perennial; July and August.

_**Scutellaria.**_ Labiatae. PI. ex. cor.

Stem 4-angular, nearly bald, branched in the middle; leaves wrinkled; petioles very short; flowers on short pedicels, solitary or on opposite sides of the stem, looking one way; bracteae 2 to each flower; calyx hairy; corolla blue.

2. _Scutellaria minor._

Leaves heartshape, ovate, edge scarcely nicked; flowers axillary, solitary.

Cassia palustris minima, flore purpurascente, _Raii Syn._ 244, 2.
Gratiola latifolia, _Ger._ em. 581.
Gratiola latifolia, _scu nostras minor, Park._ 221.
Scutellaria minor, _Lin._ S. P. 835.

_Broad-leaved hedge hyssop._ Small hooded mint.

Damp heaths; perennial; August.

Stem branchy at bottom; leaves rarely toothed at the bottom, or hastate; tube of the corolla red; lip white, spotted with red.

**Fam. XVI.** 33. _PYRENAEÆ._ Ventenat. _Vitices, Jussieu._ Verbenaceae, Persoon. Labiatis affines, Link.

_Calyx_ 1-leaved, tubular, persisting; _corolla_ tubular, mostly irregular, rarely lipped, deciduous; _stamens_ 4, didynamous, rarely equal, or 2; _ovary_ 1, free, 2 or 4-celled; _ovules_ upright, solitary; _style_ 1, placed on the ovary; _stigma_ simple or 2-lobed; _cariopsides_ 2 or 4, enclosed in an _utriculus_, 1-seeded; _utriculus_ vanishing and membranaceous, or persistent and fleshy; _seed_ upright; _perisperm_ 0; _corculum_ placed lengthways; _radicle_ below.—_Stem_ herbaceous or shrubby; _leaves_ not cut or divided, opposite; _flowers_ in heads, spiked or corymbose.

152. _VERBENA._ Pliny.

_Calyx_ 5-toothed; upper tooth smallest and shortest; _corolla_ funnelshape; tube bent; mouth contracted; limb 5-lobed, unequal; _stamens_ 4, didynamous, all fertile; _utriculus_ membranaceous, vanishing; _cariopsides_ 4, in the _utriculus._—_Leaves_ laciniate or not cut; _flowers_ spiked; _bractea_ one to each flower.

_Verbenae officinalis._

_**Vervain.**_ Shop vervain.

_**Stem**_ upright, mostly solitary; _leaves_ inciso-pinnatifid; _spike_ threadlike, panicled.
Verbena vulgaris, Rait Syn. 236, 1.
Verbena communis, Ger. em. 718, 1.
Verbena mas, sive recta et vulgaris, Park. 678.
Verbena officinalis, Lin. S. P. 29.


Columbine.

Fields, ruins, and waysides; perennial, Ray and Curtis; biennial, Hudson and Aiton; annual, Boerhaave and Linnaeus; July.

Stem upright, bent at bottom; leaves rough; lower leaves deeply lobed; upper leaves 3-cut or simple; spikes many-flowered; bracteae ovate, acute, shorter than the calyx; corolla small, purple; mouth fringed; galea 2-cut; lip 3-lobed, nearly equal.—Herb cephalic, slightly astringent; decoction used in headache, coughs, jaundice, and other obstructions of the viscera; and as a gargle in sore throat.

Fam. XVII. 34. OLEINÆ. Link. Jasminearum pars, Jussieu.

Flowers hermaphrodite; calyx 1-leafed, free, persistent, divided; corolla hypogynous, 1-petaled, 4-cut; aestivation valvate; stamens 2, alternating with the lobes of the corolla; anthers 2-celled, cells opening lengthways; ovary 1, simple, base not glandular, 2-celled; ovules pendulous, 2 in each cell, side by side; style 1; stigma 2-cut; fruit a berry or drupe, 1 or 2-celled, 1 or 2-seeded by abortion; seeds pendulous; spermodermis simple; perisperm fleshy; corculum straight, central, nearly as long as the perisperm; cotyledons leaflike; radicle above, plumule inconspicuous.—Leaves opposite, simple; flowers racemose or panicled, terminal; peduncles opposite, bracteate.

153. LIGUSTRUM. Pliny. Privet.

Calyx very small, 4-toothed; tube of the corolla short; limb 4-lobed, spreading; stamens 2; berry 1 or 2-celled, 2 or 4-seeded, black.—Flowers panicled, terminal.

Ligustrum vulgare. Common privet.
Leaves lanceolate or elliptical, mucronate; panicle contracted.

Ligustrum, Rait Syn. 465, 1; Ger. em. 1:94.
Prim-print. Print.

Woods and hedges in damp gravelly soils; shrubby; May and June.
Leaves nearly sessile, deep green, bald, deciduous, edge not cut; flowers white.—Cultivated for hedges and screens, as it bears cutting in any form; leaves bitter and astringent; berries with alum dye wool and silk green, and a rose-coloured paint is prepared from them.

β. sempervirens. Leaves biennial, falling off in the spring.

γ. variegatum. Leaves variegated, green and straw colour.

Fam. XVIII. 35. FRAXINEÆ. Oleinarum pars, Link. Jasminearum pars, Jussieu.

Flowers hermaphrodite or unisexual; calyx 0, or free, persisting, 1-leaved; corolla 0, or hypogynous, 1-petaled and 4-cut, or 4 petaled; petals joined in pairs by the filaments; aestivation rather valvular; stamens 2, alternate with the petals or lobes; anthers 2-celled; cells opening lengthways; ovary 1, simple, not girt with a glandular disk, 2-celled; ovules 2, pendulous, side by side in each cell; style 1 or 0; stigma simple or 2-cut; fruit a capsule or samara, 1-seeded by abortion; seed pendulous; spermodermis simple; perisperm fleshy; corculum straight, central, nearly as long as the perisperm; cotyledons leaflike; radicle above; plumule inconspicuous.—Tree or shrub; leaves opposite, simple or pinnate; flowers racemose or paniced, terminal or axillary; peduncles opposite, 1-bracteate.

154. FRAXINUS. Pliny.

Ash.

Flowers unisexual and hermaphrodite; calyx 0; corolla 0; stamens 2, rarely 3 or 4; anthers sessile; ovary 2-celled; ovules 4; samara 1-celled, 1 or 2-seeded; wings lanceolate.

Fraxinus excelsior. Tall ash.

Leaflets slightly petioled, lanceolate, pointed, serrate, bald; wedgeshape at bottom; samara lanceolate, tips obliquely nicked.

Fraxinus, Rait Syn. 269, 1; Ger. em. 1472, 1.
Fraxinus vulgaris, Park. 1419.
Fraxinus excelsior, Lin. S. P. 1509.

Woods and hedges; arborescent; April and May.

Bark grey; buds black; branches upright or ascending; hermaphrodite, male, and female flowers on different trees rarely on the same.—Wood an excellent timber, used also for long handles or shafts; bark and wood diuretic and lithontriptic; samarae (called ask keys, birds tongue, kite keys,
sparrows tongue) acrid and bitter, their decoction used in
diseases of the liver; tops and leaves used to feed cattle in
winter and dry summers, but they spoil the taste of the
milk if eaten by cows; bark used in tanning; leaves half
an ounce to an ounce and half in decoction are a good
purgative, and a decoction of 2 dr. of the bark, or 6 dr.
of the leaves are used to cure agues.

\[ b. aurea \] Bark golden yellow.
\[ \gamma. verrucosa \] Bark warty.
\[ d. heterophylla \] Leaves simple and ternate, or quinate.
\[ e. simplicifolia \] Leaves all simple.
\[ \zeta. horizontalis \] Leaves pinnate; branches horizontal.
\[ \gamma. pendula \] Leaves pinnate; branches pendulous.
River sides. Wood of little value.
\[ \theta. erosae \] Leaflets torn on the edges.
\[ \iota. argentea \] Leaves variegated, whitish green and silver
colour.
Subseries III. C. *Plantae exogenae calyciflorae.*

Dicotyledones petaloideae perigynae, Jussieu.

*Perigonium* double; petals many, distinct, or soldered together, inserted along with the stamens on the calyx.

**FAMILIES.**

A. *Perisperm* fleshy, or horny.

a. Seeds on a central spermophore, or affixed at the base; radicle below.

Ovary free; capsule or berry 4 or 5-celled; stamens 3 to 10, opposite to the lobes ... *Ericinae.* 36.

Ovary free; capsule 1-celled ... *Portulacinae.* 48.

Ovary free, 2 to 5-celled; cells few-seeded; stamens 4 or 5, alternating with the petals or lobes ....................... *Celastrinae.* 64.

Ovary adherent, rarely free; capsule 2-celled, dehiscent by an orifice; stamens 8 to 10 *Saxifraginae.* 46.

Ovary adherent; capsule 2 to 5-celled, becoming ruptured; stamens 5 ... *Campanulinae.* 38.

Ovary adherent; berry 4 or 5-celled *Vaccininae.* 37.

Ovary adherent; fruit 2-seeded; leaves not cut, in whorls ............... *Rubiinae.* 42.

b. Seeds inverted, i.e. radicle above; ovary adherent.

Akenium; stamens 4, alternating with the lobes of the corolla; flowers aggregate. *Dipsaceae.* 40.

Utriculus or capsule, few-seeded *Paronychidae.* 49.

Berry 3 or 4-celled; stamens 4 or 5, alternating with the lobes or petals *Caprifoliaceae.* 49.

Berry few-seeded; stamens 4 to 8, opposite to the petals; plant parasitic ... *Loranthidae.* 44.

Polakenium 2-celled, separable; petals 5; stamens 5, interposed; flowers in umbels *Umbelliferae.* 45.

c. Seeds parietal; ovary adherent.

Berry 1-celled; stamens and petals 5 ... *Grossulariae.* 50.
PLANTÆ EXOGENÆ CALYCIIFLORÆ. 395

B. Perisperm 0, or very thin.

a. Seeds on a central spermophore, or at the base; radicle below.

Calyx free; stamens 5; capsule. TAMARICINÆ. 53.
Calyx free; stamens 6 to 12; capsule SALICARIÆ. 52.
Calyx free; stamens 4 or 5, opposite to the petals; berry RHAMNEÆ. 65.
Calyx adherent; stamens 2 to 8; petals 2 or 4. ONAGRIÆ. 56.
Calyx adherent; stamens indefinite; petals 5 POMACEÆ. 57.

b. Seeds parietal; radicle below.

Ovary adherent; stamens 3 to 5 CUCURBITACEÆ. 51.
Ovary free; legumen; corolla papilionaceous LEGUMINOSÆ. 63.
Ovary free; camares many CRASSULACEÆ. 47.

c. Seeds inverted, i.e. radicle above.

Stamens 5; anthers united; akenium COMPOSITÆ. 39.
Stam. 1 to 3, distinct; corolla tubular VALERIANÆ. 41.
Stam. 1 to 8, distinct; cor. 0, or 4-petaled HALORAGEÆ. 55.
Stam. 4, 5, or indefinite; cor. 0, or 5-petaled; ovaries definite, 1-seeded, enclosed in the calyx AGRIMONIACÆ. 59.
Stam. indefinite; corolla 5-petaled; ovaries indefinite, 1-seeded, enclosed in the calyx ROSACEÆ. 58.
Stam. indefinite; corolla 5-petaled; ovaries indefinite, 1-seeded, free DRYADEÆ. 60.
Stam. indefinite; corolla 5-petaled; ovaries definite, 3 to 10, free, 1 or 2-seeded ULMARIAE. 61.
Stam. indefinite; corolla 0; ovary 1; cotyledons 4 CERATOPHYLLÆ. 54.
Stam. indefinite; corolla 0; ovary 1; drupe 1 or 2-seeded DRUPACEÆ. 62.

Calyx 1-leaf, 4 or 5-cut, persisting, free; corolla hypogynous, 1-petaled, 4 or 5-cut or parted, regular, falling off or withering; aestivation imbricate; stamens definite, 3, 8, or 10, opposite, equal or double the number of the lobes, hypogynous, i.e. inserted into the lobes of the corolla; ovary many-celled, girt at bottom with a scaly or secreting disk; ovules many; style 1; stigma 1, not nicked or toothed; pericarpium a capsule or berry, many-celled; spermothec central, axillary; seeds many; perisperræ fleshy; corculum axillary, straight; radicle near the hylum.—Shrubs or undershrubs; leaves perennial or annual; alternate or opposite; inflorescence various; peduncles mostly 2-bracteated.

Stamens 3 or 9; calyx 3-parted; corolla
3-parted ........................................ EMMETRUM. 164.
Stam. 5; corolla bellshape ............ CHAMECISTUS. 163.
Stam. 8; corolla bellshape;
capsule dehiscent, septicidal .......... MENTZESIA. 155.
Stam. 8; anthers enclosed; corolla ventricose; capsule dehiscent, loculicidal EREMOCALLIS. 157.
Stam. 8; anthers exserted; corolla bellshape; capsule dehiscent, loculicidal .. GYPSOCELLIS. 158.
Stam. 8; horned; corolla tubular;
capsule dehiscent, septifragal .......... CALLUNA. 159.
Stam. 8 or 10; corolla 4 or 5-parted;
anthers 1-celled, peltate; plant parasitic MONOTROPA. 166.
Stam. 10; corolla ovate, 5-cut;
capsule dehiscent, loculicidal .......... ANDROMEDA. 160.
Stam. 10; corolla 5-parted;
anthers 2-celled; capsule 5-celled...... PYROLA. 165.
Stam. 10; corolla 5-parted;
anthers 2-celled, 2-horned; capsule 5-celled .......... MONESIES. 166.
Stam. 10; corolla bellshape;
capsule dehiscent, septicidal .......... PHYLLODOCE. 156.
Stam. 10; villous; berry many-seeded .. ARBUTUS. 161.
Stam. 10; bald; berry 5-seeded ..... UVA-URSI. 162.
A. Anthers 2-celled, opening in 2 foraments; corolla tubular, 5-cut.

I. 155. MENZIESIA. Jussieu.

Calyx 4-parted; corolla bellied, falling off; limb 5-cut, recurved, stamens 8; filaments on the base of the corolla; anthers opening at the tip by 2 reverse-ovate foraments; capsule 4-celled; dehiscence septicidal; seeds many, scrobiculate.—Stem undershrubby; leaves alternate, broad, lanceolate, annual; edge not cut, turned down; flowers spiked, drooping; bracteae 3 to each peduncle, 2 side ones smaller.

Menziesia polifolia. Many-leaved menzies.

Leaves ovate; edge turned over, beneath tomentose, snowy; racemes long.

Erica Cantabrica flore maximo, foliis myrti subitus incanis, Dillen in Raii Syn. 472, 6.
Erica Sancti Daboecii Hibernis D. Lhwyd. Raii Hist. 3; Dendr. 98.
Erica Daboecia, Lin. S. P. 509.
Menziesia Daboecia, De Cand. Fl. Gall. 674.
Irish heath.

Mountain bogs, in Ireland; shrubby; June and July.

Stem slender, upright; lower leaves opposite; flowers purple.

II. 156. PHYLLODOCE. R.A. Salisbury. Phyllodoco.

Calyx deeply 5-cut; corolla bellied, falling off; tube 5-cut, bent; stamens 10, at the bottom of the corolla; anthers opening near the tip in 2 reverse-ovate foraments; capsules 5-celled; dehiscence septicidal; seeds semi-orbiculate.—Stem shrubby; leaves linear, perennial; edges turned down; furrowed beneath; flowers aggregate, out of the axilla of the terminal leaves.


Leaves linear, blunt, edge toothed; teeth cartilaginous; tube of the corolla pitchershape.

Andromeda caerulea, Lin. S. P. 563.
Andromeda taxifolia, Pallas Fl. Ross. 2, 54.
Phyllodoco taxifolia, Salisbury. Farad. Lond. 36.

Heaths; shrubby; June and July.

Leaves fringed with glandular hairs; flowers bluish flesh-colour.

_Eremocallis._

_Calyx_ 4-parted; _corolla_ conical, bellied; _limb_ 4-cut, recurved; _stamens_ 8, enclosed; _anthers_ awned at the bottom, opening in 2 oblong pores; _stigma_ blunt; _capsule_ 4-celled, 4-valved; _dehiscence_ loculicidal. — _Stem_ shrubby; _leaves_ entire, linear, edge turned down, furrowed beneath; _flowers_ lateral or terminal; _calyx_ 2 or 3 bracteate at the bottom.

1. _Eremocallis glomerata._
_Headed heath._

_Leaves_ 4 in a whirl, fringed; _flowers_ in heads; _style_ enclosed; _stigma_ blunt.

_Erica Brabantica_ folio coriis hirsuto quaterno, _Raii Syn._ 471, 4.
_Erica major_ flore purpureo, _Ger._ em. 1382, 4; description only.
_Erica pumila_ Belgarum Lobelia, scoparia nostras, _Park._ 1482.
_Erica glomerata, Salisbury, Prod._ 293.

_Damp heaths;_ shrubby; _July and August._

_Leaves_ petioled, spread, revolute; _hairs_ glandular, with heads; _flowers_ looking one way, flesh-colour, or white.

2. _Eremocallis cinerea._
_Grey heath._

_Leaves_ 3 in a whirl; _flowers_ racemose; _style_ slightly exserted; _stigma_ headed.

_Erica tenuifolia, Raii Syn._ 472, 3; _Ger._ em. 1382, 7.
_Erica mutabilis, Salisbury T. Lin._ 6, 369.

_Small heath._ _Thin-leaved heath._

_Heaths;_ shrubby; _July and August._

_Leaves_ triangular, bald; _raceines_ in whirls; _flowers_ bluish or white.

IV. 158. GYPSOCALLIS. R. A. Salisbury, MS.

_Gypsum-heath._

_Calyx_ 4-parted; _corolla_ bellshape; _limb_ 4-cut; _stamens_ 8, exserted; _anthers_ erect, awnless, opening at the tip in two reverse-ovate foramens; _cells_ distinct; _stigma_ 4-cut; _capsule_ 4-celled, 4-valved; _dehiscence_ loculicidal. — _Stem_ shrubby; _leaves_ not nicked; _edge_ turned down; _flowers_ axillary; _bractee_ 2, in the middle of the peduncles.

_Gypsumallis vagans._

_Loose gypsum-heath._

_Leaves_ 4 or 5 in a whirl; _flowers_ peduncled, crowded.

_Erica foliis coriis multiflora, Raii Syn._ 471, 5.
_Erica vagans, Lamarck Fl. Gall._ 2, 230.
_Erica vaga, Salisbury, Prod._ 294.
_Erica purpurea, Lamarck Enc. Meth._ 1, 483.

_Fir-leaved heath._
Heaths in Cornwall; shrubby; July and August.

*Calluna* much branched, upright; *leaves* triangular; *corolla* flesh-colour.

V. 159. **CALLUNA.** R. A. Salisbury.   

*Calyx* 4-parted, nearly as long as the *corolla*; *corolla* tubular, bell-shape, 4-cut; *stamens* 8; *anthers* awned, opening by 2 pores; *stigma* 4-lobed; *capsule* 4-celled, 4-valved; dehiscence septifragal. — *Stem* shrubby; *leaves* opposite, squarrose, in 4 rows; *flowers* racemose, facing one way, drooping; *bracteae* 4, at the base of the *calyx*.

*Calluna sagittatifolia.*   
Leaves arrowshape.

Erica vulgaris, *Rait Syn. 470, 1; Park. 1480.*
Erica vulgaris, sive *pumila, Ger. em. 1380, 1.*
*Calluna Erica, De Candolle Fl. Gall. 680.*
*Common heath or ling. Heather.*

Heaths and woods; shrubby; June and July.

*Stem* ascending; *flowers* flesh-colour or white.—Young tops brewed along with half as much malt into a good beer; decoction tans leather and dyes alumed wool yellow. Honey, where it abounds, has a reddish cast. The plant is also used for binding mud cottages, for thatching, for making ropes, for brooms, for firing, for filling drains, and for beds, being confined in a frame with the flowering tops uppermost.

*Calluna hirsuta.* Leaves downy.

Erica vulgaris *hirsuta, Rait Syn. 471, 2; Ger. em. 1380, 2.*
Erica vulgaris *hirsutior, Park. 1480.*

VI. 160. **ANDROMEDA.** Linnaeus.   

*Andromeda.*

*Calyx* very small, 5-parted; *corolla* ovate, bellied, 5-cut; limb reflected; *stamens* 10; *anthers* 2, horned above, opening in 2 forams; *capsule* 5-celled, 5-valved; dehiscence loculicidal. — *Stem* shrubby; *leaves* perennial, alternate, edge turned over; *flowers* aggregated, terminal; *peduncles* bracteated at bottom.

*Andromeda polifolia.* Many-leaved andromeda.

Leaves alternate, lanceolate, edge turned over; *peduncles* terminal, aggregated; *corolla* ovate.
Andromeda. 36. ERICINÆ. Pl. ex. cal.

Rosmarinum sylvestre minus nostras, *Park.* 76.
Marsh cistus. Wild rosemary.

Turf bogs: shrubby; June.
*Rhizoma* creeping; *stem* creeping; *leaves* pointed, glaucous beneath; *flowers* flesh-colour.

VII. 161. ARBUTUS. Pliny. *Strawberry-tree.*

*Calyx* very small, 5-cut; *corolla* ovate; limb small, 5-cut, turned over, inside villous; *stamens* 10; filaments villous beneath; *anthers* awned, opening at the tip with 2 pores; *stigma* peltate; *berry* tubercular, 5-celled; cells many-seeded.—*Stem* woody; *leaves* perennial, alternate; *flowers* terminal, racemous, panicled; *bractea* 1, at the bottom of each peduncle.

*Arbutus serratifolia.*  
Sawleaf *strawberry-tree.*
*Stem* shrubby; *leaves* oblong, bald, bluntly serrate; *racemes* compound, terminal, drooping.

*Arbutus,* *Raii Syn.* 464, 1; *Ger. em.* 1496; *Park.* 1489.
*Arbutus Unedo,* *Lin.* S. P. 566.
*Arbutus serratifolia,* *Salisb. Prod.* 208.
*Arbutus.* *Arbute-tree.*

Chalky rocks; shrubby; September.
*Leaves* blunt; *flowers* reddish white.

VII. 162. UVA-URSI. Dodonæus. *Bears-grape.*

*Calyx* small, 5-parted; *corolla* ovate; limb small, 5-cut, turned over; *stamens* 10; filaments bald; *anthers* awned, opening by 2 pores at the base; *berry* smooth, 5-celled, 4 or 5-seeded.—*Stem* undershrubby; *leaves* perennial, reticulately veined; *flowers* terminal, racemose; *bractea* 1 to each peduncle.

1. *Uva-ursi buxifolia.*  
Box-leaf *bears-grape.*
*Leaves* reverse-ovate, blunt; edge not in the least cut.

*Vaccinia ursi,* sive *Uva ursi* apud Clusium, *Ger. em.* 1416, 5.
*Uva ursi* Galeni, *Clusii,* *Park.* 1457.
*Arbutus Uva-ursi,* *Lin.* S. P. 566.
*Arbutus procumbens,* *Salisb. Prod.* 289.
*Arbutus buxifolia,* *Stokes Bot. M. M.* 509.
*Bears whortleberry.*

Alpine heaths; shrubby; June.
Stem procumbent, much branched; bark smooth; leaves alternate; corolla flesh-colour; berry red, austere.

2. **Uva-ursi alpina.** Alpine bears-grape.

Leaves reverse-ovate, pointed, wrinkled; edge serrated.

*Veronica Pannonica,* sive *Vitis Idaea,* *Ger. em.* 1416, 4.

*Vaccinum nigra Pannonica,* *Park.* 1486.

*Arbutus Alpina,* *Lin. S. P.* 566.

Hungary whortleberries.

Dry alpine rocks; shrubby; May.

Stem prostrate; bark falling off; leaves fringed; corolla white; bracteae fringed; berry black.

B. Antkers 2-celled, opening by 2 foramens; corolla 2 to 5-parted, nearly to the base.

IX. 163. CHAMÆCISTUS. Clusius. Rose-bay.

Calyx 5-parted; corolla bellshaped; limb 5-parted, regular; stamens 5, equal, enclosed, not declinate; capsule ovate, 5-celled; dehiscence septicidal; seeds many.—Shrub procumbent; leaves opposite, edge turned over, not nicked, furrowed beneath, perennial; flowers terminal, upright, solitary or in pairs; bracteae 3 at the base of each peduncle, 2 large, 1 small.

**Chamaecistus serpyllifolius.** Thyme-leaf rose-bay.

Branches diffuse, procumbent; leaves elliptical, quite bald.

*Chamaecistus serpyllifolius,* *Ger. em.* 1284.


Thyme-leaved dwarf cistus.

Alpine heaths; shrubby; July and August.

Stem much branched, branches intermixed; leaves petioled, spread, blunt; petioles fringed; flowers dark rose-colour.

X. 164. EMPETRUM. Dioscorides. Crakeberry.

Calyx 3-parted; corolla 3-parted or 3-petaled; lobes turned over; stamens very long, opposite to the lobes, 3, or rarely 9; anthers opening lengthways on the sides; ovary flattened; style 1, short; stigma 9-rayed; berry flattened, 6 or 9-seeded.—Shrub low; leaves crowded, alternate or nearly whirled, small; edge turned over, concave beneath; flowers solitary, axillary, unisexual, rarely hermaphrodite, frequently dioicus; bracteae 3 to each flower.
Empetrum nigrum.  
Black crake-berry.

Stem procumbent; twigs bald; leaves oblong, blunt, bald; edge turned over, fringed.

Empetrum montanum, fructu nigro, Raiti Syn. 444, 1.  
Erica baccifera procumbens, Ger. em. 1383, 9.  
Erica baccifera nigra, Park. 1485.  
Empetrum nigrum, Lin. S. P. 1450.  
Crow-berries.  Blackberry heath.

Mountain heaths; shrubby; May.

Bark falling off; inner bark yellow; leaves membranaceous, swollen, furrowed underneath; petioles very short; corolla and anthers purple; berries black.

XI. 165. PYROLA. Brunsfel.  
Winter-green.

Calyx very small, 5-parted; corolla 5-parted; stamens 10, 2 at the base of each lobe; anthers opening by 2 reverse-ovate foramen at the base, becoming reversed; stigma peltate; capsule 5-celled, many-seeded; dehiscence loculicidal; seeds with a membranous wing.—Stem creeping, scaly, twigs upright; leaves perennial, alternate, petioled, bald; flowers peduncled, terminal, whitish, racemose, mostly drooping; bractea mostly 1 at the base of each peduncle.

a. Orpheus. Corolla irregular; stamens ascending; style decline, stigma rotate, 5-tubercled, with a central point; nectary 0.

1. Pyrola rotundifolia.  
Round-leaved winter-green.

Leaves roundish; racemes many-flowered; bractea lanceolate, as long as the peduncles; calyx as long as the stamens; stamens ascending; style decline, twice as long as the stamens.

Pyrola, Raiti Syn. 363, 1; Ger. em. 408, 1.  
Pyrola nostras vulgaris, Park. 508.  
Pyrola declinata, Murch Meth. 315.  
Common winter-green.

Woods and mountains; perennial; July.

Root scaly, creeping; leaves dilated, slightly crenated, rather leathery, about as long as the petiole; bractea few, on the lower part of the peduncle; flowers white.

b. Pyrola. Cor. regular; stamens incurved; anthers opening at top; stigma peltate; nectaries 5; racemes regular.

2. Pyrola media.  
Middle-size winter-green.

Leaves roundish; racemes many-flowered; peduncles twisted; corolla globose; stamens regularly inflected, longer
than the calyx; *style* declining perpendicularly, twice as long as the stamens.

Woods; perennial; June.

3. *Pyrola minor*.  
*Small winter-green.*  
Leaves roundish; *racemes* many-flowered; *peduncles* straight; *stamens* regularly bent; *style* straight, half as long as the stamens; *stigma* pointed.

*Pyrola minor*, Rait *Syn.* 363, 2; *Lin. S. P.* 187.  
Woods; perennial; July and August.  
*Peduncles* nearly naked; *flowers* white or reddish.

c. *Alsoganum*.  
*Corolla* regular; *stamens* incurved; *anthers* opening at the base; *nectaries* 10; *racemes* 1-rowed.

4. *Pyrola secunda*.  
*One-rowed winter-green.*  
Leaves ovate, pointed, serrated; *racemes* many-flowered; *peduncles* straight; *bracteae* lanceolate, as long as the peduncle; *stamens* regularly bent; *style* straight, longer than the stamens.

*Pyrola folio mucronato serrato*, Rait *Syn.* 363, 3.  
*Pyrola secunda tenerior Clusii*, *Ger. em.* 408, 2.  
*Pyrola tenerior*, Park. 509.  
*Small winter-green.*

Mossy parts of alpine woods; perennial; July.  
*Stem* procumbent, much branched; *corolla* greenish-white; lobes oblong.

XII. 166. *MONESSES*. R. A. Salisbury, *MS*.  
*Moneses*.  
*Calyx* small, 5-parted; *corolla* 1-petal, 5-lobed; *stamens* 10, bent inwards, 2 at the base of each lobe; *anthers* 2-horned at the base, becoming reversed, opening at the bottom of each horn by a foramen; *style* straight; *stigma* radiated; *nectaries* 0; *capsule* 5-celled, 5-valved; *dehiscence* loculicidal; *seeds* many.—*Root* creeping; *stem* herbaceous, simple; *leaves* petioled, alternate, roundish, reticulately veined; *peduncle* single, terminal, 1-flowered; *bractea* 1, distant from the flower; *flower* large, white, drooping, fragrant.

*Moneses grandiflora*.  
*Large-flowered moneses.*  
*Leaves* reverse-ovate, blunt, serrate; *peduncle* longer than the leaves.

*Pyrola quarta minima Clusii*, *Ger. em.* 408, 4.  
*Pyrola uniflora*, *Lin. S. P.* 568.  
*Round-leaved winter-green.*
Moist places in alpine woods; perennial; July.
Peduncles upright; flowers smell-like the may-lily, white, with reddish lines.

C. Monotropa. Anthers peltate, horizontal, 1-celled, not opening by 2 foramens; plant leafless, parasitical.

XIII. 167. HYPOPITYS. Dillenius.
Pine-sap.
Calyx 3 to 5-parted; corolla 3 to 5-parted, falling off, lobes hooded at the bottom; stamens 6 to 10, 2 at the base of each lobe; anthers small, horizontal, 1-celled, opening flat at last; stigma orbicular, edge bearded; capsule 5-celled, 5-valved; seeds many, awlshape, minute, winged.—Plant parasitic, destitute of verdure, odour musty; root fibrous; stems aggregate, simple, enlarged at bottom, fleshy, scaly; scales imbricate below, alternate above; racemes first bent, then upright; flowers pedicelled; bractea 1 to each flower.

Hypopitys lutea. Yellow pine-sap.
Plant yellow, bald; flowers peduncled, 3 or 4-cut; terminal flower 5-cut.

Hypopitys lutea, Ralii Syn. 317, 1.
Monotropa Hypopithys, Lin. S. P. 555.
Hypopitys europaea, Nutall Gen.
Yellow Birds-nest.

On the roots of birches or pines; perennial; June.
Herb on drying becomes black, and acquires a stronger odour; bractea scaly.


Calyx 1-leafed, not cut or toothed, small, adherent to the ovary; corolla hypogynous, 1-petaled, 4 or 5-parted, regular, falling off; aestivation imbricate; stamens definite, 8 or 10, 2 at the base of each lobe, hypogynous; anthers opening by 2 pores; ovary adherent, many-celled; style 1; stigma 1, either cut or not; berry umbilicated, 4 or 5-celled; cells many-seeded; seeds on a central spermophore; perisperm fleshy; corculum nearly as long as the perisperm; cotyledons very short; radicle very long, below.
Corolla ovate, 4-cut; anthers 2-horned Vaccinium. 168.

Cor. bellshape, 4-cut; anthers hornless;
filaments woolly ....................... Vitis-Idæa. 169.
Cor. bellshape, 4-cut; anthers hornless;
filaments bald .......................... Oxycoccus. 170.

I. 168. VACCINIUM. Pliny.

Calyx 4 or 5-toothed; corolla bellshape, ovate, limb 4-cut, lobes reflexed; stamens 8 or 10; filaments bald; anthers 2-horned; stigma simple; berry 4 or 5-celled, many-seeded.—Stem shrubby; leaves annual; flowers solitary, drooping.


Stem angular; leaves alternate, petioled, serrate; flowers solitary, axillary.

Vitis Idæa angulosa, Rail Syn. 457, 2.
Vaccinia nigra, Ger. em. 1415, 1.
Vaccinia nigra vulgaria, Park, 1456.
Vaccinium Myrtillus, Lin. S. P. 498.
Vitis Idæa Myrtillus, Mœch Meth. 47.
Vaccinium montanum, Salish. Prod. 291.


Spongy places in mountain woods; shrubby; May.

Leaves light green; flowers peduncled, flesh-coloured, globose; calyx 5-toothed; corolla mostly 5-cut; stamens 10; berries black, rarely white, esculent.

2. Vaccinium uliginosum. Moor bilberries.

Stem round; leaves reverse-ovate, bald; edge not cut in the least, rather turned over; beneath glaucous; flowers solitary, axillary.

Vitis Idæa magna quibusdam, sive Myrtillus grandis, Rail Syn. 457, 1.
Vitis Idæa foliis subrotundis major, Ger. em. 1416, 6.
Vaccinia nigra, fructu majore, Park, 1455.
Vaccinium uliginosum, Lin. S. P. 499.

Great bilberry.

Bogs on mountain heaths; shrubby; April and May.

Leaves blunt, veiny; flowers flesh-coloured, 4-cut; stamens mostly 8; berries black, esculent; seeds streaked.

II. 169. VITIS-IDÆA. Pliny.

Calyx 4-cut; corolla bellshape, 4 or 5-parted; lobes turned over, easily separable into 4 petals; stamens 8 or 10; filaments woolly; anthers awnless, tip tubular, open;
stigma simple; berry 4-celled, many-seeded.—Leaves alternate, perennial, petioled; flowers racemose, flesh-colour, drooping; bracteae 1, at the base of each flower.

**Vitis-Idaea punctifolia.**  
Dotted-leaf cowberry.

Leaves reverse-ovate, dotted beneath; edge turned over, toothed; racemes terminal, drooping.

*Vitis-Idaea semper virres fructu rubro, Rall Syn. 457, 3.*  
*Vaccinia rubra, Ger. em. 1415, 2.*  
*Vaccinia rubra buxes folis, Park. 1458.*  
*Vaccinium Vitis-Idaea, Lin. S. P. 500.*  
*Vaccinium nemorosum, Salish. Prod. 291.*  
*Vaccinium punctifolium, Stokes Bot. M. M. 368.*  
*Vitis-Idaea punctata, Manch Meth. 47.*

Red whortle-berries.

Turfy heaths; shrubby; June.

*Stem* very low, ascending, cylindrical; *leaves* thick, stiff, ending in a rounded tubercle, reticulately veined; edge not cut, serrate or toothed; *bracteae* coloured, fringed, concave; *flowers* flesh-colour; *berries* red, acid, unpleasant until baked.

### III. 170. OXYCOCCUS. Cordus.  
**Craneberry.**

*Calyx* 4-cut; *corolla* 4 or 5-parted; *lobes* linear, turned over, becoming separate; *stamens* 8 or 10, exserted; *filaments* connivent, bald; *anthers* awnless, ending above in long tubes; tubes separate, open; *stigma* pointed; *berry* 4-celled, many-seeded.—*Stem* shrubby; *leaves* perennial, alternate, petioled; *peduncles* terminal, solitary, 1-flowered, bracteate at bottom; *flowers* flesh-colour, drooping.

**Oxycoccus palustris.**  
*Marsh cranberry.*

*Stem* naked, threadshape, creeping, bald; *leaves* ovate, edge not in the least cut, turned over; beneath glaucous.

*Oxycoccus,* sive vaccinia palustria, *Rall Syn. 267, 1.*  
*Vaccinia palustrin, Ger. em. 1417.*  
*Vaccinium palustre, Park. 1229.*  
*Vaccinium Oxycoccus, Lin. S. P. 500.*  
*Oxycoccus palustris, Pers. Syn. 410.*  
*Schollera Oxycoccus, Roth Germ. 2, 442.*  

Bogs on mountains; perennial; June.

*Stem* lying down; *leaves* small, petioled, upright; *berry* pale red, mottled, or purplish red.—Berries have a peculiar flavour, but are esteemed by some in tarts.
Fam. III. 38. CAMPANULACEÆ. De Candolle.

_Campinium_, Jussieu.

_Calyx_ 4 or 8-cut, equal, persisting; _corolla_ 1-petaled, regular or rarely irregular, 4, 5, 6, or 8-cut, rarely 5-petaled; claws broad, connivent, falling off or withering; _stamens_ as many as the lobes, alternate with them, adnate to the disk; _anthers_ fixed at the base, 2-celled; cells opposite, opening lengthways, distinct or cohering; _ovary_ 1, many-celled; _ovules_ many; _style_ 1; _stigma_ 1, or as many as the cells of the ovary, naked; _capsule_ below, opening by foraments on the side, or in exotics half-above; tip valvular; valves septiferous in the middle; _seeds_ many, small; _perisperm_ fleshy; _corculum_ axile, straight, nearly as long as the perisperm.—_Stem_ herbaceous, often yielding a milk; _leaves_ alternate, simple; _stipule_ 0; _flowers_ distant; racemose, axillary, or capitate, girt with a many-leaved involu-

crum.

**Corolla** bellshape, 5-cut; _caps_. 3-celled **CAMPANULA.** 171. 

_Cor._ rotate; _lobes_ heartshape; _caps_.

**prismatic** .............................................. **LEGOUSIA.** 172.

_Cor._ rotate; _lobes_ linear; _anthers_ dis-

**tinct** .................................................. **PHYTEUMA.** 173.

_Cor._ rotate; _lobes_ linear; _anthers_ joined **JASIONE.** 174.

_Cor._ unequal, 2-lipped; lower lip 3-parted;

_anthers_ joined; _stigma_ simple ............... **LOBELIA.** 175.

A. _Flowers_ regular; _stigma_ lobed.

I. 171. CAMPANULA. Dodonæus.  

_Bellflower._

_Calyx_ 5-cut, segments not turned back; _corolla_ bell-

shape, 5-cut; _stamens_ 5; _filaments_ dilated at bottom, co-

vering the top of the capsule; _anthers_ upright; _stigma_ 3-parted; _capsule_ reverse-pyramidal, 3 to 5-celled, open-

ing by foraments on the side.—_Stem_ herbaceous; _lower_ 

leaves petioled; upper leaves mostly sessile; _flowers_ brac-

teated, axillary, solitary or in bundles, or racemes, terminal 

or rarely solitary.

1. Campanula hederacea.  

_Iny-leaf bellflower._

_Stem_ weak; _leaves_ heartshape, 5, 6, or 8-angled, bald; 

_peduncles_ solitary, 1-flowered.

Campanula cymbalariae folio, _Raii Syn._ 217, 7; _Ger._ em. 452, 7; _Park._ 652.

Campanula hederacea, _Lin._ S. _P._ 240.
Damp hedges and bogs; perennial; July and August.

Stem trailing, matted, diffuse; leaves opposite or alternate, very delicate, transparent; peduncles mostly terminal; flowers drooping, pale sky-blue; capsules hemispherical.


Stem round, much branched, diffuse; root-leaves rather roundish, deeply crenated; stem-leaves slender, linear; lobes of the calyx not cut, horizontal.

Campanula rotundifolia, Rait Syn. 277, 5; Ger. em. 452, 3; Lin. S. P. 232.
Campanula minor sylvestris rotundifolia, Park. 651.
Campanula variifolia, Salisb. Prod. 126.
Round-leaved bellflower.

Heaths and walls; perennial; August and September.
Root woody; stem upright; radical leaves kidneyshape, heartshape or oblong, pointed; flowers panicked, tremulous, blue or white.


Root-leaves reverse-ovate, rather downy; stem-leaves linear, lanceolate, slightly toothed; stem mostly 1-flowered; lobes of the calyx not cut, upright.

Campanula minor alpina, rotundioribus imis foliis, Rait Syn. 277, 6.
Campanula linifolia, Jacq. Coll. 2, 81.

Alpine rocks and fields; perennial; August.
Root rather woody; stem upright, round; flowers blue.


Stem angular; leaves stiff; root-leaves lanceolate, oval, blunt; stem-leaves lanceolate, pointed; panicles spreading; lobes of the calyx lanceolate, denticulate.

Campanula minor alba, sive purpurea, Ger. em. 452, 5.

Fields and hedges; biennial; July and August.
Root white, attenuated, esculent; stem rough, panicked; leaves roughish, slightly crenate, milkbearing, bitter; bracteae lanceolate, short; flowers upright, in threes; corolla light-blue, with three reddish lines.


Root fusiform; stem angular; leaves waved, hairy; root-leaves lanceolate; stem-leaves linear; panicle very close.
Rampions. Small rampion.

Fallow-fields, ditch banks, also cultivated; biennial or perennial; July and August. 
*Root* white, sweet; *leaves* toothed; *panicle* many-flowered; *peduncles* upright; *bracteae* linear; *lobes* of the calyx awl-shape; *flowers* blue or white.—*Root* esculent, fine-tasted in salads.

*Stem* rather round, quite simple; *leaves* ovate-lanceolate, rough, irregularly serrated; *peduncles* 1-flowered; *fruit* drooping.

Campanula maxima, *foliis latissimis, Rail Syn.* 276, 1.  

Woods and hedges; perennial; August. 
*Plant* milky; *stem* 4 feet high, hispid, many-flowered; *peduncles* axillary; *flowers* very large, blue or pale-red.

*Root* creeping; *stem* branched; *leaves* heartshape, lanceolate, round, rough, unequally serrated; *flowers* spread; 1-rowed, drooping; *calyx* rough; *lobes* reflex, not cut.


Woods; perennial; August. 
*Lower leaves* petioled; *upper sessile; bracteae* small; *flowers* blue; *fruit* drooping.

*Stem* angular; *leaves* deeply serrated, very rough; *upper leaves* ovate-lanceolate; *lower leaves* heartshape; *peduncles* axillary, few-flowered; *fruit* drooping.

Campanula vulgarior foliis urticae vel major et asperior, *Rail Syn.* 276, 2.  
Trachelium majus, *Ger. em.* 448, 1.  

Woods and hedges; perennial; July.
Angles of the stem rather winged; juice yellow; calyx usually rough; corolla blue or pale red, sometimes double; inside hairy.

Stem angular, simple; leaves ovate, crenulated, hairy; upper leaves embracing the stem; flowers terminal, sessile, in heads.

Campanula pratensis flore conglomerato, Rau Syn. 277, 3.
Trachelium minus, Ger. em. 449, 4; Park. 644.
Small Canterbury bells.

Chalky fields; perennial; July and August.

Root woody; lower leaves nearly heartshape; bracts oval, coloured; lobes of the calyx hairy; corolla blue or white, viscid, hairy.

β. minor. Stem scarcely two inches high.

II. 172. LEGOUSIA. Durande. Venus' looking-glass.

Calyx 5-parted; corolla rotate, tube very short; limb 5-cut; lobes reverse-heartshape; stamens 5; anthers distinct; filaments very short, not dilated; stigma 2 or 3-cut; capsule columnar, prismatic or cylindrical; 2 or 3-celled, many-seeded.—Stem herbaceous; leaves sessile; flowers axillary, sessile, blue or white.


Stem stiff, straight, slightly branched at bottom; leaves oblong, waved, crenate; flowers solitary; corolla shorter than the calyx.

Campanula arvensis erecta, vel Speculum Veneris minus, Rauii Syn. 278, 1.
Speculum Veneris minus, Ger. em. 439, 2; Park. 1331.
Campanula hybridra, Lin. S. P. 239.
Prismatocarpus confertus, Munch Meth. 496.
Prismatocarpus hybridus, De Cand. Fl. Gall. 2857.
Coddled corn-violet. Lesser Venus' looking-glass.

Chalky fields; annual; August.
Root fibrous; stem angular, edges rough; corolla violet.

2. Legousia arvensis. Field Venus' looking-glass.

Stem very much branched, diffuse; leaves oblong, crenate; flowers solitary; corolla spread open, equal to the lobes of the calyx.
Speculum Veneris, Ger. em. 439, 1.
Campanula Speculum, Lin. S. P. 239.
Legousia arvensis, Durand Fl. Burg. 1, 37.
Prismatocarpus Speculum, De Cand. Fl. Gall. 2856.
Campanula pulchella, Salisb. Prod. 127.
Corn gillflower. Corn pink.

Chalky fields, dunghills; annual; July and August.


Calyx 5-cut; corolla at first round, concave, then 5-parted; tube very short; lobes of the limb linear, loose; stamens 5; anthers distinct; stigma 3-cut; capsule 2 or 3-celled, opening by lateral pores.—Stem mostly simple; flowers in close heads or terminal spikes; bractee 1 to each flower.

Root-leaves ovate-heartshape; upper leaves oblong, lanceolate, serrate; flowers in a roundish head; bractee ovate-lanceolate.

Rapunculus corniculatus montanus, Rail Syn. 278, 1; Ger. em. 455, 5.
Rapunculus alopecuroides orbiculatus, Park. 648.
Mountain horned-rampions.

Pastures and waysides in chalky soils; peren.; August.
Root woody; leaves fringed; heads many-flowered; bractee enlarges after flowering; flowers violet or rarely white.

IV. 174. JASIONE. Theophrastus. Sheeps' scabious.

Calyx 5-cut; corolla rotate; tube very short; limb 5-lobed; lobes long, linear, loose; stamens 5; anthers grown together at bottom into a tube; stigma clubshape, nicked; capsule half 2-celled, opening at the tip by a pore; spermophore free; seeds many.—Stem mostly simple; flowers pedicelled, in heads; central flowers often abortive; involucrum many-leaved; receptacle naked.

Jasione montana. Mountain sheeps' scabious.
Leaves linear, lanceolate, slender at bottom, hispid, waved, crisp.

Rapunculus scabiosae capitulo caeruleo, Rail Syn. 278, 2; Park. 646.
Scabiosa minima hirsuta, Ger. em. 723, 12.
Jasione montana, Lin. S. P. 1317.
Sheeps' bit. Hairy sheeps' scabious.

Sandy pastures; annual; June and July.
Root woody; stems many, round, slightly branched; root-leaves large; flowers blue.
B. **Lobelia.** Flowers irregular, cut deepest on the lower side, generally become resupinate; stigma bearded, completely formed before the anthers burst.

V. 175. **LOBELIA.** Plumier.

*Calyx* 5-toothed; *corolla* irregular, becoming resupinate, deeply cut below, 3-lobed above; *stamens* 5; *filaments* distinct; *anthers* connected into a tube, bearded at the top; stigma nicked; capsule 2-celled. — *Stem* upright; *leaves* often radical; *flowers* peduncled, in racemes; *bractea* 1 at the base of each peduncle; *juice* milky.

1. **Lobelia lacustris.**

*Leaves* mostly radical, linear, 2-celled, not in the least cut; *scape* simple, nearly naked, few-flowered, racemose.


*Gladiolus lacustris*, *Ger.* em. 105, 4.

*Gladiolus lacustris* Clusii, sive lencojum palustre, flore subæuleo

Banhini, *Park.* 1250.

**Lobelia lacustris**, *Lin.* S. P. 1810.

**Lobelia lacustris**, *Salisb.* Prod.

*Water sword-flag.*

*Lakes; perennial; July.*

*Root* white; *stem* round, hollow; *leaves* all under water, bent back; *flowers* drooping, blue; *bractea* ovate, short; *lobes* of the calyx shorter than the tube of the corolla.

2. **Lobelia urens.**

*Stem* rather erect; *lower leaves* reverse-ovate, denticulated; upper leaves lanceolate, serrate; *flowers* in racemes.

**Lobelia urens**, *Lin.* S. P. 1821.

**Lobelia verbenaefolia**, *Salisb.* Prod. 129.

*Mountainous meadows; perennial; August and September.*

*Root* fibrous; *stem* branched, bluntly angular, rather leafy; *racemes* many-flowered; *flowers* 1-rowed, violet; *bractea* bristleshape, rough; *lobes* of the calyx reute, as long as the tube. — *Plant* acrid, especially the root.

Fam. IV. 39. **COMPOSITÆ.**

*Flowers* collected into a calathide seated on a clinanthus: *calathide* girt with a pericline composed of many scales, in a single, double, or multiple series; scales mostly free, sometimes soldered; *pericline* often surrounded with an involucrum of many verticillate *bractea* attached to the base; *clinanthus* naked or with appendices, flat or convex; *calathide* of 1, 2, or 3 sorts of flowers, mostly solitary, some-
times formed into a calathiphore.—Calyx very thin, adherent to the ovary; apex simple or pappose; corolla situated on a gland at the top of the ovary, 5-lobed; lobes (or rather soldered petals) having a simple rib on each side meeting at the tip; aestivation valvular; stamens 5; filaments inserted into the corolla, attached to it at the base, alternating with the lobes, formed of two joints, upper joint very short; anthers 2-celled, 4-valved, opening lengthways, soldered together by the outer valves into a tube; ovary mostly pedicelled, simple, 3-celled; ovules 3; style 1, 2-cut; stigmata 2, on the inner faces of the lobes of the style; collectors 2, on the outer faces; akenium 1-seeded by abortion, naked or pappose; pappi scaly, hairy or feathery; seeds upright; spermodermis very thin; perisperm 0, or very thin; corculum straight; radicle below; cotyledons flat.—Stem herbaceous; leaves mostly alternate.

A. CICHORACEÆ. Flowers all ligulate, hermaphrodite; clinanthus scarcely fleshy; stigmata papillous on the whole inner faces of the branches; collectors hairy on the whole outer faces of the branches and upper part of the style.—Plant mostly lactescent; leaves alternate; flowers yellow, rarely blue, often meteoric.

a. Pappus 0, or chaffy; scales of the pericline in a single row; involucrum small.

Pappus 0; clinanthus naked ............. LAPSANA. 176.
Pappus marginal, not cut;
clinanthus naked ...................... ARNOSERIS. 177.
Pappus chaffy; chaffs 5 or many .. CICHORIUM. 193.

b. Pappus hairlike or bristlelike, sessile; pericline imbricate.

Pappus very soft; akenium compressed;
pericline bellied, imbricate .............. SONCHUS. 181.
Pappus denticulate; akenium roundish;
pericline ovate, imbricate ............. HIERACIUM. 182.
Pappus snow-white; akenium streaked;
pericline simple; calathide many-flowered . CREPIS. 183.
Pappus snow-white; akenium streaked;
pericline simple; calath. 4 or 5-flowered PRENANTHESES. 179.

c. Pappus hairlike, stipitated; scales of the pericline imbricate.

Pappus unequal; pericline becoming torulose .......... BARKHAUSIA. 184.
d. *Pappus* hair-like, stipitate; scales of the pericline in a single row.

*Bracteae* many, loose .................... *Taraxacum*. 185.

*Bracteae* few; *pericline* cylindrical;

*Bracteae* few; *pericline* cylindrical;
*calathide* 5-flowered .................... *Chondrilla*. 178.

**e. Pappus feathered, sessile; clinanthus naked;**

*pericline* imbricated.

*Akenium* streaked lengthways;
*pappus* unequal .................... *Thrica*. 188.

*Akenium* streaked lengthways; *pappus* of
the circumference unequal, *scales* .......... *Virea*. 189.

*Akenium* wrinkled transversely ............ *Picris*. 190.

**f. Pappus feathered, stipitate; clinanthus naked; scales of the pericline one-rowed.**

*Akenium* wrinkled transversely;
*involucrum* 5-bracteated ............. *Helminthia*. 191.

*Akenium* streaked lengthways;
*involucrum* 0 .................... *Tragopogon*. 192.

**g. Pappus feathered; clinanthus chaffy; pericline imbricate.**

*Pappi* all stipitate .................... *Achyrophorus*. 186.

*Pappus* of the centre stipitate; of
the circumference sessile .................... *Hypocharis*. 187.

I. 176. **LAPSANA.** Dioscorides.  

*Nipplewort.*

*Bracteae* 4 or 5, very short; *pericline-scales* 8, in a single row, upright, connivent; *clinanthus* bald, flat, with depressed papillae; *flowers* many; *akenium* oblong, angular, streaked, deciduous; *pappus* 0.

**Lapsana communis.**  

*Common nipplewort.*  

*Stem* upright, streaked, branched; *leaves* ovate, petioled, angularly toothed; *peduncles* thin, much branched; *pericline* when in fruit angular.

*Lampsana, Raii Syn. 173, 1; Ger. em. 255.  
Lampsana vulgaris, *Park. 810.  
Dock cresses.*  

Ruins and fields; annual; June and July.
Root branched; stem rather bald; root-leaves lyrate; stem-leaves ovate; floral-leaf linear, lanceolate, 1 at the base of each peduncle.—Eaten at Constantinople just before flowering as a salad; and used in Prussia to cure ulcerated breasts.

II. 177. ARNOSERIS. Gærtner. Swine's-succory.

Bractæ very few, small; pericline becoming torulose and connivent into a globe; scales many, equal, single-rowed, acutely keeled; clinanthus bald, flat, with hollow dots; akenium angular, furrowed; pappus marginal, leathery, 5-sided, not toothed.—Leaves radical; scape thickened above.

Arnoseris pusilla. Dwarf swine's-succory. Scape 1 to 3-flowered; leaves ovate, oblong, denticulate; peduncles fistulous, clubshape, thickened above.

Hieracium minimum Clusii, Hyoseris Tabermontani et Gerardi, Rau Syn. 173,1; Park. 791.
Hyoseris mascula, Ger. em. 288, 8.
Hyoseris minima, Lin. S. P. 1138.
Arnoseris pusilla, Gærtner Sem. et Fr. 2, 355.

Sandy fields; annual; June.
Root fusiform; leaves toothed; stem upright, bald, very thin at bottom, thicker above; corolla yellow.

III. 178. CHONDILLA. Dioscorides. Gum-succory.

Bractæ few, short; pericline cylindrical; scales 8 or 10, membranaceous at the edge, equal; clinanthus bald, hollowed, dotted; flowers 5 or 6, in one row; akenium ovate, compressed, streaked, rather rough; pappus stipitate, very soft, snow-white, fugacious.—Leaves radical and cauline; flowers diversely panicled, yellow.

Chondilla muralis. Wall gum-succory.
Leaves lyrate, pinnatifid, toothed, terminal lobe 5-angular; pappus stipitate; stipes shorter than the akenium; clinanthus diversely panicled.

Lactuca sylvestris murorum flore luteo, Rau Syn. 162, 5.
Sonchus lasvis muralis, Ger. em. 293, 5.
Sonchus lasvis alter parvis floribus, Park. 805.
Prenanthes muralis, Lin. S. P. 1121.
Chondilla muralis, Lamarck. Fl. Fr.

Walls and close woods; perennial; July.
Chondria. 39. COMPOSITÆ, A. Pl. ex. cal.

Root woody; stem round, upright; radical leaves petioled; panicle divaricated; flowers bracteated, yellow.

b. integrifolia. Upper leaves not cut.

IV. 179. PRENANTHES. Vaillant. Prenanth.

Bracteae few, short; pericline cylindrical; scales 8 or 10, equal, membranaceous at the edge; clinanthus with hollow dots, bald; flowers 5 or 6 in one series; akenium ovate, compressed, streaked, rather rough; pappus sessile, very soft, snow-white, fugacious.—Leaves radical and cauline; flowers divaricatedly panicked, yellow or purple.

Prenanthes pulchra. Handsome prenanth.

Leaves rather rough; root-leaves runcinate; stem-leaves embracing the stem, ovate, lanceolate, arrowlike at the base; panicle corymbosely divaricated, naked.

Crepis pulchra, Lin. S. P. 1134.
Lapsana pulchra, Fill. Dauph. 3, 163.
Chondrilla pulchra, Lamarck Encl. Meth. 277.
Prenanthes hieraciifolia, Willd. S. P. 3, 1541.
Prenanthes pulchra, Munch Meth. 534.

Alpine rocks; annual; June to September.

Stem slender, spreading; flowers small, yellow; pericline pyramidal, bald.

V. 180. LACTUCA. Pliny. Lettuce.

Bracteae 8 or 10, unequal, pointed; pericline cylindrical; scales 8, membranaceous at the edge, pointed; clinanthus flat, bald, with hollow dots; calathide many-flowered, 7-rowed; akenium ovate, attenuated, compressed, streaked lengthways; pappus stipitate, very soft, hairlike, fugacious.—Stem mostly prickly.

1. Lactuca sativa. Cultivated lettuce.

Root-leaves oblong, lanceolate, toothed at the edge; stem-leaves heartshape; flowers corymbose.

Lactuca sativa, Ger. em. 306, 1; Lin. S. P. 1118.
Coss Lettuce.

Cultivated for a potherb and salad; annual; June, Sept.

Lower leaves spreading, oblong, wrinkled; akenium white; pappus-stipes little shorter than the akenium.—Leaves narcotic; if eaten in large quantities laxative, especially if boiled.
\( \beta. \) planifolia. Lower leaves flat, lanceolate, oblong; upper leaves ovate, arrow-shaped; akenia black.
Lactuca intybacea, \( \text{Ger. em. 307}, 6. \)
Lactuca angustifolia, \( \text{Lamarck Encyc. Meth. 3, 402}. \)
\( \text{Italian cos lettuce. Endive-leaved lettuce.} \)

\( \gamma. \) capitata. Lower leaves curled, wrinkled, slightly sinuate, ribbed at bottom; upper leaves oblong, arrow-shaped.
Lactuca capitata, \( \text{Ger. em. 307}, 5. \)
Lactuca angustifolia, \( \text{Lamarck Encyc. Meth. 3, 402}. \)
\( \text{Cabbage-lettuce.} \)

\( \delta. \) crispa. Lower leaves rounded, ovate, wrinkled, sinuate-lobed, keel hairy; upper leaves oblong, arrow-shaped, sinuate-toothed.
Lactuca crispa, \( \text{Ger. em. 306}, 2. \)
\( \text{Curled-leaf lettuce.} \)

All the varieties are cultivated extensively.

\( 2. \) Lactuca sylvestris. \( \text{Wild lettuce.} \)
Leaves sinuate-pinnatifid, embracing the stem, vertical; keel prickly; tip pointed; flowers loosely panicedled.
Lactuca sylvestris costa spinosa, \( \text{Raii Syn. 161}, 2. \)
Lactuca sylvestris folis dispositis, \( \text{Ger. em. 309}, 3. \)
Lactuca sylvestris laciniata, \( \text{Park 814}. \)
Lactuca scarica, \( \text{Lin. S. P. 1119}. \)
Lactuca sylvestris, \( \text{Lamarck Enc. Meth. 3, 406}. \)
\( \text{Mild-scented cut-leaved wild lettuce.} \)

Edges of fields on chalky soils; annual? August.
\( \text{Herb glaucous; bracteae heartshape, pointed; flowers lemon yellow.} \)

\( 3. \) Lactuca virosa. \( \text{Strong-scented lettuce.} \)
Leaves oblong, denticulate, horizontal; keel prickly; tip blunt.
Lactuca sylvestris major odor opii, \( \text{Raii Syn. 161}, 1: \text{Ger. em. 309}, 1. \)
Lactuca sylvestris endivia folis, \( \text{odor viroso, Park 813}. \)
Lactuca virosa, \( \text{Lin. S. P. 1119}. \)
\( \text{Cut lettuce.} \)

Chalky soils; biennial; August and September.
\( \text{Stem rod-like, 6 feet high, panicedled above; leaves glaucous, radical, many, reverse-ovate, undivided; flowers sulphur-colour, scarcely longer than the pericline.} \)
\( \text{Juice inspissated is narcotic.} \)

\( \beta. \) integrifolia. Leaves not cut.
Lactuca sylvestris, folio non laciniato, \( \text{Raii Syn. 162}, 3. \)

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4. Lactuca minima. Least lettuce. Root-leaves lanceolate, pinnatifid; stem-leaves hastate, linear, sessile, not cut; flowers racemose.

Chondrilla viscosa humilis, Ger. en. 287, 5 *; Park. 783.
Lactuca saligna, Lin. S. P. 1119.

Chalky soils; biennial or annual; August. Stem tough, rushlike, branched; leaves keeled, spinous or smooth; bracteae arrowshape.

VI. 181. SONCHUS. Theophrastus. Sowthistle.

Pericline imbricate, becoming connivent, ventricose at bottom; scales many, unequal, in 2 or 3 series; clinanthus flat, with hollow dots, bald; calathides many-flowered; akenium compressed, streaked lengthways; pappus hair-like, sessile, very soft, fugacious.—Stem fistulous, milky; leaves runcinate, sessile; flowers racemose or panicled.

a. Flowers blue; pappus rough.

1. Sonchus alpinus. Alpine sowthistle. Flowers racemose, bracteated; peduncles and pericline hirsute; leaves rather lyrate; terminal lobes deltoid, angular, bald, glaucous beneath.

Sonchus flore caeruleo, Ger. en. 294, 7.
Sonchus Canadensis, Lin. S. P. 1115.
Sonchus caeruleus, Camer. Epit. 281.
Sonchus montanus, Lamarck Enc. Meth. 401.
Hieracium caeruleum, Scopoli Carn. 976.
Blue-flowered sowthistle.

Alpine pastures; perennial; July and August. Root fleshy; stem 3 feet high, simple; leaves smooth, upper leaves linear, fringed; racemes solitary; bracteae linear; calathide twice as long as the pericline; anthers red.

b. Flowers yellow; pappus soft.

2. Sonchus palustris. Marsh sowthistle. Flowers many, panicled; peduncles and pericline glandularly hispid; leaves runcinate, arrowshape at bottom, edge rough.

Sonchus tricubitatis, folio cuspidato, Raîi Syn. 163, 8.
Sonchus arborescens alter, Ger. en. 294, 9.
Sonchus palustris, Lin. S. P. 1116.
Great tree sowthistle.
Stem 3 feet high, pipey; leaves pointed, bald; panicle many-flowered; pericline black.

Root creeping; leaves runcinate, heartshape at the base, doubly fringed; peduncles and pericline hispid; calathides few, panicled.
Sonchus repens, multis hieracium majus, Rait Syn. 163, 7.
Sonchus arborescens, Ger. em. 294, 8.
Sonchus arvensis, Lin. S. P. 1116.
Tree sowthistle.
Clay-fields and woods; perennial; August.
Root milky; stem 4 feet high; calathides very large; flowers yellow.

Leaves oblong, lanceolate, embracing the stem, slightly sinuated; edge fringed; peduncles rather nappy; pericline bald; calathides paniced.
Sonchus laevis, Rait Syn. 162, 1; Ger. em. 292, 3.
Sonchus laevis vulgaris, Park. 805.
Sonchus oleraceus, Lin. S. P. 1116.
Sonchus ciliatus, Lamarck Fl. Gall. 287.
Hares' lettuce. Smooth thistle.
Cultivated places; annual; July to September.
Root fusiform; stem much branched; leaves bald; peduncles white; wool deciduous.—Herb much sought after by hares and rabbits; gathered for tame ones; used by some as a potherb and in salads.

β. latifolius. Leaves broad.
Sonchus laevis minor, paucioribus laciniis, Rait Syn. 163, 2.
Sonchus laevis latifolius, Ger. em. 292, 4.

γ. laciniatus. Leaves sinuated more than usual.
Sonchus asper laciniatus, Rait Syn. 163, 3; Park. 804.
Sonchus asperior, Ger. em. 291, 2.

δ. integrifolius. Leaves not sinuated.
Sonchus asper non laciniatus, Rait Syn. 163, 4.
Sonchus asper, Ger. em. 291, 1.
Sonchus asper major non laciniatus, Park. 803.

ε. subrotundus. Leaves roundish.
Sonchus subrotundo folio nostras, lævissimis spinulis circa foliorum oras exasperatus, Dillen in Rait Syn. 163, 5.

ζ. angustifolius. Leaves narrow, oblong, very thorny on the edges.
Sonchus φυλακέως angusto et oblongo folio nostras, per foliorum ambitum creberrimis spinulis asperatus, Dillen in Rait Syn. 163, 7.
VII. 182. HIERACIUM. Dioscorides. Hawkweed.

Pericline becoming ovate; scales many, linear, oblong, imbricate; clinianthus rather flat, scrobiculate, roughish, becoming rather globose, papillose; calathide many-flowered; akenium angular, furrowed; pappus sessile, bristle-like, denticulated, stiff, persisting, greyish.

a. Leontidææ. Leaves radical, rather bald, not glaucous or coriaceous; scape naked; calathides solitary, or few.

Leaves lanceolate, oblong, pointed, villous; edge whole or denticulated; scape rather naked, villous; calathide solitary; pericline very villous.

Hieracium (Pulmonaria) villosum alpinum flore magno singulari, caule nudo, Rait Syn. 169, 10.
Hieracium alpinum, Lin. S. P. 1124.
Welsh mouse-ear.

Alpine rocks; perennial; July.
Scape solitary, simple, with a lanceolate leaf in the middle; calathide upright; pericline black; flowers golden yellow.

Leaves oblong, pointed, hairy, hispid, not cut; scape leafy at bottom, hispid; calathides corymbose; peduncles conglomerate.

Hieracium hortense latifolium, sive pilosella major, Ger. cm. 305, 3.
Hieracium aurantiacum, Lin. S. P.
Grim the collier. Golden mouse-ear.

Alpine woods; perennial; June and July.
Stolones creeping; scapes with one or two leaves about the middle; flowers dark brownish orange colour.

b. Andryaloideææ. Plant hairy; hairs long, white, jointed, somewhat plumose; stem leafy; pappus very rough.

Stem upright, rather branchy, villous; leaves repand; toothed, villous; root-leaves oblong, lanceolate; stem-leaves ovate, embracing the stem; pericline open, very villous.

Hieracium quintum Clusii, Ger. cm. 301, 2.
Hieracium villosum, Lin. S. P. 1130.

Damp alpine woods; perennial; August.
Stem simple, 1-flowered, or branchy, many-flowered, 2 feet high; leaves rather glaucous; calathides terminal; flowers lemon-colour.

Lawson's hawkweed.  
Stem branchy; leaves elliptical, lanceolate, decurrent, glaucous, scarcely cut, fringed; stem-leaves few; pericline glandular hairy.

Hieracium Lawsonii, Villars Delph. 3, 118.  
Hieracium saxatilis, De Cand. Fl. Gall.

North of England; perennial; July.  
Stem spread open; calathides very large; flowers dark citron-colour.

c. Pilosellae. Stolones creeping, leafy; leaves inclining to glaucous; rather leathery, hirsute especially on the edge; hairs spreading, long, white, stiff; scape naked, or 1-leaved.

5. Hieracium repens.  
Creeping hawkweed.  
Stolones creeping, leafy; leaves ovate, not cut, nappy beneath; scape naked; calathide solitary, terminal.

Pilosella repens, Rauq Syn. 170, 1; Ger. cm. 698, 2.  
Pilosella minor vulgaris repens, Park. 690.  
Hieracium Pilosella, Lin. S. P. 1125.  
Creeping mouse-ear.

Dry pastures; perennial; June and July.  
Stolones hairy; leaves obtuse, above light green, beneath white; hairs of the pericline white and black; flowers lemon yellow; outer before opening streaked with purplish red.

6. Hieracium multiflorum.  
Many-flowered hawkweed.  
Stolones creeping, leafy; leaves lanceolate, naked beneath, not cut; scape mostly naked; calathides panicled, terminal, rarely solitary.

Hieracium Auricula, Lin. S. P. 1196.  
Hieracium dubium, Fl. Danica, 1044.

Mountains; perennial; July and August.  
Scape upright, naked or with a leaf about the middle; calathides 3 or 6; flowers yellow.

Doubtful hawkweed.  
Stolones creeping, leafy; leaves elliptical, lanceolate, hispid, woolly beneath, edge scarcely cut; scape naked; calathides 2 to 6, terminal.

Hieracium dubium, Lin. S. P. 1125.  
Hieracium Auricula, Fl. Danica, 1111.
Damp mountains; perennial; July and August.
Leaves rarely toothed; peduncles alternate, nappy; flowers lemon-yellow on both sides.

d. Pulmonariæ. Stem leafy; pericline hairy; hairs black.

Stem mostly simple, few-leaved; leaves ovate, nearly heartshape at the base, villous beneath, toothed; teeth radiating; calathides panicedled.

Hieracium (Pulmonaria) murorum folio pilosissimo, Raai Syn. 168, 6.
Pulmonaria Gallica, sive aurea latifolia, Ger. em. 304, 1.
Hieracium murorum Bauhini, quod est pulmonaria Gallorum Lobelii
Park. 801.
Hieracium murorum a, Lin. S. P. 1128.
Hieracium murorum, Smith Lin. Trans. 9, 236.
Hieracium murorum β, Smith Fl. Brit. 830.
French lungwort. Broad-leaved golden lungwort.

Walls and cliffs; perennial; May and June.
Stem furrowed; root-leaves many, roundish ovate; calathides large, yellow.

β. laciniatum. Leaves jagged, slightly hairy.

Stem fistulous, many-leaved; leaves ovate, lanceolate, toothed; teeth bending forwards; calathides cymose.

Hieracium (Pulmonaria) laciniatum hirsutum, folio longiore, Raai Syn.
169, 9.
Hieracium murorum γ, Smith Fl. Brit. 830.

Rocks and mountains; perennial; July.
Stem 4 feet high; leaves dark green, strongly speckled with black, elliptical, rather heartshape.

Stem many-leaved; leaves ovate, lanceolate, toothed at the base; teeth bending forwards; calathides panicedled.

Hieracium Pulmonaria dictum, augustifolium, Raai Syn. 168, 7.
Pulmonaria Gallica, sive aurea angustifolia, Ger. em. 304, 2.
Narrow-leaved French lungwort. Narrow-leaved golden lungwort.

Chalky woods and walls; perennial; July and August.
Leaves pale grass-green; flowers lemon-coloured.

β. maculatum. Stem tall, strong; leaves dark green, elegantly speckled with black; calathides very numerous.

Hieracium sylvaticum β, Smith Linn. Trans. 9, 241.
11. **Hieracium pulmonarium.**  
*Lung hawkweed.*  
*Stem solid, few-leaved; leaves lanceolate, toothed; teeth broad, bent forward; calathides cymose.*  
Hieracium pulmonarioides, *Villars Delph.* 3, 135.  
Rocks; perennial; July.  
*Stem-leaves 1 or 2, near the bottom; root-leaves many, spotted with brown; calathides large, lemon-colour.*

12. **Hieracium paludosum.**  
*Marsh hawkweed.*  
*Stem fistulous; leaves heartshape, stem-clasping, toothed, bald; calathides panicked; periclines hispid.*  
Hieracium montanum latifolium minus, *Ger. em.* 300, 11.  
Alpine pastures; perennial; July.  
*Stem 3 feet high; leaves ovate, pointed; lower leaves sometimes lyrate; calathides rather corymbose; flowers yellow.—Herb intensely bitter.*

13. **Hieracium molle.**  
*Soft-leaved hawkweed.*  
*Stem fistulous; leaves lanceolate, hairy, slightly toothed, embracing the stem; lower leaves petioled; calathides panicked; peduncles downy.*  
Woods in Scotland; perennial; July and August.  
*Stem 18 inches high; leaves blunt; hairs short.*

14. **Hieracium cerinthoides.**  
*Honeywort hawkweed.*  
*Stem solid; leaves hirsute, slightly denticulated; root-leaves ovate, decurrent; upper leaves oblong, slightly stem-clasping; calathides corymbose.*  
Rocks; perennial; August.  
*Stem upright, villous; leaves rather glaucous, smooth above; pericline hirsute.*

15. **Hieracium Sabaudum.**  
*Savoy hawkweed.*  
*Stem mostly simple, upright; leaves ovate, lanceolate, toothed-serrate, slightly embracing the stem, beneath rough; calathides corymbose.*  
Hieracium (Pulmonaria) fruticosum latifolium hirsutum, *Raii Syn.* 167, 1;  
*Park.* 802.  
Woods and hedges; perennial; August and September.  
*Stem rough, spongy inside; leaves pointed, beneath pale; flowers golden yellow.*
Hieracium. Leaves very slightly downy.
Hieracium (Pulmonaria) fruticosum latifolium glabrum, Rau Syn. 168, 2, Park. 801.

Hieracium (Pulmonaria) q. hieracii seu pilosellæ majoris species humilis, foliis longiioribus, rarius dentatis plurimis simul flore singulari nostræ, Rau Syn. 170, 14.

Hieracium latifolium. Leaves broad, lanceolate; pedicells very short.

Hieracium umbellatum. Umbelled hawkweed.

Hieracium (Pulmonaria) fruticosum angustifolium majus, Rau Syn. 168, 3; Park. 801.
Hieracium intybacæum, Ger. em. 298, 5.
Hieracium umbellatum, Lin. S. P. 1191.

Endive hawkweed.

Woods; perennial; August and September.


Hieracium gramineum. Leaves very narrow, not in the least cut.

Hieracium q. Pulmonaria graminea, Dillen in Rau Syn. 168, 5.

Hieracium prenanthoides. Prenanthes hawkweed.

Hieracium spicatum, Allioni Pedem.
Hieracium prenanthoides, Villars Delph. 3, 108.

Alpine mountains; perennial; July to September.

Hieracium denticulatum. Toothed hawkweed.

Hieracium Kalmii, Symotis Syn. 173.

Alpine mountains; perennial; July to September.

Hieracium 3 feet high; upper leaves oval; corolla yellow; seeds very smooth.
VIII. 183. CREPIS. Pliny.

*Hawks-beard.*

*Involutrum* patulous; scales many, falling off; *pericline* becoming torulous bellied; scales many, in one series; *clinanthis* flat, pitted; pitts fringed on the edge; *akenium* streaked; *pappus* sessile, hairlike, rough, white, falling off.

1. *Crepis tectorum.*

*Roof hawks-beard.*

*Leaves* rather bald; root-leaves lanceolate, runcinate, lobes ascending; upper leaves linear, threadlike, arrow-shape, toothed, embracing the stem; *calathides* corymbose; *pericline* downy.

*Hieracium luteum glabrum, sive minus hirsutum,* *Rait Syn.* 165, 9.

*Hieracium Aphanoides,* *Ger. em.* 297, 4.

*Cichoreum pratense luteum laevius,* *Park.* 778.

*Crepis tectorum,* *Lin. S. P.* 1135.


Succory hawksweed.

*Fields and pastures; annual; June to September.*

*Stem* branched, mostly bald, rarely slightly hairy; *leaves* light green; *calathides* small; *corolla* yellow.

β. *attenuata.* *Leaves* tapering to a point.

g. *integrifolia.* *Leaves* not cut, or very slightly toothed, lanceolate or ovate.

δ. *pilosa.* *Stem* hairy; *leaves* linear, very narrow.

2. *Crepis biennis.*

*Biennial hawks-beard.*

*Leaves* hispid, runcinately pinnatifid; lobes ascending; upper leaves sessile, lanceolate, toothed; keel hispid, prickly; *pericline* downy, prickly.

*Hieracium maximum chondrius folio asperum,* *Rait Syn.* 166, 12.

*Crepis biennis,* *Lin. S. P.* 1136.


*Chalky pastures; biennial; June and July.*

*Stem* 4 feet high, rough; *lower leaves* petioled; upper leaves lanceolate, pinnated at the base; *calathides* large, corymbose; *corolla* yellow.

IX. 184. BARKHAUSIA. Moench.

*Castor-weed.*

*Bracteeae* awlshape, short, weak; *pericline* becomes angular; scales nearly equal, in one series, become keeled and embrace the outermost akenia; *calathide* many-flowered; *clinanthis* rather flat, pitted; pitts fringed on the edge; *akenium* slender, furrowed, rough; *pappus* stipitate, hairy, rough; that of the circumference very short.
Barkhausia foetida.  Stinking castor-weed.
Stem hairy; leaves runcinately pinnatifid, rough, sessile; upper lanceolate, deeply cut at the base; pericline ovate, nappy.

Hieracium castorei odor Monspeliensium, Rau Syn. 165, 7.
Crepis foetida, Lin. S. P. 1133.
Barkhausia foetida, Monch Meth. 1133.
Picris foetida, Lamarck Fl. Fran. 2, 108.

Dry chalky pastures; biennial; June and July.
Stem diffused, branched, hairy; leaves runcinate pinnatifid; end lobe very large, deltoid; peduncles 1-flowered, thicker at top; corolla yellow, reddish on the back.

X. 185. TARAXACUM. Lonicerus.  Dandelion.
Bracteae nearly equal, lanceolate, weak, in two series; pericline oblong; scales many, in one series, equal, lanceolate, edge membranaceous; calathides many-flowered; clinanthus flat, pitted, bald; akenium compressed, streaked lengthways; pappus hairlike, stipitated, falling off.—Root fusiform; leaves radical; scape naked, hollow; calathides solitary, large; corolle yellow.

1. Taraxacum officinale.  Shop dandelion.
Leaves runcinate, bald; lobes lanceolate, toothed; bracteae reflexed.

Dens leonis, Rau Syn. 170, 1; Ger. em. 290, 1.
Dens leonis vulgaris, Park. 780.
Leontodon Taraxacum, Lin. S. P. 1122.
Leontodon Dens leouis, Lamarck Enc. Meth. 3, 349.
Taraxacum officinale, Villars Dauph. 3, 72.
Leontodon vulgar, Lamarck Fl. Fran. 2, 113.
Piss-a-bed.

Grass-lands and road-sides; perennial; Apr. to Sept.
Leaves light green; calathides large; bracteae nearly as long as the pericline; akenium lemon-colour.—Blanched leaves and the roots used in salads, very diuretic; juice alterative.

2. angustifolium.  Leaves narrow, deeply cut; akenium reddish.
Dens leonis angustioribus foliis, Rau Syn. 167, 2; Park. 780.

Leaves lanceolate, sinuately toothed, nearly bald; bracteae short, upright, closely pressed.
Taraxacum erectum, Hoffm. Germ. 1, 270.
Leontodon Raii, Gouan Illustr. 55.
Leontodon lividum, Willd. S. P. 1545.
Leontodon salinum, Pall. Pal. 735.
Hedypnois paludosa, Scop. Carn. 2, 100.
Leontodon palustre, Lyons Fasc. 48.
Marsh dandelion.

Fields and pastures; perennial; June and July. 
Bracteae pointed, much shorter than the pericline; corolla yellow.

XI. 186. ACHYROPHORUS. Scopoli. Cats-ear.

Pericline oblong; scales many, imbricated, keeled, mucricated; calathides many-flowered; clinanthus rather convex, chaffy; chaffs linear, pointed, nearly as long as the pericline, falling off; akenium streaked; pappus stipitate, feathered; rays threadshape.

1. Achyrophorus maculatus. Spotted cats-ear.
Stem nearly naked; branches solitary; leaves ovate, oblong, rather toothed, often spotted.
Hieracium primum latifolium Clusii, Raii Syn. 167, 17; Ger. em. 301, 1.
Hypochairis maculata, Lin. S. P. 1140.

Chalky mountainous pastures; perennial; July.
Stem upright, hirsute; root-leaves rough; spots purple; calathides mostly solitary, large; pericline hairy; corolla golden.

Stem branched, naked, smooth; leaves runcinate, blunt, rough; peduncles scaly.
Hieracium longius radicatum, Raii Syn. 165, 6; Ger. em. 298, 6; Park. 790.
Hypochaeris radicata, Lin. S. P. 1140.
Achyrophorus radicata, Scop. Carn. 957.

Fields and pastures; perennial; June and August.
Root very long; stems many, 6 inches high, simple; calathides solitary, nearly sessile, on the side.

XII. 187. HYPOCHÆRIS. Theophrastus. Cats-tongue.

Pericline long, conical; scales many, imbricate, smooth, flat, tip coloured; calathides many-flowered; clinanthus flat, chaffy; chaff lanceolate, pointed, nearly as long as the
scales of the pericline, falling off; akenium streaked; pappus of the circumference sessile, in the centre pedicelled; rays threadlike.

**Hypochseris glabra.** Smooth cats-tongue. Stem branched, naked; leaves radical, toothlike sinuated, bald.

Hieracium parvum in arenosis nascens, seminum pappis densius radiatis, **Raii Syn.** 166, 14. Hieracium glabrum, **Lin. S. P.** 1140.

Sandy gravelly places; annual; June to August. Stem rarely simple, mostly branched, reclined; leaves shining, rarely fringed; calathides solitary, upright, small; corolla lemon yellow.

XIII. 188. **THRICA.** Roth. **Thrca.**

Bracteae few, short; pericline 8-angled; scales and margin dilated at bottom; calathides many-flowered; corolla not glandular at the tip; mouth not hairy; clinanthus dotted; dots hollow; akenia of the circumference truncated at the tip, involved in the scales of the pericline; pappus chaffy; akenia of the centre long, slender, free; pappus sessile, feathered, rays unequal.—Leaves radical; calathides solitary, nodding before expansion; outer flowers of the calathide reddish.

1. **Thrca hirta.** Hairy thrca. Leaves lanceolate, sinuately toothed, hairy; hairs simple; calathides solitary; pericline rather bald; scales pointed.

Hieracium pumilum saxatile asperum præmorsa radice, **Raii Syn.** 167, 16.

Leontodon hirsutum, **Lin. S. P.** 1123. 
Hyoseris taraxacoides, Lamarck Enc. Meth. 3, 159. 
Hyoseris hirta, **Gärtner Sem. et Fr.** 2, 373. 
Thrca hirta, **Willd. Sp.** 3, 1555. 
Hedypnois hispidum, **Huds. Fl. Angl.** 340. 
Hedypnois hirta, **Smith Fl. Brit.** 824. 
Apargia hirta, **Smith Compend.** 116.

Heaths and commons; perennial; June to August.

2. **Thrca hispida.** Bristly thrca. Leaves lanceolate, blunt, toothed, hairy; hairs forked; calathides solitary; pericline rather hoary, naked; scales hairy.

Hyoseris taraxacoides, **Villars Delph.** 3166. 
Leontodon saxatile, Lamarck Enc. Meth. 3, 531. 

Stony and sandy places; perennial; July and August.
Virey.

Periclinc ovate; scales many, imbricate, unequal, irregular; calathides many-flowered; clinanthus convex, rather hairy, with hollow dots, edge of the pits fringed; akenium streaked; pappus of the circumference sessile; rays chaffy and bristly, mixed, unequal; of the centre with unequal and featherlike rays.—Leaves mostly radical; calathides yellow.

a. Apargiae. Tube of the corolla hairy at the mouth; tip of the lobes glandular; scape simple.

Leaves pinnatifid, oblong, hirsute; hairs forked; scape simple, bald; periclinc rather hirsute.
Dens leonis hispidus, hiericium dictus, Rall Syn. 171,3.
Hiericium dentis leonis folio hisrutum, Ger. 2303, 6; figure not accurate.
Hiericium asperum folis et floribus dentis leonis bulbosi, Park. 788; figure not accurate.
Leontodon hispidum, Lin. S. P. 1124.
Dandelion hawk-weed.

Chalky pastures; perennial; July.
Root fusiform; calathides drooping, afterwards upright.

Leaves oblong, rather toothed, woolly, rough; hairs radiated at the tip; scape simple, downy; periclinc downy.
Dens leonis montanus angustifolius, Rall Syn. 171,4.
Hiericium sextum Clusii, Ger. 2302, 3.
Hiericium montanum angustifolium, Park. 799.
Hiericium incanum, Lin. S. P.
Hiericium alpinum, Villars Delph. 3, 94.

Alpine pastures and walls; peren.; May to September.

b. Virea. Tube of the corolla bald; tip of the lobes not glandular; scape often branched.

Leaves muricated, toothed, bald; scape simple or slightly branched; bractea 1, about the middle of the scape; periclinc hairy.
Hiericium Taraxici, Lin. S. P. 1125.
Picris Taraxici, Allioni Pedem. 1, 24.
Near alpine rivulets; perennial; August.
Leaves bald, rarely nearly linear, toothed; scape one or two-flowered, thickened above, downy; hairs black; corollae golden.

Leaves lanceolate, toothed or pinnatifid, rather bald; scape with declinate branches; pedicells scaly, tumid above; pericline downy.

*Hieracium minus praemorsa radice,* *Raii Syn.* 164, 1; *Park.* 794.
*Hieracium minus, sive leporinum,* *Ger. em.* 296.
*Leontodon autumnale,* *Lin. S. P.* 1123.
*Scorzonera autumnalis,* *Lamarck Fl. Fr.* 282.
*Small hares-hawk-weed.* Yellow devil's bit.

Fields and pastures; perennial; August.
Calathides many, small; corollae golden, those of the circumference reddish on the outside.

*Hieracium praemorsum laciniatum,* *Dillen in Raii Syn.* 164, 2.

7. *minor.* Leaves small, pointed.
*Hieracium folio acuto minus,* *Dillen in Raii Syn.* 164, 3.

*Hieracium folio obtuso minus,* *Dillen in Raii Syn.* 164, 4.

e. *hirsuta.* Leaves hairy.


XV. 190. *PICRIS.* Dioscorides. Yellow-succory.

Bracteae many, unequal, linear, lanceolate; pericline conical; scales many, equal, in one row; calathides many-flowered; clinanthus flat, bald, pitted; akenium transversely streaked; pappus sessile, feathered; rays threadlike, equally bearded.—Stem leafy; periclines rough; corollae yellow.

*Picris hieracioides.* Hawk-weed yellow-succory.

Stem rough, branched, divaricated; leaves very rough, lanceolate, toothed, waved; calathides corymbose; bracteae loose.

*Hieracium asperum, majori flore in agrorum limitibus,* *Raii Syn.* 167, 15.

*Hieracium asperum,* *Ger. em.* 298, 7.
*Cichoreum pratense luteum asperum,* *Park.* 777.
*Picris hieracioides,* *Lin. S. P.* 1115.
Edges of woods on chalk; biennial; July and August.
Root-leaves lanceolate; stem-leaves embracing the stem, bent back; coriophus leafy; peduncle scaly, slightly thickened.

XVI. 191. HELMINTHIA. Gærtner. *Langue-de-bœuf.*

*Bracteae* 5, broad, as long as the pericline; *pericline* cyindrical, scales 8, equal in one series; *calathides* many-flowered; *clinanthus* flat, tubercular or annulate, naked; *akenium* reverse-ovate, transversely wrinkled; *pappus* stipitate, feathery; rays equal.

*Helminthia* echioiides. Bugloss *langue-de-bœuf.*
*Bracteae* broad, ovate, heartshape, rather spinous; leaves repand.

Hieracium echioiides capitulis cardui benedicti, Râi Syn. 166, 13.
Buglossum luteum, Ger. em. 798, 2.
Buglossum luteum, seu lingua bovis, Park. 800.
Picris echioiides, Lit. S. P. 1114.
Helminthia echioiides, Gært. Sem. et Fr. 2, 368.

Edges of fields on clay; annual; June and July.

*Stem* upright, branched; *leaves* light green, shining, root-leaves ovate; stem-leaves embracing the stem; *calathides* slightly panicled.


*Pericline* simple, cyindrical, pyramidal; scales 8 or 10, equal, soldered by their edges; *calathide* many-flowered; *clinanthus* naked, pitted; *akenium* streaked lengthways; *pappus* stipitate, feathered; *stipes* slender, rays unequal.—

*Leaves* not cut, grass-like; *corollae* gold-colour or blue; *peduncles* simple.

1. Tragopogon pratense. Meadow goats-beard.
*Leaves* bald, not cut, channelled, pointed, dilated at bottom; *peduncles* round above; *pericline* as long as the flowers in the circumference.

Tragopogon luteum, Râi Syn. 171, 1; Ger. em. 735, 2; Park. Par. 514.
Tragopogon pratense, Lit. S. P. 1109.
Yellow goats-beard.

*Fields and pastures*; biennial; June.

*Root* milky, sweet; *stem* branched; *calathides* large, closing early in the day; *corollae* gold-yellow.—*Young shoots* a good asparagus.
2. Tragopogon porrifolium. Leek-leaved goats-beard.

Stem and leaves stiff, bald; peduncles thickened above; pericline longer than the flowers in the circumference.

Tragopogon purpureum, Rall. Syn. 171, 2; Ger. em. 735, 1; Park. 412.
Tragopogon porrifolium, Lin. S. P. 1110.

Fields, also cultivated; biennial; May and June.

Stem 4 feet high; leaves scarcely waved; scales of the pericline nearly twice as long as the flowers; corollae violet.

—Roots sweet, used in salads, or boiled in soups, very nutritious; useful in atrophy, coughs, short breath, difficulty of urine, and the stone.

XVIII. 193. CICHORIUM. Theophrastus. Succory.

Bracteae 5, short, oblong, adpressed; pericline cylindrical; scales 8, connate at bottom, becoming reflexed; clinanthus naked or slightly hairy; akenium compressed, streaked; pappus chaffy; chaffs many, in a double series, much shorter than the akenia.


Leaves runcinate, main rib rather hirsute; calathides sessile, axillary, in pairs.

Cichorium sylvestre, Rall. Syn. 172, 1; Ger. em. 284, 1; Park. 776.
Cichorium Intybus, Lin. S. P. 1142.
Cichorium perenne, Stokes Bot. Mat. Med. 133.

Edges of fields; perennial; July and August.

Root fleshy; stem upright, angular, branched; calathides many, sessile; corollae blue or white.

*β. globosum.* Branches balled.


Leaves oblong, toothed, bald; peduncles axillary, in pairs; one long, 1-flowered; the other very short, 3 or 4-flowered.

Intybus sativa, Ger. em. 282, 3.
Cichorum sativum, Park. 774.
Cichorium Endivia, Lin. S. P. 1143.

Endive.

Cultivated; biennial; July and August.

Leaves toothed at the edge.—Blanched herb eaten in salads, bitter.

*β. crispum.* Leaves curled at the edge.
B. Cynarocephalae. Pericline imbricate, scales often spinous; clinanthus fleshy, chaffy; corolla al tubular; style jointed above; pappus stiff.—Leaves alternate, often spinous; stamens and stigma often irritable, contractile.

a. Pappus 0.

Flowers, centre female; circumf. androgynous; pericline-scales compound, spinous HIPPOPHÆSTUM. 205.
Flow. centre hermaphrodite; circumf. neuter; pericline-scales fringed, not spinous PHRYGIA. 203.

b. Pappus hairy, rays nearly equal, connate at bottom into a deciduous ring; flowers all hermaphrodite.

Pericline-scales simple, spinous; akenium transversely furrowed ONOPORDUM. 194.
Pericline-scales simple, spinous; akenium streaked; clinanthus bristly CARDUUS. 198.
Pericline-scales appendiculated; appendix toothed, spinous SILEBUM. 197.

c. Pappus hairy, rays unequal, imbricate, in many series.

Flow. female, or male or hermaph.
Pericline-scales lanceolate, pointed SERRATULA. 196.
Flow. centre hermaph.; circumf. neuter;
pericline-scales lanceolate, serrated CYANUS. 202.
Flow. centre hermaph.; circumf. neuter;
pericline-scales lanceolate, ovate, pinnate JACEA. 204.
Flow. centre hermaph.; circumf. neuter;
pericline-scales palmate, spinous POLYACANTHA. 206.
Flow. centre hermaph.; circumf. neuter;
pericline-scales compound LEUCANTHA. 207.
Flowers all hermaphrodite; pericline-scales linear, hooked at the tip ARCTIUM. 195.

d. Pappus feathery; flowers all hermaphrodite.

Pericline-scales, outer spinous; inner coloured, scariso, radiated CARLINA. 201.
Pericline-scales all linear, spinous; pappus deciduous CIRSIMUM. 199.
Pericline-scales all ovate, pointed; pappus persistent BENNETTIA. 200.
XIX. 194. ONOPORDUM. Pliny.  
Cotton-thistle.
Pericline globose, becoming depressed; scales awlshape, lax, ending in an awlshape spine; flowers all hermaphro- dite; clinanthus flat, honeycombed; edge of the pits raised, sharp, chaffy; akenium reverse-ovate, compressed, 4-sided, transversely furrowed; pappus hairlike; rays unequal, rough, annular at the base, deciduous.—Stem hollow, very tall; leaves large, thorny, tomentose; calathides terminal, solitary.

Onopordum vulgare.  
Common cotton-thistle.  
Leaves decurrent, sinuated, woolly on both sides, toothed; pericline-scales spreading, awlshape.
Carduus tomentosus, Acanthium dictus, vulgaris, Raîi Syn. 196, 14.
Acanthium album, Ger. em. 1149, 1.
Acanthium vulgare, Park. 979.
Onopordum Acanthum, Lin. S. P. 1158.

Ruins and waysides; biennial; July.
Root fusiform; plant white, woolly; stem 3 feet high; flowers upright; corollæ purple.—Down of the stem and leaves used to stuff bedding, and mix with feathers; young shoots and periclines eaten as potherbs; seeds bitter, much sought after by small birds.

XX. 195. ARCTIUM. Dioscorides.  
Burdock.
Pericline spherical; scales imbricate, awlshape, ending in a recurred hooked spine; flowers all hermaphrodite; clinanthus flat, chaffy; chaff bristlelike, as long as the pericline; akenium compressed, 4-sided; pappus hairy, rays unequal, shorter than the akenium, persistent, in 2 or 3 rows.—Leaves large, heartshape, petioled, not armed; flowers rather corymbose.

1. Arctium tomentosum.  
Downy burdock.
Pericline, when full grown, downy; down cobwebby.
Lappa major montana capitulis tomentosis sive arctium Dioscoridis, Raîi Syn. 191, 4.
Bardana major, Ger. em. 810, 1 *.
Bardana major lanuginosis capitulis, Park. 1222.
Arctium Lappa &; Lin. S. P. 1143.
Arctium Bardana, Wild. S. P. 1632.
Lappa tomentosa, De Cand. Fl. Gall. 3009.
Ruins; biennial; July and August.
Stem red; leaves not cut; pericline large, brownish purple; corollae purple.

β. minus. Pericline small, roundish, brown.


Pericline, when full grown, bald.

Lappa major, Arctium Dioscoridis, Rall. Syn. 197, 2.
Bardana major, Ger. em. 809, 1.
Bardana vulgaris major, Park. 1292.
Arctium Bardana, Lin. S. P. 1143.
Arctium Lappa, Lamarck Ill. Gen. 657.
Lappa major, De Cand. Fl. Gall. 5010.

Ruins; biennial; July and August.
Leaves toothed; calathides solitary; pericline large.—Shoots eaten as asparagus, but very inferior.

β. minus. Calathides in heads; pericline small.

Lappa minor, De Cand. Fl. Gall. 5111.

XXI. 196. SERRATULA. Pliny. Sawwort.

Pericline ovate, bellied; scales imbricate, ovate and lanceolate, pointed, not spinous; flowers female, or male and hermaphrodite; clinanthus flat, chaffy; chaffs bristlelike; stigma of the female flowers very large, wavy; akenium streaked; pappus hairlike, rough, persistent, in many series, longer than the akenium, rays unequal.—Plant polygamous, dioicus; root perennial; juice yellow; leaves serrated, not spinous; calathides corymbose; corollae purple.

Serratula tinctoria. Dyeing sawwort.

Leaves acutely serrated, bald at the base, mostly pinnatifid, rarely not cut; corymbus even-topped.

Serratula, Rall. Syn. 196, 1.
Serratula purpurea, sive alba, Ger. em. 713.
Serratula vulgaris flore purpureo, Park. 474.
Serratula tinctoria, Lin. S. P. 1153.
Carduus tinctorius, Stokes Bot. Mat. Med. 4, 142.

Woods and hedges; perennial; July and August.
Root thready; stem upright, slender; leaves lyrate; pericline-scales rather woolly; corollae purple.—Plant dyes yellow.

β. alba. Flowers white.

γ. lancifolia. Leaves lanceolate, serrated.

Pericline bellied; scales imbricate, close pressed together below, with an appendage at the tip; appendage spreading, weak, dilated, spinous on the edges, grooved, ending in a strong spine; flowers all hermaphrodite; clinanthus chaffy; chaffs bristlelike, half as long as the pericline; pappus hairy, rays linear, fringed, equal, longer than the akenium, forming a ring at the bottom, deciduous.—Stem high, branched; leaves spinous; stem-leaves embracing the stem; calathides large, solitary, terminal; peduncles naked.

Silybum Marieæ. Mary's milk-thistle.

Leaves embracing the stem, hastate, pinnatifid, bald.

Carduus Marieæ, Rait Syn. 195, 12; Ger. em. 1150.
Carduus Marie vulgaris, Park. 976.
Carduus Marianus, Lin. S. P. 1153.
Cirsium maculatum, Scop. Carn. 2, 1009.
Silybum Marianum, Gertn. Sem. et Fr. 2, 378.
Carduus lactifolius, Stokes Bot. Mat. Med. 141.
Our lady's thistle. Milk thistle.

Roadsides and ruins; annual or biennial; August.

Stem 6 feet high; leaves dark green with broad white anastomosing veins.—Root eaten early in spring; also the young stems, being peeled, and soaked in water to extract the bitterness; and the scales of the cup as artichokes.

β. unicolor. Leaves not variegated.


Pericline bellied; scales imbricate, close pressed together below, with an appendage at the tip; appendage spreading, weak, dilated, spinous on the edges, grooved, ending in a strong spine; flowers all hermaphrodite; clinanthus chaffy; chaffs bristlelike, half as long as the pericline; pappus hairy, rays linear, fringed, equal, longer than the akenium, forming a ring at the bottom, deciduous.—Stem high, branched; leaves spinous; stem-leaves embracing the stem; calathides large, solitary, terminal; peduncles naked.

Silybum Marieæ. Mary's milk-thistle.

Leaves embracing the stem, hastate, pinnatifid, bald.

Carduus Marieæ, Rait Syn. 195, 12; Ger. em. 1150.
Carduus Marie vulgaris, Park. 976.
Carduus Marianus, Lin. S. P. 1153.
Cirsium maculatum, Scop. Carn. 2, 1009.
Silybum Marianum, Gertn. Sem. et Fr. 2, 378.
Carduus lactifolius, Stokes Bot. Mat. Med. 141.
Our lady's thistle. Milk thistle.

Roadsides and ruins; annual or biennial; August.

Stem 6 feet high; leaves dark green with broad white anastomosing veins.—Root eaten early in spring; also the young stems, being peeled, and soaked in water to extract the bitterness; and the scales of the cup as artichokes.

β. unicolor. Leaves not variegated.


Pericline bellied; scales imbricate, close pressed together below, with an appendage at the tip; appendage spreading, weak, dilated, spinous on the edges, grooved, ending in a strong spine; flowers all hermaphrodite; clinanthus chaffy; chaffs bristlelike, half as long as the pericline; pappus hairy, rays linear, fringed, equal, longer than the akenium, forming a ring at the bottom, deciduous.—Stem high, branched; leaves spinous; stem-leaves embracing the stem; calathides large, solitary, terminal; peduncles naked.

Silybum Marieæ. Mary's milk-thistle.

Leaves embracing the stem, hastate, pinnatifid, bald.

Carduus Marieæ, Rait Syn. 195, 12; Ger. em. 1150.
Carduus Marie vulgaris, Park. 976.
Carduus Marianus, Lin. S. P. 1153.
Cirsium maculatum, Scop. Carn. 2, 1009.
Silybum Marianum, Gertn. Sem. et Fr. 2, 378.
Carduus lactifolius, Stokes Bot. Mat. Med. 141.
Our lady's thistle. Milk thistle.

Roadsides and ruins; annual or biennial; August.

Stem 6 feet high; leaves dark green with broad white anastomosing veins.—Root eaten early in spring; also the young stems, being peeled, and soaked in water to extract the bitterness; and the scales of the cup as artichokes.

β. unicolor. Leaves not variegated.


Pericline ovate, bellied; scales linear, simple, without appendices, pointed, spinous at the tip; flowers all hermaphrodite; clinanthus chaffy; chaffs linear, silky, as long as the pericline; pappus hairy; rays equal, longer than the akenium, forming a ring at bottom, deciduous.—Stem mostly hollow; leaves decurrent, spinous; calathides terminal; corollæ blue.


Leaves interruptedly decurrent, spinous; calathides drooping; pericline-scales lanceolate; upper ones spreading.


Ruins; annual; July and August.

Root fusiform; stem 2 feet high; leaves greenish on both sides; calathides terminal, solitary, peduncled, drooping;—Odour like that of musk.
Leaves decurrent, sinuate, spinous; pericline globose, slightly peduncled; scales linear, recurved.

*Carduus caule crispo*, *Raii Syn.* 194, 2.
*Carduus polyacanthos*, *Park.* 982.
*Carduus acanthoides*, *Lin. S. P.* 1150.
Thistle upon thistle. Grey thistle.

Roads near fields; annual; June and July.
*Leaves* green on both sides, bald; calathides terminal, mostly peduncled; *corollae* dark purple.

Leaves decurrent, sinuate, spinous; nappy beneath; pericline nearly cylindrical, aggregate; scales lanceolate, rather upright; peduncles very short, appendiculately spinous.

*Carduus spinosissimus capitulis minoribus*, *Raii Syn.* 194, 3.
*Carduus acanthoides*, *Hudson Fl. Angl.* 351.
*Carduus tenuiflorus*, *Curtis Fl. Lond.*
Welted thistle.

Fields and waysides; annual; June and July.
*Stem* 4 feet high, slightly branched; pericline pale, rather woolly; calathides crowded; *corollae* pale purple.


*Pericline* bellied or cylindrical; scales imbricate, linear pointed, not appendiculated; flowers all hermaphrodite; *clinanthus* chaffy, chaffs pale, capillary, as long as the pericline; *pappus* featherlike; rays equal, longer than the akenium, annular at the base, deciduous.—*Leaves* spinous.

Leaves decurrent, naked, lanceolate, toothed, rough, edge spinous; calathides racemose, glomerate; pericline-scales ovate, lanceolate, mucronate, pressed close.

*Carduus palustris*, *Raii Syn.* 194, 4; *Park.* 983; *Lin. S. P.* 115, 1.
*Cnicus palustris*, *Willd. S. P.* 1662.
*Cirsium palustre*, *De Candolle Fl. Gall.* 3072.

Damp fields and pastures; biennial or perennial; July and August.
*Root* branchy; *stem* stiff, branched, 6 feet high; *leaves* pinnatifid, dark green, lobes sinuated; pericline ovate; *corollae* dark purple or white.

γ. mitius. Leaves less spinous.
Carduus palustris mitior bartanæe capitulo in summo caule singulari, 
Dillen in Raiti Syn. 194, 5.

γ. cristatus. Stems many, coalescent, bearing a broad flat head of flowers.

Leaves decurrent, hispid, pinnatifid; lobes 2-cut, divaricating, spinous; pericline ovate, downy; down cobweb-like; scales lanceolate, spinous, spreading.
Carduus lanceatus, Raiti Syn. 195, 8; Ger. em. 1174, 6.
Carduus lanceatus latifolius seu major, Park. 982.
Carduus lanceolatus, Lin. S. P. 1149.
Cnicus lanceolatus, Willd. S. P. 1662.
Cirsium lanceolatum, De Cand. Fl. Gall. 3073.

Waysides and pastures; biennial; July to September.
Root branched; stem hairy, 4 feet high; leaves woolly beneath; calathides terminal, large; pericline ovate; corollæ purple or white.

δ. minus. Calathides small.
Carduus lanceatus flore et capite minoribus, Dillen in Raiti Syn. 195, 9.

Leaves embracing the stem, heartshape, lanceolate, serrate, fringed, nappy beneath; lower leaves rather incised; pericline-scales lanceolate, pressed close, rather mucronate, bald; calathides mostly solitary, peduncled.
Cirsium Britannicum Clusii repens, Raiti Syn. 193, 2.
Cirsium Anglicum secundum Clusii, Ger. em. 1183, 5*; Dr. Penny's figure.

Alpine pastures; perennial; July and August.
Root creeping, knobbed; stem upright, nearly simple, woolly; leaves smooth, bald, green above; white, nappy beneath; root-leaves petioled; calathide terminal, mostly solitary, drooping becoming upright; pericline ovate.

Leaves petioled, pinnatifid, toothed, fringed, spinous; calathides peduncled; peduncles radical, solitary; pericline-scales lanceolate, closely imbricate.
Carduus q. carlina acaulis minore purpureo flore, Rait Syn. 195, 7.
Carlina acaulis minor flore purpureo, Ger. em. 1158, 3.
Carlina acaulis Septentrionalium, Park. 969.
Carduus acaulis, Lin. S. P. 1156.
Cnicus acaulis, Willd. S. P. 1664.
Cirsium aculea, De Candolle Fl. Gall. 3099.

Dwarf carline thistle.

Fields and pastures; perennial; July and August.

Root woody; stem 0; leaves depressed, bald; calathides large; corolla purple.

5. Cirsium arvense.  

Field soft-thistle.

Leaves sessile, lanceolate, pinnatifid, hispid, toothed, waved, spinous, rather woolly beneath; calathides panicled; pericline first globose, then cylindrical.

Carduus vulgatissimus viarum, Rait Syn. 194, 6; Ger. em. 1173, 4.
Carduus ceanothos sive viarum et vinearum repens, Park. 959.
Serratula arvensis, Lin. S. P. 1149.
Carduus arvensis, Curtis FL Lond.

Common way thistle. Creeping thistle.

Fields and waysides; perennial; July.

Root creeping, flagelliform; stem smooth; pericline-scales woolly on the edge; corolla purple, rarely white.

6. Cirsium eriophorum.  

Wool-bearing soft-thistle.

Leaves sessile, pinnatifid, hispid; lobes 2-rowed, doubled, divaricated, spinous; pericline globose, villous, cobweblike; scales oblong; apex linear, long, mucronate, reflex.

Carduus tomentosus corona fratrum dictus, Rait Syn. 195, 10; Park.978.
Carduus erioccephalus, Ger. em. 1152, 6.
Carduus tomentosus Anglicus, Park. 979.
Carduus eriophorus, Lin. S. P. 1153.
Cirsium eriophorum, De Candolle Fl. Gall. 3091.

Woolly headed thistle.

Chalky mountains; biennial; August.

Root fusiform; stem much branched; leaves rough above, woolly beneath; calathides solitary, very large; pericline-scales fringed, coloured above; corolla purple.

7. Cirsium tuberosum.  

Tuberous soft-thistle.

Leaves embracing the stem, pinnatifid, fringed with spines, lobes 2-cut, toothed near the base; calathides 1 or 2; pericline-scales lanceolate, mucronate, spread out.

Carduus tuberosus, Lin. S. P.
Cnicus tuberosus, Willd. S. P. 1680.
Cirsium dissectum, Lamarck Enc. Meth.

Woods; perennial; July and August.

Root tuberous; tubers oblong; stem villous, not spined.
XXV. 200. BENNETTIA.  

**Thistle-gentle.**

*Pericline ovate, cylindrical; scales imbricate, ovate, lanceolate, blunt; flowers all hermaphrodite; clinanthus chaffy; chaffs lanceolate, as long as the pericline; pappus feather-like; rays equal, persisting.—Root woody perennial; stem mostly simple; root-leaves petaled; upper leaves sessile, ovate, not spinous, woolly; calathides corymbose, upright, corolla purple.*

Messes Edward and John Bennett, surgeons and apothecaries of London, who devote the whole of their leisure to the study of botany and natural history, and have kindly given their assistance to this work.

**Bennettia olpina.**  
**Alpine thistle-gentle.**

*Leaves ovate, lanceolate, slender at the base, toothed, nappy beneath; pericline coloured, villous.*

*Cirsium humile montanum cynoglossi folio, polyanthemum, Raici Syn. 193, 3.*

*Cbardus mollis foliis lapathi, Ger. em. 1184.*

*Serratula alpina, Lin. S. P. 1145.*

*Cirsium alpinum, De Candolle Fl. Gall. 3095.*

**Dock-leaved thistle-gentle.**

*Apine rocks; perennial; July and August.*

*Stem round, woolly; leaves rather bald above; calathides nearly umbellate, large; anthers blue.*

**B. cynoglossifolia.**  
*Leaves linear, lanceolate, long.*

*Cirsium montanum polyanthemum salicis folio angusto denticulato, Raici Syn. 193, 4.*

**γ. discolor.**  
*Root-leaves ovate, nearly heartshape.*

*Serratula discolor, Willd. S. P. 1639.*

XXVI. 201. CARLINA.  

**Dodonæus. Carline-thistle.**

*Bractææ many, weak, pinnate-spinous; pericline cylindrical; scales linear, cartilaginous, shining, coloured, radiating; flowers all hermaphrodite; filaments very short, quite bald; anthers with two long horns at the base; clinanthus concave, chaffy; chaffs below membranaceous, keeled, not cut; above bristle-like, many-cut, as long as the pericline; akenium with a chaffy ring, above villous; villi silky; pappus feather-like, longer than the seed; rays adhering together at the base in twos and threes, and all grown together into a ring, deciduous.*

1. *Carlina vulgaris.*  

**Common carline-thistle.**

*Stem woolly; leaves lanceolate, toothed, spinous, pubescent beneath; calathides many, corymbose.*
Carolina sylvestris quibusdam, aliis atractylis, Raiti Syn. 175, 1.
Carolina sylvestris major, Ger. em. 1159, 1.
Carolina vulgaris, Lin. S. P. 1161.

Sandy fields and pastures; biennial; July.
*Root* fusiform; *stem* upright, 1 foot high; *calathides* solitary, terminal; *corollae* purple white.

XXVII. 202. CYANUS. Pliny.

_Pericline_ bellied, conical; scales lanceolate, serrated, inner scales with a claw; _flowers_ of the centre hermaphrodite, regular; of the circumference neuter, large, irregular; _clinanthus_ chaffy; chaffs awlshape, flat, as long as the _akenia_; _pappus_ chaffy, persistent; chaffs toothed, unequal.

_Cyanus vulgaris._ Common bluebottle.
_Leaves_ linear, not in the least cut; lower leaves pinnatifid at the base.

_Cyanus, Raiti Syn. 198, 1._
_Cyanus vulgaris, Ger. em. 732; Park. 482._
_Centaurea Cyanus, Lin. S. P. 1289._
_Corn-flower. Blue-blow. Hurt-sickle._

Cornfields; annual; July and August.
*Root* fibrous; *stem* much branched; *leaves* pointed, rather woolly; _calathides_ solitary, peduncled.—_Flowers_ yield a fine water colour; plant blunts the sickles of the reapers.

XXVIII. 203. PHRYGIA. Persoon.

_Pericline_ globular; scales ovate, pinnatifid, bristlelike, inner scales clawed; _flowers_ of the centre hermaphrodite, regular; of the circumference neuter, large, irregular; _clinanthus_ chaffy; chaffs bristlelike, half as long as the _pericline_; _akenium_ 4-sided, bristly; _pappus_ chaffy, persisting; chaffs linear, rough, unequal.

1. _Phrygia major._ Great knapweed.
_Leaves_ pinnatifid; lobes lanceolate, toothed, slightly hairy; _lobes_ of the _pericline_-scales upright.

_Jacea major, Raiti Syn. 198, 1; Ger. em. 727, 2._
_Jacea nigra vulgaris laciniata, Park. 470._
_Centaurea Scabiosa; Lin. S. P. 1291._
_Great mat follen. Bull weed._

Fields and waysides; perennial; July and August.
_Stem_ 2 or 3 feet high, branched; _leaves_ dark green; _calathides_ solitary, peduncled; _flowers_ of the circumference linear, slender.
Leaves lanceolate; root-leaves slightly toothed; stem-leaves undivided, serrated; lobes of the pericline-scales upright; calathides flocculous.

Phrygia nigra, *Ratl Syn.* 198, 2; *Ger. em.* 727, 1.
Mat fallon.

Fields and pastures; perennial; June to August.
Root creeping; stem branched; upper leaves ovate, serrate or not cut; calathides solitary, terminal; flowers all equal and fertile.

Leaves lanceolate, toothed, rather bald; upper leaves strap-shape, not cut; pericline-scales flat; lower scales rather scarious; lobes upright; calathides radiated.

Phrygia nigra, *Ratl Syn.* 199, 2; var.

Fields and pastures; perennial; July and August.
Stem fluted, cottony; outer flowers purple, radiating, barren; lobes deep, strapshape; central flowers white.

XXIX. 204. JACEA. Clusius.

Jacea nigra. Black jacea.
Leaves lanceolate, not in the least cut, root-leaves rather toothed; branches angular.

Jacea nigra quae in Germaniae pratis nascitur, *Dillen in Ratl Syn.* 199, 2; var.

Woods and fields, Sussex; perennial; August and September.
Pericline-scales pale brown, shining; lower scales pin-natifid.
XXX. 205. HIPPOPHÆSTUM. Columna.

*Star-thistle.*

Pericline ovate; scales imbricate, cartilaginous, tip ending in a long spine; sides toothed and spinous at the base; nearly equal; flowers of the centre hermaphrodite, of the circumference female; clinanthus chaffy; chaffs linear, short; akenium ovate, with a cartilaginous ring above; pappus 0.

*Hippophaeum vulgare.* Common star-thistle.

Stem spreading, divaricated, hairy; leaves pinnatifid, toothed; calathides sessile.

*Carduus stellatus,* Raiti Syn. 196, 15; Ger. em. 1166, 1.
*Carduus stellaris,* seu calcitrapa vulgaris, *Park.* 989.
*Rhaponticum Calcitrapa, Scopoli Carn. 2, 1019.
*Calcitrapa Hippophaeum, Gertner 2, 367.*

Ruins and sandy sea-shores; annual; July and August.

*Stem* much branched; calathides lateral, solitary; corollae rose-colour.

XXXI. 206. POLYACANTHA. Jersey-thistle.

Pericline ovate; scales ovate, tip palmate, 5-cut, spreading, spinous; flowers of the centre hermaphrodite, regular; of the circumference neuter, large, irregular; clinanthus chaffy; chaffs hairy, shorter than the pericline; akenium ovate; pappus hairy, persisting; rays unequal, stiff.

*Polyacantha procumbens.* Procumbent Jersey-thistle.

Leaves lyrate, toothed, hispid, rather embracing the stem; calathides sessile, terminal.

*Centareae Isnardi, Lin. S. P. 1295.
*Jersey star-thistle.*

Fields and pastures, Jersey; perennial; July and August.

*Stem* prostrate, branched, angular; leaf-lobes rather spinous; upper leaves not cut; calathides solitary; pericline bald; scales spreading; corollae light purple.

XXXII. 207. LEUCANTHA. Dalechamp.

*Yellow-thistle.*

Pericline ovate; scales ovate, palmate, spinous; innermost scales scarious, torn; flowers in the centre hermaphrodite, in the circumference neuter, scarcely longer than those in the centre; clinanthus chaffy; chaffs linear; akenium
ovate; pappus bristlelike, shorter than the akenium; rays rough.—Stem branched; upper leaves decurrent; calathides solitary, terminal; corolla golden yellow.

Leucantha cyanifolia. Bluebottle yellow-thistle. Leaves decurrent, woolly, lanceolate, not cut; root-leaves lyrate; calathide solitary; spines of the pericline straight.

Carduus stellatus lutescens folli cyani, Rait Syn. 196, 2.
Carduus solstitialis, Ger. em. 1166, 2.
Carduus solstitialis Dodonaei, Park. 989.
Centaurea solstitialis, Linn. S. P. 1197.

Saint Barnaby's thistle.

Fields and hedges; annual; July and August.
Stem 2 feet high, branched, many-flowered; root-leaves denticulated.

C. Corymbiferae. Calathides flosculosus, or radiated; clinanthus scarcely fleshy, or not at all; style not jointed at the base of the lobes.

a. Pappus 0; clinanthus naked.

Calathides flosculosus ... Artemisia. 212.

b. Pappus 0; clinanthus naked; calathides radiated.

Rays white; pericline-scales equal, in two series .................. Bellis. 220.
Rays white; pericline flattish; scales imbricate, herbaceous .......... Chamomilla. 219.
Rays white; pericline hemispherical; scales imbricate, coriaceous ...... Leucanthemum. 216.
Rays yellow; pericline hemispherical; scales imbricate; akenia uniform Chrysanthemum. 215.
Rays yellow; pericline-scales in one series; akenia difform, boatshape ...... Calendula. 208.

c. Pappus 0; clinanthus villous or chaffy.

Calathides flosculosus; clinanthus villous

Absinthium. 213.

Calath. flosculosus; clinanthus chaffy ...... Diotis. 214.
Calath. radiated; clinanthus chaffy ...... Maruta. 222.
chaffy above; chaffs linear ............... Achillea. 224.
d. Pappus marginal.

Clinanthus naked; calathides flosculous; pericline-scales imbricate, pressed close Tanacetum. 211.
Clin. naked, convex; calath. radiated;
pericline-scales imbricate, edge scariose Pyrethrum. 217.
Clin. naked, flat; calath. radiated;
pericline-scales imbricate, edge withered Matricaria. 218.
Clin. chaffy, convex; calath. radiated;
rays white .................. Chamæmulum. 221.
Clin. chaffy, flat; calath. radiated .... Anthemis. 223.

e. Pappus chaffy or spinous; clinanthus chaffy.

Calathides chaffy, radiated; pericline imbricate; pappus chaffy, deciduous Helianthemum. 209.
Calathides radiated; pericline simple;

f. Pappus of the rays 0, of the centre hairlike.

Calathides radiated; rays yellow .... Doronicum. 237.

g. Pappus of the male pencilshape, of the female hairlike.

Calathides flosculous; scales scariose Antennaria. 225.

h. Pappus hairlike; pericline-scales equal, in 1 series.

Leaves cauline; rays 0, or yellow;
pericline-scales and bractæ sphacelated ... Senecio. 239.
Leaves cauline; rays yellow;
pericline-scales not sphacelated .......... Cineraria. 238.
Leaves radical; rays linear, yellow ... Tussilago. 240.
Leaves radical; rays 0 ............... Petassites. 241.

i. Pappus hairlike; pericline-scales imbricate; calathides flosculous.

Flowers hermaphrodite and female; pericline cylindrical, scarious, sphacelated .... Gnaphalium. 226.
Flowers aggregate herm. and fem.; pericline cylindrical, scariose or coloured .......... Gipola. 227.
Flowers hermaphrodite, yellow;
style short; branches short, ovate.... Chrysocoma. 236.
Flowers hermaphrodite, purple;
style short; branches long, linear .... Eupatorium. 242.
k. Pappus hairlike; pericline-scales imbricate; calathides radiated.

Rays yellow, very slender; pappus double, the outer membranaceous...... Pulicaria. 229.
Rays yellow, many, very short, slender; peric. sc. outer herbaceous, inner cartilaginous

.............. Conyza. 228.
Rays yellow, very slender; anthers, basillary appendix long................. Inula. 240.
Rays yellow, many, slender; anthers, basillary appendix very short ........... Critheis. 251.
Rays blue or white, many, linear; tubular flowers all hermaphrodite...... Erigeron. 234.
Rays blue or white, many, linear; tubular flowers, outer row female...... Trimorpha. 235.
Rays blue or white, 15 to 30, oblong; tubular flowers all hermaphrodite...... Eurybia. 232.

XXXIII. 208. CALENDULA. Brunsfel. Marigold.
Pericline simple; scales many, equal, awlshape, with 2 ribs; calathides radiated; flowers of the centre male, of the middle hermaphrodite, of the circumference female, fertile; clinanthus flat, pitted, naked; akenium bent, boatshape; pappus 0.—Leaves not divided; calathides solitary, terminal; corollæ orange-colour.

Leaves heartshape, lanceolate, embracing the stem, not toothed; akenium boatshape, muricated, turned inwards; the inner crowded together; the outermost upright, tailed.
Calendula arvensis, Rail Hist. 338; Lin. S. P. 1303.
Caltha officinalis, Scopoli Carn. 1040.
Cornfields and rubbish-hills; perennial; all the year; naturalized.

Leaves oblong, lanceolate, toothed; lower leaves spatulate; akenium boatshape, muricated, incurved.
Calendula sativa, Rail Hist. 337.
Calendula simplici flore, Ger. cm. 739, 6.
Calendula officinalis, Lin. S. P. 1304.
Single marigold.
On rubbish hills; annual or perennial; all the year; naturalized.
Corollæ cordial; also used to reduce saffron.

XXXIV. 209. HELIANTHUS. Linnaeus. Sunflower.

Pericline hemisphaerical, spreading; scales imbricate, herbaceous, tip patulous reflexed; calathides radiated; flowers of the centre hermaphrodite, bellied; of the circumference barren, ligulate, ovate, oblong, very large; clynanthus flat, broad, chaffy; chaffs linear, parted, short; akenium ovate, compressed; pappus chaffy; chaffs soft, deciduous.—Herb tall; leaves 3-ribbed; calathide terminal, very large; corollæ yellow.

Helianthus annuus. Annual sunflower. Leaves heartshape, 3-ribbed, hirsute; peduncles thickened; calathide drooping.
Flos solis, Rail Hist. 334; Park. 297.
Flos solis major, Ger. em. 751.
Helianthus annuus, Lin. S. P. 1276.
Greater sunflower. Peru marigold.

Walls and dunghills; annual; June to August.
Stem from 6 inches to 14 feet high, upright, not branched; calathide solitary.


Bractæ long, equal, weak, spreading; pericline cylindrical; scales nearly equal, edges scarious, soft, coloured; calathides flosculos; flowers all hermaphrodite; rarely radiated, flowers of the rays hermaphrodite or female; clynanthus convex, chaffy; chaffs similar and equal to the pericline-scales; akenium compressed, 3-angular; pappus awned; awns 2 or 4, rough, persistent, shorter than the akenium.—Root-leaves opposite, 5-cut; calathides axillary or terminal.

1. Bidens tripartita. Three-parted bur-marigold. Leaves 3-parted; lobes lanceolate, toothed; calathides flosculos; bractæ longer than the calathides; akenium spinous; spines upright, mostly 3.

Verbesina sen cannabina aquatica flore minus pulchro, elation et magis frequent, Rail Syn. 187, 1.
Eupatorium cannabinum fœmina, Ger. em. 717, 1.
Eupatorium aquaticum duorum generum, Park. 595.
Bidens tripartita, Lin. S. P. 1165.
Waty places; annual; August and September.
Root fusiform; stem 3 feet high, upright, bald; leaves 3-cut, pinnatifid; calathides solitary.—Dyes cloth yellow.

Leaves ovate, lanceolate, serrated, slightly coneate at bottom; calathides terminal, solitary; bractæ lanceolate, not cut; akenium spinous; spines 4, upright.
Verbesina pulchriore flore luteo, Rairi Syn. 187, 2.
Eupatorium cannabinum femina, Ger. em. 711, 1; variety with the leaves whole.
Eupatorium aquaticum folio indiviso, Park. 596.
Waty places; annual; September.
Root branched; stem rough, branched; leaves simple.

3. radiata. Calathides radiated.

4. minima. Stem simple, 6 to 9 inches high.
Verbesina minima, Dillen in Rairi Syn. 188, 3.
Bidens minima, Lin. S. P. 1165.

XXXVI. 211. TANACETUM. Pliny. Tansy.
Pericline hemispherical; scales linear, imbricate, pressed close, tip membranaceous; calathides flosculos; flowers of the centre hermaphrodite, 5-lobed; of the circumference female, fertile, 3-lobed; clinanthus convex, naked, with raised spots; akenia uniform, 4 or 5-sided; pappus marginal, membranaceous, slightly 4-toothed.—Leaves pinnate; calathides corymbose, terminal; odour aromatic.

Tanacetum vulgare. Common tansy.
Leaves bipinnatifid, cut, serrated.
Tanacetum, Rairi Syn. 188, 1; Ger. em. 650, 1.
Tanacetum vulgare, Park. 81; Lin. S. P. 1184.
Waysides, mountain pastures, also cultivated; perennial; July and August.
Root creeping; stem upright; leaves alternate, embracing the stem; corymbus flat.—Leaves bitter, very grateful, used to flavour puddings, omelets, and vinegar; preserves meat from the flesh-fly, by being laid or rubbed thereon; dye woollen green; corymbus and seeds excellent vermifuges.

3. crispum. Leaves curled at the edge.
Tanacetum folius crispis, Dillen in Rairi Syn. 188, 1 *.
Tanacetum crispum Anglicum, Ger. em. 650, 2.
Tanacetum crispum, Park. 81.
Curled tansy.
XXXVII. 212. ARTEMISIA. Hippocrates. Mugwort.

Pericline ovate or roundish; scales imbricate, oblong, pressed close; calathides flosculous: flowers all fertile; of the centre hermaphrodite, funnel-shaped, 5-lobed; of the circumference few, female, awl-shaped, not toothed; clinanthus conical, tuberculate, naked; akémen uniform, ovate; pappus 0.

—Stem herbaceous, or undershrubby; leaves mostly many-cut.

1. Artemisia campestris. Field mugwort.

Stem procumbent, branched, rod-like; root-leaves woolly, pinnate, lobes 3-cut; stem-leaves bristleshape, bald; calathides ovate-globose, pendulous.

Abrotanum campestre, Raii Syn. 190, 1; Ger. em. 1106, 5; Park. 94.
Artemisia campestris, Lin. S. P. 1185.

Dry sandy heaths; perennial; August.

Root fusiform; leaves rather fleshy; calathides racemous; flowers brownish green.


Stem rather shrubby, branched; leaves woolly, lanceolate, not in the least cut; root-leaves cut; calathides oblong, cylindrical, panicled, drooping.

Artemisia marina, Ger. em. 1104, 3.
Artemisia cæruleascens, Lin. S. P. 1189.

Sea mugwort.

Sea-shores; perennial; August.

Root fibrous; stem round, panicled; leaves petioled, woolly on both sides; racemes simple, upright; calathides small.


Stem herbaceous; leaves pinnatifid, cut, beneath tomentose, above blackish green; uppermost undivided, linear, lanceolate; calathides nearly sessile, oblong, upright; pericline tomentose.

Artemisia vulgaris, Raii Syn. 190, 1; Park. 90; Lin. S. P. 1188.
Artemisia, mater herbarum, Ger. em. 1103, 1.
Artemisia minor, Park. 91.

Ruins and waysides; perennial; August.

Root woody; stem upright, panicled; leaves petioled; racemes upright, simple, leafy; calathides ovate. — Herb aromatic, in decoction cures the ague; leaves in powder 3j, four times a day, useful in hysteric fits, after assafetida and ether had been tried in vain.

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4. Artemisia maritima.  
Sea mugwort.  
Stem herbaceous, branched, ascending; twigs drooping; leaves white, tomentose, many-cut; lobes flat, linear; flowering-stems simple, linear; calathides oblong, tomentose, sessile.

Absinthium maritimum album, Ruff Syri. 188, 2.  
Absinthium maritimum nostras, Dillen in Ruff Syri. 189, 6.  
Artemisia maritima, Lin. S. P. 1186.  
English sea-wormwood.  
Roman wormwood.  
Herb sellers.

Sea-shores, also cultivated; perennial; August.  
Root woody, creeping.—Herb aromatic, bitter, milder than wormwood.

3. latifolia.  
Leaves broad, woolly.

Absinthium maritimum seriphio Belgico simile, latiore folio, odoris grati, Ruff Syri. 188, 3.

5. Artemisia Gallica.  
French mugwort.

Stem upright, branchy, tomentose; branches upright; leaves woolly, bipinnate; lobes linear, threadlike; stem-leaves pinnate, uppermost leaves linear; calathides oblong, nearly sessile, upright.

Absinthium seriphium tenuifolium marinus Narbonense, Dillen in Ruff Syri. 189, 5.  
Artemisia Gallica, Willd. S. P. 1834.  
French sea-wormwood.

Sea-shores; perennial; August.

6. Artemisia angustifolia.  
Narrow-leaved mugwort.

Stem shrubby, stiff; lower leaves bipinnate; upper leaves pinnate, hairlike; pericline downy, hemispherical.

Abrotanum mas, Ger. em. 1105, 2.  
Abrotanum mas vulgar, Park. 92.  
Artemisia Abrotanum, Lin. S. P. 1188.  
Southern wormwood.

Dunghills and cultivated; perennial; August.

XXXVIII. 213. ABSINTHIUM. Dioscor. Wormwood.

Pericline hemispherical; scales oblong, imbricate, pressed close; calathides flosculosus; flowers all fertile; of the centre hermaphrodite, funnelshape, 5-lobed; of the circumference few, female, awlshape, not toothed; clinanthus conical, tuberculate, villous; akenia uniform, ovate; pappus 0. Stem herbaceous or undershrubby; leaves mostly many-cut.
Leaves woolly; root-leaves triply pinnatifid, blunt; upper leaves pinnatifid, pointed, lobes lanceolate; uppermost leaves undivided; calathides globose, peduncled, drooping.

Absinthium vulgare, Raüi Syn. 188, 1; Park. 98; Gärtner, Fr. et Sem. 2, 243.
Absinthium latifolium sive Ponticum, Ger. em. 1096, 1.
Artemisia Absinthium, Lin. S. P. 1168.

Ruins, sea-shores, and cultivated; perennial; August.
Root woody; stem branched, panicked at top; racemes upright; calathides pedicelled, drooping, yellowish.—Roots warm, aromatic; leaves and flowers bitter, preserve beer and destroy its acidity, if already acquired; stomachic, render the milk of a suckling woman bitter, and also mutton if the sheep feed upon it; moistened with hot water and applied externally, are antiseptic, anodyne, and prevents the swelling and discolouration of bruises; ashes contain much subcarbonate of potash, very free from other salts.

XXXIX. 214. DIOTIS. Desfontaines. Cottonweed.

Pericline hemispherical; scales concave, imbricate, pressed close, tomentose; calathides flosculos; flowers all tubular, 5-cut, compressed below, dilated into two processes laterally embracing the ovary; stigma exserted; clinanthus convex, chaffy; chaffs oblong, concave, tip externally woolly; akenium oblong; pappus 0.—Stem tomentose, white; leaves alternate, flat, ribless; calathides terminal, corymbose; corollæ golden.

Diotis candidissima. Very-white cottonweed.
Leaves oblong, blunt, crenate, densely woolly; peduncle corymbose.

Gnaphalium maritimum, Raüi Syn. 180, 1.
Gnaphalium marinum, Ger. em. 640.
Gnaphalium marinum seu Cotonaria, Park. 687.
Filago maritima, Lin. S. P. ed. 1, 927.
Santolina maritima, Lin. Mant. 1.
Athanasia maritima, Lin. S. P. 1182.
Diotis candidissima, Desfont. Atlant. 2, 261.

Sandy sea-shores; perennial; August and September.
Root branched; stem decumbent; branches upright; leaves alternate, spreading.

Pericline hemispherical; scales imbricate, coriaceous, in several rows, edges scarious; calathides radiated; flowers all fertile; of the centre hermaphrodite, yellow; of the rays female, of the same colour; ligulæ reverse-heartshape, spreading; clinanthus convex, tessellated, naked, bald; akenium topshape, furrowed; pappus 0.

Chrysanthemum segetum. Harvest corn-marygold. Leaves embracing the stem, above lobed, below toothed serrate.

Chrysanthemum segetum, Raiti Syn. 182, 1; Ger. em. 743, 1; Lin. S. P. 1254.
Chrysanthemum segetum nostras, Park. 1370.

Sandy corn-fields; annual; June to August. Imported from Scandinavia with seed-corn.

Root fusiform; stem branched; leaves glaucous, smooth; calathides terminal, solitary.—Used to dye yellow.

3. parvisflorum. Flowers smaller.

Chrysanthemum segetum nostras, folio glauco multi-scisso majus, flore minore, Raiti Syn. 183, 2.

XLI. 216. LEUCANTHEMUM. Dios. Maudlin-wort.

Pericline hemispherical, scales linear, imbricate, in many series, edge membranaceous; calathides radiated; flowers of the disk hermaphrodite, yellow; of the rays female, of a different colour; ligulæ oblong, spreading; clinanthus convex, tessellated, bald, naked; akenia topshape, furrowed; pappus 0.


Stem upright, branched; leaves embracing the stem, oblong, lanceolate, blunt, cut, pinnatifid at bottom; root-leaves spathulate, decurrent at the base into a petiole.

Leucanthemum vulgare, Raiti Syn. 184, 1.
Bellis major, Ger. em. 634, 1.
Bellis major vulgaris seu sylvestris, Park. 528.
Chrysanthemum Leucanthemum, Lin. S. P. 1251.

Fields and pastures; perennial; June and July.
Root fibrous; leaves dark green, shining; calathides solitary, terminal.—Young leaves eaten in salads.
XLII. 217. PYRETHRUM. Dioscorides. Mayweed.

Pericline hemispherical; scales imbricate, coriaceous, edge membranaceous; calathides radiated; flowers all fertile; of the centre hermaphrodite, yellow; of the rays female, of a different colour; ligule oblong, toothed; clinanthus convex, naked, tubercular; akenia uniform; pappus marginal, lobed or undivided.—Stem diffuse, branched; leaves much cut; calathides solitary, terminal, scentless.

1. Pyrethrum inodorum. Scentless mayweed.

Stem branched, spreading; leaves sessile, pinnatifid, lobes linear, threadlike, 2 or 3-parted; pappus not divided.

Chamaemelum inodorum annuum humilis, foliis obscure virentibus, Dillen in Raui Syn. 186, 6.
Chrysanthenum inodorum, Lin. S. P. 1253.

Fields and pastures; annual; August and September.

Root fusiform; leaves lyrate, pinnatifid; calathides solitary, large; peduncle naked; pericline bald; scales blackish on the edge.

f. duplicatum. Flowers all ligulate.

2. Pyrethrum maritimum. Sea mayweed.

Stem branched, spreading; leaves sessile, bipinnatifid; lobes linear, blunt, fleshy, bald, 3-cut; pappus lobed.

Chamaemelum maritimum perenne humilis, foliis brevibus crassis, obscure virentibus, Dillen in Raui Syn. 186, 7.
Matricaria maritima, Lin. S. P. 1256.
Matricaria inodora γ, Huds. Fl. Angl. 373.
Pyrethrum inodorum, Smith Pl. Brit. 901.

Sandy and rocky sea-shores; perennial; July.

Root woody; stem tufted, shining; leaf-lobes short; calathides terminal; pericline bald; scales blackish on the edge.

XLIII. 218. MATRICARIA. Brunsfel. Feverfew.

Pericline hemispherical; scales imbricate, coriaceous; edges scarioso, torn; calathides radiated; flowers all fertile; of the centre hermaphrodite, of the rays female, of a different colour; ligule reverse ovate, very short, rarely wanting; clinanthus flat, naked; akenia furrowed; pappus membranaceous, marginal, 5-lobed.—Stem upright; leaves petioloed, pinnate; calathides corymbose, downy.
Matricaria vulgaris. Common feverfew.

Stem upright; leaves petioled, compound, flat; leaflets ovate, incised; peduncles branched, corymbose.

Matricaria, Rau Syn. 181, 1; Ger. em. 652, 1.
Matricaria vulgaris, Park. 83.
Matricaria Parthenium, Lin. S. P. 1255.

Old walls and hedges; perennial; June and July.

Root fibrous, branched; leaves rather woolly.—Plant bitter, aromatic, and yields an essential oil by distillation.


Pericline hemispherical; scales imbricate, in a few series, herbaceous, pointed; calathides radiated; flowers all fertile; of the centre hermaphrodite; of the rays female, of a different colour; clinanthus long, conical, naked, dotted; akenium topshaped; pappus 0.—Stem much branched; leaves sessile, dark green, bald; calathides solitary, terminal.

Chamomilla vulgaris. Common wild-camomile.

Leaves lobed, pinnate; leaflets linear, not cut or lobed; pericline rather flat, bald; scales rather blunt.

Chamæmelum, Rau Syn. 184, 1; Ger. em. 754, 1, fig.
Chamæmelum vulgare, Park. 85.
Matricaria Chamomilla, Lin. S. P. 1256.

Bitter camomile.

Fields, waysides and dunghills; annual; May and June.

Stem upright, bald; calathides many; pericline-scales white.—May be used for Roman camomile, with which it is confounded by the old authors; an infusion of it is used in Finland in phthisis.

XLV. 220. BELLIS. Pliny. Daisy.

Pericline hemispherical; scales many, equal, in 2 series; calathides radiate; flowers all fertile; of the centre hermaphrodite, funnelshape, 5-cut; of the rays female, many, of a different colour; ligulae slender, lanceolate; clinanthus conical, naked, tubercled; akenium heartshape, compressed, hairy; pappus 0.

Bellis perennis. Perennial daisy.

Scape 1-flowered; leaves reverse ovate, crenate, veined.

Bellis sylvestris minor, Rau Syn. 184.
Bellis minor sylvestris, Ger. em. 636, 4.
Bellis minor sylvestris simplex, Park. 530.
Bellis perennis, Lin. S. P. 1248.

Fields and pastures; perennial; April to September.

Root creeping; leaves depressed.—Roots pungent, boiled in milk to stint the growth of puppies, also externally in scrofula; leaves slightly acrid.

XLVI. 221. CHAMÆMELUM. Theophrast. Camomile.

Pericline hemispherical; scales nearly equal, narrow, imbricate, in 2 or 3 series; calathides radiated; flowers all fertile; of the centre hermaphrodite; of the rays female, of a different colour; ligulæ 3 times as long as broad; clineanthus conical, chaffy; chaffs lanceolate, membranaceous, keeled; akenium topshaped, 4-sided; pappus marginal.


Stem branched at bottom, decumbent; leaves bipinnate; lobes 3-parted, linear, awlshape, slightly villous; chaffs of the clinanthus shorter than the corollæ.

Chamæmelum odoratissimum repens flore simplici, Rail Syn. 185, 2.
Chamæmelum Romanum, Ger. em. 755, 4.
Anthemis nobilis, Lin. S. P. 1260.
Roman camomile.

Sandy pastures; perennial; August and September.

Root woody; peduncles terminal, solitary, naked.—Leaves and flowers bitter, nauseous, with a strong smell, not disagreeable, antiseptic externally; flowers in infusion stomachic, antispasmodic, useful in calculous cases; and in large doses emetic; in powder febrifuge, even where bark has failed.

b. duplicatum. Flowers all ligulate.

γ. nudum. Flowers of the circumference wanting.

Chamæmelum luteum capitulo aphylo, Dillen in Rail Syn. 185, 2.*
Chamæmelum nudum odoratum, Ger. em. 754, 2.


Stem much branched, upright; leaves bipinnate, lobes linear, lanceolate, downy; clinanthus conical; chaffs longer than the corollæ.

Chamæmelum inodorum, Dillen in Rail Syn. 185, 4.
Anthemis arvensis, Lin. S. P. 1261.
White oxeye.

Ruins and sandy fields; annual or biennial; June, July.

Calathides peduncled, solitary, terminal.—Plant scentless; flowers scented.
XLVII. 222. MARUTA. Cassine.

Mathes.

Pericline hemispherical; scales imbricate, slightly scarious at the edge; calathides radiated; flowers of the centre hermaphrodite; of the rays female, of a different colour; calathides long, conical, naked at bottom, chaffy above; chaffs bristlike, shorter than the corollae; akenium hairy, top-shaped, tubercular above; pappus 0.

Maruta fœtida. Stinking mathes.
Leaves bipinnatifid, bald; leaflets awlshape, 3-parted.

Chamaemelum fœtidum, Rauï Syn. 185, 2.
Cotula fœtida, Ger. em. 757, 1.
Anthemis Cotula, Lin. S. P. 1261.
Maruta, Bullet. Philom. 1819.
Stinking camomile. Mayweed.

Fields; annual; June and July.
Root tortuous; stem much branched; leaves light green.
—Calathides rubbed between the fingers smell very disagreeable; herb blisters the skin of reapers, and of children who gather it.

XLVIII. 223. ANTHEMIS. Turner. Anthemis.

Pericline hemispherical; scales lanceolate, membranaceous, hairy; tips torn, plumose; calathides radiated; flowers of the centre hermaphrodite; of the circumference female; ligulæ much longer than broad; clinanthus flat or slightly convex, chaffy; chaffs long, lanceolate, keeled, membranaceous, sometimes as long as the corollæ; tips awlshape; akenium 4-sided, topshaped; pappus marginal, membranaceous.

a. Corollæ of the centre yellow, of the rays white.

1. Anthemis maritima. Sea anthemis.
Stem prostrate; leaves bipinnatifid, fleshy; beneath convex, hairy; above flat; lobes pointed; chaffs longer than the corollæ.

Chamaemelum maritimum latifolium ramosissimum, flore albo, Dillen in Rauï Syn. 186, 8.
Anthemis maritima, Lin. S. P. 1259.

Rocks by the sea; annual; July.
Leaves sessile; calathides solitary, terminal.
b. Corollae all yellow.

Stem upright, branched; leaves bipinnatifid, serrate, flat, beneath tomentose; pappus not divided; chaffs as long as the flowers.

Buphthalmum vulgare, Rail Syn. 183, 1; Ger. em. 747, 3.  
Buphthalmum Matthioli, sive vulgare millefolii foliis, Park. 1370.  
Anthemis tinctoria, Lin. S. P. 1263.  
Yellow oxeye. Common oxeye.

Rocks and mountains; perennial; July and August.  
Stem 18 inches high.—Flowers yield a very clear and good yellow dye.

XLIX. 224. ACHILLEA. Theophrastus. Yarrow.

Pericline ovate; scales slender, pressed close, imbricate; calathides radiated; flowers all fertile; of the centre hermaphrodite, tubular; of the rays female; ligulae ovate, broader than long, tip repand, 3-toothed; clinanthus flat, chaffy; chaffs linear, shorter than the pericline; akenium elliptical; pappus 0.

a. Corollae all yellow.

Leaves bipinnatifid, villose; leaflets very much crowded; lobes linear, lanceolate, not in the least cut, pointed; corymbus compound.  

Achillea tomentosa, Willd. S. P.  
Mountains; perennial; August and September.  
Stem 9 inches high.

b. Corollae of the centre yellow, of the rays white.

Leaves bipinate; leaflets blunt; lobes awlshape, toothed.  

Millefolium vulgare, Rail Syn. 183, 1; Park. 693.  
Millefolium terrestre vulgare, Ger. em. 1072, 1.  
Achillea Millefolium, Lin. S. P. 1267.  

Fields and pastures; perennial; June to August.  
Root creeping; stem upright; lobes of the leaves very numerous, hairy underneath; calathides crowded, small, white.—Flowers yield an essential oil; infusion of the flowering herb stimulant, stomachic.

β. rosea. Calathides rose-colour or nearly crimson.  
Millefolium flore rubro, Ger. em. 1072, 9.
Mountains in Derbyshire; perennial; July. Stem upright; flowers yellowish-white, odoriferous.


Ptarmica, *Raii Syn.* 183, 1; *Ger. em.* 606, 1. 

Woods and damp hedges; perennial; June to August. Root creeping; calathides peduncled, white.—Root hot, acrid, sialogogue; leaves in powder errhine; herb chewed acrid, sialogogue; young tops a warm spring salad.

β. *plena.* Corollæ all ligulate.


Pericline ovate; scales lanceolate, pointed, imbricate, scarious, coloured; calathides flosculous, unisexual; clinanthus pitted, naked.—Male. *Anthers* 2-bristled at the base; stigma truncated; pappus pencil-shape, or thickened at the tip.—Fem. Corollæ threadshape, limbs small; pappus hair-like.—Herb dioicus, tomentose, white, woolly; leaves flat; calathides corymbose, rarely solitary.

1. *Antennaria montana.* Mountain cats-foot. Runners procumbent; stem not branched; leaves radical, spatulate; corymbus simple, terminal, contracted; outer pericline-scales long, blunt.

*Gnaphalium montanum, sive Pes cati,* *Park.* 690. 
*Gnaphalium dioicum,* Lin. *S. P.* 1199. 
*Antemaria dioica,* Gærtner *Sem.* et Fr. 2, 410. 
Mountain cotton-weed. Mountain cudweed.

Dry mountain-pastures; perennial; June and July. Root creeping; runners leafy, woolly; leaves rather naked above, tomentose beneath.

β. *lanata.* Leaves woolly on both sides.
Antennaria margaritacea.  
Stem branched above; leaves linear, lanceolate, pointed, alternate; corymbus conglomerate.

Elychrysum q. Gnaphalium Americanum Gerardi (641, 8), Rait Syn., 182, 2.
Argyrocose seu Gnaphalium Americanum, Park. Par. 374.
Gnaphalium margaritaceum, Lin. S. P. 1198.

Damp fields; perennial; August. Naturalized.
Root creeping; stem woolly; leaves slightly revolute, greenish above, densely tomentose beneath.

LI. 226. GNAPHALIUM. Dioscorides.  
Cudweed.

Pericline cylindrical; scales linear, shining, membranaceous, coloured, as long as the flower; calathides floscious; flowers of the centre hermaphrodite, few; of the circumference many, threadshape; clinanthus pitted, naked; pappus sessile, rough, hairlike, deciduous.

Pale-yellow cudweed.
Stem herbaceous, upright, not branched; leaves slightly stem-clasping, swordshape, repand, both sides tomentose; lower leaves blunt; upper pointed; corymbus conglomerate.

Elychrysum sylvestre latifolium capitulis conglobatis, Rait Syn. 182, 3.
Gnaphalium oblongo folio, Ger. em. 643, 13.

Sandy places and dry walls; annual; July and August.
Root small; stem diffuse at bottom; leaves not in the least cut; pericline pale yellow.

2. Gnaphalium supinum.  
Supine cudweed.
Stem herbaceous, not branched, procumbent or very short; lower leaves pointed, tomentose; calathides capitate.

Gnaphalium alpinum, Lightfoot Fl. Scot. 470.
Dwarf cudweed.

Micaceous alps; perennial; July.
Root creeping; stem 6 inches high; leaves slender; calathides racemose, upright; upper sessile; lower pedicelled,
   Stem upright, not branched, tomentose; leaves linear, narrow at both ends, woolly on both sides; calathides terminal and axillary, sessile, spiked.
   Gnaphalium Norwegicum, Retz Prod. 193.
   Gnaphalium fuscatum, Persoon Syn. 2, 421.
   Mountains; perennial; August.
   Root fibrous; stem solitary; leaves pointed; spike slightly branched, dense; pericline blackish.

   Stem upright, not branched; leaves linear, lanceolate, serrate, tomentose, white, rather naked above; calathides panicled; panicle stiff, compound, leafy.
   Gnaphalium Anglicum, Rait Syn. 180, 2; Ger. em. 639, 1.
   Gnaphalium Anglicum vulgare majus, Park. 683.
   English cudweed. English live-long.
   Woods, hedges, and pastures; perennial; August.
   Root woody; stem 2 feet high, panicled; panicle long, imbricate, whitish; pericline blackish.

   Stem much branched, diffuse, woolly; leaves linear, lanceolate, cut at bottom, tomentose on both sides; calathides terminal, corymbose, crowded.
   Gnaphalium longifolium humile ramosum capitulis nigris, Rait Syn. 181, 6.
   Gnaphalium vulgare, Ger. em. 639, 2.
   Filago minor, Park. 686.
   Gnaphalium uliginosum, Lin. S. P. 1200.
   Damp shady places; annual; August.
   Stem branched at bottom; pericline brownish yellow.

LII. 227. FILAGO. Dodonaeus. Chafeweed.
   Pericline conical, pyramidal; scales few, lanceolate, of one colour, not sphaecelated, longer than the flowers; calathide flosculos; flowers all tubular: of the centre 2 or 3, hermaphrodite, 4-cut, style short, pappus hairlike: of the sides many, female, base swollen, limb 4-cut, upright, style long, pappus hairlike: of the circumference 5 or 6, female, tube very slender, 2-cut, style long, pappus 0;
clinanthus awlshape, naked above, chaffy below, chaffs linear, like the scales of the pericline, enclosing the akenia; akenium ovate; pappus hairlike, sessile, rough, deciduous, or 0.—Stem forked, branched; calathidges aggregated into a calathiphore; calathiphore ovate, in the forks and terminal.

1. Filago minima. Least chafeweed.  
Stem upright, branched; leaves lanceolate, pointed, flat, woolly; calathidges conical, crowded, and solitary, axillary and terminal.

Gnaphalium minimum, Rail Syn. 181, 4.  
Filago minor, Ger. em. 641, 9.  
Filago montana, Sibthorp Fl. Ox. 262, not of Linnaeus.  
Least cudweed.

Sandy places; annual; July.  
Leaves upright, pressed close, short, both sides woolly.

2. Filago montana. Mountain chafeweed.  
Stem upright, forked; leaves linear, lanceolate, pressed close, tomentose; calathidges crowded, axillary or solitary.

Filago montana, Lin. S. P. 1312.  

Sandy places; annual; July.  
Stem upright; 9 inches high, much branched, larger and more woolly than the preceding.

Stem upright, forked; leaves linear, pointed, greyish, calathidges crowded, axillary in the forks, and terminal.

Gnaphalium parvum ramosissimum foliis angustissimis polyspermon, Rail Syn. 181, 5.  
Filago gallica, Lin. S. P. 1312.  
Gnaphalium gallicum, Hudson Fl. Angl. 361.  
Grass-leaved cudweed.

Sandy fields; annual; July and August.  
Stem simple at bottom, much branched above; leaves revolute, twisted, both sides woolly.

Stem upright, forked; leaves linear, lanceolate, pointed, tomentose; calathidges many; calathiphore globular, lateral and terminal.

Gnaphalium minus, seu Herba impia, Raui Syn. 180, 3; Park. 685.  
Filago seu Herba impia, Ger. em. 642, 10.  
Gnaphalium Germanicum, Hudson Fl. Angl. 362.  
Filago Germanica, Lin. S. P. 1311.  
Lo gia, Cassine, Journ. Philom. 1819.  

Fields and waysides; annual; July and August.  
Stem 2 feet high; leaves stem-clasping, both sides woolly;  
flowers the younger overtop the elder.—Used in the bloody  
flux, both of man and beast.

LIII. 228. CONYZA. Hippocrates. Ploughmans-spikenard.  
Pericline ovate, cylindrical; scales lanceolate, outer  
scales leaflike, tip bent back, spreading; inner cartilagi-  
nous, straight, fringed; calathides slightly radiated; flowers  
all fertile; of the centre hermaphrodite, funnelshape, 5-cut;  
of the rays female, very small, 3-cut; ligulae very short,  
slender; clinanthus flat, tubercular, rough; akenium angular,  
fwarroad; pappus hairlike, rough.—Herb downy; leaves  
not cut; radical petiolated; calathides corymbose, crowded;  
corollex yellow.

Conyza squarrosa. Rough ploughmans-spikenard.  
Leaves ovate, lanceolate, downy; upper leaves oblong,  
lanceolate, not cut.

Baccharis Monspeliensium, Raui Syn. 179, 1; Ger. em. 792; Park. 114.  
Conyza squarrosa, Lin. S. P. 1205.  
Great Fleabane.

Chalky pastures and waysides; biennial; July and Aug.  
Stem 3 feet high; radical leaves ovate, crenate.—Leaves  
scented, bitter and acrid.

LIV. 229. PULICARIA. Gaza.  
Fleabane.  
Pericline roundish; scales imbricate, nearly equal, all  
linear, pointed, tips spread out; calathides radiated; flowers  
of the centre hermaphrodite; of the circumference female,  
many; ligulae slender, linear, 3-toothed, recurved; anthers  
with a long, bristlelike basillary appendix; clinanthus ho-  
neycombed; cells fringed; akenium rounded, hirsute; papp-  
us double; outer membranaceous, toothed; inner hair-  
like, rays few, longer than the seed, deciduous.—Herb  
downy; leaves stem-clasping; pericline downy; branches longer  
than the main stem.
Stem upright, panicled; leaves stem-clasping, oblong, waved, villous; peduncles opposite to the leaves; calathides rather globose; rays very short.

Conyza minor, Raiti Syn. 174, 1.
Conyza minima, Ger. em. 482, 4.
Inula Pulicaria, Lin. S. P. 1238.
Aster pulicarius, Scop. Carniola, 1080.
Inula uliginosa, Sibthorp, Fl. Ox. 206.
Pulicaria vulgaris, Gartn. Sem. et Fr. 2, 461.

Small fleabane. Dwarf fleabane.

Damp sandy heaths; annual; September.
Root fusiform; stem much branched; rays longer than the pericline, rarely 0.

Stem downy, panicled; side branches spread, and longer than the main stem; leaves stem-clasping, heartshape, oblong, naked, serrate, hairy beneath; pericline-scales bristle-like.

Conyza media, Raiti Syn. 174, 1; Ger. em. 482, 3.
Inula dysenterica, Lin. S. P. 1237.
Aster dysentericus, Scop. Carniola, 1079.

Common flea-wort. Herb Christopher. Middle fleabane.

Watery places; perennial; August to October.
Root creeping; stem spreading; calathides racemose, terminal; rays twice as long as the pericline.—Odour soapy; useful in dysentery.

LV. 230. INULA. Pliny.

Elecampane.
Pericline hemispherical; scales imbricate; inner scales linear, slender, equal, scariose; outer ovate, unequal, weak; calathides radiated; flowers of the centre funnelshape, hermaphrodite; of the rays very numerous, female, yellow; ligulae linear; basillary appendix to the anther long, slender; clinanthus flat, bald, pitted, rather smooth; akenium 4-sided, streaked, bald; pappus hairlike, rather rough, longer than the akenium.

Inula grandiflora. Great-flowered elecampane.
Leaves embracing the stem, ovate, slightly toothed, wrinkled; tomentose beneath.

Helenium, Raiti Syn. 176, 1; Ger. em. 793.
Helenium sive Inula campana, Park. 674.

Inula Helenium, Lin. S. P. 1236.
Aster Helenium, Scopol. Carn. 1078.

Sæb wort. Horse-heal.
Damp fields and pastures; perennial; June to August.

Root thick, fleshy; stem upright, 3 feet high; radical leaves petiolated; calathides solitary, terminal, very large.—Root in infusion pectoral, used in the hooping-cough; in decoction cures the scab in sheep; yields a peculiar principle, inulin, resembling starch and gum.

LVI. 231. ERITHEIS. Golden-samphire.

Pericline hemispherical; scales unequal, imbricate, awl-shape, fleshy, outer ones weak, become all reflexed; calathides radiated; flowers all fertile: of the centre hermaphrodite; corollae membranaceous, lobes coriaceous: of the rays many, female, yellow; ligulae linear, 3-toothed; basilary appendix of the anthers very short; style much swollen at the base; clinanthus flat, honeycombed, bald; akenium compressed, hispid; pappus simple, hair-like, rough.—Herb perennial, bald, fleshy; pericline bald; corolla yellow.

Eritheis maritima. Sea golden-samphire.

Leaves linear, fleshy; tip 3-cut.

Aster maritimus flavus, Crithmum chrysanthemum dictus, Rau Syn. 174,1. 
Crithmum chrysanthemum, Ger. em. 533, 3; Park. 1587. 
Inula crithmoides, Lin. S. P. 1240. 
Inula crithmifolia, Hull Br. Fl. 155. 
Aster palustris, Lamarck Fl. Fr. 214.

Muddy sea-shores; perennial; August.

Root creeping; stem upright or decumbent, mostly simple; leaves crowded; peduncles corymbose, terminal, scaly; calathides large.


Pericline hemispherical; scales imbricate, unequal, pressed close, coriaceous, without an appendix; calathides radiated; flowers all fertile; of the centre hermaphrodite; of the rays many, female; ligulae oblong, blue or white; clinanthus flattish, dotted, bald; akenia uniform, compressed; pappus simple, hair-like, rather rough.—Herb perennial, smooth.

Eurybia maritima. Sea hogs’ beans.

Stem bald, corymbose; leaves linear, lanceolate, fleshy, 3-ribbed; lower leaves slightly serrate at the apex; pericline-scales lanceolate, blunt.
Aster maritimus caeruleus Tripolium dictus, *Rait Syn. 175, 2.*
Tripolium vulgare magus, et minus, *Ger. em. 413, 1 et 2.*


Salt marshes; perennial; August and September.

Root fibrous; stem upright; leaves not cut, lower leaves petioled; calathides large; pericline-scales slightly fringed.

β. flosculosa. Calathides flosculous; rays 0.

LVIII. 233. SOLIDAGO. Brunsfel.  

Golden-rod.

Pericline ovate; scales imbricate, oblong, lanceolate, unequal, pressed close, becoming spread open, edge membranaceous; calathides radiated; flowers all fertile; of the centre funnelshape, hermaphrodite; of the rays 5 or 10, yellow, female; ligulae oblong, toothed; clinanthus flat, small, pitted, naked; akenium roundish, hairy; pappus hairlike, rough.—Herb perennial; calathides small, race-mose.

Solidago vulgaris. Common golden-rod.

Stem downy, generally branched; upper leaves lanceolate, narrow at both ends; lower elliptical, hairy; racemes upright; calathides crowded, longer than the peduncle.

Virga aurea, *Rait Syn. 173, 1.*
Virga aurea vulgaris, *Park. 542.*

Woods and hedges; perennial; July to September.

Virga aurea, *Ger. em. 430, 1.*

γ. incurva. Stem simple, serpentine; leaves lanceolate; calathides spiked.

δ. paniculata. Stem simple, straight; leaves lanceolate, tomentose; upper leaves rarely sessile; lower petioled; calathides panicked.


LIX. 234. ERIGERON. Theophrastus. Erigeron.

Pericline ovate; scales imbricate, unequal, linear, lanceolate, becoming deflected, edges membranaceous; calathides radiated; flowers all fertile; of the centre tubular, hermaphrodite, yellow; of the rays numerous, in a single row, female; ligulae very slender, blue or white; clinanthus convex, pitted, rough; akenium angular, silky; pappus hairlike, rough.—Herb rough; calathides panicked.

Erigeron Canadense. Canada erigeron.
Stem hirtous, panicked; leaves lanceolate, fringed; lower leaves toothed.

Conyza Canadensis annua, acris, alba, linariæ foliis, Rait Syn. 175, 1.
Erigeron Canadense, Lin. S. P. 1210.
Canada fleabane. White golden rod.

Cultivated places; annual; August to September; naturalized.
Stem upright, firm; leaves pointed; calathides small.
—Fibre has been made into excellent paper.

LX. 235. TRIMORPHA. Cassine. Trimorphe.

Pericline ovate; scales imbricate, lanceolate, awlshape, acute; calathides radiated; flowers all fertile; of the centre tubular, 5-cut, hermaphrodite, yellow; of the rays female, in two rows; inner row tubular, 5-cut; outer row ligulate, very numerous; ligulae linear, blue or white; clinanthus flat, pitted; akenium compressed, hispid; pappus hairlike, longer than the akenium.

1. Trimorpha acre. Sharp trimorphe.
Stem racemose; peduncles alternate, 1-flowered; leaves lanceolate, ligulate, sessile; pappus reddish, twice as long as the akenium.

Aster arvensis caeruleus acris, Rait Syn. 175, 3.
Conyza caerulea acris, Ger. em. 484, 10.
Conyza odorata caerulea, Park. 126.
Erigeron acre, Lin. S. P. 1211.
Blue fleabane.

Chalky hills; perennial; July and August.
Root branched; stem upright, 2 feet high; leaves spread, sessile; root-leaves petioled, serrated; pericline hirsute; flowers of the rays upright.

2. Trimorpha alpina. Alpine trimorpe.
   Stem 1 to 4-flowered; leaves blunt, villous beneath; pericline slightly hirsute; flowers of the rays spreading; pappus reddish, the length of the akenium.
   Erigeron alpinum, Lin. S. P. 1212.
   Alpine rocks perennial; July.
   Root fibrous; stems many, mostly without branches; leaves sessile, fringed; calathides solitary; flowers of the rays purplish blue; of the centre yellow.

3. Trimorpha uniflora. One-flowered trimorpe.
   Stem 1 to 4-flowered; leaves blunt, hirsute; pericline woolly; flowers of the rays erect, tubular; pappus reddish, the length of the akenium.
   Erigeron uniflorum, Lin. S. P.
   Alpine places; perennial; July.
   Flowers of the centre deep purple; of the rays white.

LXI. 236. CHRYSOCOMA. Dioscorides. Chrysocome. 
   Pericline hemispherical or ovate; scales linear, imbricate, convex on the back, herbaceous; calathides flocculous; flowers all tubular, 5-cut, hermaphrodite; style scarcely projecting; lobes ovate; clinanthus flat, pitted; edges of the pitts rough, toothed; akenium oblong, villous; pappus bristlelike, rough; deeply denticulated.

   Chrysocoma nuperum. Modern chrysocome.
   Stem herbaceous; leaves linear, bald; pericline-scales weak.
   Linosyris nuperorum Lobelii, Ger. em. 553, 9.
   Chrysocoma Linosyris, Lin. S. P. 1178.
   Golden star-furnished toadflax.
   Sea-cliffs; perennial; September and October.
   Stem a foot long, upright; panicle branched; calathides solitary, terminal; peduncles leafy; corollae gold-yellow.

LXII. 237. DORONICUM. Brunsfel. Leopards-bane.
   Pericline hemispherical; scales equal, linear, pointed in 2 series; calathides radiated; flowers all fertile; of the 2
centre hermaphrodite; of the rays many, female, ligulate; ligulæ linear, spreading; clinanthus conical, honeycombed, cells fringed; akenia disform; of the centre reverse ovate, hirsute; pappus bristlelike, toothed, rough; of the rays topshape, furrowed, bald.

Doronicum cordifolium. Heart-leaved leopard's-bane.
Stem hirsute; leaves toothed; root-leaves heartshape, with long petioles; middle spathulate heartshape; upper roundish heartshape.

Doronicum majus officinarum, Ger. em. 759, 2.
Doronicum Pardalanches, Lin. S. P. 1241.
Great leopard's-bane.

Mountainous fields and pastures; perennial; May.
Root tuberous, creeping; calathides terminal, solitary, large; pericline longer than the flowers of the centre, and shorter than those of the rays; corolla gold-yellow.

LXIII. 238. CINERARIA. Dodonæus. Fleabane.
Pericline cylindrical hemispherical; scales naked at bottom, or slightly involucrated, linear, equal, many, in a single row; edge scarious; bracteæ few, very short, not sphaecelated; calathides radiated; flowers all fertile; of the centre hermaphrodite; of the rays ligulate; clinanthus slightly convex, dotted, naked; akenium furrowed; pappus hairlike, white, soft, longer than the akenium.—Leaves undivided.

Stem villous; leaves broad, lanceolate, toothed, sinuated, slightly embracing the stem; calathides corymbose.

Coryza folis laciuiatis, Rait Syn. 174, 3; Ger. em. 483, 5.
Cineraria palustris; Lin. S. P. 1243.
Great jagged-leaved fleabane.

Ditches and bogs; perennial; June and July.
Root fibrous; stem 3 feet high, not branched, thick; leaves pale, hairy; hairs jointed; pericline cylindrical, little shorter than the rays; akenium bald.

Stem simple; lower leaves spathulate, toothed; upper lanceolate, not cut at bottom; uppermost not in the least cut.
Jacobæa Pannonica folio non laciniato, Rait Syn. 178, 4.
Jacobæa angustifolia, Ger. em. 280, 2.
Jacobæa angustifolia Pannonica non laciniata, Park. 608.
Cineraria alpina, Lin. S. P. 1243.
Cambridge ragwort. Mountain fleawort.

Chalky soils; perennial; May and July.

Root fibrous; stem not branched; leaves turned back on the edges; pericline cylindriclal hemispherical, shorter than the rays; akenium silky.

\( \beta \). alpina. Stem 1 foot high; leaves large, rather naked; root-leaves broadly toothed.

Cineraria Alpina, Allioni Pedem. 6, 203.


Stem stiff, rather woolly; leaves half embracing the stem, lanceolate, acutely serrate, slightly villous beneath; corymbus terminal, divaricated.

Virga aurea q. virga aureae sive solidaginii angustifoliae affinis, Linguavis Dalechampii, Joh. B. H. Rait Syn. 176, 2.
Conyza palustris serratifolia, Ger. em. 483, 6.
Conyza palustris, Park. 1232.
Senecio paludosus, Lin. S. P. 1220.

Bogs; perennial; June and July.

Root creeping; stem upright, simple, 6 feet high; leaves pointed, bald above; akenium hairy.

LXIV. 239. SENECIO. Pliny.

Groundsel.

Pericline hemispherical or cylindrical; scales linear, equal, in 1 row; bracteæ few, small, pressed close, becoming reflexed, sphaclated at the tip; calathides radiated or flosculos; flowers all fertile; of the centre tubular, hermaphrodite; of the rays many, ligulate, female, rarely 0; ligulæ reverse ovate, yellow; clinanthus rather flat, naked, honeycombed; akenia uniform, round, streaked; pappus hairlike, rough.

a. Jacobææ. Pericline hemispherical; scales weak; rays spreading; leaves divided.


Stem upright, corymbose; leaves lyrate, serrated; lower leaves reverse ovate, not cut; pericline hemispherical; ligulæ elliptical; akenium bald.

Senecio aquaticus, Hudson Fl. Angl. 366.

Bogs and watery places; perennial; July and August.
*Stem* branched; *leaves* light green; *calathides* large; 
*pericline* bald.

2. **Senecio laciniatus.** Jagged groundsel.

*Stem* upright, corymbose; *leaves* lyrate, bipinnatifid, 
divaricated, toothed, bald; *pericline* rather cylindricial; 
*akenia* of the centre hirsute, of the rays rather bald.

Jacobea vulgaris, Rail Syn. 177, 1.
Jacobea, Ger. ex. 280.
Jacobea vulgaris major, Park. 668.
Senecio Jacobea, Lin. S. p. 1219.
Seggrum.

Ruins and pastures; perennial; July and August.
*Root* fibrous; *leaves* blackish green, lobes wedgeshape, 
toothed; *calathides* numerous; *pericline* bald, short.—*Herb*
bruised recommended in cancerous cases; dyes wool deep 
green, and alumined wool yellow.

3. **Senecio tenuifolius.** Thinleaved groundsel.

*Stem* upright, villous; *leaves* pointed, toothed, slightly 
turned over; beneath pale, pubescent; *pericline* hemisphhe- 
rical; *akenium* hairy.

Senecio erucifolius, Curtis Fl. Lond. 294.

Woods and waysides on chalk; perennial;
*Stem* corymbose; *leaves* stem-clasping; *calathides* many; 
*pericline* downy; *bracteae* weak.

2. **Senecio erucifolius.** Herb less cottony; lower leaves sessile.

Senecio erucifolius, Curtis Fl. Lond. 294.

4. **Senecio squalidus.** Squalid groundsel.

*Stem* upright, branched; *leaves* pinnatifid; lobes linear, 
toothed, distant; *pericline* hemispherical; *rays* spread, el- 
liptical, apex not cut; *akenium* tomentose.
Senecio squalidus, Lin. S. P. 1218.
Walls; annual; June to October.
Stem rather bald; leaves deeply lobed; lobes pointed, flat; beneath glaucous; calathides few, corymbose; pericline bald; bractee weak, small.

b. Pericline cylindrical; scales upright; rays spreading; leaves entire.

Stem upright, stiff; leaves sessile, lanceolate, acutely serrated, rather bald; base wedge-shaped; calathides corymbose; akenium bald.
Virga aurea maxima radice repente, Rail. Syn. 177, 2.
Senecio saracenicus, Lin. S. P. 1221.
- Damp fields and pastures; perennial; July and August.
Root creeping; stem 3 feet high; leaves sometimes slightly downy, pericline woolly; bractee lanceolate.—A powerful astringent.

c. Seneciones. Pericline cylindrical, scales upright; rays revolute, or 0; leaves lobed.

Stem upright, stiff, corymbose; leaves sessile, pinnatifid, lobed, denticulated; bractee very short, pressed close.
Senecio minor latiore folio, sive montana, Dillen in Rail. Syn. 178, 3.
Senecio sylvaticus, Lin. S. P. 1217.
Sandy and chalky heaths and woods; annual; July.
Stem 3 feet high, hairy; leaves lyrate, pinnatifid; calathides very small, radiated; pericline slightly downy; corolla yellowish.

7. Senecio lividus. Livid groundsel.
Stem upright, stiff, corymbose; leaves stem-clasping, lanceolate, pinnatifid, toothed; bractee very short, acute; tip pale.
Senecio lividus, Lin. S. P. 1216.
Barren heaths; annual; September and October.
Stem a foot high; calathides small, radiated, gold-yellow.

Stem much branched, spreading; leaves sessile, pinnatifid, toothed, viscid; bractee weak, nearly as long as the pericline.
Senecio foetidus, *Park.* 611.
Cotton groundsel. Stinking groundsel.

Dry soils and rubbish; annual; July to October.

**Stem** a foot high; **calathides** large, radiated; **peduncles** solitary; **pericline** hirsute, viscid; **corolla** gold-yellow.


**Stem** upright, branched; **leaves** stem-clasping, pinnatifid, sinuated, toothed; root-leaves petioled; **corymbus** close; **bracteae** lanceolate, short, pressed close.

Senecio vulgaris, *Raii Syn.* 178, 1; *Park.* 671.

Cultivated places; annual; all the year.

**Stem** rather bald; **leaves** blunt; **pericline** bald; **calathides** flosculous.—*Juice* or a strong infusion is emetic, and vermifuge, useful to expel botts from horses; bruised leaves a good application to boils; seeds or rather **calathides** in fruit given to small birds.

LXV. 240. **TUSSILAGO.** Pliny. 

**Pericline** cylindrical, becomes bellied, and afterwards entirely bent back; scales many, linear, equal, in one series; **calathides** radiated; **flowers** all fertile; of the centre **calathides** radiated, hermaphrodite; of the rays very numerous, female; **ligule** linear; **clinanthus** flat, becoming globose, pitted, naked, bald; **akenea** uniform, roundish; **pappus** hairlike, sessile, white, longer than the **akenea**.—**Herb** flowering before the leaves appear; **calathides** solitary; **peduncles** scaly; **leaves** radical, large, angular.

**Tussilago vulgaris.** Common colts-foot.

**Leaves** heartshape, angulate-toothed, beneath downy; **scape** smooth, bracteated.

Tussilago, *Raii Syn.* 173, 1; *Ger. em.* 811, 1; *Park.* 1220.

Damp chalky places; perennial; March and April.

**Root** creeping; **scape** tomentose; **bracteae** bald; **calathides** drooping, becoming upright; **leaves** petioled, upright, above bald.—**Leaves** austere, bitter, mucilaginous, useful in coughs
and consumptive cases; a strong decoction of the dried leaves of service in scrofulous cases; dried leaves the basis of cephalic snuffs; down on the under surface used as tinder.


Pericline cylindrical, conical, becomes bellied, and then entirely turned back; scales many, linear, equal, in one series; calathides flosculos, flat at top; flowers all fertile; of the centre funnelshape, equal, 5-toothed, androgynous; of the rays threadlike, oblong, slightly 5-toothed, female; sometimes flowers all of one sort; clinanthus flat, dotted, naked; akenium roundish; pappus hairlike, rough, sessile.— Herb flowering before the leaves appear; calathides numerous; peduncles bracteated; leaves radical.

Petasites vulgaris. Common butterbur.

Thyrse oblong; leaves oblong, heartshape, unequally toothed, beneath downy, lobes approximating.

Petasites, Raii Syn. 179, 1; Ger. em. 814, 1.
Petasites vulgaris, Park. 419.
Tussilago Petasites, Lin. S. P. 1215.
Petilient wort.

Moist meadows; perennial; March and April.

Rhizoma thick, fleshy, creeping; scales upright, woolly; leaves very large; bractae lanceolate; thyrse ovate; flowers uniform, all tubular, hermaphrodite; pappus as long as the pericline. — Rhizoma resinous, bitter, acrid, and strong smelling; the leaves afford shelter to small animals.

β. elongata. Thyrse oblong; flowers 1 to 3 hermaphro-
dite, rest all female, irregularly 5-toothed; pappus shorter than the pericline.

Petasites major, floribus pediculis longis insidentibus, Dillen in Raii Syn. 179, 2.
Tussilago hybrida, Lin. S. P. 1214.

LXVII. 242. EUPATORIUM. Dutch-agrimony.

Pericline oblong; scales few, oblong, equal; slightly im-
bricate; calathides flosculos; flowers few, all hermaphro-
dite; corolle tubular, regular, 3-cut; pollen white; style long; branches linear, divaricating; stigmata glandular; clinanthus convex, naked, bald; akenium 4-sided, streaked; pappus hairlike, rough.—Leaves opposite; calathides co-
rymbose.
Eupatorium cannabinum. Hemp Dutch-agrimony.
Leaves petioled, 5-parted; lobes lanceolate, serrated; middle long, largest.
Eupatorium cannabinum, Rau. Syn. 170, 1; Park. 595; Lin. S. P. 1173.
Eupatorium cannabinum mas, Ger. 111, 2.

Herb agrimony.

Spongy watery places; perennial; July and August.
Stem 3 feet high; branches upright; leaves to 5-parted, beneath pale; calathides many, terminal, corymbose, downy; flowers 5 or 6; corollae purplish.—Herb emetic and purgative in small doses alterative; root diuretic.

S. lanceolatum. Upper leaves lanceolate.
Eupatorium cannabinum folio integro, seu non digitato, Dillen in Rau. Syn. 180, 1.

Fam. V. 40. DIPSACEÆ. Jussieu.

Flowers aggregate, on a common receptacle girt with a many-leaved pericline; calyx double; outer calyx persistent, not adherent to the ovary; inner closely adherent, limb membranaceous or pappose; corollae inserted on the apex of the inner calyx, 1-petaled, tubular, 4 or 5-lobed, often irregular; stamens 5, inserted at the base of the tube, as many as the lobes, alternating with them; anthers distinct; ovary 1, in the contracted apex of the inner calyx; style 1; stigma simple; akenium 1-seeded, inclosed in the calyx; seed pendent; perisperm fleshy, firm; corculum straight, radicle above; cotyledons oblong.—Stem herbaceous; leaves opposite.

Inner calyx not cut;
pericline-scales unequal, long ......... Dipsacus. 243.
Inner calyx not cut;
pericline-scales equal .................. Galedragon. 244.

Inner calyx 5-toothed, bristlelike;
outer 5-toothed; clinanthus chaffy ........... Succisa. 245.

Inner calyx 5-toothed, bristlelike;
outer dilated; clinanthus chaffy ....... Columbaria. 246.
Inner calyx many-toothed, bristlelike;
outer 4-toothed; clinanthus hirsute ...... Scabiosa. 247


Pericline-scales many, inflected; clinanthus long, chaffy; chaffs spinous, longer than the flowers; calyx double; outer angular, inner pedicelled; corollae 4-cut; stamens 4, ex-
serten; ovary 1; style simple; akenium 1-seeded, enclosed in the outer calyx; pappus cupular, not cut.—Herb rough or spinose; leaves connate, bald; calathides terminal.

1. Dipsacus sylvestris. Wild teasel. 
Leaves rather connate, serrate; chaff's straight at the tip.

Dipsacus sylvestris, seu Labrum Veneris, Rall Syn. 192, 2. 
Dipsacus sylvestris, Ger. em. 1167, 2; Park. 984. 
Dipsacus fullonum, Lin. S. P. 140.

Hedges and waysides; biennial; July.
Root-leaves crenate; stem-leaves serrate; pericline-scales unequal; chaff's hairy.

2. Dipsacus fullonum. Fullers teasel. 
Leaves rather connate, serrate; chaff's hooked at the tip.

Dipsacus sativus, Rall Syn. 192, 1; Ger. em. 1167, 1; Park. 983. 
Dipsacus fullonum, Lin. S. P. 140. 

Fields and cultivated places; biennial; July.
Stem 3 feet high, straight; leaves bald.—Heads used to raise the nap on woollen cloth to hide the interwoven texture.

II. 244. GALEDRAGON. Xenocrates. Shepherds-rod.

Pericline-scales 5 to 10, equal, lanceolate; clinanthus ovate, convex, chaffy; chaff's dilated at bottom, pointed at top, like the scales of the pericline, longer than the flowers; outer calyx angular, not cut; inner peduncled, inverse-conical, fringed; corolla 4-cut; stamens 4, exserted; style stimple; akenium 1-seeded, in the outer calyx, crowned by the inner calyx.—Herb rough; leaves pietioled, rough; calathides terminal.

Galedragon pilosus. Hairy shepherds-rod. 
Leaves ovate, serrate, eared at bottom; chaff's fringed, lanceolate at the tip.

Dipsacus minor seu virga pastoris, Rall Syn. 193, 3; Ger. em. 1168, 3. 
Virga pastoris, Park. 984. 
Dipsacus pilosus, Lin. S. P. 141.
Small teasel.

Damp places; perennial; August.
Stem branched, upright; calathides roundish; corolla white.
III. 245. SUCCISA. Fuchs.

Pericline-scales few, equal, lanceolate, in one series; clinanthus ovate, convex, honeycombed, cells fringed; chaffs lanceolate, shorter than the flowers; outer calyx 4-toothed, free, contracted above; inner 5-toothed, teeth bristlelike, rough; corolla 4-cut, regular; stamens 4 or 5, exserted; stigma headed; akenium 1-seeded, free, within the inner calyx.—Stem herbaceous; leaves petioled; calathides terminal.

Succisa Fuchsii. Fuchs' devils-bit.

Stem simple, upright; leaves simple, lower and uppermost not cut, middle-toothed; calathides rather globular; corollæ 4-cut, regular.

Scabiosa radice succisa, flore globoso, Rau Symb. 191, 3.
Morsus Diaboli, Ger. en. 726.
Morsus Diaboli vulgaris, Park. 492.
Scabiosa succisa, Lin. S.P. 142.

Fore-bit.

Fields and meadows; perennial; August.
Root truncated; stem branched above; root-leaves blunt, upper leaves lanceolate; corollæ blue, violet, flesh-colour, or white.—Herb dyes, yellow and green; a strong decoction alterative, used in gonorrhoea.

IV. 246. COLUMBARIA. Lobell.

Pericline-scales lanceolate, equal, in one row; clinanthus ovate, convex, honeycombed, cells fringed; chaffs short, lanceolate; outer calyx free, dilated at top; inner 5-toothed; teeth bristlelike, rough; corolla 4 or 5-cut; stamens 4 or 5, exserted; akenium 1-seeded, free, crowned by the inner calyx.

Columbaria minor. Small field-scabious.
Root-leaves ovate, crenate; stem-leaves pinnate, lobes bristlelike; corolla 5-cut, radiating; akenium 8-furrowed.

Scabiosa minor vulgaris, Rau Symb. 191, 2.
Scabiosa minor sive Columbaria, Ger. en. 719, 2.
Scabiosa minor campestris, Park. 484.
Scabiosa columbaria, Lin. S.P. 143.

Chalky and sandy pastures; perennial; June and July. Stem brachiated above; leaves downy; uppermost not cut, bristlelike.
Scabiosa arvensis. **Field scabious.**

*Stem* branched, hispid; *leaves* pinnatifid-cut; *corolla* 4-cut, radiating.

- *Scabiosa major communii folio laciniato, Ræd Syn. 191, l.*
- *Scabiosa major vulgaris, Ger. em. 719, l.*
- *Scabiosa vulgaris pratensis, Park. 484.*
- *Scabiosa arvensis, Lin. S. P. 143.*

- **Fields and pastures; perennial; July.**
- *Stem* 3 feet high, hairy, hairs deflexed; *corolla* light purple or white.

2. integrifolia. **Leaves not cut.**

γ. æqualis. **Inner flowers, same length and shape as the outer.**

**Fam. VI. 41. VALERIANÆ.** De Candolle. *Dipsace-arum pars, Jussieu.*

*Calyx* adherent to the ovary, 5-cut, upright or pappose; pappus revolute; *corolla* tubular, on the tip of the ovary, 5-lobed, often unequal; *stamens* 1 to 3, in the tube of the corolla; *style* 1; *stigmata* 1 to 3; *carcerule* 1 to 3-celled; cells 1-seeded, often abortive; *seeds* inverse; perisperm 0; corculum straight; radicle above.—*Stem* herbaceous; *leaves* opposite; *flowers* corymbose or panicked.

- *Calyx* pappose; pappus featherlike;
- *corolla* spurred .................................. **Valeriana. 248.**

- *Calyx* pappose; pappus featherlike;
- *corolla* spurred ................................. **Centranthus. 249.**

- *Calyx* toothed, persisting;
- *corolla* spurless ............................ **Valerianella. 250.**

**I. 248. VALERIANA.** Pliny.

*Calyx-limb* at first revolute, afterwards evolved into a featherlike pappus; *corolla* tubular, not spurred, rather unequal; *stamens* 3; *carcerule* 1-seeded.
Leaves all pinnate; leaflets lanceolate, nearly equal, toothed.

Valeriana sylvestris major, Raiti Syn. 200, 1; Ger. em. 1075, 2, Park. 122.
Valeriana officinalis, Lin. S. P. 45.
Great wild valerian. Capon’s tall. Setwalle.

Hedges and river-sides; perennial; June.
Stem 4 feet high; flowers flesh-colour; stamens all fertile.

β. montana. Stem slender; leaves narrower; root more aromatic.

Valeriana sylvestris major montana, Dillen in Raiti Syn. 200, 2.

Roots warm, bitterish, sub-acrid, strong-scented, anti-spasmodic in doses of 5ss. to 3ij.; excellent in habitual costiveness; cats, and especially rats, are fond of them.

Stem-leaves heartshape, toothed, petioled; uppermost ternate, terminal, leaflets very large.

Valeriana Pyreniaca, Lin. S. P. 46.

Woods; perennial; June.
Stem 2 feet high; flowers rose-coloured.

Root-leaves ovate; stem-leaves lyrate, pinnate; flowers mostly unisexual.

Valeriana sylvestris minor, Raiti Syn. 200, 3; Park. 122; the male.
Valeriana sylvestris seu palustris minor altera, Raiti Syn. 200, 4; the female.
Valeriana minor, Ger. em. 1075, 3.
Valeriana dioica, Lin. S. P. 44.

Marsh valerian.

Damp fields and bogs; perennial; June.
Stem 1 foot high; flowers flesh-colour; male, style imperfect, barren; female, barren stamens at the base of the tube; sometimes both organs are perfect.

Leaves pinnatifid; stamens 2, abortive.

Valeriana annua Clusii, Ger. em. 1077, 8.
Valeriana Calcitrapa, Lin. S. P.

Walls, naturalized; annual; July and August.
II. 249. CENTRANTHUS. De Candolle. \textit{Centranthus}.

\textit{Centranthus} ruder 

Calyx-limb at first revolute, afterwards expanded into a feather-like pappus; corolla tubular, spurred at the base; limb rather unequal; stamens 1; carcerule? 1-seeded. — Herb smooth, entirely bald; flowers corymbose.

\textit{Centranthus marinus}.

Sea centranthus.

Leaves ovate, lanceolate, edge not cut.

Valeriana rubra Dodonée, \textit{Ger.} \textit{em.} 678, 1.

Valeriana marina, \textit{Rivini Monop.}

Valeriana rubra, \textit{Lin.} \textit{S. P.} 44.

\textit{Centranthus ruber}, \textit{De Candolle Fl. Gall.} 3327.

Red Valerian.

Old walls and chalk-pits, naturalized; perennial; June to September.

Corymbus close, much branched, terminal; corolla dark rose-red or white.

III. 250. VALERIANELLA. Columna.

\textit{Valerianella} arvensis praecox humilis semine comprasso, \textit{Raii Syn.} 201, 1.

\textit{Lactuca} aqminà, \textit{Ger. em.} 310, 1; \textit{Park.} 812.

Valeriana Locusta, \textit{Lin. S. P.} 47.

\textit{Fedia} olinoria, \textit{Gärnter Fr. et Sem.} 2, 36.


\textit{Lams' Lettuce}.

Cornfields; annual; April to July.

Leaves minutely fringed; flowers in tufts, terminal.— Young leaves eaten as salad in spring and autumn.

\beta. serratifolia. Upper leaves serrated at the base.

\textit{Lactuca} aqminà latifolia, \textit{Ger. em.} 310, 2.

\textit{Valeriana} olinoria \beta, \textit{Wittl. S. P.} 1, 103.

\gamma. latifolia. Leaves elliptical, broad.

\delta. laciniata. Lower leaves jagged.

\textit{Valerianella} seu \textit{lactuca} aqminà foliis serratis, \textit{Raii Syn.} 201, 2.

\epsilon. procera. Herb tall; leaves not cut; fruit round, swollen.

2. Valerianella dentata. Toothed corn-salad.
Leaves lanceolate, edge not cut; calyx 3-toothed, unequal, persisting; fruit ovate, pointed, 1-seeded.

Valerianella dentata, Willd. S. P. 183.
Fedia dentata, Willd. S. P. 182.

Fields and corn-fields; annual; April.
Stem repeatedly forked; flowers solitary, axillary; calyx-teeth 2 very short, 1 long; fruit ovate, gibbous.

β. serratifolia. Leaves toothed above.

Fam. VII. 42. RUBIACEÆ. Jussieu.

Calyx adherent to the ovary, 4 or 5-lobed; corolla on the ovary, tubular; limb 4 or 5-cut, regular; stamens 4 or 5, inserted into the corolla, alternating with the lobes; ovary 2-celled; style 1; stigmata 2, crowned by a nectary of 2 semicircular glands; dieresile 2-coccous, 2-seeded; cocci not dehiscent; placentalium central; seeds 'peltate; corculum straight; perisperm horny; radicle above; cotyledons leaflike.—Stem herbaceous; root reddish; leaves not cut, in whisls; flowers terminal, corymbose; corolla white, yellow or red.

Fruit dry, crowned; cor. funnelshape Sherardia. 251.
Fruit dry, not crowned; cor. funnelshape Asperula. 252.
Fruit dry, not crowned; cor. rotate, or bellshape .......................... Galium. 253.
Fruit berrylike; cor. bellshape ............. Rubia. 254.

I. 251. SHERARDIA. Dillenius. Sherard.

Calyx 2 lobed; lobes 2 or 3-toothed, persisting; corolla funnelshape, tube long, limb 4-cut; fruit dry, crowned with the calyx.—Flowers umbelled; umbels sessile, terminal, involucrated; involucrum many-leaved.

Sherardia arvensis. Field sherard.
Leaves 6 in a whirl; flowers terminal, sessile, umbelled; involucrum 8-leaved.

Rubeea arvensis repensa eurulea, Raucli Syn. 225, 1.
Sherardia arvensis, Lin. S. P. 149.
Little field madder.

Corn-fields; annual; April to September.
Herb diffuse, bald or hairy; leaves pointed, keel and edge rough; corolla purplish blue.
II. 252. ASPERULA. Dodonæus. Woodroffe.

Calyx very small; corolla funnelshape, 4-cut; tube long; fruit dry, corklike.—Flowers panicled or umbelled, terminal.

a. Asperula. Flowers white; fruit hispid.

1. Asperula odorata. Sweet woodroffe.
Leaves lanceolate, 7 to 9 in a whirl; flowers in bundles, pedunclate; fruit hispid.
Asperula, Rau Syn. 224, 1; Ger. em. 1124, 1.
Asperula, sive Aspergula odorata, Park. 583.
Asperula odorata, Lin. S. P. 150.
Woodroffe. Woodrowell.
Woods and pastures; perennial; May.
Root creeping; stem upright, panicle forked in threes; corolla white.—While drying exhales a pleasant fragrance, like new hay.

b. Synanchicae. Flower reddish; fruit bald.

Stem ascending, firm; leaves linear; upper leaves opposite, large, unequal; corollae all 4-cut.
Rubeola vulgaris quadrifolia lavis, floribus purpurantibus, Rau Syn. 225, 1.
Asperula repens Gesneri, seu Saxifraga altera Casalpini, Park. 453.
Asperula cynanchica, Lin. S. P. 151.
Squinancy wort.
Dry chalky places; perennial; June.
Root fibrous; stem procumbent at bottom, afterwards ascending; leaves or bracteae ovate; flowers umbelled; corolla flesh-colour, scented.


Calyx very small; corolla rotate or bellshape, 4-cut; fruit dry, globular.

a. Corolla yellow; fruit bald.

Leaves 8 in a whirl, linear, furrowed, rough above, edge not cut; flowering branches short, many-flowered.
Galium luteum, Rau Syn. 224, 1; Ger. em. 1126, 1; Park. 504.
Hedges and woodsides; perennial; July and August.
Root dark green, creeping; stem ascending; panicle much branched, contracted; flowers smell like honey.—Root dye
a fine red; flowers antispasmodic, with alum dye a fine yellow, and coagulate milk when boiled in it.

   Stem simple at top, hairy; leaves 4 in a whirl, ovate, hirsute, 3-ribbed; peduncle 2-leaved; flowers polygamous; corolla 4-cut.
   
   Cruciata, Raiti Syn. 223, 1; Ger. em. 1123, 1.
   Cruciata vulgaris, Park. 566.
   Valantia cruciata, Lin. S. P. 149.
   Galium Cruciata, Scop. Carn. 1, 100.
   Crosswort. Mugweed.
   
   Woods and hedges; perennial; May.
   Stem weak; leaves soft, light green, deflected when in fruit; flowers corymbose.

   Stem bent back, prickly; leaves 6 or 8 in a whirl, edge prickly; prickles bent back; peduncles cymose, axillary; fruit upright, entirely smooth; seed kidneyshape.
   
   Fields; annual; June and July.
   Corolla greenish; ovary quite smooth; fruit upright, or not bent back.

   Stem trailing, simple; leaves 6 or 8 in a whirl, lanceolate; edge bent back, prickly; peduncles axillary, 3-flowered; fruit drooping, tubercular.
   
   Aparine semine laeviore, Raiti Syn. 225, 2.
   Aparine laevis, Park. 561.
   Galium spurium, Huds. Fl. Angl. 68.
   Valantia spuria, Persoon Syn. 129.
   
   Fields; annual; July.

   b. Corolla white; fruit bald, not tubercled.

   Stem depressed, 4-sided, above branched, smooth; leaves 4 or 6 in a whirl, reverse ovate, blunt, unequally.
   
   Mollugo vulgarior minor, Raiti Syn. 224, 2; Park. 565.
   Galium album, Ger. em. 1126, 2.
   White ladies' bedstraw.
   
   Fields and pastures; perennial; July.
   Leaves mostly rough on the edges; peduncles umbelleted, 3-forked, 3-flowered.
**Withering's cheese-rennet.**
*Stem* upright, simple, rough; *leaves* 5 in a whirl, lanceolate, reflexed, fringed, awned.

*Galium Witheringii*, *Smith Fl. Brit. 174*.

Damp mountain heaths; perennial; July.
*Stem* 9 inches high; *panicles* terminal, forked; *flowers* before opening purplish, afterwards white; *anhers* red.

**Common cheese-rennet.**
*Stem* weak, angular, branched; branches very much spread; *leaves* 8 in a whirl, ovate, linear, much spread, mucronate, edge rough; *flowers* panicled; *panicles* spread.

*Mollugo vulgaris*, *Rait Syn. 223, 1*; *Park. 565*.
*Rubia sylvestris*, *Ger. em. 1118*.
*Galium Mollugo*, *Lin. S. P. 155*.
*Wild madder*.  
**Great bastard madder.**

Woods and hedges; perennial; July and August.
*Stem* 4 feet high, rather smooth, thick above the joints; *leaves* rather bald; *panicles* forked, much branched.

β. scabrum.  
**Stem** and *leaves* pubescent.


8. Galium scabrum.  
**Rough cheese-rennet.**
*Stem* tufted, swollen, diffuse, ascending, tomentose at bottom; *leaves* 6 or 8 in a whirl, linear, lanceolate, rather rough, mucronate; lowest *leaves* very small, withering, elliptical; *peduncles* threeforked or in threes.

*Mollugo q. Galium album supinum multicaule Flora Jenensis, Rait Syn. 224, 5*.
*Galium pusillum*, *Lin. S. P. 154*.
*Galium scabrum*, *Jacq. Austr*.

Chalky hills; perennial; July and August.
*Stems* 9 inches high, rarely bald; *leaves* slightly revolute; uppermost bald; *corolla* white, not pointed; *fruit* smooth, bald.

9. Galium erectum.  
**Upright cheese-rennet.**
*Stems* smooth, flaccid; *leaves* 6 or 8 in a whirl; lanceolate, bald, bent back, acutely serrated, mucronated; *panicles* 3-forked.

*Galium erectum*, *Huds. Fl. Angl. 68*.

Damp fields and pastures; perennial; June and July.
*Stem* much branched, rather upright, panicled at top; *leaves* awned; *panicles* terminal and lateral, leafy, manyflowered; *corolla* white, pointed.

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10. Galium uliginosum. Marsh cheese-renett. Stem branched, weak, angles aculeated; leaves 6 or 8 in a whirl, stiff, lanceolate, mucronated, bent back, serrate; serratures aculeated.

Aparine palustris minor Parisiensis, flore albo, Dillen in Raiti Syn. 225, 3.

Watery places and damp pastures; perennial; August. Peduncles terminal, bald, 2 or 3-cut; corolla white, large; fruit small.

c. Fruit bald, granular, or bellied.


Mollugo montana minor galio albo similis, Raiti Syn. 224, 4.

Small bastard madder. Trailing goosegrass.

Heaths and mountains; perennial; July and August. Root creeping; stem diffuse; leaves spreading; panicle 3-forked; corolla milky.

β. lineare. Leaves linear.

12. Galium Anglicum. English cheese-renett. Stem much branched, rough; leaves 6 or 8 in a whirl, deflected, lanceolate, mucronate, edge rough; panicle terminal; peduncle 2-cut; fruit granulated.

Aparine minima, Raiti Syn. 225, 4.
Least goose-grass.

Walls and sandy places; annual; June and July. Root fibrous; stem 9 inches high; panicles few-flowered; corollae yellowish green.

d. Fruit rough.

13. Galium uncinatum. Hook cheese-renett. Stem weak, much branched; joints villous; leaves 8 in a whirl, lanceolate, keeled, rough, bent back, prickly; fruit hairy; hairs hooked.

Aparine, Raiti Syn. 225, 1; Ger. em. 1122, 1.
Aparine vulgaris, Park. 567.


Hedges and fields; annual; May.
   Stem upright, rough; leaves 4 in a whirl, lanceolate, 3-ribbed, bald; fruit hispid, rather scaly.

   Mollugo montana erecta quadrifolia, Raii Syn. 224, 3.
   Galium boreale, Lin. S. P. 156.
   Crosswort madder.

   Alpine rocks; perennial; July.
   Root creeping; leaves unequal; panicle 3-forked; corolla milkwhite.

   Calyx 5-toothed; corolla bellshaped, spread out, 4 or 5-lobed; stamens 4 or 5; fruit fleshy, bald, rather round.

   Stem rough; leaves annual, usually 6 in a whirl; corolla usually 4-cut; lobes oblong, rather callous.

   Rubia tinctorum, Raii Syn. 223, 2; Ger. em. 1118, 1: Lin. S. P. 158.
   Rubia major sativa, sive hortensis, Park. 274.
   Red madder.

   Cultivated; perennial; May to August.
   Root red; leaves ovate, lanceolate, rough above; calyx scarce any.—Root emmenagogue; dyes a fine red colour.

2. Rubia peregrina. Foreign madder.
   Stem rough; leaves perennial, 4 or 6 in a whirl, elliptical; above smooth, shining; corolla 5-cut; lobes mucronate, awned.

   Rubia sylvestris aspera, qua sylvestris Dioscoridis, Raii Syn. 223, 1.
   Rubia minima, Ger. em. 1120, 6.
   Rubia sylvestris, Park. 274.
   Rubia peregrina, Lin. S. P. 158.
   Wild madder, Six-leaved madder.

   Dunghills and fields; perennial; June and July.
   Root creeping; stem branched, trailing, perennial; leaves dark green; panicles forked, terminal; corolla yellowish.
Fam. VIII. 43. CAPRIFOLIACEÆ. De Candolle.  
Caprifolia. Jussieu.

Calyx 1-leaved, adherent to the ovary, rarely free, 4 or 5-cut, generally with 2 or 3 bracteae at the base; corolla on the ovary, regular, 1-petal, 4 or 5-cut, or 4 or 5 petals, enlarged at bottom, often soldered; stamens as many as the lobes or petals, alternating with them; ovary 1, many-celled; style 1 or 0; stigma 1 to 3; fruit a berry or nuculanum, 1 or many-celled, often crowned; seed pendent; perisperm fleshy; corculum small, in the tip of the perisperm; radicle above.—Stem shrubby; leaves opposite; flowers axillary or terminal, corymbose.

\[ \text{Calyx bracteated; corolla 1-petaled; stamens 4, 2 short} \] Linnaea. 255.

\[ \text{Cal. bracteated; cor. 1-pet. irreg.; stam. 5; style 1; peduncles 2-flowered} \] Xylostemon. 256.

\[ \text{Cal. bracteated; cor. 1-pet. irreg.; stam. 5; style 1; peduncle 1-flowered} \] Periclymenum. 257.

\[ \text{Cal. bracteated; cor. 1-pet. reg.; stam. 5; style 0; berry 1-seeded; flowers all fertile} \] Viburnum. 258.

\[ \text{Cal. bracteated; cor. 1-pet. reg.; stam. 5; style 0; berry 1-seeded; flowers outer barren} \] Opulus. 259.

\[ \text{Cal. bracteated; cor. 1-pet. reg.; stam. 5; style 0; nuculanum 5-seeded} \] Sambucus. 260.

\[ \text{Cal. bracteated; corolla 4-petaled; nuculanum 4 or 5-seeded} \] Ilex. 263.

\[ \text{Bracteae 0; corolla 4-petaled; drupe naked; nut 2-celled} \] Cornus. 261.

\[ \text{Bracteae 0; corolla 5-petaled; berry crowned, 5-seeded} \] Hedera. 262.

A. CAPRIFOLIACEÆ VERÆ. Calyx bracteated; corolla 1-petaled; style simple.

I. 255. LINNAEA. Haller.

\[ \text{Calyx 5-cut, bracteate; bracteae 2 or 4, persisting; corolla bellshape, 5-lobed; stamens 4, 2 shorter than the others; stigma globose; berry dry, ovate, 3-celled; cells 2-seeded.—Stem woody, creeping; leaves opposite, evergreen; surculi upright, above naked, 2-flowered.} \] Linnaea.
Linnaea borealis. Northern lyme.

Leaves roundish, crenated.
Campanula serpyllifolia Bauhin Prod. 35.
Linnaea, 299, Haller Hist. 1, 131.
Linnaea borealis, Lin. S. P. 880.

Dry alpine woods; perennial; May and June.

Stem prostrate, long, creeping; leaves petioled; flowers drooping; corolla red or white, variegated, smells at night like meadow-sweet.

II. 256. XYLOSTEON. Rivinus. Upright-honeysuckle.

Calyx 5-toothed; corolla tubular, tube swollen at bottom; limb 5-cut, unequal; stamens 5; filaments long, woolly; stigma globose; berry separate, connate at bottom, 2-celled; many-seeded; or united into 1 with 2 umbilici.—Stem shrubby, upright; leaves opposite, petioled; peduncles axillary, 2-flowered.

Xylosteum dumetorum. Bush upright-honeysuckle.

Leaves not in the least cut, downy; pedicells perpendicularly; berries distinct.

Periclymenum rectum Germanicum, Ger. em. 1294, 2.
Periclymenum rectum flore rubro, Park. 1462.
Xylosteum, Rivinus Monop. irr. 120.
Lonicera Xylosteum, Lin. S. P. 248.

Dry bushy places; shrubby; May.

Stem 8 feet high; leaves ovate, soft; corolla yellow; upper leaf 4-cut; lower strapshape, not cut; bracteae linear, spreading.—Stem bored for tobacco-pipes; wood hard used for teeth of rakes.

III. 257. PERICLYMENUM. Dioscorides. Woodbine.

Calyx 5-toothed; bracteae 2; corolla tubular, 5-cut, irregular, 2-lipped; stamens 5, as long as the corolla; stigma globose; berries distinct, 3-celled, many-seeded.—Stem ligneous, twining; leaves deciduous, often connate; flowers sessile, terminal and capitate or axillary, whirled, 6-flowered.

1. Periclymenum perfoliatum. Thorowleaved woodbine.

Upper leaves united at bottom, perfoliated; flowers in whirls; calyx scarcely cut.

Periclymenum perfoliatum, Ger. em. 891, 2.
Periclymenum perfoliatum sive Italicum, Park. 1460.
Italian honeysuckle.
Woods; shrubby; May and June. 
*Leaves* ovate, blunt, not in the least cut, bald; *corolla* yellowish red at the bottom, odoriferous.

*Leaves* distinct; *flowers* in heads, imbricate; *calyx* five-toothed.

*Periclymenum,* *Ger.* *cm.* 891, 1. 
*Periclymenum* seu *Caprifolium* vulgare, *Park.* 1460. 
*Lonicer* *Periclymenum,* *Lin.* *S.* *P.* 247, 
*Common honeysuckle.* *Caprifoly.* 
Woods and hedges; shrubby; May to July. 
*Leaves* ovate, not in the least cut; slightly downy; *corolla* red on the outside, yellowish inside; upper lip 3-cut, lower 2-cut.

β. *quercifolium.* *Leaves* sinuated. 
Caprifolium non *perfoliatum,* foliis sinuosis, *Rauv Syn.* 458, 2.

B. *Calyx* bracteated; *corolla* 1-petaled; *style* 0; *stigmata* 3.

IV. 258. VIBURNUM. Varro. Wayfaring tree. 
*Calyx* small, 5-cut; *corolla* bellshape, 5-lobed; *stamens* 5; *style* 0; *stigmata* blunt; *berry* naked, 1-seeded; *seed* compressed.—*Leaves* opposite, clothlike; *petioles* naked; *flowers* umbelled, corymbus terminal, all hermaphrodite; *berries* black.

*Viburnum farinosum.* Mealy wayfaring-tree. 
*Leaves* heartshape, serrate, veined, beneath clothlike. 

*Viburnum,* *Rauv Syn.* 460, 1; *Park.* 1448. 
*Lantana sive Viburnum,* *Ger.* *cm.* 1490. 
*Viburnum Lantana,* *Lin.* *S.* *P.* 384. 
*Plant* *mealy-tree.* *Cotton-tree.*

Woods and hedges, in chalky soils; tree; May. 
*Leaves* downy; down radiated.—*Bark* affords birdlime; *berries* astringent.

V. 259. OPULUS. Ruellius. Gueldres-rose. 
*Calyx* small, 5-cut; *corolla* bellshape, 5-lobed; *stamens* 5; *berry* naked, 1-seeded; *seed* compressed.—*Leaves* opposite; *petioles* leafy at bottom, glandular at the tip; *flowers* umbelled; corymbus terminal; outer *flowers* radiating, irregular, barren; inner hermaphrodite; *berries* red.
Opulus palustris. Marsh Gueldres-rose.
Leaves bald, 3-lobed, sharply-toothed; petioles glandular.

Opulus, Raii Syn. 460, 1.
Sambucus aquatilis, sive palustris, Ger. em. 1424, 1.
Sambucus aquatica, sive palustris, Park. 209.
Viburnus Opulus, Lin. S. P. 384.
Damp woods and hedges; tree; June.

VI. 260. SAMBUCUS. Pliny.
Elder.

Calyx small, 5-cut; corolla rotate, 5-lobed; stamens 5; nuculanium 1-celled; pyrencæ 3, 1-seeded.—Stem herbaceous or arborescent; leaves opposite, pinnate with an odd one, or bipinnate, rarely 2-glandular; flowers umbellate, corymb terminal; berry black.

a. Ebulus. Stem herbaceous; stipules leaflike; stamens upright; flowers pedicelled; corolla bellshape rotate.

Stem herbaceous; leaves pinnate; leaflets lanceolate; stipules petioled, leaflike, ovate; cymes 3 or 5-parted.

Sambucus humilis seu Ebulus, Raii Syn. 461, 4.
Ebulus sive Sambucus humilis, Ger. em. 1426; Park. 209.
Sambucus Ebulus, Lin. S. P. 395.
Danewort. Wallwort.

Ruins and waysides; perennial; July.
Root creeping; stem simple, upright; leaves dark green, serrated, leaflets equal at the base, glandular.—Root violently cathartic in doses of 3js.; leaves drive away mice, and are supposed to prevent disease in swine if used as litter; berries dye blue.

b. Stem arborescent; stipules 0; stamens divaricating; flowers nearly sessile; corolla rotate.

Stem arborescent; leaves pinnate; leaflets ovate, serrated; cymes 5 or 7-parted.

Sambucus, Raii Syn. 461, 1; Ger. em. 1422.
Sambucus vulgaris, Park. 201.
Sambucus nigra, Lin. S. P. 385.
Common elder.

Woods and hedges tree; June.
Stem arborescent, much branchy; leaflets mostly 5, bald; berry globose, blood-purple.—Plant narcotic, wood hard, tough, yellow; inner bark purgative, acrid, and in small doses diuretic; leaves purgative, drive away insects; flowers in decoction diaphoretic, and expectorant, used to flavour vinegar, deleterious to turkeys; berries poisonous to all poultry, laxative and diaphoretic, used to colour wines.

β. viridis. Berries green or white.
Sambucus acinis albis, Raff Syn. 461, 2.
Sambucus fructu albo, Ger. em. 1422, 2; Park. 208.
White-berried elder.

γ. laciniata. Leaves jagged; berries greenish white.
Sambucus laciniato folio, Raff Syn. 461, 3; Park. 208.
Sambucus laciniatis foliiis, Ger. em. 1422, 3.
Parsley-leaved elder.

C. Calyx not bracteated; corolla many-petaled; style 1.

VII. 261. CORNUS. Pliny.
Cornel.
Calyx 4-toothed; corolla 4-petaled; stamens 4; drupe not crowned; nut 2-celled, 2-seeded.

Stem arborescent; branches upright; leaves ovate, both sides green; cyme naked, depressed.
Cornus foemina, Raff Syn. 460, 1; Ger. em. 1467; Park. 1521.
Cornus sanguinea, Lin. S. P. 171.
Woods and hedges; shrubby; July.
Branches opposite, dark purple; leaves not in the least cut; flowers white, odoriferous; drupe black.—Wood hard, smooth, used for skewers; leaves change to blood-red in autumn; drupe bitter, styptic, dyes purple, long in ripening, when ripe yield a viscid oil.

Stem herbaceous; branches binate; leaves opposite, sessile, distinctly ribbed; umbells axillary, peduncles involucrated.
Chamaepericlymenum, Raff Syn. 261, 1; Ger. em. 1296, 5; Park. 1461.
Cornus Suecica, Lin. S. P. 171.
Cornus herbacea, Hudson Fl. Angl. 71.
Cornus biraminis, Stokes Bot. Med. 221.
Dwarf cornel. Dwarf honeysuckle.
Alpine fields; perennial; June and July.
Root creeping; stem 4-angular, one foot high, tip 2-cut; umbel simple, in the fork; involucrum 4-leaved, persisting; flowers purplish; drupe sweetish.

VIII. 262. HEDERA. Pliny.

Calyx 5-toothed; corolla 5-petaled; stamens 5, longer than the petals; anthers 2-forked at bottom; style short; stigma simple; ovary 5-celled, cells 1-seeded; berry only 1-celled, crowned with the calyx.—Stem shrubby, sarmen- tose, climbing on walls and trees; leaves alternate, evergreen; pedioles dilated at bottom; flowers umbelled, terminal.

Hedera communis. Common ivy.
Leaves 5-angular, 5-lobed; uppermost ovate, swollen, upright.

Hedera communis major and minor, Raii Syn. 459, 1.
Hedera corymbosa, Ger. em. 856, 1.
Hedera arborea sive scandens et corymbosa communis, Park. 618.
Hedera Helix, Lin. S. P. 292.
Climbing ivy. Berry-bearing ivy.

Walls and trees; shrubby; October.
Leaves petioled, edge not in the least cut, dark green; flowers green.—Root used to whet knives; leaves nauseous, used in the atrophy of children, and as a cover to issues instead of a plaster; berries slightly acid, emetic and purgative; gum strong smelling, attractive of fish.

b. sterilis. Herb trailing on the ground; leaves 3-angular; flowers 0.

Hedera Helix, Ger. em. 857, 2; Park. 618.

D. AQUIFOLIACEÆ. Ovary free.

IX. 263. ILEX. Pliny.

Calyx very small, 4-toothed; corolla 4-petaled, soldered at the base; stamens 4; stigmata 4; nuculanium 1-celled; pyrenæ 4, streaked, 1-seeded.—Stem arborescent or shrubby; leaves alternate, evergreen, spinose; peduncles axillary, many, 2-bracteated.

Ilex vulgaris. Common holly.
Leaves ovate, pointed, spinous, shining, waved; flowers nearly umbelled.

Agrifolium, Raii Syn. 466, 1; Ger. em. 1338.
Agrifolium sive aquifolium, Park. 1486.
Ilex Aquifolium, Lin. S. P. 181.
Aquifolium vulgare, Gartner Fr. et Sem. 2, 72.
Hulver. Holme,
Woods and hedges; tree; May.
Lower leaves thorny, upper unarmed; muculania scarlet, crowned with the persisting stigmata.—Wood hard, smooth; bark yields birdlime; berries a great resource for small birds in winter, and are used in colic.

Fam. IX. 44. LORANTHIDEÆ. Lorantheæ, Richard and Jussieu.

Calyx 1-leaved, adherent to the ovary, mostly bracteated; bracteæ 2 or 3; corolla on the ovary, regular; petal 1, 4 or 5-cut; or 4 or 5, soldered at the base; stamens 4 or 5; opposite to the lobes or petals; ovary many-celled; style 1; stigma 1; fruit fleshy or dry; ovule 1, attached to the apex; perisperm fleshy; corculum cylindrical, axile; cotyledons 2; radicle above, roundish, slightly elevated from the perisperm.—Plant parasitic; stem woody; leaves opposite; stipules 0; flowers axillary or terminal, solitary or spiked.

I. 264. VISCUM. Pliny. Misseltoe.
Monoicous or dioicous.—Calyx scaly, scales prominent, not cut; corolla 4-petaled, petals short, soldered at bottom; anthers 4, sessile, inserted in the middle of the petals; ovary connate to the edge of the calyx; stigma 1; berry globose, 1-seeded.—Plant parasitic, shrubby or under-shrubby; leaves opposite, thick; flowers axillary, sessile.

Viscum album. White misseltoe.
Leaves lanceolate, blunt; flower-heads axillary.

Viscum, Rail Syn. 463, 1; Ger. em. 1350.
Viscum vulgare, Park. 1392.
Viscum album, Lin. S. P. 1451.
Missel.

On trees; shrubby; May.
Stem much branched, jointed; leaves pale green, ligulate, coriaceous, many-ribbed; head few-flowered; flowers yellowish green; receptacle fleshy; berry white.—Leaves used against epilepsy and other spasmodic diseases, also against the rot in sheep; bark and berries yield birdlime; propagated by rubbing the berries on the bark of trees so as to make them adhere. The viscum quercus of the ancient druids, to which many magical properties were attributed, is supposed by De Candolle not to be this plant, but the loranthus, because he has never found the viscum growing upon oak, although common in the countries formerly de-
voted to the druidical religion; and the loranthis grows commonly on the indigenous oaks of Italy, and is there taken for the mistletoe; so that it is probable the loranthis formerly grew on the oaks in the druidical countries, but was extirpated by them, from the great use made of it in their religious rites.

II. 265. ADOXA. Linnaeus.

Calyx 4 or 5-cut; bracteae 2 or 4, scalelike; petals 0; stamens 8 or 10, alternating with the lobes of the calyx; anthers roundish; styles 4 or 5; berry globular, umbilicated, 4 or 5-celled; cells 1-seeded.—Stem herbaceous; root-leaves biterinate; scape-leaves 2, opposite, in the middle; head single, 5-flowered, cubical; top-flower 5-cut, decandrous, pentagynous; side-flowers 4-cut, octandrous, tetragynous.

Adoxa tuberosa. Tuberous moscatell.

Moschatellina foliis fumariae bulbosae, Raiti Syn. 267, 1.
Radix cava viridi flore, Ger. em. 1091, 10.
Ranunculus nemorosus, Moschatella dictus, Park. 220.
Alabastritis, sive dentaria minima, Park. 621.
Adoxa moschatellina, Lin. S. P. 327.

Small bunnikens holewort.

Shady places; perennial; April and May.

Root creeping, scaly; flowers greenish.—An anomalous plant scarcely referable to this or any other family.

Fam. X. 45. UMBELLIFERÆ. Jussieu. Umbellatae.

Flowers hermaphrodite, unisexual, or neuter, rarely diclinous; calyx adhering to the ovary, not cut, or 5-cut; corolla 5-petaled; petals often unequal, radiating, not cut or cut, inflected into a lacinule, falling off; stamens 5, simple, inserted between the calyx and the stylopodium; anthers ovate, nearly round, 2-celled; styles 2, persistent, sitting on a stylopodium; stylopodium dilated at bottom, covering the ovary; fruit 2-partible, ovules pendulous; spermapodium axile, usually 2-parted, thickened at bottom; akenia 2, vittated, or not vittated and then inodorous and insipid; vittae resinbearing, aromatic, enclosed in the epicarp under the valleculae and commissures, or in the membranaceous endocarp; seed inverted; perisperm horny; corculum small, straight; radicle above; cotyledons linear,
ovate, nearly equal.—Root fusiform; stem mostly herba-
cceous; leaves alternate, cut, or compound, rarely undivided;
petiole sheathing; flowers umbelled; umbells terminal or
axillary, often divided into umbellules, naked or involu-
crated or involucellated, or both.

A. Flowers regularly umbelled, white or reddish.

A. 1. Fruit ribbed, ribs naked.

a. Akenium roundish, vittated; vittæ epicarpic, dorsal and
commisural.

a. 1. Involucrum and involucella many-leaved.

Calyx 5-toothed; petals reverse ovate, nicked;
akenium oblong, 5-ribbed; stylopodium scaly

DRESPANOPHYLLUM. 276.

Calyx 5-toothed; petals uncut, involute;
akenium oblong, 5-ribbed; ribs winged

LIGUSTICUM. 292.

Calyx 5-toothed; petals uncut, involute;
akenium oblong, 5-ribbed

PSEUDOSPERMUM. 293.

Calyx 5-toothed; petals uncut, broad-based;
akenium ovate, oblong, spongy

CRITHMUM. 283.

a. 2. Involucrum or few-leaved, deciduous; involucella
many-leaved, regular.

Petals heartshape, equal; calyx very small;
aken. oblong, 5-ribbed; involucella ovate

Sium. 277.

Pet. heartshape, broad, equal; cal. very small;
aken. oblong, 5-ribbed; involucella linear

BUNIUM. 288.

Pet. heartshape, reverse ovate, equal;
cal. 5-toothed; aken. ovate, semiglobose,
5-ribbed

CICUTA. 279.

Pet. heartshape, nearly equal; lacinule short;
aken. ovate, 5-ribbed, crowned; rays fertile

PHELLANDRIUM. 280.

Pet. heartshape, radiating; lacinule long;
aken. truncate, 5-ribbed, crowned; rays bar-
ren

CÆNANTHE. 281.

Pet. heartshape, radiating; lacinule short;
aken. linear, awlshape, 5-ribbed; rays barren

CÆROPHYLLUM. 275.

Pet. lanceolate; calyx very small;
aken. orbicular, laterally compressed;

HYDRACOTYLE. 278.
a. 3. Involucrum 0, or few-leaved, deciduous; involucella halved.

Involucella many-leaved, erect; petals nicked; akenium elliptical, 5-ribbed ............. Meum. 291.
Involucella 3-leaved, hanging; pet. heartshape;
akenium ovate, 5-jugated ............. Æthusa. 286.

a. 4. Involucrum and Involucella 0.

Pet. reverse ovate, bald; lacinule crenulate;
akenium ovate, 5-ribbed ............. Pimpinella. 284.
Petals reverse heartshape;
akenium linear, oblong, 5-ribbed ........ Carum. 290.
Petals ovate, lanceolate; lacinule acute;
aken. ovate, 5-jugated; flow. unisexual ..... Trinia. 285.

b. Fruit globular, vittated; vittæ epicarpic, commissural, not dorsal.

Involucrum 0; involucella 3-leaved, halved;
pet. 2-lobed, radiating; aken. hemispherical,
4-ribbed ......................... Coriandrum. 301.

c. Fruit roundish, not vittated, inodorous, insipid.

Involucel. halved, 3-leaved; pet. rev. heartshape;
aken. ovate, 5-ribbed; ribs crenulate ...... Conium. 287.
Involucrum and involucel. 0; pet. rev. ovate,
equal; aken. oblong, 5-ribbed ........... Aegopodium. 289.

d. Fruit compressed; vittæ endocarpic.

Involucrum and involucella many-leaved;
cal. 5-toothed; aken. ovate, edged; pet. rev.
heartshape, spreading ................. Thysselium. 295.
Involucella many-leaved; cal. 0; aken.
winged, 2-ribbed; umbell hemispherical . Angelica. 297.
Involucella few-leaved; cal. 0;
aken. margined, 3-ribbed; umbell flat Imperatoria. 296.
Involucella halved; cal. 5-lobed;
aken. fungous; pet. ovate lanceolate,
inflected ........................... Archangelica. 298.

A. 2. Fruit ribbed; ribs armed.

a. Ribs hairy; vittæ epicarpic, dorsal and commissural.

Involucrum and involucella many-leaved;
calyx very small; pet. heartshape, hirsute;
akenium reverse ovate, 5-ribbed ........ Libanotis. 291.
b. Ribs bristled, glochidated; vittæ epicarpic, dorsal and commissural.

Akenium ovate, 5-ribbed; prickles united by a membrane at bottom; invol. pinnatifid Daucus. 265.
Aken. ovate, 3-ribbed, prickly; involucrum not cut; pet. rev. heartshape, strigose ....... Torilis. 268.
Aken. ovate, 5-ribbed; prickles in 2 rows; involucella many-leaved ................. Cauclus. 269.
Aken. oblong, 7-jugate; prickles in 1 or 2 rows, alternately; involucrum and involucella many-leaved .............. Turgenia. 270.

c. Ribs armed, beaked; vittæ 0; inodorous, insipid.

Involucella 5-leaved, not cut; petals equal;
akenium beaked, 5 jugate; beak short .... Myrrhis. 274.
Involucella many-leaved, pinnatifid; pet. equal;
akenium beaked; beak long ............ Scandix. 273.
Involucella 3 to 5-leaved, not cut; pet. equal;
aken. awlshape, bald, beaked; beak short;
spermapodophore naked ............... Cerefolium. 271.
Involucella 3 to 5-leaved, not cut; pet. equal;
aken. awlshape, thorny, beaked; beak short;
spermapodophore fringed .............. Anthriscus. 272.

A. 3. Fruit not ribbed.

a. Fruit compressed, armed; vittæ epicarpic, dorsal, and commissural.

Involucrum and involucella few-leaved;
pet. radiating; aken. 4-vittated; dorsal
vittæ clavate ......................... Spondylium. 299.
Involucrum and involucella many-leaved;
pet. radiating; aken. margined, thickened;
dorsal vittæ 4, threadshape .......... Tordylium. 300.

b. Fruit roundish, armed; vittæ endocarpic.

Involucrum and involucella many-leaved;
aken. ovate, chaffy; cal. 5-toothed; pet. rev.
heartshape .......................... Sanicula. 267.

B. Flowers regularly umbelled, yellow or greenish.

a. Fruit ribbed; ribs naked; vittæ epicarpic, dorsal, and commissural.

Invol. 0; akenium oblong, 3-angular;
albumen involute .................... Smyrnium. 308.
Invol. 0; akenium ovate, 5-ribbed; petals involute. ... Foeniculum. 307.

Invol. 0; akenium roundish, 3-ribbed; petals roundish; lacinule blunt. ... Apium. 306.

Involucella many-leaved; petals ovate; lacinule pointed; aken. ovate, 5-ribbed

Petroselinum. 305.

Involucella many-leaved; pet. incurved; akenium ovate, compressed, margined; calyx 5-lobed. ... Peucedanum. 302.

Involucella many-leaved; pet. incurved; aken. ovate, compressed; calyx 0. ... Silaus. 304.

b. Fruit ribbed, inodorous, insipid; vittæ 0.

Involucellum 5-leaved; akenium ovate, oblong, 5-ribbed; ribs 2-keeled. ... Bupleurum. 309.

c. Fruit ribless, compressed; vittæ epicarpic, dorsal and commissural.

Involucrum and involucella 0; pet. involute; dorsal vittæ 4, equal, acute. ... Pastinaca. 303.

d. Fruit ribless, venulose, inodorous, insipid; vittæ 0.

Involucrum and involucella 5-leaved; akenium ovate; calyx toothed. ... Agostana. 310.

C. Flowers capitate, sessile, white; akenium chaffy; calyx 5-toothed.

Involucrum 3 to 5-leaved; involucella 1-leaf, topshape; aken. immersed in the involucella; flowers unisexual. ... Echinophora. 282.

Flowers intermixed with chaffs; aken. ovate, hispid, chaffy. ... Eryngium. 311.

I. 266. DAUCUS. Dioscorides. Carrot.

Involucrum and involucella many-leaved; leaflets pinnatifid; calyx 5-toothed, small; petals nicked, unequally 2-lobed; lacinule oblique, flexuous, keeled; fruit ovate; akenium ovate; latuscule 5-ribbed; ribs bristly, bristles in 1 row; valleculæ 4, prickly; prickles in a single row, connected at bottom by a membrane containing vittæ; spermapodium simple, bristlelike. — Umbells many-rayed, flat when flowering.

Stem and leaves hispid; petioles ribbed underneath; lobes of the leaflets slender, linear, pointed; umbels when in fruit concave; prickles of the akenia bald, hooked at the tip.

*Daucus vulgaris*, *Raii Syn*. 218, 2.
*Pastinaca sylvestris* tenuifolia, *Ger.* em. 1028, 1; *Park*. 902.
*Staphylinus*, *Rivinus* Pent. 28.
*Cacalis Carota*, *Hudson Fl. Angl*. 114.


Edges of fields; annual; June and July.

Root fusiform; leaves tripinnate; flowers white; of the centre blood-colour.—Seeds diuretic, carminative, and their infusion useful in gravelly complaints.

b. *polygamus*. Marginal flowers of the umbels mostly male; akenium yellow; prickles very large.

c. *maritimus*. Leaves dark glossy green, hairy; segments deeply cloven; flowers all white.

*Daucus maritimus*, Lamarck *Encyc.* Meth. 1, 634.

b. *flavus*. Roots large, deep yellow, or white.

*Pastinaca sativa* tenuifolia, *Ger.* em.

Yellow carrots.

Cultivated; biennial; June and July.


*Pastinaca sativa* atrorubens, *Ger.* em.
*Pastinaca* sativa altera atrorubens, *Park*. 901.

Red carrots. Black carrots.

Cultivated in deep rich soils; biennial; June and July.

Roots of both these cultivated varieties saccharine, nutritive, to man and beast; but when horses are kept upon them for some time they induce haematuria; in poultices they abate the pain and ceasar of foul and cancerous ulcers.


Stem woolly, scored; leaflets dilated, fleshy, rounded, hirsute; umbell when in fruit convex.


Rocks on the sea-coasts; annual; July and August.

Stem 2 feet high; leaves woolly, leaflets cloven, broad, round at the end, curled; involucrum pinnatifid; involucella cut or not cut; akenium with 4 large deeply toothed ridges, and 3 small intervening ones; teeth flat.
II. 267. SANICULA. Brunsfel.  

Sanicle,  

Involutcrum pinnatifid; involucella many-leaved; flowers glomerate; calyx 5-toothed; petals equal, reverse heart-shape; lacinule lanceolate, channelled, toothed at the tip; fruit round, crowned with the calyx and long reflexed style; akenium ovate, covered with hooked spines; spermapodium 0; vitta many, epicarpic.

Sanicula Europea.  

European sanicle.  

Stem leafless; leaves 5-lobed; lobes 3-cut, toothed; flowers all nearly sessile.

Sanicula sive Diapensia, Rait Syn. 221, 1; Ger. em. 948, 1.  
Sanicula vulgaris sive Diapensia, Park. 332.  
Astrantia Diapensia, Scop. Carn. 2, 304.  
Caucalis Sanicula, Crantz 228.  

Woods and copses; perennial; May.

Root fleshy; stem 18 in. high; leaves petioled, bald; umbell-rays unequal, often branched; flowers whitish, uniform, hermaphrodite and female fertile, male barren; female flowers often apetalous.

III. 268. TORILIS. Adanson.  

Hedge-parsley.

Involutcrum 1 to 5-leaved; involucella 5 to 8-leaved; leaves adpressed; calyx 5-toothed, persisting, equal; petals reverse-heartshape, 2-lobed, strigose; lacinule short, channelled, lanceolate; fruit ovate; akenium ovate, slender above; latuscule 3-ribbed; valleculae 4, 4-vittated; ribs and valleculae covered with bristles and prickles; prickles rough, distinct; spermapodium threadshape, bristlelike, slightly 2-cut; spermapodophore fringed, hairs adpressed.

a. Umbels terminal; akenium equally muriated.

1. Torilis rubella.  

Red hedge-parsley.

Involutcrum and involucella 5-leaved; prickles of the akenium incurved, rough, apiculated.

Caucalis minor flocculis rubentibus, Rait Syn. 219, 4; Ger. em. 1092, 5.  
Caucalis minor flore rubente, Park. 991.  
Tordylhum Anthriscus, Lin. S. P. 346.  
Caucalis Anthriscus, Hudson Fl. Angl. 114.  
Torilis Anthriscus, Sprengler Umbel. 24.  
Torilis rubella, Monch Meth. 143.  

Hedges; annual; July.

Stem upright, 2 feet high, hairy, hairs deflexed; leaves bipinnatifid; umbells terminal, many-cut, crowded; fruit violet at the tip.

2 k 2
*Involucrum* 1-leaved, or 0; *prickles* of the fruit turned to the base, rough, glochidiated; *terminal leaflet* largest.

*Caucalis arvensis*, *Hudson Fl. Angl. 113.*
*Caucalis infesta*, *Curtis Fl. Lond.*

*Involucrum* 1-leaved, or 0; *prickles* of the fruit turned to the base, rough, glochidiated; *terminal leaflet* largest.


*Fields and waysides; annual; July.*

*Stem* 18 inches high, knotty, much branched; branches divaricating; *umbells* terminal; rays many, crowded.

b. *Umbells* lateral, *opposite to the leaves; seeds* unequally *muricated.*

3. Torilis nodosa. Knotted hedge-parsley. *Stem* prostrate; *umbells* and *fruit* nearly sessile, lateral; *prickles* of the outside *fruits* hooked, glochidiated; of the central *fruits* warty, scaly.

*Caucalis nodosa* echinato semine, *Raut Syn. 220, 6*; *Ger. em. 1022, 6.*

*Park. 921.*

*Tordylium nodosum*, *Lin. S. P. 346.*
*Torilis nodosa*, *Gartner Fr. et Sem. 1, 82.*
*Caucalis nodiflora*, *De Candolle Fl. Gall. 3512.*

*Knotted parsley.*

*Edges of fields on chalk or sand; annual; May and June.*

*Stem* branched, rough; *leaves* glaucous, bipinnate; *leaflets* cut.

IV. 269. CAUCALIS. Hippocrates. Hens-foot. *Involucrum* 1-leaved; *involucella* 3 to 8-leaved; *leaves* lanceolate, spread; *calyx* 5-toothed; 2 larger, lanceolate, exserted; *petals* 2-lobed; *lacinule* short, heartshape, lanceolate; *fruit* oval; *akenium* oblong, ovate; *latuscule* three-ribbed; *vallecules* 4-vittated, jugate, prickly; *prickles* in 2 rows, jugate or connate; *spermapodium* bristly, compressed, cut at the tip; *spermapodophore* scrobiculate.

*Caucalis daucoides.* Carrot hens-foot. *Involucrum* 3 to 5-leaved; *akenium-prickles* ovate, hooked, bald.

*Caucalis tenuifolia*, *flosculis subrubentibus, Raut Syn. 219, 1.*
*Caucalis albis floribus, Ger. em. 1021, 1.*
*Caucalis tenuifolia purpurca, Park. 920.*
*Conium Rayense*, *Lin. S. P. 350.*
*Caucalis leptophylla*, *Hudson Fl. Angl. 199; not of Linnaeus.*
*Caucalis daucoides*, *Lin. Syst. Nat. ed. 12, 201.*

*Fine-leaved bur-parsley.*
Chalky fields; annual; June.

Stem much branched; branches flexuous, divaricated; leaves triplicato-pinnate; ribs prickly beneath; umbells opposite to the leaves, 3-rayed, naked; umbellules many-flowered, only 3 or 4-fruited; calyx-teeth lanceolate, pointed, bald; bristles on the ribs of the akenium simple.


Involucrum and involucella 3 to 5-leaved; leaves ovate, equal, not cut; calyx 5-toothed, teeth short, fringed; petals obliquely bent, radiating, 2-lobed; lacinule lanceolate, keeled; fruit oblong, gibbous; akenium oblong, gibbous, 7-jugate; jugre prickly; prickles alternately 1 and 2-rowed; commissure contracted, furrowed in the middle, toothed on the edge near the bottom, crowned; spermapodium bristlelike, 2-cut.—Flowers of the centre male, barren, of the rays hermaphrodite, fertile.

Turgenia latifolia. Broad-leaved bur-parsley.

Leaves pinnate, serrated.

Caucalis arvensis echinata latifolia, Rail. Syn. 219, 2.
Caucalis apii foliis flore rubro, Ger. em. 1021, 2.
Echinophora arvensis latifolia purpurea, Park. 920.
Caucalis Anglica flore rubente, Park. 920.
Caucalis major sature flore rubente, Park. 919.
Tordylium latifolium, Lin. S. P. 345.
Caucalis latifolium, Hoffmann Umbell. 59.

Chalky corn-fields; annual; July.

Stem 3 feet high, rough; leaves lanceolate, decurrent, rough; umbells opposite to the leaves or terminal, 3 or 4-rayed; umbellules many-flowered; flowers reddish; fruits 4 or 5, bristled, bristles purplish.

VI. 271. CEREFOLIUM. Tabernæmontanus. Chervil.

Involucrum 0; involucella 3 to 5-leaved; calyx 0; petals flat, reverse ovate, reverse heartshape; lacinule inflected, very short, pointed; fruit ovate, oblong; akenium oblong, awlshape, half round, bald, ribless, without vittae, beaked; beak short, 5-ribbed, terminated by the styles and stylopodium; spermapodium bristlelike, split at top; spermapodophore naked.


Stem furrowed, joints turned; leaves smooth; ribs of the beak blunt.
Cicutaria vulgaris, Raui Syn. 207, 1.
Myrrhis sylvesteris, Park. 935.
Cerfolium sylvestre, Dillen Cat. Giss. 51.
Charophyllum sylvestre, Lin. S. P. 369.
Anthriscus sylvestre, Hoffm. Umbell. 40.
Wild cicely. Cow-weed.
Fields and hedges; perennial; April and May.
Root lactescent; stem 3 feet high, much branched; leaves tripinnate; leaflets acutely cut; involucella fringed.—Roots poisonous; herb occasionally used as a potherb, is much liked by cows, dyes a beautiful green; umbells dye yellow; plant indicates a fruitful soil.

Stem smooth, bald; akenium bald, shining; ribs of the beak acute.
Cerfolium vulgare sativum, Ger. em. 1038, 1.
Scandix Cerfolium, Lin. S. P. 368.
Charophyllum sativum, Gaertner Fr. et Sem. 1, 23.
Charophyllum Cerfolium, Cranitz. Austr. 191.
Cerfolium sativum, Besser Fl. Gall. 1, 218.
Fields, also cultivated; annual; July.
Herb shining, pale; stem 2 feet high, branchy; leaves bipinnate, cut; umbells terminal and lateral, nearly sessile, 4 or 5-rayed.—Herb slightly aromatic, used in salads.

VII. 272. ANTHRISCUS. Pliny. Rough-chervil.
Involucrum 0; involucella 3 to 5-leaved; calyx 0; petals flat, reverse ovate, reverse heart-shape; lacinule inflected or very short, pointed; fruit ovate, oblong; akenium oblong, awlshape, half-round, ribless, muricated; vittae 0; beak short, 5-ribbed, terminated by the stylopodium and style; spermapodium awlshape, tip 2-cut; spermapodophore fringed.

Anthriscus vulgaris. Common rough-chervil.
Stem equal; leaves prickly; prickles hooked, bald.
Cerfolium sive Myrrhis equicolorum nova, Ger. em. 1038, 5.
Myrrhis sylvestris Neapolitana, atque etiam Anglicana, Park. 935.
Scandix Anthriscus, Lin. S. P. 368.
Charophyllum Anthriscus, Villars Delph. 643.
Caucalis scandicina, Roth Germ. 2, 312.
Anthriscus vulgaris, Persoon Syn. 1, 320.
Small hemlock chervil.
Hedges and ruins; annual; May.

Stem 3 feet high, shining; leaves light green, hirsute, tripinnate; leaflets lobed; umbels lateral and terminal, 4 or 5-rayed.—Herb a warm salad.


Involucrum 0; involucella jagged; petals nearly equal, reverse ovate; lacinule inflected, pointed; fruit oblong, ribbed, compressed, beaked; beak very long; valves opening contrary to the parting of the fruit; spermapodium bristlelike; spermapodophore supported by 2 appendages.

Scandix vulgaris. Common shepherds-needle.
Leaves bipinnate; leaflets pinnatifid; lobes linear, lanceolate, mucronulate; involucella cut.

Scandix semine rostrato vulgaris, Rau Sym. 207, 1.
Pecten Veneris, sive Scandix, Gér. em. 1040, 1.
Scandix vulgaris, seu Pecten Veneris, Park, 916.
Scandix Pecten Veneris, Lin. S. P. 368.
Scandix Pecten, Persoon Syn. 319.

Corn-fields; annual; June and July.
Stem spreading; leaves smooth; umbels terminal, 2 or 3-rayed.

IX. 274. MYRRHIS. Dioscorides.

Involucrum 0; involucella many-leaved; petals unequal, reverse ovate, 2-lobed; lacinule short, subulate; fruit oblong, beaked; beak 1-4th its length; akenium 5-jugated, ending in an awlshape stylopodium; spermapodium compressed, bristlelike, 2-cut.

Myrrhis odorata. Sweet cicely.

Cerefolium magnum, sive Myrrhis, Gér. em. 1039, 3.
Myrrhis major vulgaris, sive Cerefolium majus, Park. 935.
Scandix odorata, Lin. S. P. 368.
Odorata, Rivinus Pent. 56.
Charophyllum odoratum, Lamarck Encyc. Meth. 1, 683.
Myrrhis odorata, Allioni Pedem. 2, 28.
Great chervil. Myrhe. Sweet chervil.

Mountainous fields; perennial; May.
Root aromatic; stem 18 in. high, streaked; leaves tripinnate, pale green; umbels terminal, many-rayed; akenium very large, shining, brown, aromatic.—Akenia used in the North to polish and scent floors and furniture.

*Involucrum* 0; *involucella* many-leaved; *calyx* 0; petals nearly equal, reverse heartshape, 2-lobed; lacinule short, inflected, oblique, channelled, pointed; *fruit* oblong, ending in a conical stylopodium and style; *akenium* linear, awl-shape, 5-ribbed; vallecules 4-vittated; *spermapodium* bristleslike, compressed, cut at the tip.


Stem tumid, angular, pilose; leaves pinnatifid, pointed, cut; *akenium* coloured; *style* longer than the stylopodium.

*Chaerophyllum aureum*, Lin. S. P. 370.

Edges of fields; perennial; June.

Stem 3 feet high, solid, deflexed, hairy; *umbell* flat; *akenium* tawny, yellowish, smooth.


Stem spotted, below hispid; joints tumid; *leaflets* ovate, lobed, blunt.

*Cerefolium sylvestre*, Raîi Syn. 207, 1; Ger. em. 1038, 2; Park. 915.

*Myrrhis*, Rininus Pent. 49.

*Chaerophyllum temulentum*, Lin. S. P. 370.

*Myrrhis temula*, Gætn. Fr. et Sem. 1, 22.


*Scandix temula*, Roth Germ. 2, 317.

*Scandix nutans*, Mænch Meth. 101.

*Wild chervil*.

Hedges; biennial; June and July.

Stem 3 feet high, obscurely striated; leaves bipinnate, hirsute; *umbells* drooping until they flower.

XI. 276. DREPANOPHYLLUM. Mænch.

*Involucrum* and *involucella* many-leaved, mostly cut; *flowers* barren and fertile; *calyx* 5-toothed, unequal; petals obovate, nicked, lobes equal; lacinule channelled, tip blunt; *stigma* capitate; *fruit* ovate, crowned with the calyx, scaly stylopodium and reflected style; *akenium* half-ovate, linear, oblong, 5-ribbed; ribs blunt; vallecules 4, slender, 1-vittated; *spermapodium* bristleslike, 2-cut.

*Drepanophyllum palustre.* Marsh drepanophyllum.

Root-leaves nearly bipinnate; stem-leaves pinnate; *leaflets* oblong, lanceolate, serrated, teeth acute, equal.
Sium latifolium foliis variis, Raii Syn. 211, 3.
Sium majus latifolium, Ger. em. 256.
Sium latifolium, Bauh. Pin. 15; Lin. S. P. 361.
Coriandrium latifolium, Drants Austr. 212.
Drepanophyllum palustre, Hoffmann Umb. 110.
Great water parsnepl. Broad-leaved water-parsnep.

Bogs and rivulets; perennial; July and August.
Root creeping; stem angular; leaves bald; leaflets mostly 7, lowermost sometimes cut; umbels terminal and lateral, flattish.—Plant acrid; roots supposed to be poisonous.

XII. 277. SIUM. Dioscorides.

Water-parsnep.

Involucrum 0, or many-leaved, decidual; involucella many-leaved, ovate; calyx slightly 5-toothed; petals equal, reverse heartshape, nicked; lacinule channelled, tip 2-cut, inflected; fruit ovate; akenium semi-ovate, 5-ribbed; ribs blunt; spermopodium bristlelike, 2-cut.


Sium erectum, Hudson Fl. Angl. ed. 1, 103.
Sium erectum, Hudson Fl. Angl. ed. 1, 103.
Sium erectum, Hudson Fl. Angl. ed. 1, 103.
Narrow-leaved water-parsnep.

Ditches and rivulets; perennial; July and August.

Stem procumbent; leaves pinnate; leaflets equal, ovate, unequally serrated; umbels sessile, opposite to the leaves.

Sium nodiflorum, Lin. S. P. 361.

Joint-flowering water-parsnep.

Watery places; perennial; July and August.

Root creeping; stem prostrate or swimming; leaflets 5 or 9, sessile; umbels nearly sessile, 5 or 7-cut; involucrum deciduous.—Juice in doses of 2 to 4 oz. either alone, or with milk, every morning, an excellent alterative in obstinate cutaneous diseases.


Stem prostrate, creeping; leaves pinnate; leaflets roundish, toothed, incised; terminal leaflet largest, 3-lobed; umbels peduncled, opposite to the leaves.
Marshes and inundated bogs; perennial; June to Aug. Leaflets roundish or wedgeshape, veiny; umbels 4 or 5-cut.

Stem upright; leaves pinnate; leaflets digitate, many-cut; lobes hairlike, divaricated, spread.
Sion verticillatum, Lin. S. P. 363.
Salt marshes; perennial; July and August.
Root tuberculate; tubercles many, turnipshape; stem slightly branched; leaves mostly radical; umbels terminal, many-cut; involucrum 5-leaved, deflexed; involucella many-leaved.

Stem upright; leaves pinnate, leaflets ovate, toothed; umbells upright.
Sium aromaticum Sion officinarum, Raii Syn. 211, 1.
Petroselimum Macedonicum Fuchsii, Ger. em. 1016, 1.
Sion vulgare, vel Anomum Germanicum, Park. 914.
Sion Amomum, Lin. S. P. 362.
Sion Amomum, De Candolle Fl. Gall. 3456.
Bastard stone-parsley. Hedge honewort.
Damp chalk or clay soils; annual; August.
Stem 2 feet high, much branched; uppermost leaflets slenderest, sometimes pinnatifid; umbels terminal, 4-cut, upright while flowering.

Stem upright; leaves pinnatifid; leaflets many, roundish, toothed; umbellules drooping.
Sium arvense sive segetum, Raii Syn. 211, 2.
Selinum siifolii, Ger. em. 1018.
Selinum segetale, Park. 932.
Sion segetum, Lin. S. P. 362.
Sium segetum, De Candolle Fl. Gall. 355.
Honewort. Corn-parsley.
Damp chalky corn-fields; annual; August.
Stem branched; leaflets ovate; terminal 3-cut; umbels terminal, 2 or 3-cut; umbellules 4 or 5-flowered.

Stem creeping; lower leaves submersed, many-parted, hairlike, upper leaves pinnatifid, cut; umbels 2 or 3-rayed.
Sium pusillum foliis variis, Raiti Syn. 212, 6.
Sison inundatum, Lin. S. P. 363.
Hydrocotyle inundatum, Smith Fl. Brit. 290.
Least water-parsnip. Floating white-root.

Standing water and inundations; annual; May.
Stem floating; leaves decimound; upper leaflets oblong, 3-cut or pinnate; umbels 2-cut, peduncled; opposite to the leaves; umbellules 5-flowered.

XIII. 278. HYDROCOTYLE. Tournef. Marsh-pennywort.

Umbels simple, pedicelled; involucrum 2 or 4-leaved; calyx 0; petals 5, lanceolate, equal; lacinule inflexed, acute; fruit orbicular, compressed sideways, gibbous; akenium circular, lenticular; edge thin; ribs 3, blunt; valleules very broad.

Hydrocotyle vulgaris. Common marsh-pennywort.
Leaves peltate, orbicular, crenate; umbels 5 or 8-flowered.
Hydrocotyle vulgaris, Raiti Syn. 222, 1; Lin. S. P. 338.


Bogs and watery places; perennial; May and June.
Stem creeping; leaves opposite, petioled, limb horizontal, pale green, shining; peduncles axillary, solitary, or in pairs; bracteae 2, ovate, scarios; umbels often proliferous.
—Supposed to render sheep dropsical, or rot them.

XIV. 279. CICUTA. Pliny.

Cow-bane.

Involucrum 0, or few-leaved; involucelia many-leaved; calyx 5-toothed; petals reverse ovate, heartshape; lacinule lanceolate, pointed; fruit roundish, crowned; akenium ovate, semiglobose, beaked; ribs 5, torulose; dorsal valleules convex, 1-vittated; commissural 2-vittated, in a membrane; spermapodium 2-parted; spermapodophore very short, within the base of the akenia.

Cicuta virosa. Poisonous cowbane.
Leaves pinnate; leaflets bald, lanceolate, serrate; umbels opposite to the leaves; fruit 2-globular.

Sium alterum olusatri facie, Raiti Syn. 212, 1; Ger. em. 256, 4.
Sium majus alterum angustifolium, Park. 1241.
Cicutaria, Rivinus Pent. reg.
Cicuta virosa, Lin. S. P. 366.
Cicuta aquatica, De Cand. Fl. Gall. 3438.
Coriandrum Cicuta, Roth Germ. 150.
Ditches and river-sides; perennial; August.

Root tuberous; juice yellowish; stem 3 feet high, light green; leaves 2 or 3-pinnate; uppermost pinnate; umbells many rayed, convex.—Poisonous to mankind and kine, but not to horses, sheep, or goats; the smell being weak in the spring, cows are apt to be killed by it, but afterwards the odour enables them to avoid it.

XV. 280. PHELLANDRIUM. Pliny. Water-hemlock.

Involucrum 0; involucella many-leaved; flowers peduncled; rays fertile; calyx 5-toothed, 2 larger; petals nearly equal, reverse heartshape; lacinule short, awlshape; fruit ovate, oblong, crowned; akenium ovate, oblong; ribs 5, marginal rib much the thickest; dorsal valleculae 4, 1-vittated; commissural 2, bowed; spermapodium divided.

Phellandrium divaricatum. Spreading water-hemlock.
Leaves tripinnate, cut; leaflets and lobes divaricating.

Phellandrium sive Cicutaria quorundam, Rail Syn. 215, 1.
Cicutaria palm-tris, Ger. en. 1063, 2.
Cicutaria palmatis tenuifolia, Park. 933.
Ligusticum Phellandrium, Crants Austr. 200.
(Cenanthe Phellandrium, Lamarck Fl. Fr. 432.
Horsebane.

Ditches and rivers; biennial; June and July.

Root fusiform; fibres verticillate; stem flexuous; leaves spreading; umbells opposite to the leaves, many-rayed.—Renders horses paralytic, the disease being brought by an insect, the curculio paraplecticus, which inhabits the stems, and is cured by pigs' dung; leaves discutient in poultices; seeds used in doses of 1 to 3 drms. daily, in agues.

β. fluitans. Leaves floating, very long, transparent.

Phellandrium q. Millefolium aquaticum Matthioli, Rail Syn. 216, 1.
Millefolium aquaticum, Ger. en. 827, 2.
Millefolium aquaticum vulgatius, Park. 1256.
Water-yarrow. Water-fennel.

XVI. 281. CÉNANTHE. Theophrastus. Water-dropwort.

Involucrum 0, 1 or many-leaved; involucella many-leaved; flowers peduncled, of the centre sessile, fertile; of the rays barren; calyx 5-toothed, teeth connate, 3 larger; petals diffusiform, radiating, 2-lobed; lacinule long, awlshape; fruit ovate, crowned; akenium ovate, semicylindrical; ribs 5, torulose, barked; marginal thickest; dorsal valleculae 4-vittated; commissural 2-vittated, vittæ parallel; spermapodium divided.
1. Œnanthe crocata. *Yellow water-dropwort.*
Leaves bipinnate; leaflets all wedgeshape, many-cut, nearly equal; involucrum many-leaved.


*Hemlock dropwort. Dead tongue. Water leavoge.*

Water-sides; perennial; July.

*Root* tuberous; tubers blunt, sessile, crowded; *stem* upright, 4 feet high; *leaves* dark green, bald; *umbells* terminal, many-rayed, hemispherical.—Juice of the root, or an infusion of the leaves in small doses, very efficacious in obstinate cutaneous diseases; in large doses produces a fatal tetanus; herb applied as a poultice to ulcers that form in the cleft of the hoof in kine.

2. Œnanthe pimpinelloides. *Pimpernell water-dropwort.*
Root-leaves 2-pinnate; leaflets wedgeshape, cut; stem-leaves pinnate; leaflets linear, not cut, long; involucrum many-leaved, linear.


Parsley water-dropwort.

Salt marshes; perennial; June.

*Root* tuberous; tubers slender, fusiform, peduncled; *stem* slightly branched; *umbells* terminal, many-rayed, flattish; involucrum rarely 1-leaved.

Root-leaves 2-pinnate; stem-leaves pinnate; leaflets all linear, pointed; *involucrum* 0; *fruit* rather cylindrical; *tubers* elliptical, sessile.

Œnanthe peucedanifolia, *Pollich Pat. 6, 299.

*Narrow dropwort.*

Ditches and marshes; perennial; June.

*Root* tuberous; tubers crowded; *stem* slightly branched, stronger than the former; *umbells* many-rayed; umbellules flat; centre reddish; rays white.

Root-leaves 2-pinnate; leaflets wedgeshape, flat; stem-leaves pinnate; leaflets and petioles cylindrical, pipey; *involucrum* scarcely any.
Œnanthe aquatica, Raïi Syn. 210, 1.
Filipendula aquatica, Ger. em. 1060, 5.
Œnanthe aquatica major, Park. 1233.
Œnanthe fistulosa, Lin. S. P. 365.

Common water-dropwort.

Bogs and standing waters; perennial; July and August.

Root stoloniferous; stem 2 feet high, fistulous, bald; root-leaves sunk; umbells alternate with the leaves, 3 to 7-rayed; involucrum 1, 3, or 5-leaved; petals flesh-colour.

XVII. 282. ECHINOPHORA. Columna. Sea-parsnep.

Involucrum 3 to 5-leaved, pinnate, spinous; involucella 1-leaved, topshape, unequally 6-cut; umbells radiated; flowers of the centre sessile, female; petals nicked: of the rays pedicelled, male; calyx 5-toothed; petals unequal, spreading; lacinule long, lanceolate, many-cut; fruit crowned with the hardened involucrum and shining persistent pedicells of the male flowers; akenia 2, 1 mostly barren.

Echinophora spinosa. Spinous sea parsnep.
Leaves pinnate; leaflets awlshape, spinous, 3-cut or not cut at all.

Echinophora maritima spinosa, Raïi Syn. 220, 1.
Crithmum spinosum, Ger. em. 533.
Crithmum maritimum spinosum, seu Pastinaca marina, Park. 1286.
Echinophora spinosa, Lin. S. P. 344.

Prickly samphire.

Sandy sea-shores; perennial; July.
Root fusiform, fleshy; stem much branched; leaves opposite; umbells terminal, large.

XVIII. 283. CRITHMUM. Samphire.

Involucrum and involucella many-leaved; calyx 5-toothed; teeth unequal, large; petals reverse ovate, keeled, nearly equal; lacinule long, lanceolate, blunt; fruit ovate, oblong, crowned; akenium semi-ovate, 5-ribbed, barked, spongy.

Crithmum maritimum. Sea-samphire.
Leaves triternate; leaflets lanceolate, acute, fleshy.

Crithmum maritimum, Raïi Syn. 217, 1; Ger. em. 533, 1.
Crithmum maritimum vulgare, Park. 1286.
Crithmum maritimum, Lin. S. P. 354.

Rocks on the sea-side; perennial; August.
Root torulose; stem 12 inches high, rather branched; leaves glaucous, bald; umbels terminal, hemispherical; umbellules crowded.—Herb in fruit pickled, used as sauce.

XIX. 284. PIMPINELLA. Myrepsus. Burnet-saxifrage.

Involucrum and involucella 0; calyx 0; petals nearly equal, bald, ovate, nicked; lacinule contracted, inflexed, channelled, crenulated; stigma globular; fruit ovate, roundish; akenium ovate, 5-ribbed; valleculae rather convex, many vittated; commissures banded, band white, longitudinal, in the middle; spermapodium bristlelike, 2-cut.—Umbels before flowering drooping.


Stem striated, bald; leaves pinnate, bald; leaflets of the root-leaves roundish, acutely toothed; of the stem-leaves bipinnate, linear.

Pimpinella saxifraga minor foliis sanguisorbae, Raii Syn. 213, 2.
Bipinella sive Saxifraga minor, Ger. em. 1044, 2.
Pimpinella saxifraga major nostras, Park. 946.
Pimpinella saxifraga, Lin. S. P. 378.
Pimpinella rotundifolia, Scopoli Carn. 344.
Tragoselinum Saxifraga, Munich Meth. 99.

Dry pastures; perennial; July and August.
Root aromatic; stem upright, rather rough; flower-leaves strapshape or ternate.


Stem streaked, pubescent; leaves pinnate, pubescent; leaflets of the root-leaves nearly heartshape, cut, bluntly toothed; of the stem-leaves bipinnate, linear.

Pimpinella nigra, Willd. S. P. 1471.
Pimpinella Saxifraga 1, Retz. Obs. 3, 45.

Dry pastures; perennial; July and August.
Root aromatic; juice bluish; stem and leaves white, tomentose.—Root yields a blue essential oil, and communicates a blue colour to water or spirit when they are distilled from it.


Stem streaked, bald; leaves all pinnate, bald; leaflets ovate; lobes serrated; terminal leaflets 3-lobed.

Pimpinella Saxifraga, Raii Syn. 213, 1; Ger. em. 1044, 1.
Pimpinella Saxifraga hircina major, Park. 947.
Pimpinella Saxifraga, Hudson Fl. Angl. 127.
Woods and chalky fields; perennial; July and August.

**Stem** 2 feet high; **umbells** large, white.—**Root** acrid, tasting like pepper, sialogogue, used as a masticatory in tooth-ach, also externally to take away freckles, and in gargles to dissolve viscid mucus.

*P. rubra.* **Corolla** reddish purple.
Pimpinella flore rubro, Rævinus Pont. 81:

*P. laciniata.* **Leaves** much cut.
Pimpinella Saxifraga major, degener, seu foliis dissecitis, Ræii Syn. 213, 1.*

4. **Pimpinella media.** Middlesize burnet-saxifrage.

**Stem** streaked, bald; **leaves** pinnate; leaflets of the root-leaves nearly heartshape, 3-lobed, serrated; of the stem-leaves angularly cut.

Pimpinella orientalis, Jacq. Austr. 397.
Pimpinella media, Hoffmann Fl. Germ. 1, 146.
Pimpinella Saxifraga, 6, Withering Bot. Arr. 393.

Dry gravelly places; perennial; August and September.

5. **Pimpinella dissecta.** Cut burnet-saxifrage.

**Leaves** all pinnate; leaflets many-parted; lobes falcate and acute.

Pimpinella saxifraga minor, Ræii Syn. 213, 3.
Pimpinella saxifraga hircina minor, Park. 947.
Pimpinella dissecta, Retz. Obs. 3, 30.

Dry, sandy, and chalk fields; perennial; July and Aug.


**Dioicous**—**Involucrum** and **involucella** few-leaved or deciduous; **petals** 5, equal, ovate, lanceolate; lacinule lanceolate, inflexed.—**Male. Calyx** 5-toothed; **stamens** 5.—**Herm. Calyx** 0; **stamens** 5, imperfect; **fruit** ovate, crowned; **achenium** ovate, roundish, 5-jugate; **jugae** sunk in, ribbed; valleculae 4, 1-vittated; raphe margined; **spermapodium** bristlelike, 2-cut, dilated in the middle.

**Trinia glaberrima.** Very-bald rock-parsley.

**Dioicous**; **leaves** bipinnate; leaflets ternate; lobes equal, linear; **umbells** panicked.

Peucedanum minus, Ræii Syn. 217, 1; Park. 850.
Peucedanum pumilum, Ger. em. 10.
Seseli pumilum, Lin. S. P. 373.
Pimpinella pumila, Jacquin Austr. 28.
Trinia glaberrima, Hoff. Umbelli, 90.
Limestone rocks; perennial; May and June.
Root fleshy; stem 9 inches high, branchy, purplish; leaves glaucous, smooth; umbels many, panicled, upright.

XXI. 286. ÆTHUSA. Linnaeus. Fools-parsley.

Involucrum 0; involucella halved, 3-leaved, pendulous; petals unequal, nicked, 2-lobed, with a hollow on each side; lacinule short, linear, blunt; fruit rather globular, crowned; akenium ovate, barked, 5-jugated; marginal jugae acute, membranaceous; valleculae 4; acute, 1-vittated; commissure quite flat, 2-vittated; spermopodium hairlike, 2-cut.

Æthusa tenuifolia. Fine-leaved fools-parsley.
Leaves bipinnate; leaflets pinnatifid; involucella linear, lanceolate, longer than the umbellules; commissural vittae distant at the base.

Cicuta que Cicutaria tenuifolia, Rail Syn. 215, 2.
Cicutaria tenuifolia, Ger. em. 1063, 1.
Cicuta minor, sive fatua, Park. 933.
Cynapium, Rivinus Pentap. 75.
Coriandrum cynapium, Crantz Austr. 111.
Lesser hemlock. Dog’s parsley.

Gardens and fields; annual; July and August.
Root fusiform; stem slightly branched; leaves dark green, bald; umbels terminal or opposite to the leaves; peduncles long.—When eaten in mistake for parsley it occasions vomiting, which may be stopped by a very large dose of brandy: deleterious to geese.

XXII. 287. CONIUM. Theophrastus. Hemlock.

Involucrum 2 to 5-leaved; involucella 3-leaved, 1-rowed, connate; petals nearly equal, reverse heartshape, nicked; lacinule short, blunt; fruit ovate, globose, crowned; akenium ovate, 5-ribbed; ribs waved, crenulate; valleculae and commissures many-streaked; vittae 0; spermopodium bristle-like, 2-cut.

Conium maculatum. Spotted hemlock.
Root fusiform; stem spotted, smooth; upper leaves decumbent; leaflets pinnatifid; lacinule linear, lanceolate, mucronate.

Cicuta, Rail Syn. 215, 1; Ger. em. 1061, 1.
Cicuta vulgaris major, Park. 933.
Conium maculatum, Lin. S. P. 349.
Cicuta maculata, Lamarck Pl. Fr. 104.
Cicuta major, De Candolle Pl. Gall. 3494.

VOL. II. 2 L
Walls and shady places; biennial; June and July.

Root white; stem 4 feet high, shining, much branched at top; leaves shining, bald, of a strong odour; umbels and umbellules many-rayed.—Root supposed poisonous, but Petiver, after seeing Mr. Henley eat between three and four ounces, eat himself half an ounce without any ill effect, it tasted like celeri; leaves in powder narcotic, alterant, used in cancer, chronic rheumatism, and obstinate ulcers; inspissated juice used for the same purposes, and in go

XXIII. 288. BUNIUM. Dioscorides.  

Involucrum 1, 3, or many-leaved; involucella many-leaved; calyx 0; petals nearly equal, broad, heartshape, nicked, edge inflected; lacinule short, blunt, inflected; fruit oblong, ellipsoid, crowned; akenium linear, elliptical, straight but rather bent at top, 5-ribbed; ribs streaked or folded, with a narrow edge on each side; valleculae wrinkled, convex, 1-vittated; vittæ rather broad, short, kneeled, wrinkled; spermapodium 2-cut.

1. Bunium majus.  

Stem straight at bottom, leafy; leaves uniform, tripinnate, bald; petioles nearly equal; involucrum many-leaved; fruit nearly cylindrical, thick at top; style reflex, falling off.

2. Bunium minus.  

Stem flexuous, small and leafless at bottom; leaves tripinnate, nearly sessile, slender, linear; involucrum 0, 2, or 3-leaved; fruit ovate; style spreading, persistent.
Bulbostanum, Raii Syn. 209, 1.
Bulbocastanum minus, Ger. em. 1064, 1.
Nucula terrestris minor, Park. 892.
Bunium majus, Gouan Illustr. 10.

**Kipper nut. Pig nut. Hawk nut. Jur nut. Earth chestnut,**

Sandy fields and pastures; perennial; May and June.

**Stem** rather branched; **lobes** of the leaves slender, pointed; **umbels** 8 or 10-cut.

XXIV. 289. AEGOPODIUM. Linnaeus. **Gout-wort.**

**Involucrum** and **involucella** 0; **calyx** 0; **petals** equal, reverse ovate, cut; **lobes** parallel; **lacinule** short, inflexed, channelled, pointed; **fruit** elliptical, ovate, crowned; **akennium** oblong, 5-ribbed; **vallecula** verrucous, 3-streaked, middle streak vittated; **spermapodium** bristlelike, forked at the tip.

**Aegopodium angelicaefolium. Angelica-leaved gout-wort.**

*Angelica sylvestris* minor, seu erraticas, Raii Syn. 208, 3.
*Herba Gerardi*, Ger. em. 1001, 2.
*Podagraria vulgaris*, Park. 943.
*Sison Podagraria*, Sprengel Umbell. 35.
*Ligusticum Podagraria*, Roth Germ. 194.

Gardens and fields; perennial; May.

**Root** creeping.—**Leaves** smell like those of angelica, and may be eaten in early spring salads.

XXV. 290. CARUM. Dioscorides. **Carui.**

**Involucrum** 0; **involucella** often 0; **calyx** scarcely toothed; **petals** nearly equal, reverse heartshape, nicked, keeled, concave; **lacinule** short, pointed, inflexed; **fruit** ovate, elliptical, crowned; **akennium** linear, oblong, gibbous; **ribs** 5; **vallecula** 3-streaked, middle streak vittated, exserted, kneed; **spermapodium** bristlelike, slightly 2-cut.

**Carum officinale.**

*Shop carui.*

**Leaves** pinnate; **lobes** sessile, segments linear, lanceolate.

2 L 2
516 290. Carum. 45. UMBELLIFERÆ. Pl. ex. cal.

Carum seu Careum, Rail Syn. 213, 1; Ger. em. 1034.
Carum vulgare, Park. 910.
Carum Carui, Lin. S. P. 378.
Seseli Carum, Scopoli Carn. 361.
Apium Carui, Crantz Austr. 218.
Ligusticum Carui, Roth Germ. 324.
Seseli Carui, De Candolle Fl. Fr. 4, 285.
Bunium Carui, Marsch Fl. Taur. Cac. 1, 211.

Carraway.

Fields and pastures, also cultivated; peren.; June, July.
Root fusiform; stem 2 feet high, bald; leaves bipinnate; leaflets crossed; umbells terminal, white.—Roots superior to parsneps for kitchen use; young leaves used as a pot-herb; seeds used to flavour cakes, to form sugar-plums, and, as they yield much essential oil on distillation, also to flavour ardent spirits and form a carminative distilled water.

XXVI. 291. MEUM. Dioscorides.

Involucrum 0 or few-leaved, leaves cut; involucella many-leaved, halved, cut or whole; calyx scaly, toothed; petals nearly equal, ovate, keeled; lacinule very short, inf lexed, pointed; fruit elliptical, oblong, crowned; akenium 5-ribbed; ribs sharp, nearly winged; valleculae fl atish, finely streaked; spermapodium bristlelike, 2-cut.

Meum Athamanticum. Athamantian spig nel.

Leaves 2 or tripinnate; leaflets bristlelike, many-cut; lobes very slender, bald.

Meum, Rail Syn. 207, 1; Ger. em. 1052, 1.
Meum vulgatius, Park. 888.
Athamanta Meum, Lin. S. P. 353.
Ligusticum Meum, Crantz Austr. 308.


Mountainous pastures; perennial; May.
Root thick, woody, aromatic, fibrous at the tip; stem scarcely branched, rather naked; stipules dilated; umbells many-rayed.

XXVII. 292. LIGUSTICUM. Dioscorides. Lovage.

Involucrum 4 or 5-leaved, unequal; involucella many-leaved; calyx 5-toothed; petals nearly equal; ovate, involute; fruit oblong, crowned; akenium 5-ribbed; ribs membranaceous.
Ligusticum Scoticum. Scotch lovage.
Leaves biternate; leaflets nearly rhomboid, deeply serrated.

Ligusticum Scoticum apii folio, Rail Syn. 214, 1.
Angelica Scotica, Lamarck Encyl Meth. 1, 173.

Scotch parsley.

Sea-shore; perennial; July.
Stem slightly branched at top, bald; upper leaves often ternate; lobes rather fleshy, bald; stipules membranaceous; umbells many-rayed, terminal.—Root carminative; leaves used as a salad or potherb, and an infusion of the leaves as a purgative for calves.

XXVIII. 293. PSEUDOSPERMUM. Sprengel.
Cornwall-saxifrage.

Involucrum 4 or 8-leaved, unequal, 2 outer longest; involucella 3 to 5-leaved; calyx 5-toothed, teeth deltoid; petals nearly equal, oblong, keeled, naked; lacinule long, dilated, blunt; fruit oblate, oblong, crowned; akenium ovate, 5-ribbed; ribs blunt; spermapodium bristlelike, 2-cut.—Umbells many-rayed.

Pseudosperm. commutatum. Changed Cornwall-saxifrage.
Leaves ternate; root-leaflets 3-parted; stem-leaflets lanceolate, not cut.

Smyrnium tenuifolium, nostras, Rail Syn. 209, 1.
Ligusticum alterum Belgarum, Park. 906.
Ligusticum Cornubiense, Lin. S. P. 359.
Danae aquilegifolia, Allioni Pedem. 1392.
Sison sylvaticum, Brotero Phyt. Lusit. 17.
Smyrnium nudicaule, Marsch Fl. Taur. Cauc. 1, 238.

Hedges and woods; shrubby; July.
Root fusiform; stem 3 feet high; root-leaves few, petioled, lobes wedgeshape, narrow; stem-leaves 0, or only 1 or 2; umbells many-rayed; involucella lanceolate, persisting; flowers white.


Involucrum and involucella many-leaved, deflexed; calyx 5-toothed; petals nearly equal, reverse ovate, heartshape; lacinule inflected, rather long, lanceolate, pointed; fruit oblong, crowned; akenium oblong, nearly cylindrical, hirsute, tomentose, 5-ribbed; spermapodium bristlelike.
Libanotis montana. Mountain stone-parsley.
Leaves bipinnate, bald; leaflets pinnatifid, flat; lobes ovate, pointed.

Libanotis Cretensis, *Gartner Fr. et Sem.* 1, 84.

High chalky pastures; perennial; August.
*Root* fusiform, woody, acrid, bitterish; *stem* 2 feet high, very deeply furrowed, rather branchy, bald; *leaves* paler underneath; *umbells* hemispherical; *teeth* of the calyx very long, lanceolate, serrate on the edge.

XXX. 295. THYSSELINUM. Pliny. Milky-parsley.

*Involucrum* and *involucella* many-leaved, reflected; *flowers* all equal; *calyx* 5-toothed; *petals* nearly equal, reverse heartshape, patulous; *lacinule* linear, channelled, blunt, nicked; *fruit* ovate, roundish, rather compressed, crowned; *akenium* ovate, compressed, margined, 5-ribbed; *endocarp* membranaceous, 6-vittated; *commissural vitta* distant from the margin; *spermapodium* bristlelike, 2-cut.

*Thysselinum palustre.* Marsh milky-parsley.

*Stem* streaked; *leaves* bipinnate or tripinnate, bald; leaflets opposite, pinnatifid; lobes linear, lanceolate; *rays* of the umbells downy; *styles* divaricating; *fruit* ovate.

Selinum sylvestre, *Jacquin Austr.*
Peucedanum palustre, *Mancsh Meth.* 82.

Bogs; perennial; July.
*Root* nearly simple; *stem* single, 4 feet high, branchy at top; *umbells* flat; *fruit* ovate, rather roundish, reddish brown; *herb* lactescent; *juice* white, clammy, bitter, foetid.

XXXI. 296. IMPERATORIA. Matthiolus. Masterwort.

*Involucrum* 0; *involucella* few-leaved, bristlelike; *calyx* 0; *petals* elliptical, nicked, equal; *lacinule* long, acute, inflected; *fruit* elliptical, compressed, crowned; *akenium* elliptical, compressed, margined; *margin* winged, 2-cut at the top and bottom, 3-ribbed; *ribs* sharp, not winged; *commissural vitta* single, bowed, acute.—*Umbells* compressed, flat.
Imperatoria major. Great masterwort.
Leaves ternate; leaflets 3-lobed.
Imperatoria, Ger. em. 1001, 1; Park. 942.
Imperatoria Ostrowiensium, Lin. S. P. 371.
Imperatoria major, Garid. Prov. 55.
Bastard pellitory of Spain.

Root tuberous; stem erect, nearly simple; umbels terminal, many-rayed, smooth, flat.—Root acrid, acrimonious, used as a sialogogue in rheumatic tooth-ache; recommended internally in dropsy and dyspepsia; an infusion in wine used successfully in quartan agues when bark has failed.

XXXII. 297. ANGELICA. Brunsfel. Water-angelica.

Involucrum 0, or few-leaved; involucella many-leaved; flowers uniform; calyx 0; petals equal, reverse ovate, pointed, inflected, contracted; fruit reverse ovate, 4-angular, winged, ending with the reflected styles; akenium reverse ovate, 3-ribbed; ribs approximating, 4-vittated, edge winged; vittae growing to the inner membrane; commissure flat, keeled, 2-vittated; keel elevated, dilated in the middle, covered with nearly marginal vittae; spermapodium bristle-like, capillary, 2-parted.

Angelica sylvestris. Wild water-angelica.
Leaves bipinnate; leaflets ovate, equal, cut, acutely serrated.

Angelica sylvestris, Rauj Syn. 208, 2; Ger. em. 991, 2; Park. 940; Lin. S. P. 861.
Selinum Angelica, Roth Fl. Germ. 2, 358.
Selinum pubescens, Mœnch Meth. 80.
Imperatoria sylvestris, Bosser Fl. Gall. 1, 213.
Wild angelica.

Watery places; perennial; July.

Stem 4 feet high, upright; leaves rather glaucous; umbels hemispherical.

XXXIII. 298. ARCHANGELICA. Tabernœmontanus. Angelica.

Involucrum scarcely any; involucella halved, many-leaved; flowers difforn; calyx small, 5-toothed; petals equal, ovate; lacinule inflected, acute; fruit ovate, turgid; akenium 5-ribbed; ribs solid, stuffed, margined with a stiff wing; commissure flat, keeled; keel many-vittated; vittæ lateral, parallel, in the membranous endocarp.
Archangelica officinalis. Shop angelica.
Leaves ternate, pinnate; odd-leaflet 3-parted; akenium oval, margined; margin rather waved.

Angelica sativa, Raiti Syn. 208, 1; Ger. em. 991, 1; Park. 940.
Angelica Archangelica, Lin. S. P. 360.
Angelica officinalis, Manch. Meth. 81.
Archangelica officinalis, Hoffmann Umbell. 168.

Garden angelica. The holy ghost.

Watery places, naturalized, also cultivated; bien.; Sept.
Root fleshy; stem 5 feet high, branched; leaflets ovate, lanceolate, cut, acutely serrated, bald; petals much dilated at bottom, membranaceous; umbels globose, many-rayed.
—Root aromatic, rather bitter, used mostly candied as an agreeable stimulant, and antipestilential.

XXXIV. 299. SPHONDYLIUM. Diosc. Cow-parsnip.

Involucrum caducous; involucella many-leaved; flowers diffusum; petals radiating, unequally 2-cut; lacinule short, hooked; fruit compressed, oval, reverse-ovate; akenium ovate, margined, hirsute or rough, crowned; latuscule 3-streaked, 4-vittated; vitæ mostly as broad as the valves, thick, rather clubbed; commissural vitæ 2, joined at an acute angle; spermatodium threadshape, 2-parted.

Leaves pinnate; leaflets pinnatifid, cut, serrated.

Sphondylium, Raiti Syn. 205, 1; Ger. em. 1009, 1.
Sphondylium vulgare, Park. 953.
Heraclceum Sphondylium, Lin. S. P. 358.
Sphondylium Panaces, Gartn. 1, 86.
Sphondylium Branca, Scopoli Carn. 335.
Sphondylium Branca ursina, Hoffm. Umbell. 132.


Meadows and pastures; biennial; July.
Root fusiform; stem 4 feet high, branchy; leaves ternate or pinnate, cut, pinnatifid; petioles dilated at bottom; umbels flat.—Leaves and seeds brewed, form a kind of ale drank in Poland and Lithuania; stems peeled, to get rid of the acrid skin, are eaten in Russia; when dried a saccharine substance exudes from them, and attempts have been made to extract sugar from this plant, but 40 lb. of the dried stalks only yielded a qr. of a lb. of powdery sugar; young shoots a very good asparagus.
XXXV. 300. TORDYLIUM. Dioscorides. Hartwort.

*Involucrum* and *involucella* many-leaved, leaves of the latter longest; *calyx* 5-toothed, persisting, unequal; *petals* radiating, 2-cut, stiff; *lacinule* reverse ovate, lanceolate; *fruit* roundish, compressed, strigose, crowned; *akenium* flat, margined, thickened, tuberculuated, inflated, denticulated; *latusculae* 3-streaked, 4-vittated; *spermapodium* threadlike, bristlelike, 2-parted; *spermapodophore* blunt, thickened.

1. *Tordylium maximum.*

Great hartwort.

*Stem* rough, bristled; bristles deflexed; *leaves* pinnate; leaflets lanceolate, cut, serrated, terminal leaflet double-sized.

*Tordylium maximum*, *Raii Syn.* 206, 1; *Lin. S. P.* 245.

*Seseli Creticum majus*, *Ger.* em. 1050, 2.

*Tordylium sive Seseli Creticum majus*, *Park.* 906.

*Herculeum Tordylium*, *Sprengel Umbell.* 12.

Ruins and fields, naturalized; annual; June and July.

*Stem* upright, 4 feet high, branchy; *leaves* rough, central; *umbellules* nearly sessile; *fruit* muricated, margin reddish.

2. *Tordylium officinale.*

Shop hartwort.

*Stem* pubescent, hairs deflected, soft; *leaves* pinnate, leaflets ovate, cut, crenate; terminal leaflet largest; *involucella* as long as the flowers.

*Tordylium Narbonense minus*, *Raii Syn.* 206, 2.

*Seseli Creticum minus*, *Ger.* em. 1050, 1.

*Tordylium, sive Seseli Creticum minus*, *Park.* 906.

*Tordylium officinale*, *Lin. S. P.* 345.

Black hartwort.

Fields; annual; June and July.

*Stem* branchy, hairs soft; *leaves* pinnate, hairy, rough; *root-leaves* petioled, leaflets ovate, rather lobed; stem-leaves sessile, leaflets oblong, acute, serrate, cut; *umbells* terminal.

XXXVI. 301. CORIANDRUM. Theophrast. Coriander.

*Involucrum* 0; *involucella* usually 3-leaved, halved; *calyx* 5-toothed, unequal, persisting; *petals* radiating, 3-lobed; *lacinule* short, obtuse; *stylopodium* short, conical; *fruit*
spherical, crowned; akenium hemispherical; latuscula 4-ribbed, 5-valleculated, not vittated; commissure hollowed; vittae 2, semi-lunate, in the membranous endocarp; spermapodium bristelike, compressed, smaller at each end adnate, half 2-cut; spermapodophore adnate to the fruit.

_Coriandrum sativum_.
_Coriandrum sativum_, Rait Syn. 221, 1; Ger. em. 1012.
_Coriandrum sativum_, Park. 918.
_Coriandrum sativum_, Lin. S. P. 367.

Gardens and cultivated; annual; June.
Stem upright, branchy; leaves compound; lower leaves pinnate, leaflets wedgeshape, roundish, cut; upper leaves triternate; lobes linear; umbells many-rayed.—Leaves strongly-scented; seeds slightly aromatic, used to cover the taste of senna, and in spices, as currie powder, and seasoning for black puddings; also covered with sugar as a sweetmeat; formerly steeped in wine or vinegar, and then dried to render them milder.


_Involucrum_ few-leaved, bristelike; _involucella_ many-leaved, bristelike; flowers of the centre abortive; _calyx_ 5-toothed, inflected; _petals_ equal, oblong; _lacinule_ acute, inflected; _fruit_ ovate, elliptical, lenticularly compressed; _akenium_ elliptic, compressed, 5-ribbed; marginal rib slightly winged; _commissural_ vittae 2, curved; _spermapodium_ bristelike, 2-cut.

_Peucedanum officinale._
_Leaves_ 3 or 4-ternate; leaflets threadshape, linear, undivided.

_Peucedanum officinale_, Rait Syn. 206, 1; Ger. em. 1054, 1.
_Peucedanum vulgare_, Park. 880.
_Peucedanum officinale_, Lin. S. P. 353.
_Sulphur wort_. _Horestrong_. _Harestrange_. _Brimstone wort_.

Marshes by the sea; perennial; June and July.
_Root_ fusiform; _stem_ branchy; _leaves_ stiff, bald; _umbells_ large, many-rayed.—Root fetid, acrid, bitterish, yielding by incision a yellow juice drying into a gum-resin.

XXXVIII. 303. _PASTINACA_. Brunsfel. _Parsnip_.

_Involucrum_ and _involucella_ 0; _flowers_ hermaphrodite, fertile; _calyx_ 0; _petals_ equal, obtuse, tip involute; _stypopodium_ conical, undulated at the edge; _fruit_ nearly orbicular, compressed, flat; _akenium_ reverse ovate, striated,
marginal streak slightly winged; *dorsal vittæ* 4, nearly equal; commissural vittæ 2, curved, short, obtuse, distant; *spermapodium* bristlelike, 2-cut.

*Pastinaca sativa.*

*Cultivated parsnep.*

Leaves pinnate, pubescent underneath; leaflets cut, serrate; terminal leaflets 3-lobed.

*Pastinaca sylvestris latifolia,* *Raii Syn.* 206, 1; *Ger. em.* 1025, 2; *Park* 944.

*Pastinaca sativa,* *Lin. S. P.* 376.

*Pastinaca sylvestris,* *Hudson Fl. Angl.* 125.

*Selinum Pastinaca,* *Crantz Austr.* 161.

*Anethum Pastinaca,* *Wibel Fl. Wenth.* 146.

*Wild parsnep.*

Edges of fields, on chalk; biennial; July.

Root fusiform; stem 3 feet high, branchy; *umbells* short, many-rayed.—*Seeds* produce sweeter and larger parsneps than the seeds of the garden variety.

β. edulis. *Leaves* broad.

*Pastinaca latifolia sativa,* *Raii Syn.* 206, 2; *Ger. em.* 1025, 1; *Park* 944.

Leaves pinnate; leaflets eared, either hairy or smooth.—*Roots* nutritive, sweeter than carrots, but strong-scented; are brewed into an agreeable wine, or with hops, beer; *seeds* febrifuge, contain an essential oil.

XXXIX. 304. SILAUS. Pliny.

*Sulphur-wort.*

*Involucrum* 1 or 2-leaved; *involucella* many-leaved; *calyx* 0; *petals* equal, oblong, inflected at the tip; *fruit* ovate, gibbous, crowned; *akemenium* oblong, reverse ovate, gibbous, 5-ribbed; ribs blunt, *valleculae* convex, 2 or 3-streaked; *spermapodium* undivided, bristlelike.

*Silaus pratensis.*

*Meadow sulphur-wort.*

Leaves tripinnate; leaflets lanceolate, linear.

*Seseli pratense nostras,* *Raii Syn.* 216, 1; *Park.* 905.

*Saxifraga Anglicana facie seseli pratensis,* *Ger. em.* 1047, 1.


*English saxifrage.* *Meadow saxifrage.*

Damp fields and pastures; perennial; August.

Root fusiform; stem 2 feet high, branched, streaked; leaves bald, decompound; leaflets opposite, not cut or pinnatifid; lobes decurrent, edge microscopically aculeated.
XL. 305. PETROSELINUM. Dioscorides. Parsley.
Involucrum 0; involucella 0; calyx 0; petals equal, roundish; lacinule short, blunt, inflected; stamens short; stamipedum depressed; style reflected; fruit roundish, twin; akenium half round, gibbous, 5-ribbed; ribs acute; valvulae convex, 2 or 3-striated, many vittated, naked; spermpodium undivided.—Umbells sessile.

Leaves bipinnate; leaflets deltoid; stem-leaves linear.

Apium hortense, Ger. em. 1013, 1
Petroselinum vulgare, Park. 923.
Apium Petroselinum, Lin. S. P. 379.
Cultivated; annual; July.
Leaves used in sauces and seasonings.

β. crispum. Leaflets curled.
Curled parsley.
Preferred by some, as not being liable to have lesser hemlock mistaken for it.

γ. latifolium. Leaflets very broad.

XLI. 306. APIUM. Pliny.
Involucrum 0; involucella 0; calyx 0; petals equal, roundish; lacinule short, blunt, inflected; stamens short; stamipedum depressed, style reflected; fruit roundish, twin; akenium half-round, gibbous, 5-ribbed; ribs acute; valvulae convex, 2 or 3-striated, many-vittated, naked; spermpodium undivided.—Umbells sessile.

Apium graveolens. Strong-scented smallage.
Leaves bipinnate; leaflets rhombic, wedgeshaped.

Apium palustre et officinarum, Raii Syn. 214, 1.
Eleoselinum seu Paludapium, Ger. em. 1014, 1.
Apium vulgare sive palustre, Park. 926.
Apium graveolens, Lin. S. P. 379.
Seseli graveolens, Scopoli Carn. 360.

Rivulets near the sea; biennial; August.
Stem bald; branches spreading; leaves yellowish green, shining.—Root and stem foetid, acrid, poisonous.

β. dulce. Leaves dark green.

Apium dulce, Miller's Gard. Diet.
Apium Celeri, Gaertner Fr. et Sem. 1, 22.
Celeri. Sellery.
Cultivated in dry ground; biennial; August.

Root, stem, and petioles, blanched by being kept covered from the sun, sweet, esculent in cold salads or as a potherb, wholesome.

XLII. 307. FŒNICULUM. Pliny.  

**Fennel.**

*Involutrum 0; involucella 0; calyx 0; petals nearly equal, involute, keeled; lacinule blunt, nicked, long; stigmata sessile; fruit oblong, gibbous; akenium ovate, oblong, 5-ju-gated, jugae blunt, ribbed; valleculae 4, veiled, convex, 1-vittated; latuscule contracted; spermapodium bristlelike, 2-parted.*

*Fœniculum vulgaris.*  

Leaves decompound; lobes hairlike; stem-leaves de-flected.

**Foeniculum vulgare,** *Raii Syn. 217, 1; Ger. em. 1032, 1; Park. 884; Gärtn. Fr. et Sem. 1, 105.*


Fenchell.

Chalk-cliffs; biennial; July and August.

Stem upright, much branched; leaves tripinnate, leaflets bristlelike, dark green, hanging down; umbells flat, many-rayed.—Herb used as sauce, carminative.

XLIII. 308. SMYRNIUM. Dioscorides.  

**Alexanders.**

*Involutrum 0; involucella 0; calyx slightly toothed; petals equal, lanceolate, apex pointed, inflected; stylopodium depressed; fruit ovate, roundish, gibbous; akenium roundish, semilunate, 5-ribbed; ribs acute, very slightly winged; valleculae wrinkled; commissures very slender; spermapodium bristlelike; perisperm involute.*

*Smyrnium vulgare.*  

Common alexanders.  

Lower leaves triternate; upper leaves ternate, petioled; leaflets deeply serrated.

*Smyrnium, Raii Syn. 208, 1.*

Hipposelinum, *Ger. em. 1019.*

Hipposelinum sive Smyrnium vulgare, *Park. 930.*


Old walls and rocks; biennial; May.

Root fleshy; stem branchy; leaves shining, pale green, bald; petioles dilated, bellied; umbells globular, many-rayed; fruit large, black.—Root and herb carminative, stomachic.
526 309. *Bupleurum. 45. UMBELLIFERÆ. Pl. ex. cal.*

**XLIV. 309. BUPLEURUM. Hippocrates. Thorow-wax.**

*Involucrum 0; involucella 5-leaved, leaves ovate, acute, nearly joined together, unequal, spreading, persisting; calyx 0; petals equal, involute, entire; fruit ovate, ending in a patelliform stylopodium; akenium ovate, oblong, 5-ribbed; ribs acute; valleculæ 2-keeled, not vittated; spermapodium hairlike, 2-parted.*

*Bupleurum rotundifolium. Round-leaved thorow-wax.*

Bupleurum perfoliatum rotundifolium annuum, *Raii Syn. 221, 1.*  
Perfoliata vulgaris, *Ger. em. 536, 1; Park. 580.*  
Bupleurum perfoliatum, *Lamarck Fl. Fr. 405.*  
Thorow-leaf.

Chalky corn-fields; annual; July.

*Stem* branched alternately; *leaves* ovate, pointed, all perfoliated, glaucous, bald; *umbels* axillary and terminal, peduncled, 6 or 7-rayed.

*β. petiolatum. Leaves* oblong and oval; 2 lowermost petiolar, the third lanceolate, oblong, barely perfoliated.

**XLV. 310. AGOSTANA. Lord Bute. Hares-ear.**

*Involucrum* and *involucella* 3 to 5-leaved; *leaves* equal, lanceolate, ribbed, veined; *calyx* denticulated; *petals* equal, ovate, bent in, nicked; *fruit* ovate, rather compressed, crowned; *akenium* ovate, oblong, 5-angled or ribbed, not vittated; angles or ribs and valleculæ covered with warts; commissures unequal, warty, furrowed in the middle; *spermapodium* bristlelike, 2-cut.

1. *Agostana tenuissima.* Very-slender hares-ear.

*Stem* branchy; *leaves* linear, acute; *umbels* simple, alternate, nearly sessile, 3 or 5-flowered; *involucrum* and *involucella* 5-leaved, awlshape.

Bupleurum minimum, *Raii Syn. 221, 1; Park. 587.*  
Agostana tenuissima, *Lord Bute 8, 299.*  
Odonites tenuissima, *Hoffmann Umbell.*

Muddy sea-shores; annual; August and September.

*Stem* branchy at bottom; *branches* upright, spreading, simple; *leaves* narrow at bottom; *umbels* solitary; *involute* longer than the flowers.
Spreading hares-ear.  
Stem branchy; branches divaricating; umbels peduncled, lateral, opposite to the leaves; involucrum 3-leaved; involucella 5-leaved, ovate, acute, 3-ribbed, coloured.

Perfoliata minor angustifolia, bupleuri folio, Bauk. Pin. 277.  
Bupleurum Odontites, Lin. S. P. 342.

Rocks by the sea; annual; July.  
Plant stiff; leaves lanceolate; involucrum 5-ribbed; lateral ribs close together.

XLVI. 311. ERYNGIUM. Dioscorides.  
Eringo.

Flowers sessile, capitate, intermixed with chaffs; calyx 5-parted, persisting; petals oblong; lacinule bent in, fastened at the base; fruit reverse ovate, slightly compressed, truncated, crowned; achenium ovate, slightly angular, covered with membranaceous chaffy scales.

a. Involutrum and chaffs lanceolate.

1. Eryngium campestre.  
Field eringo.  
Stem much branched; root-leaves bipinnate, leaflets decurrent, ovate, variously bent; stem-leaves embracing the stalk, pinnately lobed.

Eryngium vulgare, Rauß Syn. 222, 1.  
Eryngium Mediterraneum, Ger. em. 1162, 2.  
Eryngium Mediterraneum seu campestre, Park. 986.  
Eryngium campestre, Lin. S. P. 337.  
Levant sea-holly.

Pastures by the sea-side; perennial; July and August.  
Leaves pinnatifid, spinous, decurrent; lobes divided, and often pinnatifid.—Root candied, slightly aromatic, eaten as a stimulant and antipestilential.

b. Involutrum like the leaves; chaffs tricuspidate.

2. Eryngium maritimum.  
Sea eringo.  
Root-leaves roundish, plaited, spinous; heads peduncled.

Eryngium maritimum, Rauß Syn. 222, 2; Ger. em. 1162, 1; Park. 986.  
Eryngium maritimum, Lin. S. P. 337.  

Sandy sea-shores; perennial; July and August.  
Root creeping; stem branchy; leaves lobed, ribbed, glaucous, bald; root-leaves petioled; heads conical; corolla blue.  
—Leaves bitter, astringent.
Fam. XI. 46. SAXIFRAGÆ. Jussieu.

Calyx adherent, or rarely free, limb 5-lobed; petals 4 or 5, on the rim of the calyx, alternating with the lobes, rarely 0; stamens inserted with the petals, as many or double the number, opposite and interposed; styles 2, persisting; ovary 1, girt with a gland; capsule 2-beaked, 2-valve, 1 or 2-celled, opening by a terminal pore; valves in the 2-celled capsules bent inwards; seeds on the partitions or base of the capsule; perisperm fleshy; corculum axile, straight; radicle below.—Stem herbaceous; leaves alternate, rarely opposite; inflorescence various.

A. Petals 5, regular, clawed.

Ovary free; filaments roundish, spindle-shape .................. Robertsonia. 312.
Ovary free; filaments dilated at bottom, connate; calyx bent back; petals naked... Hydatica. 313.
Ovary free; filaments dilated at bottom, connate; calyx upright .......... Miscopetalum. 314.
Ovary free; filaments dilated at bottom, connate; petals 2-horned at the base .. Kingstonia. 315.

B. Petals 5, regular, not clawed.

Ovary adherent ..................... Saxifraga. 316.

C. Petals none.

Capsule 2-valved; placentarium basillary.

Chrysosplenium. 317.

I. 312. ROBERTSONIA. Haworth. None-so-pretty.

Calyx free, 5-parted, lobes membranaceous, becoming reflected; corolla 5-petaled, regular; petals clawed; filaments round, slender at bottom, thickened at top, as long as the petals; ovary free; capsule 1-celled, many-seeded, beaked; beaks recurved.—Root perennial; leaves roundish, wedgeshape or oblong; edge cartilaginous, toothed or crenulate; scape solid, leafless, effused, panicked; flowers small, white, sprinkled with red or yellow spots.


Leaves reverse ovate, wedgeshape, stiff, acutely serrate, bald, naked.

Ireland; perennial; May.

*Leaves* narrower, deeper, and more acutely serrated than *R. punctata*.

2. *Robertsonia polita.*

Polished none-so-pretty.

*Leaves* kidneyshape, rounded, finely toothed, naked, polished.


Mountains; perennial; May.


Rough none-so-pretty.

*Leaves* heartshape, oval, retuse, crenated; edge cartilaginous.

*Saxifraga hirsuta, Lin. S. P.*


Mountains of Ireland; perennial; June.

*Herb* large; *leaves* dilated.


Kidneyleaved none-so-pretty.

*Leaves* kidneyshape, toothed, hairy.

*Saxifraga Geum, Lin. S. P.* 576.


Mountains of Ireland; perennial; June.

*Herb* small; *flowers* milkwhite, nearly naked at the base with a purple line and yellow stain.

5. *Robertsonia dentata.*

Toothed none-so-pretty.

*Leaves* kidneyshape, rounded, crenately toothed.


Mountains in Scotland; perennial; May.

*Herb* less hairy than the preceding; *leaves* less finely toothed, small, numerous; *flowers* white spotted with red and yellow.


Shady none-so-pretty.

*Leaves* very bald, reverse ovate, rather retuse, crenate, edge cartilaginous; *petioles* the length of the leaf, fringed with reddish hairs.

*Geum folio subrotundo majori, pistillo floris rubro, Dillen in Raff Syn.*

**355. 3.**

*Sedum montanum serratum guttato flore, Park.* 738.

*Cotyledon, sive Sedum montanum latifolium serratum guttato flore, Park.* 741.

*Saxifraga umbrosa, Lin. S. P.* 574.

*London pride. None-so-pretty.*

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Mountains; perennial; June.
Leaves aggregated, spread, smooth; scape red, hairy, panicked; petals white, spotted with blood-colour and yellow.


Calyx 5-parted; lobes become bent back; petals 5, clawed; filaments threadshape, alternate, enlarged at bottom, connate, shorter than the petals; ovary free; capsule membranaceous, beaked, beaks short, bent back; seeds many, rough with elevated tubercular lines placed lengthways.—Herb perennial; stem branched; leaves crowded, radical, wedge-shape, serrated or not cut; scape panicked; petals white, spotted with yellow.

Hydatica stellaris. Starlike kidney-wort.
Leaves oblong, wedgeshape, rather fleshy, toothed or not cut; petals equal, oblong, pointed.

Geum palustre minus, foliis oblongis crenatis, Rait Syn. 354, 1.

Hairy kidneywort.

Sides of shady alpine rivulets; perennial; June and July. Root tufted; stem rooting, 8 inches high; leaves most hairy on the edge; panicle few-flowered; bracteae lanceolate, or 3-cut; petals with two yellow dots on each end.

β. minor. Stem 1 inch high; scape 1-flowered; flowers large.


Calyx 5-parted, lobes upright; petals 5, equal, crowned; filaments filiform, slender above, dilated at bottom, connate; ovary free; capsule ovate, 1-celled, many-seeded.—Stem leafy; leaves petiolated, roundish, kidneyshape, fleshy, serrated or lobed; flowers white, solitary, or panicked.

Leaves palmately lobed, rather bald; upper leaves uncut; axillae gemmiparous; flowers solitary; petals retuse, very slightly nicked.

Saxifraga cernua, Lin. S. P. 577.

Moist alpine rocks; perennial; July.
Root scaly; stem upright, seldom branched, 1-flowered; upper leaves sessile; flower white, terminal, drooping.
IV. 315. KINGSTONIA. Marsh-saxifrage.

Calyx 5-parted, lobes grow reflected; petals 5, equal, reverse ovate, clawed, with 2 hornlike appendages above the base situated on the 2 outer veins; filaments thread-shape, slender above, dilated at bottom, connate; ovary free; capsule ovate, 1-celled, many-seeded.—Stem leafy; leaves alternate, lanceolate, bald; edge undivided, often fringed; flowers panicled, terminal, yellow.

Dr. Kingstone first found this plant on Knotsford-moor, Cheshire, Dillen in Raui Syn. 355.

Kingstonia guttata. Spotted marsh-saxifrage.

Stem upright; leaves lanceolate, blunt, bald.

Geum angustifolium auctumnale, flore luteo guttato, Dillen in Raui Syn. 355, 2.

Chamaecistus Fricus, Ger. em. 1284, 8.


Turf bogs; perennial; August.

Root fibrous; stem round, hairy, branched at bottom, twigs lying down; panicles 3 or 4-flowered; petals spotted as far as the middle with yellow.

V. 316. SAXIFRAGA. Pliny. Saxifrage.

Calyx adherent, 5-cut, lobes upright; petals 5, slender at bottom; filaments slender at top, dilated at bottom, connate; ovary adherent or semi-adherent; capsule 1-celled, many-seeded.—Habit various, probably containing many natural genera.

a. Stem naked; leaves radical, fleshy, broad, not cut; flowers panicled.


Leaves reverse ovate, crenate, nearly sessile; flowers crowded.

Saxifraga foliis oblongo-rotundatis dentatis, floribus compactis, Raui Syn. 354, 5.

Saxifraga nivalis, Lin. S. P. 573.

Alps; perennial; July.

Roots tufted; leaves broad; scape viscid and hairy above; bracteae lanceolate; petals spotted with green; ovary adherent.
b. Stem leafy; leaves opposite, not cut, leathery, fringed; flowers 1 or 2, terminal, bluish.

Leaves crowded, ovate, fringed; flower solitary, nearly sessile; petals ovate, twice as long as the stamens or styles.
Saxifraga alpina ericoideus, flore caeruleo, Rauj Syn. 353, 1.
Saxifraga oppositifolia, Lin. S. P. 575.
Saxifraga caerulea, Lopey. Saxifr. 36, 16.
Purple saxifrage.
Rocks and alpine places; perennial; April.
Stem prostrate, very long, tufted or pendulous; flower-bearing shoots upright; leaves sometimes slightly alternate, uppermost leaves remote; ovary half-adherent.

c. Stem leafy; leaves not cut, alternate, leathery, fringed; flowers panicked, yellow dotted with red.

Stem prostrate at bottom; root-leaves aggregate; stem-leaves alternate, linear, lanceolate, fringed; calyx 5-cut.
Saxifraga alpina angusto folio, flore luteo guttato, Rauj Syn. 353, 2.
Sedum Alpinum primuni Clusii, Ger. em. 516, 2.
Saxifraga aizoides, Lin. S. P. 576.
Alpine rivulets; perennial; July and August.
Stems aggregated, branched at bottom; leaves sessile, blunt; panicle simple, few-flowered or branched, many-flowered, leafy; petals ligulate; ovary depressed; capsule half-adherent.

Stem-leaves scattered, linear, awlshape, fringed; ciliae teethlike; terminal calyx 4-cut.
Saxifraga aizoides, Lin. S. P. 576.
Alpine places; perennial; August.
Herb smaller, slenderer, and more decumbent than S. autumnalis; leaves rather upright; flowers nearly paniculate; terminal flower 4-petaled; anthers 7.

d. Stem leafy; root-leaves petioled, lobed, herbaceous; flowers panicked, white; ovary half-adherent.

Root granulated; stem nearly racemose; leaves round, kidneyshape, slightly lobed.
Saxifraga rotundifolia alba, Raffi Syn. 354, 6.
Saxifraga alba, Ger. em. 831, l.
Saxifraga alba vulgaris, Park. 424.
Saxifraga granulata, Lin. S. P. 576.

White saxifrage. White stone-break.

Fields and pastures; perennial; May.

*Stem* upright, rather viscid; *leaves* fleshy; stem-leaves sessile; *petals* reverse ovate, white, not spotted.

β. *duplicata.* Flowers double.


*Root* fibrous; *stem* usually 2-flowered; *leaves* petioled, palmate, 3 to 5-lobed, bald; uppermost spatulate, undivided.

*Saxifraga rivularis*, Lin. S. P. 577.

Rivulets in fissures of rocks; perennial; June and July.

*Stem* single, 2 inches high; *flowers* upright, white; *petals* pointed, small.

e. *Stem* upright, leafy; *leaves* palmate, slender at bottom, herbaceous; *flowers* panicled, white; ovary adherent, urn-shaped; *root* annual.

7. Saxifraga tridactylites. Three-fingered saxifrage.

*Stem* upright, branched; *leaves* alternate, wedgeshape, 3 or 5-cut.

*Saxifraga verna annua humilior*, Raffi Syn. 354, 4.
Paronychia rutaceo folio, Ger. em. 624, 2.
Paronychia foliis incisis, Park. 556.
Saxifraga tridactylites, Lin. S. P. 576.
Saxifraga annua, Lapeyr. Sax. 39.

Rue-leaved whitlow-grass.

Dry walls and waste places; annual; May.

*Root* fibrous; *leaves* downy; *panicle* leafy; *petals* ovate, small.

f. *lanceolata.* Stem branched; *upper* stem-leaves opposite, spearshape.

g. *simplex.* Stem simple; *leaves* undivided.

f. Saxifragæ verae. Stem leafy, perennial; *leaves* aggregated at the base in roses, many cut; *petals* sessile.


*Leaves* bald, fringed; *rose-leaves* 7-cut, palmate; bud-leaves very short, upright, 3 or 5-cut; stem-leaves spearshape; *petals* rounded, reverse ovate.

*Saxifraga lanceolata*, Haworth Suppl. Succ. 324.
Scotch mountains; perennial; May.

*Petals* large, much rounded?

9. **Saxifraga pedatifida.** Foot-cut saxifrage.

*Root-leaves* kidneyshape, pedatifid, 7-lobed; *flowers* nearly corymbous; *petals* linear, reverse ovate; *ovary* adherent.


Scotch alps; perennial; May and June.

*Plant* large, in tufts; *flowers* small, numerous, milk-white.

10. **Saxifraga quinquefida.** Five-cut saxifrage.

*Bud-leaves* 5-cut, lobes lanceolate, marked with a longitudinal line.


Scotch alps; perennial; May.

*Buds* nearly upright, covered with white hairs; *rose-leaves* aggregated, 5 to 11-cut; *bud-leaves* scattered, 5-cut, sometimes 3-cut, fleshy, with long petioles, bald, fringed; *stem* flexuose, usually 5-flowered; *bracteae* elliptic, lanceolate, 3-ribbed, bent back; lowermost 3-cut; *flowers* large.

11. **Saxifraga hirta.** Rough saxifrage.

*Bud-leaves* and lower stem-leaves 3-cut, fringed; underneath bald.


Scotch alps; perennial; May.

*Buds* straight, villous; *rose-leaves* 5-cut; *bud-leaves* 3-cut,

12. **Saxifraga laxa.** Weak saxifrage.

*Leaves* hairy, 3 to 5-parted; lobes elliptical, pointed; *buds* ascending; *petals* reverse ovate, triple-ribbed.


Scotch alps; perennial; May and June.

*Herb* weak, viscous, few-flowered; *petioles* broad, long.

13. **Saxifraga palmata.** Palmated saxifrage.

*Rose-leaves* 5 or 7-cut, very hairy; *petals* nearly round.


Scotch alps; perennial; May and June.

*Stem* upright, paniced; *flowers* 5 or 7; *petals* yellowish white, pointed; ribbed; *ovary* half adherent.

17. Saxifraga latifida. Broad-cut saxifrage. Leaves awned, 3 or 5-cut, base long; upper leaves linear, undivided; peduncles very long, naked. Saxifraga latifida, Haworth. Saxifraga elongella, Smith Trans. Lin. Soc. 10. not of Don. Alpine rocks; perennial; May and June. Stem upright; branches very leafy; peduncles flowered; petals reverse ovate, ribbed; ribs branched; ovary adherent.

18. Saxifraga spatulata. Spatula saxifrage. Upper bud-leaves spatular, linear, pointed; lower 2 or 3-pointed; rose-leaves 5-cut. Saxifraga spatulata, Haworth Misc. Nat. 165. Scotch alps; perennial; May. Stem bent, scarcely panicled, downy above; petals broad, reverse ovate, blunt, white, with a triple greenish line.

Saxifraga hypnoides & *Wild. S. P.* 2, 659.

Westmoreland mountains; perennial; May.
*Stem* panicled, bent, leafy, round, downy; *petals* ovate oblong, white, tipped on the outside with rose-colour.

*Bud-leaves* linear, lanceolate, the lowermost very rarely 3-cut; *rose-leaves* often 3-cut.
Mountains; perennial; May.
*Stem* leafy, hardly panicled; *petals* white, reverse ovate, rather imbricated at bottom.

*Bud-leaves* awlshape, half-cylindrical; *rose-leaves* 3-cut.
Mountains; perennial; May.
*Buds* very closely tufted, red, bald; *stem* headed; *petals* orbicular, ovate, imbricated at bottom, white, reddish on the outside of the tip.

*Rose-leaves* aggregated, fleshy, 3 or 5-cut, ribbed underneath; *stem* rather naked, usually 2-flowered.
Saxifraga Greenlandica, *Lin. S. P.*?
Mountains; perennial; June.

*Rose-leaves* aggregated, 3-cut; *scape* slender, nearly upright, few-flowered; *flowers* citron-yellow, nearly sessile.
Saxifraga cespitosa, *Scopoli Carn.* 494.
Mountains; perennial; May.
*Flowers* racemous; *petals* lanceolate, oblong, blunt, nearly yellow.

*Bud-leaves* linear, not divided, fringed, fringe distant; *rose-leaves* often 3-cut; *stem* downy, rather naked; usually 2-flowered.
Mountains; perennial; May.

Stem threadshape, cylindrical, rather stiff, scarcely leafed, usually 2-flowered, downy; flowers yellowish.


Bud-leaves linear, lanceolate, blunt, rather fringed; rose-leaves 3-cut; raceme very leafy, 2 to 6-flowered, downy.


Mountains; perennial; May.

Stem 1 inch high; stem-leaves frequently doubled at the base of the peduncles; bracteae small, threadshape, about the middle of the peduncle.

VI. 317. CHRYSOSPLENIUM. Tabernaemontanus.

Golden-saxifrage.

Calyx adherent, 4 or 5-cut; inside coloured; petals 0; stamens 8 to 10; capsule 1-celled, 2-valved; placentarium basillary.


Leaves alternate.

Saxifraga aurea folis pediculis oblongis insidentibus, Raiti Syn. 158, 2.
Chrysosplenium alternifolium, Lin. S. P. 566.

Shaded springs in bogs; perennial; May.

Herb succulent, brittle; stem leafy at bottom; corymbus terminal, 2-forked, leafy; flowers gold-yellow, mostly 4-cut; central flower 5-cut, decandrous.


Leaves opposite.

Saxifraga aurea, Raiti Syn. 158, 1; Ger. em. 841; Park. 429.
Chrysosplenium oppositifolium, Lin. S. P. 560.


Shaded springs in bogs; perennial; May.

Stem frequently branched; flowers almost always 4-cut, octandrous.
Fam. XII. 47. CRASSULACEÆ.

Calyx free, parted; corolla on the base of the calyx; petals as many as the lobes of the calyx, sometimes soldered; stamens as many as the petals, interposed; or twice as many, interposed and opposite; ovaries distinct, as many as the petals, with a nectariferous scale at the base of each; camares as many as the ovaries, 1-celled, many-seeded; placentarium marginal; perisperm thin, fleshy; corculum straight, axile; radicle below.—Plant herbaceous; leaves opposite or alternate, fleshy or succulent; flowers alternate, spiked, corymbous or cymose.

Petals soldered, tubular at bottom... Umbilicus. 318.
Petals free, very small; stamens 3 or 4... Tillæa. 319.
Petals free; stam. 5 or 7; scales undivided. Sedum. 320.
Petals free; stam. 12; scales nicked. Sempervivum. 321.

I. 318. UMBILICUS.

Calyx 5-cut; corolla tubular; petals 5, soldered at bottom, limb straight, pointed; stamens 10; ovaries 5, small, ovate.—Root tuberous; leaves peltate, crenate; scape mostly simple; flowers spiked.


Flowers hanging down; bractee not cut.

Cotyledon vera radice tuberosa, Raiti Syn. 271, 1.
Umbilicus Veneris, Ger. em. 528.
Umbilicus Veneris vulgaris, Park. 740.
Cotyledon Umbilicus Veneris β, Lin. S. P. 618.
Cotyledon Umbilicus Veneris, Hudson Fl. Angl. 194.
Cotyledon umbilicifolia, Stokes Bot. Mat. Med. 545.
Umbilicus pendulinus, De Candolle Fl. Gall. 3600.

Damp rocks and old walls; perennial; June and July. Root tuberous; stem leafy at bottom; flowers yellowish, green at the mouth; stamens very short.

β. punctatum. Stem spotted; corolla cylindrical, dotted.


Flowers upright; bractee toothed.

Cotyledon radice tuberosa longe repens, Raiti Hist. 1878.
Cotyledon Umbilicus Veneris, Lin. S. P. 615.
Cotyledon Intea, Hudson Fl. Angl. 194.
Cotyledon Lusitanica, Lamarck Encyc. Meth. 2, 14.
Umbilicus erectus, De Candolle Fl. Gall. 3601.
Damp rocks and walls; perennial; June.

Root creeping; stem 18 inches high; flowers yellow; stamens exerted.

II. 319. TILLÆA. Micheli.  Red-shanks.

Calyx 3-parted; petals 3 to 5, awlshape, very small; stamens 3 to 5; ovaries 3; camarae 2-seeded, contracted in the middle.—Root fibrous; leaves perfoliate; flowers solitary.

Tillæa muscosa.  Mossy red-shanks.

Stem procumbent; flowers sessile.

Tillæa muscosa annua perfoliata, flore albo, Micheli Gen. 22.

Barren sandy heaths; annual; May and June.

Stem generally red; leaves blunt, gibbous, bald, reddish; flowers 3, 4, or rarely 5-cut.


Calyx 5, rarely 4, 6, or 7-cut; petals 4 to 7; stamens 8 to 14; ovaries 4 to 7; scales ovate, blunt, not cut; camarae 4 to 7, many-seeded.

a. Rhodiola. Root tuberous; leaves flat; flowers yellow, unisexual.


Leaves wedgeshape, oblong, pointed, serrated towards the end; flowers corymbose, capitate.

Anacampseros radice rosam spirante major, Rail Syn. 269, 2.
Rhodia radix, Ger. em. 532; Park. 727.
Rhodiola rosea, Lin. S. P. 1465.
Sedum roseum, Scopoli Carn. 560.
Rose root.  Rose wort.

Fissure of alpine rocks; perennial; May and June.

Root smells like rose-water; stem simple; leaves sessile; cyme sessile, many-flowered.

b. Telephium. Root tuberous; leaves flat; flowers white, or purple.


Stem upright; leaves alternate, lanceolate, oblong, serrated; corymbus leafy.
Anacampseros vulgo Faba inversa, Ger. em. 518, 2.
Telephium seu Crassula major vulgaris, Park. 726.
Sedum Telephium γ, Lin. S. P. 616.
Sedum Telephium a, Aiton H. Kew. ed. 2, 3, 111.
Anacampseros vulgaris, Haworth Succ. 112.
Common orpine. Live long. Lib long.

Fields and hedges on chalky soils; perennial; August.
Root white; stem 2 feet high, simple; leaves ovate, glaucous, smooth; flowers whitish.—Leaves boiled in milk diuretic.

Stem upright; leaves in three, whirled, oblong, serrate; corymbus terminal.

Sedum Telephium β, Lin. S. P. 616.
Sedum verticillatum, Don Cat. Cant. 6,125.
Anacampseros triphylla, Haworth Succ. 112.

c. Sedum. Leaves round, blunt, loose at bottom; flowers white or bluish.

Stem upright; leaves alternate, oblong, flattish above, downy; peduncle 1-flowered, axillary, downy; petals ovate, bluntish.

Sedum purpureum pratense, Rauí Syn. 270, 4.
Sedum minus palustre, Ger. em. 516, 1.
Sedum arvense, seu palustre flore rubente, Park. 734.
Sedum villosum, Lin. S. P. 620.
Small water seengreen.

Moist meadows and pastures; perennial; June and July.
Root fibrous; stem branched at bottom; upper leaves mostly pubescent; panicle viscid; petals white, with a purple rib; camares rough.

5. Sedum Anglicum. English stone-crop.
Stem weak, slender; leaves mostly alternate, ovate, gibbous, fat; pedicells bald; cyme 2-cut, smooth.

Sedum minimum non acre flore albo, Rauí Syn. 270, 6.
Sedum Anglicum, Hudson Pl. Angl. 196.
Sedum rubens, Lightfoot Fl. Scot. 235.

Mountains and sandy sea-shores; annual.
Stem ascending; leaves rather glaucous; cymes terminal, nearly leafless; calyx blunt, smooth; petals acute; camares smooth.
   Stem weak, downy at top; leaves opposite, ovate, blunt, fat; flowers loosely racemous, glutinous, often 6-petaled.  
   Sedum minus circinato folio, Dillen in Raii Syn. 271, 8.  
   Sedum dasyphyllum, Lin. S. P. 618.  
   Walls and rocks; perennial; June.  
   Stem decumbent, creeping; flowering branches upright; leaves imbricate, glaucous, reddish; panicle few-flowered; calyx pubescent, viscid.  

7. Sedum album.  White stone-crop.  
   Leaves scattered, oblong, roundish, blunt, spreading; cymes much branched, bald.  
   Sedum minus teretifolium album, Dillen in Raii Syn. 271, 7.  
   Sedum minus officinaruin, Ger. em. 512, 2.  
   Vermicularis flore albo, Park. 733.  
   Sedum album, Lin. S. P. 619.  
   Wormgrass.  
   Stem branched, ascending; leaves horizontally spread, rather glaucous; calyx blunt, smooth.  
   d. Leaves round, blunt, loose at bottom; flowers yellow.  

   Leaves alternate, rather ovate, sessile and nearly adnate, fleshy, gibbous, rather upright; cyme 3-cut, leafy.  
   Sedum parvum acre flore luteo, Raii Syn. 270, 5.  
   Vermicularis, sive Illecebra minor acri, Ger. em. 517.  
   Illecebra minor seu Sedum terdum Dioscoridis, Park. 735.  
   Rocks and dry sandy places; perennial; June.  
   Stem tufted, ascending; leaves wedgeshape, bunched out at bottom, free; cyme solitary, few-flowered; calyx blunt, smooth, petals acute; capsule smooth.—Juice very acrid, applied externally it blisters, and is emetic when drank: used as an alternative in scurvy and intermittent fevers.  

   Leaves roundish, spreading, whirled in threes, in the shoots scaly in six rows; cyme 3-cut, leafy.  
   Sedum acre β, Hudson Fl. Angl. 196.  
   Sedum sexangulare, Lin. S. P. 620.  
   Dry sandy places and wall; perennial; June, July.  
   Juice insipid.
e. Aizoon. 

Leaves awlshape, acute, loose at bottom; flowers yellow, cymose.

10. Sedum reflexum. 

Reflected stone-crop. Leaves awlshape, spread, glaucous, crowded; lower reflected; flowers rather cymose.

Sedum minus luteum ramulis reflexis, Rauí Syn.
Aizoon scorpioides, Ger. em. 513, 6.
Vermicularis scorpioides, Park. 733.
Sedum reflexum, Lin. S. P. 618.
Scorpion sengreen.

Walls and rocks; perennial; July. Stem branched at bottom, ascending, 1 foot high; leaves lengthened out at bottom; lower leaves deciduous; calyx bald, deeply divided.—Biting, used in salads along with lettuces.

11. Sedum glaucum. 

Sea-green stone-crop. Stem much branched; leaves awlshape, spread, very glaucous, lengthened at bottom, twigs threadshape; flowers cymose; calyx-lobes lanceolate.

Sedum minus hennatoïdes, Rauí Syn. 669, 1; Ger. em. 512, 1.
Vermicularis et Crassula minor vulgaris, seu Illecebra major, Park. 733.
Sedum reflexum b, Smith Pl. Brit.
Sedum glaucum, Haworth Succ. 116.


Sandy places; perennial; July and August. Branches and twigs long, creeping, 4 inches high.

β. minus. Branches and twigs compact, erect, 2 inches high.

12. Sedum rupestre. 

Rock stone-crop. Leaves awlshape, upright; spread, crowded, glaucous; flowers nearly cymose; petals twice as long as the calyx.

Sedum minus rupe S. Vincentii, Rauí Syn. 270, 3.
Sedum rupestre, Lin. S. P. 618.

Bristol sengreen.

Rocks; perennial; July. Stem 9 inches high; leaves 5-rowed; calyx-lobes rather blunt, glaucous.—Acrid, cultivated on the continent for salad, being eaten with lettuce.


Forster’s stone-crop. Leaves awlshape, spreading, many-rowed, crowded, green; flowers cymose; calyx-lobes short, blunt; petals elliptical.
Pl. ex. cal. 47. CRASSULACEÆ. 320. Sedum. 543

Rocks; perennial; July.
Leaves not glaucous.

IV. 321. SEMPERVIVUM. Pliny. Houseleek.
Calyx 6 to 12-cut; petals 6 to 12; stamens 12 to 24; ovaries 9 to 12, scales ovate, broad, nicked or torn; camarae many-seeded.—Herb perennial, stemless; scape corymbose; radical leaves many-rowed, expanded, imbricate, usually fringed.

Sempervivum tectorum.
Leaves fringed; buds spread open; flowers 6-cut; scales wedgeshaped, carunculated.
Sempervivum majus, Raib Syn. 269, 1; Ger. enm. 51.
Sedum majus vulgare, Park. 733.
Sedum tectorum, Lin. S. P. 664.

Roofs and walls; perennial;
Stem 1 foot high, downy, corymbose; petals lanceolate, connate at bottom, longer than the stamens.—Leaves bruised, either by themselves or with cream, much used as a cooling application to burns; juice mixed with honey used externally against aphthae.

Fam. XIII. 48. PORTULACEÆ. Jussieu.
Calyx cut, persistent; corolla 5-petaled; petals soldered or free, inserted on the calyx; stamens 3 to 5, inserted on the corolla; ovary free or adherent, 1-celled; styles 1 to 3; capsule 1-celled, 2 or 3-valved; seed upright; perisperm farinaceous, central; corculum incurved or annular, peripheral.—Herb fleshy; leaves opposite or alternate; flowers axillary and terminal.

322. MONTIA. Micheli. Blinks.
Calyx 2 or 3-valved; petals 5, soldered, 2 alternate smaller; stamens 3 to 5; styles 3; capsule 3-valved, 3-seeded.
—Leaves opposite; flowers solitary, axillary, and terminal.

Montia fontana. Spring blinks.
Leaves opposite, not divided; flowers on peduncles.
Alisma parva palustris tricoccos portulacæ aquatīcæ similis, Rati Syn. 352, i.
Camēnaria arvensis et minor, Dillen Cat. Gies, 46.
Montia aquatica minor, Micheli Gen. Pl. 18.
Montia fontana, Lin. S. P. 129.
Small water chickweed. Water purslane.

Watery lanes and damp fields; annual; April and May. 

Stem much branched, rooting; leaves spatulate; flowers white, very small; fruit upright.

β. major. Stem 4 inches high, upright.
Montia aquatica major, Micheli Gen. Pl. 18.

Fam. XIV. 49. PARONYCHIDÆ. Paronychiae. St. Hilaire and Jussieu.

Calyx 1-leaf, 5-cut or parted; petals inserted on the calyx, alternating with the lobes, often like scales or barren filaments, sometimes 0; stamens definite, 5, rarely more, or fewer inserted with the corolla; filaments distinct; anthers roundish; ovary free; style 1 and stigma simple, or many, with as many stigmata; fruit capsular, 1-seeded, valveless, opening at the top; or 1-celled, many-seeded, many-valved at the tip; seeds in the 1-seeded fruit often inserted on the side towards the top by an umbilical cord from the bottom of the capsule, in the many-seeded attached to a slightly elevated central receptacle; embryo peripheral, mostly incurved; perisperm farinaceous, central; radicle ascending.

Calyx tubular, neck contracted; stam. 8, 10; petals 0; utricles 1-seeded .......... Scleranthus. 323.
Calyx 5-parted, lobes appendiculate; stam. 2;
petals 5, filiform; utricle 1-seeded .... Illecebrum. 325.
Calyx 5-parted; stam. 5;
pet. 5; equal to the calyx; utricle 1-seeded Corrigiola. 326.
Calyx 5-parted, inside coloured; stam. 5;
pet. 5, threadshape; utricle 1-seeded ... Herniaria. 327.
Calyx pitchershape at bottom; stam. 3;
pet. 5, scalelike, nicked; caps. 3-valved, many-seeded ................. Polycarpum. 328.
Calyx pitchershape at bottom; stam. 5;
pet. 5, equal to the calyx; cap. 6-valved .. Larbrea. 329.
Calyx pitchershape at bottom; stam. 10;
pet. 5, equal to the calyx; cap. 3-valved Adenarium. 324.
A. **Scleranthideæ.** Flowers naked; calyx-lobes simple; leaves sessile, linear, connate at the bottom; stipules 0.

I. 323. **SCLERANTHUS.** Linnaeus.  

*Calyx* tubular, constricted in the neck, limb 5-cut; petals 0; stamens 10, very small; anthers roundish; styles and stigmata 2; capsule very thin, 1-seeded, valveless, sunk in the contracted calyx.—*Stem* herbaceous, small; flowers axillary and rather corymbose, terminal.

1. **Scleranthus perennis.**  

*Stem* procumbent; *calyx-teeth* when in fruit incurved, blunt.  

*Knawel incanum, flore majore perenne,* *Raii Syn.* 160, 2.  

*Saxifraga Anglica alminefolia,* *Ger.* em. 567, 5.  

Chalky fields; perennial; October and November.  

*Herb* glaucous, rather shining, afterwards reddish; *leaves* often downy.—The Polish cochineal insect is found in summer on its roots.

2. **Scleranthus annuus.**  

*Stem* spreading; *calyx-teeth* when in fruit spreading, pointed.  

*Knawel, Raii Syn.* 159, 1.  

*Polygonum selinoides sive Knawel, Ger. em.* 566, 4.  

*Polygonum Germanicum vel Knawel Germanorum,* *Park.* 147.  

*Scleranthus annuus, Lin. S. P.* 580.  

*Parsley piert,* *German Knotgrass.*

Sandy corn-fields; annual; July.  

*Root* fibrous; *stems* branchy above; *calyx* 10-ribbed; *lobes* acute, very spreading.—Steam of the decoction used to cure the toothach.

II. 324. **ADENARIUM.** Rafinesque.  

*Calyx* 5-cut, pitchershape at bottom; petals 5, reverse ovate, not divided; stamens 10; filaments with an ovate gland on each side at the base; ovary 1-celled; ovules many; placentarium central, threadlike; stigmata 3; capsule three-valved, many-seeded.—*Herb* fleshy, bald; *leaves* opposite, sessile; *flowers* from the forks of the stem, sessile, solitary.

*Adenaria marina.*  

*Sea sandwort.*  

*Leaves* ovate, pointed, fleshy, 4-rowed; *calyx-lobes* blunt, ribless.
Adenar.

49. PARONYCHIDÆ. Pl. ex. cal.

Alsine marina foliis portulaceæ, Raui Syn. 351, 12.
Anthyllis lentifolia, sive Alsine cruciata marina, Ger. em. 622, 1.
Anthyllis maritima lentifolia, Park. 262.
Arenaria peploides, Lin. S. P. 605.
Sea pimpernel.

Sandy sea-shores; perennial; June and July.
Root creeping, very long; stem prostrate; leaves recurved, keeled, ribless; flowers small.

B. PARONYCHIDÆ VEÆ. Bracteæ scarious; calyx-lobes with a membranous edge, often hooded at the tip; leaves stipuled.

III. 325. ILLECEBRUM. Dioscor. Creeping-milkwort.

Calyx 5-parted; lobes thickened at the tip; petals 5, threadshape, (barren stamens?) inserted on the bottom of the calyx, alternate with the lobes; stamens 2, fertile, perigynous, opposite to the lobes of the calyx; style very short; stigmata beaded; capsule enclosed in the connivent calyx, first streaked, then opening at the streaks, 1-seeded; seed inserted on the side; corculum scarcely bent, peripherical.
—Stem herbaceous, small, prostrate; stipulae scarious; leaves opposite; flowers glomerate, axillary, whitish.

Illecebrum verticillatum. Whirled creeping-milkwort.
Stem prostrate, threadshape, bald; leaves roundish; flowers whirled, 5-sided, awned.
Corrigiola, Raui Syn. 160, 1.
Polygala repens, Ger. em. 563, 1.
Illecebrum verticillatum, Lin. S. P. 298.
Paronychia verticillata, De Candolle Fl. Gall. 2986.

Damp bogs and pastures; perennial; July.
Root fibrous; leaves not divided, bald, fleshy; stipules torn.

IV. 326. CORRIGIOLA. Erick Cordus. Strapwort.

Calyx 5-parted, persisting; petals 5, as long as the calyx; stamens 5; style short; stigmata 3; capsule 1-seeded, not opening, 3-sided, covered with the calyx; seed inserted at the side; corculum peripherical.—Herb small; leaves alternate, stipule; flowers coloured, small.

Corrigiola littoralis. Shore strapwort.
Flowers peduncled.
Corrigiola littoralis, Lin. S. P. 390.
Sea-shore; annual; July, August.
**Pl. ex. cal. 49. PARONYCHIDEÆ. 326. Corrig. 547**

Root slender; stems many, mostly simple; leaves linear, lanceolate, fleshy, glaucous; thyrse lateral and terminal, bracteated; flowers white.

V. 327. HERNIARIA. Gesner. **Rupturewort.**

_Calyx_ 5-parted, coloured on the inside; _petals_ 5, thread-shape; _stamens_ 5, alternating; _styles_ and _stigmata_ 2; _capsule_ 1-seeded, not opening, closed in the calyx.—_Herb_ small, prostrate; _stem_ branchy; _flowers_ glomerate, axillary.

1. _Herniaria glabra._ **Bald rupturewort.**

_Stem_ much branched, prostrate, creeping, bald; _glomerules_ many-flowered, axillary, bald.

_Herniaria_, _Raii Syn._ 160, 1; _Ger. em._ 569, 1.
_Millegrana major_ seu _Herniaria major_, _Park._ 446.

_Sandy heaths; perennial; July and August._

Root fusiform; _branches_ alternate; _leaves_ ovate; lower leaves opposite; upper alternate; _flowers_ sessile, yellowish green.—_Herb_ diuretic, astringent, tastes rather saltish; juice removes specks on the eyes.

2. _Herniaria hirsuta._ **Hairy strapwort.**

_Stem_ rather hard, very much branched, prostrate, creeping, hirsute; _glomerules_ few-flowered, axillary, hirsute.

_Herniaria hirsuta_, _Dillen in Raii Syn._ 161, 2; _Lin. S. P._ 317.

_Sandy fields; perennial; July and August._

_Stem_ and lower surface of the _leaves_ hirsute; _hairs_ spreading; _calyx_ densely bristled.

VI. 328. POLYCARPON. Dalechamp. **All-seed.**

_Calyx_ pitchershape at the bottom, 5-cut; _petals_ 5, very short, scalelike, nicked, persisting; _stamens_ 3; _ovary_ sub-stipitate; _styles_ and _stigmata_ 3; _capsule_ 1-celled, 3-valved, many-seeded.—_Stem_ herbaceous; _leaves_ opposite or whirled; _flowers_ forked, corymbose, terminal.

_Polycarpon tetraphyllum._ **Four-leaved all-seed.**

_Stem_ much branched, prostrate; _leaves_ 4 in a whirl.

_Anthyllis marina incana alsinefolia_, _Ger. em._ 632, 2.

_Sands and old walls near the sea; annual; July, August._

_Stem_ very much branched, diffuse; _leaves_ rather fleshy, upper leaves opposite; _flowers_ numerous.

2 N 2
C. Bracteae scarious; calyx-lobes with a membranaceous edge; leaves not stipuled.

VII. 329. LARBREA. St. Hilaire.

Calyx 5-cut, pitchershape at bottom; petals 5, perigynous, 2-cut; stamens 10, perigynous; ovary 1-celled; ovules many; placentarium central, threadshape; stigmata 3, 4, or 5; capsule 6-valved at the tip.—Plant herbaceous, decumbent; stem 4-angular; leaves opposite; peduncles axillary and terminal, 2 or 3-flowered; bracteae 2 to each flower.

Larbrea aquatica. Water larbrea.

Stem decumbent; leaves elliptical, lanceolate, callous at the tip; peduncles mostly in pairs, 1 or many-flowered; petals shorter than the calyx.

Alsine longifolia uliginosa proveniens locis, Raii Syn. 347, 7.
Alsine fontana, Ger. om. 613, 8.
Stellaria aquatica, Pollich 1, 429.
Stellaria Alsine, Hoffm. Fl. Germ.
Stellaria uliginosa, Villars Delph.
Stellaria graminea 8, Hudson Fl. Angl. 190.
Stellaria hypericifolia, Vigers Holst. 34.
Stellaria Dilteniania, Leers, 107.
Stellaria fontana, Jacquin Coll. 6, 327.
Larbrea aquatica, St. Hilaire, Mem. Mus. 3.
Fountain Chickweed. Bog stitchwort.

Rivulets and inundations; annual; June.

Stem weak; leaves many-veined, glaucous.

Fam. XV. 50. GROSSULARIÆ. Jussieu.

Calyx adherent, 5-cut; petals 5; stamens 5, inserted on the calyx; style 2-cut; stigmata 2; berry globose, 1-celled; placentaria 2, parietal, opposite; seeds many; corculum straight, very small, at the base of the fleshy perisperm.—Plant shrubby; leaves alternate, palmately ribbed, 5-lobed.


Calyx 5-cut; petals 5; stamens 5; berry globular, one-celled.

a. Ribes. Stem not armed; flowers racemose; fruit small.


Stem upright, unarmed; leaves bluntly 5-lobed; racemes pendulous, bald; flowers flat; petals reverse-heartshape.
Ribes vulgaris fructu rubro, Rall Synt. 456, 1; Ger. em. 1593, 1.
Ribes fructu rubro, Park. 1561.
Ribes rubrum, Lin. S. P. 290.
Common currant. Garnet berries.

Woods and sides of rivers, also cultivated; shrubby; May.
Branches bald; leaves slightly downy; racemes simple; bracteae ovate, very short; berry red, when cultivated sometimes white, acid.—Berries an agreeable dessert; juice of the berries a pleasant acid, with sugar make a fine wine.

β. dulce. Fruit sweet.
Ribes vulgaris fructu dulci, Rall Synt. 456, 1 *.
Sweet currants.

γ. parvum. Fruit small.
Ribes fructu parvo, Dillen in Rall Synt. 456, 3.

Stem upright, unarmed; leaves shining beneath; racemes upright; bracteae longer than the flowers.
Ribes alpinus dulcis, Rall Synt. 456, 2.
Ribes alpinum, Lin. S. P. 291.
Sweet mountain currants.

Woods and hedges; shrubby; April and May.
Leaves 3-lobed; racemes upright; flowers yellowish green; bracteae lanceolate; berry elliptical, mucilaginous.

β. dioicum. Plants dioicous.

Stem upright, unarmed; leaves acutely lobed, cut, toothed; racemes rather hairy, upright; flowers flatish; petals blunt; bracteae shorter than the flowers.
Mountains; shrubby; May.
Leaves 5-lobed, nappy beneath; bracteae ovate; pedicells short; racemes when in fruit pendulous; berry globular.

β. spicatum. Flowers rather spiked; spike when in fruit upright.
Ribes spicatum, Robson Lin. Trans. 3, 240.

Stem upright, unarmed; leaves with glandular dots beneath; racemes weak, hairy, hanging down, simple at bottom; flowers bellshape; bracteae shorter than the pedicell.
Ribes nigrum vulgo dictum, folio olenfe, Rail Syn. 456, 4.
Ribes fructu nigro, Ger. em. 1593, 3; Park. 1562.
Quinsey berries.

Woods and dunghills; shrubby; May.

Berry black; leaves odorous, unpleasant.—Roots in infusion useful in eruptive fevers, and the dysentery of cattle; leaves when young tinge malt spirits to resemble brandy; berries have to most a disagreeable flavour, the juice of them made by boiling with a little sugar into a robb, or soft extract, much used in inflammatory sore throat, or the quinsey.

b. polyandrum. Stamens more than 5, some or all of the petals being changed into stamens.

b. Grossulariæ. Stem prickly; peduncles few-flowered.

5. Ribes spinosum. Thorny currant.
Branches prickly; leaves roundly lobed; petioles hairy; peduncles 1 or 2-flowered.

Uva crispa, Ger. em. 1924, 1.
Uva crispa, sive Grossularia sylvestris, Park. 1560.

Woods and hedges, also cultivated; shrubby; April.

Stem branchy; spines 1 to 3 together, under the petioles; leaves downy; bractæ 2 or 3 on each peduncle, fringed; berry hanging, varying in colour, hairy; hairs capitated.—Berry a wholesome fruit, either raw, or dressed; seeds have been used for coffee; juice of the fruit with sugar make a sparkling wine like champagne, or a good vinegar.

b. glabrum. Berry bald; bractæ connate, tubular.

Ribes uva crispa, Lin. S. P. 292.
Smooth gooseberries.

Fam. XVI. 51. CUCURBITACEÆ.

Flowers mostly unisexual; calyx adherent to the ovary, contracted above, dilated into a 5-cut limb; corolla bell-shape, on the top of the ovary, 5-lobed, withering, persistent. Male, Stamens 3 to 5, on the contraction of the calyx; filaments often jointed; anthers 1-celled, on the tip of the filament, flexuous, often in 2 pairs and the 5th solitary; ovary abortive. Fem. Stamens abortive; ovary adherent; styles and stigmata many; berry or pepo 1 or many-celled, many-seeded, bark woody; seeds horizontal, on the
inner angles of the dissepiments; perisperm 0; corculum straight; cotyledons large, flat.—*Herb* twining, mostly rough; leaves petioled, alternate, nearly orbicular; tendrils axillary; peduncles axillary, jointed in the middle.

Fruit a berry .............................. *Bryonia* 331.
Fruit a pepo; seeds sharp-edged ...... *Cucumis* 332.
Fruit a pepo; seeds swelling at the edge. *Cucurbita* 333.

*Plant* monoicous or dioicous; *corolla* obtusely 5-cut.—
**MALE.** Stamens 3, 2 of which are joined at the base.—**FEM.** Styles 3-cut; berry globose.

*Bryonia ruderalis.*
Leaves heartshape, palmate, 5-lobed, callous, rough; flowers racemose, dioicous, fruit red.

*Bryonia alba.* *Rau.* Sgn. 261, 1; *Ger. em.* 869; *Lin. S. P.* 1438.
*Bryonia alba vulgaris,* *Park.* 178.
*Bryonia dioica,* *Jacquin Austr.* 199.
*Bryonia ruderalis,* *Salth.* Prod. 158.
White bryony. *Bryony.* Tetter berry.

Woods and hedges; perennial; May to September.
Root extremely large; stem slender, climbing; tendrils very long; leaves angular; peduncles axillary, few-flowered; *corolla* whitish.—Root acrid, purgative, in doses of one dram, or an infusion of half an ounce.

II. 332. *CUCUMIS*. Pliny.
*Cucumber.*
*Plant* monoicous; calyx lobes awlshape; *corolla* bellshape.
—**MALE.** Filaments 3, 2 joined at the base; anthers soldered.
—**FEM.** Filaments 3, without anthers; *style* 1; stigmata 3, 2-parted; *pepo* large, 3-locular, cells parted; *seeds* ovate, compressed; edge acute.

1. *Cucumis sativus.* 
Leaves angular, angles acute, straight; fruit oblong, rough.

*Cucumis vulgaris,* *Ger. em.* 910, 1.
*Cucumis sativus,* *Park.* 772; *Lin. S. P.* 1437.

Cultivated; annual; February to July.
Fruit has many varieties in the gardens, cooling, but very slightly nutritive, the small sort used as a pickle; juice of the fruit with salt and Cayenne pepper used as a sauce.
2. *Cucumis moschatus*. Musky cucumber. Leaves with rounded angles; fruit rather warty; skin reticulated.

Melo, *Ger. em. 917*, 1 to 3; *Park. Par. 527.*


*Cucumis*. Cultivated; annual; April to July. Fruit has many varieties in the gardens; it has a peculiar smell and flavour liked by some and as strongly disliked by others; eaten with wine and sugar, or with salt and pepper, as one of the highest luxuries, especially when fresh gathered, by those who relish it.

III. 333. **Cucurbita**. Pliny. Gourd. Plant monoicous; calyx-lobes awlshape; corolla bell-shape.—Male. Filaments 3, 2 soldered together at bottom; anthers soldered.—Female. Filaments 3, without anthers, soldered beneath into a rather thick ring; style short; stig mata 3, thickened; *pepo* large, 3-locular, cells parted; seeds ovate, compressed; edge swelled; tip sometimes nicked.

*Cucurbita esculenta*. Eatable gourd. Flowers bellshape, narrow at bottom; limb upright.


Cultivated; annual; August. Fruit very large, weighing sometimes 20 lb.; flesh of the fruit boiled in milk, or baked in a pie, used as food.

Fam. XVII. 52. **Salicariæ**. Jussieu.

*Calyx* free, tubular, persisting; petals 4 to 6, on the top of the calyx, rarely 0; stamens as many, or twice as many as the lobes; ovary simple; style 1; capsule enclosed in the calyx, 2-celled; placentarium columnar, central; seeds many, smooth; perisperm very thin; corculum straight, central; radicle below.—Plant herbaceous; leaves often opposite.

*Calyx* 6-toothed; pet. 6; caps. 2-valved *Lythrum*. 334. *Calyx* 12-toothed; pet. 6 or 0; caps. valveless ..................... *Portula*. 335.

Calyx cylindrical, striated, 6 or 12-toothed; petals 6, rarely 4 or 5; stamens 6 or 12; capsule oblong, 2-celled, 2-valved; valves sometimes 2-cut at the tip.

a. Salicariae. Leaves opposite; stamens 12, alternately smaller.

1. Lythrum spicatum. Spiked willow-herb.

Leaves opposite, heartshape, lanceolate, downy beneath; flowers spiked.

Salicaria vulgaris purpurea foliis oblongis, Raui Syn. 367, 1.

Lysimachia purpurea spicata, Ger. cm. 476, 3; Park 546.

Lythrum Salicaria, Lin. S. P. 610.

Loosestrife. Purple loosestrife.

Bogs and river-sides; perennial; July and August.

Stem 2 feet high, stiff, angular; leaves opposite, or in whirs of 3 or 4, bald above; flowers spiked in whirs; corolla purple.—Used in dysentery, and in obstinate diarrhoeas.

b. Leaves alternate; stamens 6.


Leaves alternate, linear; flowers axillary, solitary, 6-petaled.

Salicaria hyssopi folio latiore et angustiore, Raui Syn. 367, 2.

Gratiola angustifolia, Ger. cm. 581.

Gratiola angustifolia seu minor, Park. 220.

Lythrum Hyssopifolium, Lin. S. P. 642.

Lythrum hyssopifolium, Sibthorp Fl. Ox. 149.

Grass poly. Small hedge hyssop.

Watery places; annual; August.

Root simple; stem branchy at bottom; leaves bald; lower leaves sometimes opposite; flowers rarely 5-cut, pentandrous.

II. 335. PORTULA. Dillenius. Water-purslane.

Calyx bellshape, 12-toothed, teeth alternately shorter; petals 6, sometimes 0; stamens 6; capsule globular, 2-celled, not opening, many-seeded.

Portula palustris. Marsh water-purslane.

Leaves opposite, peltioled, roundish, ovate; flowers axillary, solitary, mostly without petals.

Portula, Raui Syn. 368, 1.

Alsine rotundifolia seu Portulaca aquatica, Ger. cm. 614, 11.

Alsine aquatica minor folio oblongo, seu Portulaca aquatica, Park. 1260.

Peplis Portula, Lin. S. P. 474.
Bogs and damp heaths; annual; July and August.

Stem prostrate, simple; leaves opposite, blunt, bald; flowers sessile.

Fam. XVIII. 53. TAMARICINÆ. Tamariscineæ, Desvaux.

Calyx free, divided at the tip, persistent; petals 5, on the calyx, alternating with the calyx-lobes; stamens 5 to 10, free or monadelphious; ovary free, 1-celled, 3-valved; placentarium parietal; ovules many, erect or ascending; seeds many, comose; perisperm 0; corculum straight, upright; radicle below.

336. TAMARIX. Pliny.

Calyx 5-parted; petals 5; stamens 5; filaments thread-shape, distinct; style short, 3-lobed; stigmata 3, oblique, 2-furrowed; ovules upright. — Leaves imbricate, rather fleshy; flowers spiked, lateral, bracteate; bracteæ lanceolate.

Tamarix Gallica. French tamarisk.

Leaves lanceolate, embracing the stem, imbricate.

Tamariscus Narbonensis, Ger. em. 1378, 1.

Tamariscus folio tenuiore, Park. 1479; description.

Myrica seu Tamariscus, Park. 1472, 1; figure.

Rocks and pastures near the sea; shrubby; July.

Twigs drooping, red, shining; leaves smooth; flowers flesh-coloured.

Fam. XIX. 54. CERATOPHYLLÆ.

Flowers unisexual; calyx many-parted, free; corolla 0.

— Male. Stamens 14 to 20; anthers 3-cuspidate. — Fem. Ovary free, compressed, 1-celled; stigma sessile, oblique; nut 1-celled, 1-seeded, leatherlike; seed pendulous; perisperm 0; corculum straight; cotyledons 4, 2 larger, opposite; radicle above; plumula conspicuous, very compound.

— Plant herbaceous, aquatic; leaves in whirs, lobed; flowers axillary, solitary.

337. CERATOPHYLLUM. Linnaeus. Hornwort.

No other genus in this family.


Leaves two-forked, two-paired; fruits 3-spined.
Hydroceratophyllum folio aspero, quatuor cornibus armato, **Raii Syn.** 135, 1.

**Ceratophyllum demersum**, Lin. S. P. 1409.
**Ceratophyllum cornutum**, Richard Mem. Mus.

Ditches and ponds; perennial; August and September. *Herb* floating under the surface; *stem* branchy; *leaves* in whills of 8, back-toothed, spinulose.

2. **Ceratophyllum verrucosum.** *Warty hornwort.*

*Leaves* forked; three-paired; *fruit* unarmed, warty.

Hydroceratophyllum folio levi, octo cornibus armato, **Dillen in Raii Syn.** 135, 2.

**Ceratophyllum submersum**, Lin. S. P. 1409.
**Ceratophyllum demersum**, Hudson Fl. Angl. 419.
**Ceratophyllum verrucosum**, Richard Mem. Mus.

Ditches; perennial; September.

*Leaves* more numerous than in **C. cornutum**; *calyx*-lobes toothed at the tip.

Fam. XX. 55. **HALORAGÆ.** R. Brown.

*Flowers* hermaphrodite, or unisexual; *calyx* adherent, leaved, or very small; corolla 2 or 4-petaled, or 0.—**MALE. Stamens** 1 or 8.—**FEM. Styles** 1 or 2; *ovary* adherent, 1 or 4-celled; *ovule* 1 in each cell, pendulous from the top of the cell; *perisperm* 0, or very thin, fleshy; *corculum* straight; *radicle* above, longer than the cotyledons.—**Plant** herbaceous, aquatic; *leaves* opposite, or whirled; *flowers* axillary, solitary.

**Stamen** 1; *ovary* 4-celled ......... **CALLITRICE. 338.**
**Stamen** 1; *ovary* 1-celled ......... **HIPPIRIS. 339.**
**Stamens** 8; *ovary* 4-celled ...... **MYRIOPHYLLUM. 340.**


Monoicous or hermaphrodite; *calyx* 0; *petals* 0.—**MALE. Stamen** 1, exserted.—**FEM. Styles** 2; *ovary* 4-celled; *cells* 1-seeded, compressed, orbicular, margined; *perisperm* fleshy, thin. — *Leaves* opposite, upper leaves generally crowded; *bractea* 2 to each flower, coloured.

1. **Callitriche pallens.** *Pale water-starwort.*

*Upper leaves* aggregate; *fruit* scarcely margined.

**Stellaria**, **Raii Syn.** 289, 1.
**Callitriche aquatica**, Hudson Fl. Angl. 439.

Ditches and ponds; annual; April to October.

*Leaves* all reverse ovate.
β. *intermedia*. Lower stem-leaves and branch-leaves linear, 2-nicked at the tip.

Callitriche autumnalis, Schkuhr *Bot. Handb.* 1, 8.

γ. *caespitosa*. Leaves linear, rather obtuse; stem lying on the ground.

Stellaria minor et repens, *Rail Syn.* 289, 1?
Lenticula aquatica bifolia Neapolitana, *Park.* 1863?

Sandy places, dried up ponds.


Leaves uniform, equidistant; fruit membranaceously winged.

Stellaria aquatica foliis longis, tenuissimis, *Rail Syn.* 290, 3.

Ponds and ditches; annual; April to October.

*Plant* sunk; leaves linear, nicked; flowers all hermaphrodite.


*Flowers* hermaphrodite; calyx not divided, very small; corolla 0; stamen 1; style in the furrow of the anther; ovary 1-celled, crowned with the calyx and style; perisperm fleshy, thin.—*Stem* simple; leaves in whirled, linear; flowers axillary, solitary, whirled.

**Hippuris vulgaris.** Common mares-tail.

Leaves in whirled of 10 or 12, linear, pointed.

**Limnopeuce**, *Rail Syn.* 136, 1.
Female horse-tail.

Rills and stagnant waters; perennial; May.

*Root* fibrous; *stem* erect, jointed, leafy above; leaves spreading, not in the least cut; flowers sessile.

β. *demersa*. Leaves very long, pellucid, pale, slender.

**Limnopeuce** q. *Equisetum palustre linaria scoparia folio, Dillen in Rail Syn.* 136, 1*.

Plant monoicous; calyx 4-parted.—Male. Stamens 8.—Fem. Ovary 4-celled; stigmata sessile, four-toothed. —Leaves whirled, many-parted, lobes linear; flowers axillary, spiky; upper flowers male; lower female.

Leaves 4 in a whirl; male flowers interruptedly spiky, leafless; female flowers axillary; stigmata villous.

Potamogiton folis pennatis, Rau Syn. 150, 17.
Millefolium aquaticum pennatum spicatum, Park. 1257.
Myriophyllum spicatum, Lin. 8. P. 1409.
Feathered pond-weed.

Ditches and ponds; perennial; July and August.
Herb floating; stem branched, comb-like; spike single; bracteae ovate, not cut, 4 to each whirl; male flower reddish.

b. minus. Plant small.

Potamogiton q. Millefolium aquaticum pennatum minus, foliolis singularibus latiusculis flosculis subjectis donatum, Dillen in Rau Syn. 151, 18.

Leaves 5 in a whirl; flowers all axillary, whirled; stigmata thick, feathered at the tip.

Pentapterophyllon aquaticum flosculis ad foliorum nodos, Rau Syn. 316, 1.
Millefolium aquaticum minus, Ger. em. 217, 6; Park. 1257.
Myriophyllum verticillatum, Lin. S. P. 1410.

Ditches and ponds; perennial; July.
Herb floating; twigs upright, leaved to the top; upper leaves smallest; flowers rarely hermaphroditic.

Fam. XXI. 56. ONAGRARIE. Jussieu.

Calyx adherent, 2 or 4-parted; petals 2 or 4, on the top of the calyx; stamens 2, 4, or 8, alternating with the petals; style 1; stigmata 2 or 4; ovary 2 or 4-celled; ovules many, on a central placentarium, or 1 at the bottom of each cell; perisperm 0, or very thin; corculum straight, central; radicle below.—Plant herbaceous; leaves alternate or opposite; flowers racemose or axillary.

Stamens 2; petals 2; carcerule 2-seeded Circaea. 341.
Stam. 8; petals 4, upright, regular; capsule 4-celled; seeds naked ........ Cenothera. 342.
Stam. 8, declining; pet. 4, irregular; capsule 4-celled; seeds comose ...... Chamäneriom. 543.
Stam. 8, upright; pet. 4, regular; capsule 4-celled; seeds comose ......... Epilobium. 344.
A. Corolla 2-petaled; stamens 2, interposed; carcerule 2-celled, 2-seeded; seeds upright.

Calyx short, discoid, 2-parted; petals 2, 2-cut; stamens 2; filaments clubshape; style clubshape, 2-glandular at the bottom; carcerule pearshaped, 2-celled, 2-seeded, hairy; hairs scaly.—Leaves opposite, petioled; flowers racemous, becoming deflected.

Stem upright, hirsute; racemes many; leaves ovate, toothed, downy.

Stem upright, simple, bald; racemes solitary; leaves heartshape, toothed, pointed, bald; capsule ovate, globose.

Stem very branchy, ascending; leaves heartshape, serrate, pale, shining, bald; calyx membranaceous.

Shady places, dunghills; perennial; June and July.
Root creeping; stem slightly branched; leaves dark green; calyx leathery.

Shady places, damp woods; perennial; July and August. Stem like that of C. ovalifolia; leaves pale, serrated or toothed; petiole membranaceous, angled.

Shady mountainous situations; perennial; July?
Stem diffused at bottom; joints red; leaves pale green; petiole membranaceous, angled; racemes many, terminal and axillary.
B. Corolla 4-petaled; stamens 8, opposite and interposed; capsule 4-celled, 4-valved; placentarium central; seeds many.

II. 342. CENOTHERA. Theophrast. Evening-primrose.

Calyx long; limb 4-parted, deciduous; petals 4; stamens 8; pollen viscous; style 1; stig mata 4; capsule long, bluntly 4-sided, 4-celled, 4-valved, many-seeded; placentarium 4-sided; seeds naked.

CEnothera biennis. Biennial evening-primrose.

Stem muricatedly villous; leaves ovate, lanceolate, flat; stamens shorter than the corolla; capsule conical, rather swelled below.


Tree primrose.

Sandy places, naturalized; biennial; July to November. Stem 3 feet high; flowers yellow, very large, open in the evening.


Calyx long, bent upwards, deciduous; petals 4, unequal; stamens 8, declining; pollen not viscous; stigmata 4, revolute; capsule long, bluntly 4-sided, 4-celled, 4-valved; placentarium 4-sided; seeds many, comose.—Leaves lanceolate, sessile; flowers spiked, large, reddish.

Chamænerion spicatum. Spiked Persian-willow.

Leaves scattered, linear, lanceolate, not cut, veined, bald; peduncles in the axille of the bracteae; spike pyramidal.


Chamænerion flore Delphinii, Park. Par. 270.

Epilobium angustifolium, Lin. S. P. 492.


Fields and hedges; perennial; July.

Root erect; stem 3 feet high, upright, branched above; spike leafless; flowers alternate, purple or white; ovary woolly; stamens and pistils move regularly during impregnation; pollen blue.—Suckers of the root eatable; herb in infusion fermentible and intoxicating; down of the seed mixed with cotton may be manufactured.
IV. 344. EPILOBIUM. Gesner. Willow-herb.
Calyx long, limb 4-parted, deciduous; petals 4, equal; stamens 8, upright; pollen not viscid; capsule long, bluntly 4-sided, 4-celled, 4-valved; placentarium 4-sided; seeds many, comose.—Leaves lanceolate, mostly sessile; lower opposite; upper mostly alternate; flowers reddish; racemes mostly leafy.

a. Style clubshape; stigmata 4, revolute.

Root creeping; stem much branched, hirsute; leaves half-embracing the stem, lanceolate, serrate, rather bald; veins hairy.
Lysimachia siliquosa hirsuta magno flore, Rait Syn. 311, 2.
Lysimachia siliquosa, Ger. em. 476, 6.
Epilobium hirsutum, Lin. S. P. 494.
Epilobium ramosum, Hudson Fl. Angl. 162.
Coded willow-herb. Codlings and Cream.
Watery places and holts; perennial; July.
Roots stoloniferous; stem upright, hairy, hairs pinnate; petals larger than the calyx, rose-colour.—Shoots when quite fresh gathered have a transitory fragrance resembling scalded codlings, which vanishes in a few minutes.

2. Epilobium parviflorum. Smallflowered willow-herb.
Root fibrous; stem nearly simple, villous; leaves sessile, alternate, lanceolate, toothed, downy on both sides; down soft.
Lysimachia siliquosa hirsuta parvo flore, Rait Syn. 311, 3.
Lysimachia sylvatica, Ger. em. 479, 8.
Lysimachia siliquosa sylvestris hirsuta, Park. 549.
Epilobium villosum, Curtis Fl. Lond.
Epilobium molle, Lanarck Encycl. Meth. 2.
Epilobium pubescens, Roth Germ. 2, 435.
Watery places; perennial; July.
Stem densely woolly, slightly branched above; leaves toothed; flowers small.

Stem round; leaves ovate, lanceolate, toothed, bald, veins woolly; petioles short.
Lysimachia campestris, Rait Syn. 311, 4; Ger. em. 478, 11.
Lysimachia siliquosa major, Park. 548.
Epilobium montanum, Lin. S. P. 494.
Woods, rocks, and walls; perennial; July.
*Stem* upright, mostly simple; *lower leaves* opposite; *upper leaves* alternate, slender; *flowers* purple, small.

**b. Style undivided; stigma 1.**

*Stem* 4-sided, rather bald; *leaves* lanceolate, bald, toothed; *lowermost leaves* opposite; *style* clubshape, undivided.

*Lysimachia siliquosa glabra media sive minor, Rau Syn. 311, 5.*

*Epilobium tetragonum, Lin. S. P. 494.*

Bogs and ditches; perennial; July.
*Stem* upright, branchy, rather bald; *leaves* nearly lanceolate.

*Stem* round, upright, rather hirsute; *leaves* lanceolate, not cut, bald; *style* linear, undivided; *ovary* pubescent.

*Lysimachia siliquosa glabra minor angustifolia, Raui Syn. 311, 6; Ger. em. 479.*

*Epilobium palustre, Lin. S. P. 496.*

Bogs and ditches; perennial; July.
*Stem* branched; *leaves* sessile, half stem-clasping, rarely toothed.

*Root* creeping; *stem* decumbent, 4-sided; *leaves* petioled, ovate, acute, toothed; *style* clubshape, undivided.

*Lysimachia siliquosa glabra minor latifolia, Rau Syn. 311, 7.*

*Epilobium montanum S. Willd. S. P. 2, 316.*

*Epilobium alsinefolium, Villars Delph. 3, 511.*

Mountainous places; perennial; July.
*Roots* tufted; *flowers* rose-colour.

*Root* creeping; *stem* decumbent at bottom, rather 4-sided; *leaves* elliptical, lanceolate, blunt, slightly toothed, bald, rather shining; *racemes* 3 or 4-flowered; *style* clubshape, undivided.

*Epilobium alpinum, Lin. S. P. 495.*

Alpine rivulets; perennial; June and July.
*Stem* 9 inches high, simple; *petioles* short; *flowers* small; *ovary* almost bald.

**VOL. II.**

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Fam. XXII. 57. POMACEÆ. Rosacearum Sectio, Jussieu.

Calyx adherent, persistent; limb 5-cut; petals 5, on the calyx; stamens indefinite, about 20, on the calyx below the petals; ovary simple, adherent to the ovary; ovules ascending, in the inner angle of the cells; styles many; fruit a pome, umbilicated, crowned, many-celled; perisperm 0, or very thin, fleshy; corculum straight; radicle below.—Stem woody, arborescent; leaves alternate, simple or pinnate; flowers complete, hermaphrodite.

Pome 5-celled; cells cartilaginous, 2-seeded; seed ascending ....................... Pyrus. 345.

Pome 5-celled; cells cartilaginous, 2-seeded; seed peritropal ........................ Crataegus. 346.

Pome 5-celled; cells bony, 2-seeded; seed ascending ....................... Mespilus. 347.

I. 345. PYRUS. Pliny.

Calyx 5-cut; petals 5-cut; styles 5; pome spherical, 5-celled; cells cartilaginous, 2-seeded; seed ascending.

a. Malus. Leaves ovate, simple; stipules linear; corolla reddish; styles joined at bottom; pome globular, umbilicated shorter than the limb of the calyx.

1. Pyrus sylvestris. Wild pear.

Leaves ovate, acute, serrated, bald; umbell simple, sessile; corolla-claws shorter than the limb of the calyx.

Malus sylvestris, Raui Syn. 452, 2; Ger. em. 1461, 1; Park. 1502.


Malus communis, De Candolle Fl. Gall. 3678.

Crab-tree. Wilding.

Woods and hedges; arborescent; May.

Leaves when young downy beneath; stipules linear; umbels terminal; fruit acid, acerb, the size of a chestnut; styles bald.—Wood hard, takes a good polish; bark dyes yellow, juice of the fruit called verjuice, very acerb, astringent, repellent, and useful in sprains.

b. sativa. Leaves villous underneath; fruit more or less sweet; style villous.

Malus sativa, Raui Syn. 451, 1; Ger. em. 1459.

Pyrus Malus, & to 5, Lin. S. P. 686.

Apple-tree.

Cultivated in numerous variations; arborescent; May.
Leaves slightly wrinkled, unequally serrate, mostly reverse ovate, oval.—Fruit excellent, either raw or dressed; juice fermented yields cider, a good cooling drink.

b. Corolla white; styles free at bottom; pome top-shape, umbilicated at the top.

Leaves ovate, serrated; peduncles corymbose.
Pyaster seu Pyrus communis, Raui Syn. 452, 1.
Pyrus sylvestris, Ger. em. 1458.
Pyrus communis, Lin. S. P. 688.
Pyrus Achras, Gartner Fr. et Sem. 2, 44.

Woods and hedges; arborescent; April.
Tree upright; branches dependent, spinous; leaves blunt, when young covered with a deciduous down; stipules linear; corymbus villous.—Wood light, smooth, compact, easily cut and turned; fruit austere.

β. inermis. Branches without spines.
Pyrus sativa, Raui Syn. 452, 1; Ger. em. 1455.
Cultivated in numerous varieties.
Fruit sweet, nutritive; juice of the fruit fermented forms perry, which comes nearer the taste of grape wine than cider does, and is mostly used to mix with wines.

c. Sorbus. Leaves pinnate, styles 3.

Leaves pinnate, leaflets oblong, slightly petioled, equally serrated, bald on both sides, when young downy beneath; flowers corymbose; styles mostly 3.

Sorbus sylvestris foliis domesticis similis, Raui Syn. 452, 2.
Sorbus sylvestris, sive Fraxinus bubula, Ger. em. 1473.
Ornus, sive Fraxinus sylvestris, Park. 1419.
Sorbus aucuparia, Lin. S. P. 683.
Mespilus aucuparia, Scopoli Carn. 598.
Pyrus aucuparia, Gartner Fr. et Sem. 2, 45.

Mountainous woods, and hedges; arborescent; May.
Leaves pinnate with a terminal leaflet, stipuled; corymbus terminal, much branched; pome the size of a pea, scarlet, acid; seeds 2 in each cell.—Wood solid, soft, tough, used to prevent witchcraft and enchantment by a piece being carried about a person, or by small cattle being driven through a hoop made of it; berries dried and powdered
nutritive, and being infused in water yield an acidulous kind of perry; the berries are also used as a bait for redwings and fieldfares.

4. Pyrus domestica.  
Household pear.
Leaves pinnate; leaflets equal, ovate, oblong, edge contiguous to the main petiole, upper part serrated, villous beneath; flowers panicked.

Sorbus, Rait Syn. 452, 1; Ger. em. 1471, 1.
Sorbus legitima, Park. 1420.
Sorbus domestica, Lin. S. P. 684.
Pyrus Sorbus, Gärtner Fr. et Sem. 2, 45.

Mountainous woods; arborescent; May.
Leaves pinnate with a terminal leaflet; hairs deciduous; flowers white; styles 5; pome reverse ovate, reddish. — Fruit when ripe astringent.

5. Pyrus pinnatifida.  
Pinnat'ifid pear.
Leaves pinnatifid, inclining to pinnate, downy beneath; flowers corymbose.

Sorbus hybrida, Lin. S. P. 684.
Sorbus pinnatifida, Ehrat/Herb.

Mountains, and cultivated; arborescent; May.
Leaves lobed above, pinnate at bottom; bald above, white beneath; corymbus many-flowered; pome scarlet.

II. 346. CRATAEGUS. Theophrastus.  
Hawthorn.

Calyx 5-cut; petals 5; styles 2 to 5; pome spherical, 5-celled; cells cartilaginous, 2-seeded; seeds peritropal.—Leaves angular; fruit hard.

1. Crataegus alpina.  
Alpine hawthorn.
Leaves simple, ovate, cut, serrate, tomentose beneath; flowers corymbose.

Mespilus alni folio, subtus incano, Aria Theophrasti dicta, Rait Syn. 453, 1.
Aria Theophrasti, Ger. em. 1327, 2.
Sorbus sylvestris Aria Theophrasti dicta, Park. 1421.
Crataegus Aria, Lin. S. P. 681.
Cumberland Hawthorn. White-beam tree.

Limestone mountains; arborescent; May.
Twigs tomentose; leaves doubly serrated, bald above; veins parallel; corymbus terminal; flowers white; styles 2
or 4; pome red, floury, astringent.—Plants bear lopping, and do not kill grass growing under them; timber tough, smooth, hard; charcoal used for gunpowder; fruit when rotten ripe eatable.

Leaves heartshape, ovate, 7-lobed, deeply serrate; lowest lobes divaricating, bald; flowers corymbose.

Mespilus apii folio, sylvestris, non spinosa, seu Sorbus terminalis, Rauv Syn. 453, 2.

Sorbus terminalis, Ger. em. 1471, 2; Persson Syn. 2, 38.
Sorbus terminalis seu vulgaris, Park. 1420.
Crataegus terminalis, Lin. S. P. 681.
Pirus torminalis, Stokes Bot. Mat. Med. 121.
Wild-service tree. Wild sorb-apple.

Woods and hedges; arborescent; April and May.

Bark smooth; leaves unequally 7-lobed; petioles long; corymbus branched, many-flowered; pome dotted, austere.

III. 347. MESPILUS. Theophrastus. Medlar.

Calyx 5-cut; petals 5; styles 2 to 5; pome spherical, 5-celled; cells 2-seeded, bony; seeds ascending.

a. Leaves angular; stipules large, leaflike.


Stem spinous; leaves bald, 3-cut, blunt, toothed; flowers rather corymbose; peduncles and calyx rather smooth; calyx-segments lanceolate, pointed.

Crataegus Oxyacantha, Wild. S. P. 1005.
Mespilus Oxyacantha, Gartner Fr. et Sem. 2, 43.
Crataegus Oxyacanthoides, De Candolle Fl. Gall. 3687.

Hedge rows; arborescent; May and June.

Branches bald, thorny; leaves bald; flowers white or rose-coloured; berry red.


Stem spinous; leaves bald, 3-cut, lobes pointed, serrate; flowers corymbose; peduncles and calyx downy, calyx-segments lanceolate, pointed, reflected; style 1.

Mespilus apii folio sylvestris spinosa, sive Oxyacantha, Rauv Syn. 453, 3.
Oxyacantha, Ger. em. 1327, 1.
Spina appendix vulgaris, Park. 1025.
Crataegus monogyna, Sibthorp Fl. Ox. 456.

Woods and hedges; arborescent; May.

Branches thorny; leaves bald on both sides; flowers white or rose-colour; berry red or yellow.—Plant excellent for fences; wood hard and tough.

β. Glastonburiensis. Stipules very large, kidneyshape, toothed; flowers large, coming out twice a year.

Glastonbury thorn.

b. Leaves not cut.

Leaves lanceolate, tomentose beneath; flowers sessile, solitary, terminal; calyx-lobes long, pointed.

Mespilus, Dillen in Rait Syn. 453, 1*.
Mespilus Germanica, Lin. S. P. 684.

Hedges; arborescent; May.

Branches thorny; leaves lanceolate; flowers white, downy, tip fringed; fringes large.—Fruit, when thoroughly ripe, acerb, astringent.

β. sativa. Stem and branches spineless; leaves ovate, lanceolate.

Mespilus sativa, Ger. em. 1453, 1.
Mespilus vulgaris, Park. 1422.

Cultivated for its fruit.

γ. abortiva. Stem spineless; styles and seed 0.

Fam. XXIII. 58. ROSACEÆ.

Calyx persisting, pitchershape, contracted at the neck, limb divided; lobes sometimes with appendages; petals 5, inserted on the top of the calyx; stamens numerous, indefinite, inserted on the calyx under the petals; ovaries-free, many, enclosed in the fleshy, persistent calyx; ovules pendulous; styles many, 1 to each ovary, terminal, with a lateral furrow; stigmata oblique; achenium 1-seeded; perisperm 0; corculum straight; radicle above.—Stem shrubby, woody, when injured a strong shoot overtopping the original stem is thrown up from the root; leaves pinnate; stipules adherent to the petiole, armed with thorns, or bristles; bristles always straight and tipped with a gland; plants polymorphous, species difficultly distinguishable.
348. ROSA. Pliny. Rose.

Akenia intermixed with hairs.

a. Rosæ cinnamomeæ. Stem bristled; thorns often straight; flowers bracteated.

Flowers bracteated; germin globular; lobes simple; stem bristled; leaflets lanceolate, oblong, serrate.  
Rosa cinnamomea, Lin. S. P. 703.  
Pastures; shrubby; May.  
Stem 5 feet high; thorns often straight; leaflets ash-green above, downy; terminal leaflet much the largest; petioles tomentose; stipules serrated, serratures glandular; peduncles bald; bractea very broad, shorter than the peduncles; corolla reddish, cupshaped; fruit globose, bald, orange-colour.

b. Rosæ spinosissimæ. Flowers scarcely bracteated; stem bristly; bristles persistent.

Flowers not bracteated; stem and branches bristled; germin rather pitchershaped; leaflets serrated; thorns very few, very slender, nearly equal.  
Sands by the sea; shrubby; July.  
Shrub 4 feet high; leaflets elliptical, bald on both sides, paler beneath, two or three upper pairs and the odd one larger than the rest; corolla reddish, sometimes red or variegated.

Flowers not bracteated; stem bristled; germin globular; leaflets serrate; thorns crowded, very unequal in size.  
Rosa pumila spinosissima, foliis pinninellæ glabris, flore albo, Rait Syn. 455, 5.  
Rosa pinninellæ folia, Ger. em.  
Rosa pimpinella, sive pomifera minor, Park. 1018.  
Rosa spinosissima, Lin. S. P. 705.  
Rosa pimpinellifolia s, Lamarck Fl. Fr. 4. 438.  
Burnet rose. Pimpernel rose.

Fields, in gravel and sand; shrubby; July.  
Shrub 2 feet high, or more in the shade; leaflets dark green, not shining, paler underneath, 2 upper pair and odd leaflet largest; corolla white, yellowish at bottom, rarely
pale red, or with reddish veins, or white with a pink spot;
fruit bald, globular or depressed, dark purple, then black,
sometimes blood red.—Ripe fruit eaten either raw, or pre-
served; juice dyes silk and cotton of a peach colour.

4. Rosa involuta.  
Involuted rose.  
Flowers not bracteated; stem bristly; germin globular;
leaflets doubly serrate, bald above; thorns very crowded.


Western coast of Scotland; shrubby; June.
Shrub 3 feet high; bristles persistent; leaflets elliptic,
bald above; main rib sometimes hairy, glandular; veins
beneath rough; upper pair and odd leaflet largest; corolla
cupshaped, petals reverse heartshape, reddish, whitish at
bottom; fruit bristly.

5. Rosa Doniana.  
Don rose.
Flowers not bracteated; stem bristly; calyx-lobes simple;
leaflets doubly serrate, hisrute on both sides; thorns straight,
unequal, scattered.

Rosa Doniana, Woods in Lin. Tr. 12, 185.
Mountains; shrubby; June.
Shrub 2 or 5 feet high; bristles persistent; leaflets elliptic,
upper pair and odd leaflet largest; corolla expanded;
petals white, reverse heartshape; fruit globular, bristly.

Slender rose.
Flowers not bracteated; stem bristly; calyx lobes simple;
leaflets doubly serrate, hisrute on both sides; large thorns
sicklike.

Hills; shrubby; June.
Shrub 10 feet high; bristles persistent; leaflets elliptic,
edge and main rib beneath glandular; upper pair and odd
leaflet largest; flower nearly saucershape; petals reverse
heartshape, beautifully reddish, white at bottom; fruit
globose.

7. Rosa Sabini.  
Sabine rose.
Flowers not bracteated; stem bristly; germin globular;
calyx-lobes pinnate; leaflets doubly serrate.

Rosa Sabini, Woods in Lin. Tr. 12, 186.
Mountains; shrubby; June.
Shrub 6 feet high; bristles persistent; leaflets elliptic; upper pair and odd leaflet largest; veins beneath rough; main rib and edge glandular; upper surface hairy, hairs scattered; flowers reddish, open, large; fruit globose.

c. Rosae villose. Stem not bristly; thorns straight, or at least not hooked; stipulae not changing into bracteae.

Germen nearly globose; calyx-lobes simple; thorns nearly straight, equal; leaflets rhomboid elliptical; bracteae elliptic.

Rosa villosa, Lin. S. P. 704.
Rosa glandulosa, Lamarck Fl. Tr. 6, 539.
Rosa Helvetica, Ræmer Arch. 1, 2, 6.

Woods; shrubby; June.

Shrubs 8 feet high; leaflets doubly serrate, upper pair and odd leaflet largest, hirsute on both faces, above very soft, beneath wrinkled, glandular near the edge; flowers concave, deep red, rarely white with blood red spots, or reddish; fruit bristled, red.

Germen elliptical; calyx-lobes nearly simple; bracteae elliptical; thorns rather straight, nearly equal; leaflets narrow elliptic, doubly serrate.


Hedges and river banks; shrubby; June.

Shrub 6 feet high; leaflets very soft, edge glandular, especially on the under surface; upper pair and odd leaflet largest; flowers concave; petals white, the blood-red spots of the bud remaining; fruit large, red.

Germen nearly globular; calyx-lobes rather pinnate; thorns rather straight, nearly equal; bracteae lanceolate.

Rosa heterophylla, Woods in Lin. Tr. 12, 195.

Mountains; shrubby; June.

Shrub 9 feet high; leaflets elliptical, or ovate, oblong, rounded at bottom, very varying; upper pair and odd leaflet larger, doubly serrated, soft, downy, glandular on both sides; petals white, spotted with blood-red.
Germin reverse ovate; calyx-lobes pinnate; thorns rather straight, nearly equal; petals crenate.


Limestone banks; shrubby; June.

Shrub 2 feet high; leaflets elliptic, hollow, hairy on both sides, glandular beneath; doubly serrate; upper pair and odd leaflet largest; flowers concave; petals deep reddish; edge crenate, glandular.


Calyx-lobes pinnate; thorns rather straight, nearly equal; petals not in the least cut; bracteae elliptic; leaflets doubly serrate.

*Rosa sylvestris pomifera major nostras*, *Raiti Syn.* 455, 6.
*Rosa pomifera major*, *Park. Par.* 418.
*Rosa tomentosa*, *Smith Fl. Brit.* 539.
*Rosa Reynleri*, *Ramer Archiv.* 1, 2, 7.

Great English apple-rose.

Hedges and bushy places; shrubby; June and July.

Shrub 8 feet high; leaflets elliptic, sharply triangular at the tip, nappy on each side, doubly serrate, glandular; upper pair and odd leaflet larger; flowers rather flat, petals white at bottom, sometimes spotted with dark red; fruit elliptical, broad, red; plant varies very much.


Germin globose; calyx-lobes pinnate; thorns nearly straight; leaflets serrate.

*Rosa nuda*, *Woods in Lin. Tr.* 12, 205.

Mountains; shrubby; June.

Shrub 7 feet high; leaflets elliptical, upper pair and odd leaflet largest; smooth on both sides; serratures unequal but simple; flowers reddish; fruit globose.

d. Eglanteriæ. Stem thorny; thorns hooked; bristles 0; leaflets doubly serrate, whole lower face glandular; glands odoriferous.


Germin reverse ovate; thorns unequal, large, hooked; leaflets hirsute, glandular beneath, doubly serrate.
Rosa sylvestris odora, seu Eglanteria flore simplici, *Park. Par. 418.

Eglantine. Sweetbriar.

Dry soils, especially chalk; shrubby; June and July.

**Shrub** compact, 7 feet high; thorns scattered, those of the root-shoots unequal; leaflets elliptic, upper pair and odd leaflet largest, hirsute above, glandular beneath, serratures glandular; glands odoriferous; flowers concave, petals pink; styles distinct; fruit reverse ovate, armed with strong bristles at the base, when ripe blood-red.

15. **Rosa micrantha.** Small-flowered rose.
Fruit swollen elliptic; thorns hooked, nearly equal; leaflets hirsute, glandular beneath, doubly serrate.

**Rosa micrantha, Engl. Bot. 2490.**

Sweetbriar.

Hedges and bushy places; shrubby; June and July.

**Shrub** 8 feet high, generally loose and straggling; thorns crowded; those of the root-shoots nearly equal; leaflets elliptic; upper pair and odd leaflet largest; flowers saucer-shape, reddish; style simple; fruit small, scarlet.

16. **Rosa Borreri.** Borrer rose.

Germin elliptic; calycine pinnae crowded; thorns hooked, nearly equal; leaflets hirsute, not glandular, doubly serrate.

**Rosa dumetorum, Engl. Bot. 2579.**

Rosa Borreri, *Woods in Lin. Tr. 12, 210.*

Hedges and thickets; shrubby; July.

**Shrub** 10 feet high; leaflets deep green, shining, upper pair and odd leaflet largest, odd leaflet broadest; serratures glandular; flowers flesh-colour or reddish; style simple; fruit elliptic, deep red.

17. **Rosa caesia.** Bluish-leaf rose.

Germin elliptical; calycine pinnae few; thorns hooked, nearly equal; leaflets hirsute, not glandular, doubly serrate.

**Rosa caesia, Engl. Bot. 2367.**

Mountains; shrubby; July.
Shrub close, 5 feet high; leaflets elliptic, upper pair and odd leaflet largest, ribs beneath prominent, hirsute; serratures glandular; flowers reddish; calycine pinnæ very narrow; styles simple; fruit elliptic.

18. Rosa sarmentacea.

*Styles* distinct; *germen* ovate; *thorns* hooked; *leaflets* doubly serrate, quite bald.

*Rosa canina*, Roth *Pl. Germ.* 1, 218; and 2, 560.

Hedges and bushy places; shrubby; July.

*Shrub* 10 feet high; *leaflets* elliptic, upper pair and odd leaflet largest, rather pointed, bald, waxlike above; main rib beneath prickly; serratures unequal, divaricated, irregular serrate; *flowers* reddish, rather flat; *fruit* elliptic, scarlet, shining.


*Germs* globose; *thorns* hooked; *leaflets* serrate, tomentose beneath; *bracteae* overtopping the fruit.


Hedges; shrubby; June.

*Shrub* 7 feet high; *leaflets* elliptic, upper pair and odd leaflet largest; hairy above; beneath main-rib prickly, veins hairy; *flowers* flesh-colour, rather concave; *styles* simple; *fruit* globular.

20. Rosa dumetorum.

*Styles* distinct; *germens* elliptic, overtopping the bracteæ; *thorns* hooked; *leaflets* serrate, hirsute on both sides.

*Rosa canina*, Desvaux *Journ. de Bot.* 2, 115.
*Rosa dumetorum*, Thuilliers *Fl. Par.* 250.

Hedges; shrubby; July.

*Shrub* 6 feet high; *leaflets* rather shining; upper pair and odd leaflet largest, odd leaflet broadest, rather pointed; *flowers* rather flat, reddish; *fruit* ovate, very broad or nearly globular, bald, red.


*Styles* distinct; *thorns* hooked, nearly equal; *leaflets* serrate, hirsute beneath.


Hedges; shrubby; July.
22. **Rosa Hibernica.**

*Irish rose.*

_Germen globose; thorns hooked, unequal; leaflets serrate._


_Ireland; shrubby; June to November._

_Shrub 3 feet high; leaflets elliptic, upper pair and odd leaflet largest, above bald, rather glaucous; beneath hairy, especially the main rib; styles simple; fruit globular, sometimes drawn out at the throat._

23. **Rosa canina.**

*Dog rose._

_Styles distinct; stem-thorns hooked; petiole-thorns sickle-shape; leaflets keeled, serrated, bald._

*Rosa sylvestris inodora, seu canina, Raii Syn. 454, 1; Park. 1017._

*Rosa canina inodora, Ger. em._

*Rosa canina, Lin. S. P. 704._

_Wild briar. Dog rose. Hep-tree._

_Hedges and bushy places; shrubby; June._

_Shrub spreading, 8 feet high; leaflets narrow, elliptic, upper pair and odd leaflet largest, keeled, point turned on one side, quite bald, young leaves shining as if varnished; serratures pointed, unequal; flowers reddish, rarely white; the buds redder than the expanded flower; fruit elliptic, quite bald, shining, scarlet.—Fruit eatable, and made into a conserve; a decoction of the shoots, and especially of the roots, drank as an agreeable and exhilarating tea; dried leaves used as a substitute for China tea; flowers preserved with sugar and honey, and also used to prepare a spirituous liquor._

24. **Rosa surculosa.**

*Shooting rose._

_Styles distinct; thorns hooked; leaflets flat, serrate, bald._

*Rosa surculosa, Woods in Lin. Tr. 12, 228._

_Roadsides and bushy places; shrubby; June._

_Shrub 8 feet high; leaflets elliptical, pointed, upper pair and odd leaflet largest, odd leaflet heartshape at the base, above slightly hairy; beneath bald, dark; younger leaves purplish; flowers reddish; styles porrected; fruit elliptic, broad, red._
25. *Rosa sylvestra.* **Sisterhood rose.**

*Styles united; germen oblong; thorns hooked, nearly equal; root-shoot-thorns crowded; leaflets serrate.*

- *Rosa brevistyla*, Lamarck *Fl. Tr.* 6, 537.
- *Rosa sylvestra*, Bastard *Fl. Anjou.*

Bushy places; shrubby; July.

Shrub slender, 12 feet high; root-shoots nearly upright; *leaflets* lanceolate, elliptic, upper pair and odd leaflet largest, keeled, pointed; bald above, ribs beneath hairy; flowers 1 to 8, saucershape, petals a beautiful pink, inclining to orange at the base, sometimes pale or even white; *styles* forming a porrected column; *fruit* elliptic, oblong, bald, scarlet, of a fine flavour.

26. *Rosa arvensis.* **Fallow rose.**

*Styles united; thorns hooked; root-shoot-thorns few; leaflets* elliptical, unequally serrate.

- *Rosa sylvestris*, Remer *Arch. Bot.* 1, 2, 33.

*White dog rose.*

Hedges in flat countries; shrubby; June and July.

Shrub 4 feet high; root-shoots long, trailing; *leaflets* roundish elliptical, lowest pair smallest, flat, inclining to crenate, bald on both sides, main rib sometimes hairy beneath; flowers 1 to 15, white, quite flat; *fruit* elliptical, often globular when solitary, blood-colour, of a fine flavour.


*Calyx* tubular, persisting; limb 4 or 5-cut, often bracteated in the sinuses; *petals* 4 or 5 on the top of the calyx, alternate with its lobes; sometimes 0; *stamens* as many as the calyx-lobes or indefinite, inserted on the calyx under the petals; *ovaries* 1-ovuled, 1-styled, solitary or definite, enclosed in the persistent pitchershape calyx; *akemenium* inverted; *perisperm* 0; *corculum* straight; *radicle* above.—

*Stem* herbaceous, or rather shrubby; *leaves* pinnate or digitate; *flowers* sometimes unisexual.
Pl. ex. cal. 59. AGRIMONIACEÆ. 349. Poterium. 575

Poterium

I. 349. POTERIUM. Dioscorides.  

Burnet.

Flowers unisexual; calyx 4-lobed, coloured, 3-scaled on the outside; petals 0.—Male. Stamens 30.—Fem. Ovaries 2; styles 1 or 2; stigmata radiated; akenia 2, immerged in the hardened angular tube of the calyx.—Leaves pinnate; flowers capitate.

Poterium minus.  

Small burnet.

Stem angular, spineless; stamens much longer than the calyx.

Sanguisorba minor, Raiti Syn. 203, 1.  
Pimpinella hortensis, Ger. em. 1045, 1.  
Pimpinella vulgaris seu minor, Park. 582.  
Poterium Sanguisorba, Lin. S. P. 1411.  
Pimpinella Sanguisorba, Gärtn. Fr. et Sem. 1, 162.

Garden burnet.

Chalky soils; perennial; July.

Root woody; leaflets roundish, serrate, bald; peduncles naked, terminal; flowers in heads; upper flowers female, stigmata exserted; lower flowers male.

II. 350. SANGUISORBA. Fuchs.  

Great-burnet.

Flowers hermaphrodite; calyx coloured, 4-lobed; scales 2 at the base; petals 0; stamens 4; ovaries 2; stigmata simple; akenia 2, immersed in the persistent tube of the calyx.—Leaves pinnate; flowers in heads, upper flowers expanding first.

Sanguisorba officinalis.  

Shop great-burnet.

Herb bald; spine ovate; stamens as long as the calyx.

Sanguisorba major flore spadiceo, Raiti Syn. 203, 2.  
Pimpinella sylvvestris, Ger. em. 1045, 2.  
Pimpinella major vulgaris, Park. 582.  
Sanguisorba officinalis, Lin. S. P. 169.

Wild burnet.

Damp fields and pastures; perennial; June and July.

Stem 2 feet high, branched, rather naked; leaflets heart-shape, crenate.
III. 351. ALCHEMILLA. Tragus. Ladies-mantle.

_Calyx_ 4-cut, 4-bracteated; _corolla_ 0; _stamens_ 4, very short; _ovary_ 1; _akeneium_ enclosed in the persisting calyx.

—Leaves palmately lobed, stipuled.

a. _Alchemilla veræ_. **Root perennial; style 1.**

1. _Alchemilla vulgaris_. **Common ladies-mantle.**

_Leaves_ kidneyshape, 9-lobed, acutely serrated, rather naked; _corymbus_ terminal.

_Alchemilla, Rait Syn. 158, 1; Ger. em. 949, 1._
_Alchemilla major vulgaris, Park. 538._
_Alchemilla vulgaris, Lin. S. P. 178._

_Lion's foot. Lion's paw. Pied de Lyon. Great sanicle. Bears-foot._

Fields and hilly pastures; perennial; June and July. _Stem_ panicked; _leaves_ 7 to 9-lobed, lobes blunt; _stipules_ cut.

2. _Alchemilla pubescens_. **Downy ladies-mantle.**

_Leaves_ lobed, silky, acutely serrated; _stem_ and _petioles_ hairy, hairs close; _corymbus_ terminal.

_Alchemilla minor, Hudson Fl. Angl. ed. 1, 59._
_Alchemilla vulgaris b, Smith Fl. Brit. 190._
_Alchemilla pubescens, Lamarck Encycl. Meth._
_Alchemilla hybridæ, Persoon Syn. 1, 149._

Alpine pastures; perennial; July.

3. _Alchemilla alpina_. **Alpine ladies-mantle.**

_Leaves_ digitate, serrate, silky beneath.

_Alchemilla alpina pentaphyllos, Rait Syn. 158, 2._
_Pentaphyllum petrosum, Heptaphyllum Clusii, Ger. em. 988, 5._
_Tormentilla argentea, Park. 393._
_Alchemilla alpina, Lin. S. P. 179._

_Stone cinquefoil._

Alpine micaceous rocks; perennial; July. _Leaves_ 5-parted; _stem_ upright; _calyx_ silky on the outside.

b. _Aphanes_. **Root annual; styles 2; ovaries 2, one generally abortive.**

4. _Alchemilla arvensis_. **Fallow ladies-mantle.**

_Leaves_ 3-cut, downy; lobes 2 or 3-cut; _flowers_ sessile, axillary.
Pl. ex. cal. 59. AGRIMONIACEÆ. 351. Alchemil. 577

Percepierr Anglorum, Rain Syn. 159, 1; Ger. em. 1594, 1.
Polygonum selinoides, Park. 449.
Aphanes arvensis, Lin. S. P. 179.
Alchemilla Aphanes, Leers Pl. Herb. 54.
Persley brokerage, Herb-shops. Percepierr, Bristol.

Barren sandy land; annual; April to November.
Stem much branched; leaves marked with lines; stipules cut; calyx urceolate.

IV. 352. AGRIMONIA. Brunsfel. Agrimony.

Calyx 5-lobed, bristly; bristles hooked; petals 5; stamens 12 to 20; ovaries 2; styles 2, terminal; akenia 2, enclosed in the persisting calyx.—Leaves pinnate, stipuled; flowers spiked, involucellated; involucella 2-lobed.

Agrimonia vulgaris. Common agrimony.
Leaves pinnate; leaflets ovate, oblong, deeply serrated; terminal leaflets petioled; spikes peduncled.

Agrimonia, Rain Syn. 202, 1; Ger. em. 712, 1.
Agrimonia vulgaris, Park. 594.
Agrimonia Eupatoria, Lin. S. P. 643.

Edges of fields; perennial; June and July.
Root creeping; stem 2 feet high, angular, hairy; leaves alternately pinnate; stipules pinnately cut; spike many-flowered; flowers yellow.

Fam. XXV. 60. DRYADEÆ. Rosacearum tribus, De Candolle, Jussieu. Fragariacearum pars, Nesler.

Calyx 4 or 5-toothed; sinus of the teeth often bracteolated on the outside; petals as many as the calyx-lobes; stamens many, indefinite, or rarely as many as the calyx-lobes and opposite to them; ovaries indefinite, rarely 5, free, 1-styled; style from the apex, or inner side, furrowed on the inner side; stigmata oblique, thickened; ovule 1, inverse, rarely ascending; akenia or drupellae on the persisting calyx; seeds inverse, rarely ascending; perisperm 0; corculum straight.—Stem herbaceous, rarely shrubby.

Calyx naked; stam. many; ovaries capitate; akenium covered with a fleshy sarcocarp .... RUBUS. 358.
Cal. bracteated; stam. many;
akenium feathered, tailed ................. DRYAS. 353.
Cal. bracteated; stam. many;
ovaries capitate, ending in a jointed tail .... GEUM. 354.
Cal. bracteated; stam. 5; petals minute; akenia on a dry receptacle ...... Sibbaldia. 355.
Cal. bracteated; stam. many; akenia many, on a dry receptacle ...... Potentilla. 356.
Cal. bracteated; stam. many; akenia spread over a fleshy receptacle .. Fragaria. 357.

Calyx 8 or 9-parted, naked; tube rather concave; petals 8 or 9; stamens many; ovaries headed; style terminal; akenium tailed, feathered; seed ascending.

Caryophyllata alpina chamaedryos folio, Rau Syn. 253, 4.
Teucrium alpinum cistiflora, Ger. em. 639.
Chamaedrys spuria montana cistiflora, Park. 106.
Dryas octopetala, Lin. S. P. 717.
Dryas octopetala chamaedrifolia, Persoon Syn. 1, 57.
Dryas alpina, Salisb. Prod.

Stony alpine pastures; perennial; July and August.
Stem decumbent, woody; leaves ovate, rather revolute; above bald, shining; beneath white, tomentose; peduncles 1-flowered, solitary, long, upright; flower white, large; calyx hairy.

Calyx-tube concave; limb 5-parted, bracteated; petals 5; stamens many; ovaries headed, on a dry, cylindrical receptacle; style terminal, kneeed, jointed; upper joint dissimilar; akenium headed, tailed; seed ascending.

Root-leaves lyrate, pinnate; stem-leaves ternate; stipules rounded, cut; flowers upright; akenium-awn hooked, naked.
Caryophyllata, Rau Syn. 253, 1; Ger. em. 994, 1.
Caryophyllata vulgaris, Park. 136.
Geum urbanum, Lin. S. P. 716.
Geum urbanum caryophyllatum, Persoon Syn. 1, 57.
Geum sordidum, Salisb. Prod.
Common avens. Herb-bennet.

Woods and hedges; perennial; May to August.
Root woody; stem branched at top; leaflets cut, serrated, hairy; flowers terminal, solitary, yellow; petals
shorter than the calyx.—Roots flavour ale, and prevent it from turning sour; are stomachic, and a good substitute for the Peruvian bark, in agues.

\[ \beta. \text{ majus.} \quad \text{Petals longer than the calyx.} \]

Caryophyllata vulgaris major flore, Rall. Syn. 253, 2.

Caryophyllata vulgaris major, Park. 135.

Great-flowered avens.


Leaves interrupted, pinnate; flowers mostly drooping; calyx spreading; petals longer than the calyx; awn feathered, twisted.

Geum rivale \[ \beta. \text{ Smith Fl. Brit. 555.} \]

Geum intermedium, Ehraht Beytr. 6, 143.

Woods and hedges; perennial; September.

Flowers large, yellowish.


Root-leaves lyrate, interruptedly pinnate; stipules ovate, acute, cut; flowers drooping; petals as long as the calyx; awn feathered, twisted.

Caryophyllata montana purpurea, Rall. Syn. 253, 3; Ger. em. 994, 2.

Caryophyllata montana, seu palustris purpurea, Park. 136.

Geum rivale, Lin. S. P. 717.

Water avens.

Fields and damp woods; perennial; June and July.

Root horizontal; stem branched at top, drooping; leaves deeply serrated; stem-leaves simple or ternate; calyx purplish; petals upright, reverse-heartshape, yellowish purple,—Root febrifuge, in common use in agues, instead of the Peruvian bark; also to cure ropy ale.

\[ \beta. \text{ grandiflorum.} \quad \text{Flowers double, or proliferous.} \]


III. 355. SIBBALDIA. Linnaeus. Sibball.

Calyx-tube concave; limb 5-lobed; lobes bracteated; petals 5, very small; stamens 5; ovaries 5, forming a head on a prominent receptacle; style lateral; akenia kidney-shape, hardened; seed inverse.

Sibballia procumbens. Procumbent sibball.

Leaves ternate; leaflets bald above, hairy beneath; flowers corymbose; petals lanceolate, acute, as long as the calyx.
Pentaphylloides pumila folii ternis ad extremitate trifidis, Rau Syn. 256, 6.
Scotch cinquefoil.
Micaeous alpine rocks; perennial; July.
Root woody; leaves stipule.

IV. 356. POTENTILLA. Brunsfel. Cinquefoil.
Calyx-tube concave; limb 5 rarely 4-cut; bracteated; petals 5, rarely 4; stamens many; ovaries indefinite, forming a head, on a prominent receptacle; styles lateral; achenium hardened, kidneyshape; seeds appended.—Stem herbaceous, rarely shrubby.

a. Leaves pinnate.

Leaves pinnate, villous; calyx-leaflets linear, oblong, not cut, villous; bracteae linear, slenderest below; stem shrubby.

Pentaphylloides fruticosa, Rau Syn. 256, 4.
Potentilla fruticosa, Lin. S. P. 709.

Mountainous woods; shrubby; June.
Stem 3 feet high, much branched; upper leaves ternate; flower solitary, terminal, golden.

Leaves interruptedly pinnate, silky; leaflets acutely serrate; stem creeping; peduncles axillary, 1-flowered.

Pentaphylloides Argentina dicta, Rau Syn. 256, 5.
Argentina, Ger. em. 993, 1.
Potentilla, Park. 593.
Potentilla anserina, Lin. S. P. 710.

Damp fields and holts; perennial; June and July.
Stem prostrate; leaves nearly lyrate; beneath silvery white; when young both sides silky; calyx silky; petals golden.—Roots eat like parsneps; leaves mildly astringent, used instead of Peruvian bark in agues.

b. nuda. Leaves not silky.

Leaves pinnate; leaflets lanceolate, serrated above; calyx coloured; petals very small; stem creeping.
Pentaphylloides palustre rubrum, Raî Syn. 256, 2.
Pentaphyllyum rubrum palustre, Ger. em. 987, 4.
Comarum palustre, Lin. S. P. 718.
Potentilla palustre, Scopoli Carn. 617.

Purple marshlocks.

Marshy spongy bogs; perennial; June and July.
Root creeping; leaves woolly beneath, sometimes in sevens, or digitate; petals long; flowers panicked, blackish purple; petals pointed.—Root dyes red.

b. villosa. Leaves woolly on both sides.
Pentaphylloides q. Pentaphyllyum palustre rubrum, crassis et villosis foliis Suecicum et Hibernicum Plukeneti, Raî Syn. 256, 3.

Root-leaves pinnate; leaflets roundish oval, toothed, hairy; stem-leaves ternate; stem stiff, forked.
Pentaphylloides erectum, Raî Syn. 255, 1.
Pentaphyllyum fragiferum, Ger. em. 991, 13; Park. 397.
Potentilla rupestris, Lin. S. P. 711.
Potentilla rubens, Mæch Meth. 600.
Potentilla fragarioides, Pour. Encycl. 5, 586.

Strawberry cinquefoil. Upright bastard cinquefoil.

Alpine rocks; perennial; June and July.

Stem a foot high, branchy, downy; leaves lyrate, pinnate; leaflets veined, hairy; root-stipules linear, roundish; peduncles rhomboid, roundish; petals reverse heartshape, white; akenia smooth.

b. Leaves digitate; receptacle bald.


Leaves in fives; leaflets wedgeshape, cut above, edge turned over; beneath white, tomentose; stem decumbent.
Pentaphyllyum erectum, foliis profunde sectis, subtus argenteis, flore luteo, Raî Syn. 255, 2.
Quinquefolium tormentillæ facie, Ger. em. 988, 7.
Pentaphyllyum rectum minus, Park. 400.
Potentilla argentea, Lin. S. P. 712.

Wall cinquefoil. Tormentil cinquefoil.

Pastures; perennial; June.

Stem woolly; leaves above bald and green; flowers small, gold-yellow.


Root-leaves in sevens or fives; leaflets reverse oval, green on both sides, hairy beneath; petals reverse ovate, longer than the calyx; stem weak, procumbent.
Potentilla. 60. DRYADEÆ. Pl. ex. cal.

Pentaphyllum parvum hirsutum, Rairi Syn. 255, 3.
Pentaphyllum incaenum minus repens, Ger. em. 989, 19.
Pentaphyllum minus repens lanuginosum, Park. 399.

Potentilla verna, Lin. S. P. 712.

Potentilla serotina, Villars Delph. 3, 564.

High barren pastures; perennial; April and May.

Stem branched, downy; root-leaves with long petioles; petals golden-yellow.


Root-leaves in sevens or fives; leaflets ovate, wedgeshape, toothed, hairy; petals reverse heartshape, scaly, longer than the calyx; stem threadshape, decumbent.

Potentilla opaca, Lin. S. P. 713.

Fragaria rubens, Grantz Fasc. 75.

Mountains; perennial; June.

Stem very slender, tufted; petals golden-yellow, with a brown spot at bottom.


Root-leaves in fives; stem-leaves in threes; leaflets wedge-shape; edges hairy, and toothed at the tip; hairs silky; petals reverse-heartshape, larger than the calyx; stem decumbent.

Quinquefolium minus flore aureo, Ger. em. 990, 11.


Alps; perennial; July.

Stem ascending, hairy; leaves thin, membranaceous, shining, paler underneath; root-leaves with long petioles; peduncles very long, 1-flowered; petals deep golden or orange-colour.

C. Leaves digitate; receptacle very hairy.


Root-leaves in fives; stem-leaves 3-leafletted; leaflets oval, oblong, connivent at top, serrated, bald above, gray and silky beneath; stem threadlike, procumbent, shorter than the leaves.

Quinquefolium sylvaticum majus, flore albo, Ger. em. 989, 10.

Potentilla alba, Lin. S. P. 713.

Fragaria alba, Grantz Fasc. 78.

Alpine hills; perennial; July and August.

Stem much branched; petioles of the root-leaves very long; petals white.
Leaves acuminate; leaflets reverse oval, wedgeshaped, serrated; stipules not cut; peduncles axillary, 1-flowered, longer than the leaves; stem sarmentose.

Potentilla reptans, Lin. S. P. 714.

Five-finger grass. Five-leaved grass. Sinkfield.

Fields and pastures; perennial; July and August.

Stem reddish; leaves bald above, beneath hairy on the ribs; stipules lanceolate, sometimes slightly toothed; petals reverse heart shaping, as long as the calyx; bracteae lanceolate, equal to the calyx-lobes.—Root astringent, antiseptic, used as a gargle for loose teeth and spongy gums.

Leaves three-leafletted; stem-leaves petioled; leaflets wedgeshaped, reverse oval, deep toothed; peduncles solitary, long; flowers 4-petaled; stem threadlike, procumbent.

Tormentilla reptans, Lin. S. P. 716.
Potentilla procumbens, Sibthorp Fl. Ox. 162.
Potentilla nemoralis, Niessler Potentilla, 65.
Plot's tormentil. Trailing tormentil.

Edges of fields; perennial; June and July.

Stem slender; stipules lanceolate, generally undivided; bracteae linear, lanceolate; calyx-lobes ovate, equal; petals wedgeshaped, reverse heart shaping, nearly twice as long as the calyx, sometimes 5.

Leaves 3-leafletted; stem-leaves sessile; leaflets rather lanceolate, oval, deeply toothed; peduncles single, from the fork or lateral; flowers 4-petaled; stem mostly upright, forked.

Tormentilla, Rait Syn. 231; Ger. em. 992.
Tormentilla vulgaris, Park. 394.
Tormentilla erecta, Lin. S. P. 716.
Tormentilla officinalis, Curtis Fl. Lond.
Potentilla Tormentilla, Sibthorp Fl. Oxon. 162.
Common tormentil. Septfoil.

Barren pastures and meadows; perennial; June and July.
Root woody; stem upright or procumbent; leaves nearly sessile; petals and calyx-lobes 4, rarely 3, 5, or many.
13. Potentilla tridentata. Three-toothed cinquefoil. Leaves 3-leafletted; leaflets oblong, wedgeshape, 3-toothed at the tip, bald above; panicle weak; petals oval, larger than the calyx; stem upright.

Potentilla retusa, Retz Prod. Fl. Scand. 2, 642.

Alpine rocks; perennial; May and June.

Stem 6 in. high, downy; leaflets blunt, 3 or 5-toothed at the tip; uppermost lanceolate, generally not cut; flowers small; calyx-lobes oval, shorter than the petals; receptacle hairy.

14. Potentilla fragarioides. Strawberry cinquefoil. Leaves 3-leafletted; leaflets reverse oval, retuse, deeply serrated, silky; petals reverse heartshape, as long as the calyx; stem threadshape, lying down.

Fragaria sterilia, Raîî Syn. 254, 3; Lin. S. P. 709.
Fragaria minima vesca seu sterilis, Ger. em. 998.
Fragaria minima vesca, Park. 758.
Potentilla Fragaria, Poiret Encycl. 5, 599.
Potentilla fragarioides, Villars Delph. 3, 561.
Potentilla prostrata, Mönch Meth. 660.
Comarum fragarioides, Roth Germ. 2, 577.
Potentilla fragariaefolia, Gmel. Bad. 2, 453.
Fragaria praecox, Salisb. Prod. 363.

Barren strawberry. Wild strawberry.

Dry barren pastures; perennial; March and April.
Root woody; stem diffused; flowers white.

V. 357. FRAGARIA. Pliny. Strawberry.

Calyx-tube concave; petals 5; stamens many; ovaries many, indefinite, capitate on a prominent receptacle; styles lateral; akenia rather drupaceous, spread over the outer surface of the deciduous, fleshy receptacle.

1. Fragaria vesca. Eatable strawberry.

Calyx in fruit reflected; hairs of the petioles very much turned back, of the peduncles pressed close.

Fragaria, Raîî Syn. 254, 1; Ger. em. 997, 1 and 2.
Fragaria vulgaris, Park. 758.
Fragaria vesca, Lin. S. P. 708.

Woods and hedges, also cultivated; peren.; May, June. Roots fibrous; runners rooting; stem upright; leaves equally serrated; petals shorter than the calyx; flowers rather corymbose; fruit red, drooping.—Bark of the root
astringent; fruit fragrant, juicy, universally esteemed, particularly praised as of use in consumption, gravelly complaints, and incrustations on the teeth.

*b. muricata.* Flower greenish; receptacle hard; akenia ending in a point.


γ. *alba.* Fruit white.

2. **Fragaria elatior.** Tall strawberry.

*Calyx* in fruit reflected; *hairs* of the peduncle and petioles very spreading.


Fragaria moschata, *Duchesne Monogr.*

Fragaria dioca, *Ibidem.*

Hautbois.

Woods, also cultivated; perennial; June to October.

Plant often dioicous; *fruit* large; odour like musk, in high esteem.

VI. 358. **RUBUS.** Pliny.

*Calyx* flat at bottom; *petals* 5; *stamens* many; *ovaries* capitate, on a manifestly protuberant receptacle; *styles* nearly terminal; *akenia* rough, covered with a fleshy sarcocarp, on a fleshy receptacle.

a. **Chamaemorus.** Stem herbaceous, unarmed, mostly simple.

1. **Rubus nubis.** Cloud bramble.

*Stem* unarmed, simple, 1-flowered; *leaves* simple, lobed; *calyx*-lobes ovate.

Chamaemorus, *Raf. Syn. 280, 1;* *Ger. em. 1273, 4;* Park. 1014;

Vaccinium nubis, *Ger. em. 1420.*


Alpine bogs; perennial; June.

Root creeping; *leaves* heartshape, 5-lobed, bald; *flower* white; *fruit* dark-red; *akenia* many.—Fruit acid, anti-scorbutic, eaten raw or in tarts.

2. **Rubus arcticus.** Arctic bramble.

*Stem* unarmed, simple, 1-flowered; *leaves* ternate, bald.


Alpine rocks; perennial; May and June.
Root creeping; runners 0; stem angulate; leaves unequally serrated; flowers peduncled, dark rose-coloured; fruit purple.—Fruit is made in Sweden into a rich sweetmeat, or fine-flavoured wine.

3. Rubus saxatilis.  
Stone bramble.  
Stem unarmed, simple; runners creeping; leaves ternate, nearly bald; panicle few-flowered.

Chamelorbus as Chamelorbus saxatilis, Radd Syn. 261, 2.  
Rubus saxatilis, Ger. em. 1278, 4; Lin. S. P. 708.  
Rubus alpinus saxatilis, Park. 1014.

Alpine shady places; perennial; June.  
Root fibrous; runners or barren stems hairy; leaves pale-green, thin, doubly serrated; lower leaves sometimes in fives; side leaflets sessile; flowers 3 or 4; petals white, lanceolate; fruit red; akenia 3 or 4, very fleshy.—Fruit rather astringent, yet pleasant.

b. Rubus.  
Stem shrubby, armed; runners bending down, rooting at the end; leaves digitate.

4. Rubus fruticosus.  
Shrubby bramble.  
Stem angular, prickly; prickles hooked; leaves generally in fives; leaflets woolly beneath, petiolate; calyx-lobes turned back.

Rubus major fructu nigro, Radd Syn. 467, 1.  
Rubus vulgaris major, Park. 1013.  
Rubus, Ger. em. 1269, 1.  
Rubus fruticosus, Lin. S. P. 707.  
Common bramble.  
Blackberry.

Woods and hedges; shrubby; July and August.  
Stem woody, tough, divaricating; angles prickly; prickles dilated at bottom, compressed, conical; leaves in threes or fives; leaflets blunt with a point, dark green, rough; panicle racemose, many-flowered; petals white.—Fruit rather acid, but eats well with wine.

5. Rubus corylifolius.  
Hazel-leaved bramble.  
Stem roundish, diffused, prickly; prickles placed promiscuously, straight; leaves usually in fives; leaflets ovate, rather hairy; side-leaflets sessile.


Hedges; shrubby; July.
6. Rubus casius.  
**Blue bramble.**

*Stem* roundish, prostrate, glaucous; *prickles* placed promiscuously; *leaves* ternate, hairy beneath; lateral *leaflets* two-lobed.

- *Rubus minor*, *Chamerubus sive Humirubus*, *Park.* 1013.

Woods and edges of fields; shrubby; June and July.

Leaves deeply serrated, not woolly beneath; side-leaflets sessile, mostly lobed; *panicle* few-flowered; *calyx* spread; *petals* white; *fruit* dark glaucous; *acini* few, large.

c. Idæus.  
*Stem* upright, armed, shrubby; *leaves* pinnate.

7. Rubus suberectus.  
**Upright bramble.**

*Stem* upright; *prickles* scattered, soft, nearly straight; *leaves* in fives or sevens, pinnate; upper leaves ternate; *leaflets* ovate, hairy beneath.


Woods in the north; shrubby; June.

*Stem* nearly upright, brittle, much branched, divaricating, prickly; *prickles* scattered, rarely very few; leaflets pointed at the tip, light green, bald above; *panicle* long; *corolla* white, large; *fruit* reddish black; *acini* many. —

Fruit very agreeable.

8. Rubus Idaeus.  
**Ida bramble.**

*Stem* upright, prickly; *leaves* in fives, pinnate; upper leaves ternate; *leaflets* rhomboid-ovate; tomentose beneath; *petioles* channelled.

- *Rubus Idaeus*, *Ger.* em. 1269, 2; *Park.* 557; *Lin.* S. P. 706.

Rasp-berry.  
Hind-berry.  
Framboise.

Moist woods and hedges, also cultivated; shrubby; May and June.
Stem upright, round, aculeately hispid; leaflets pointed, unequally serrated; corolla white, small; fruit odorous, blood-coloured.—Fruit used in deserts, and to flavour tarts, wines, and spirits.

\( \beta. \text{ albus.} \) Fruit white.

Fam. XXVI. 61. ULMARIÆ.

Calyx free, persisting, 5-parted; petals inserted on the calyx, mostly 5; stamens indefinite, inserted under the petals; ovaries free, definite, 1-styled; capsules or camares as many as the ovaries, 1 or many-seeded; perisperm 0; corculum straight; radicle above.—Leaves alternate.

359. SPIRÆA. Theophrastus. Spiraea.

Calyx spreading, 5-cut; petals 5; ovaries 3 to 12; capsules 1-celled, 2-valved; seeds 1 to 3, on the inner suture of the capsules.

a. Spiraea. Stem shrubby.


Leaves oblong, serrated, bald; racemes twice-compounded.

Spiraea Theophrasti, Ger. em. 1601.
Spiraea salicifolia, Lin. S. P. 700.
Mock willow.

Damp woods and hedges; shrub; July.

Stem 4 feet high; branches stiff, bald; leaves alternate, bald on both sides; racemes solitary, upright; bracteae linear, solitary; flowers reddish white.

b. Filipendula. Stem herbaceous; camares 12, in a circle.


Leaves interruptedly pinnate; leaflets uniform, ovate, oblong, serrated, bald; flowers panicked, corymbose.

Filipendula, Ræd. Syn. 259, 1; Ger. em. 1038, 1; Park. 434.
Spiraea Filipendula, Lin. S. P. 702.
Common dropwort. Filipendula.

Chalky or sandy pastures; perennial; July.

Root woody, tuberculous; tubercles elliptical; stem 12 in.

Chalky or sandy pastures; perennial; July.

Root woody, tuberculous; tubercles elliptical; stem 12 in.

b. Filipendula, Ræd. Syn. 259, 1; Ger. em. 1038, 1; Park. 434.
Spiraea Filipendula, Lin. S. P. 702.
Common dropwort. Filipendula.

Chalky or sandy pastures; perennial; July.

Root woody, tuberculous; tubercles elliptical; stem 12 in.

b. Filipendula, Ræd. Syn. 259, 1; Ger. em. 1038, 1; Park. 434.
Spiraea Filipendula, Lin. S. P. 702.
Common dropwort. Filipendula.

Chalky or sandy pastures; perennial; July.

Root woody, tuberculous; tubercles elliptical; stem 12 in.

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Common dropwort. Filipendula.

Chalky or sandy pastures; perennial; July.

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Spiraea Filipendula, Lin. S. P. 702.
Common dropwort. Filipendula.

Chalky or sandy pastures; perennial; July.

Root woody, tuberculous; tubercles elliptical; stem 12 in.

b. Filipendula, Ræd. Syn. 259, 1; Ger. em. 1038, 1; Park. 434.
Spiraea Filipendula, Lin. S. P. 702.
Common dropwort. Filipendula.

Chalky or sandy pastures; perennial; July.

Root woody, tuberculous; tubercles elliptical; stem 12 in.

b. Filipendula, Ræd. Syn. 259, 1; Ger. em. 1038, 1; Park. 434.
Spiraea Filipendula, Lin. S. P. 702.
Common dropwort. Filipendula.

Chalky or sandy pastures; perennial; July.

Root woody, tuberculous; tubercles elliptical; stem 12 in.
c. Ulmaria. Stem herbaceous; camares 6 or 8, twisted.

3. *Spiraea odorata.* Odorous spiraea. Leaves interruptedly pinnate, tomentose beneath; terminal leaflets 3-lobed; side leaflets undivided; corymbus proliferous.

*Ulmaria, Raii Syn. 259, 1.*
*Régina pruni, Ger. em. 1043, 1.*
*Ulmaria vulgaris, Park. 592.*

Meadow sweet. Meadow sweet. Queen of the meadows.

Damp fields and pastures; perennial; June and July.
Root fibrous; stem 4 feet high; flowers white, small, odoriferous.

Fam. XXVII. 62. DRUPACEÆ. Rosacearum pars, Jussieu.

Calyx free, persisting, 5-cut; petals 5, inserted on the calyx; stamen indefinite, on the calyx under the petals; ovary simple, free, 1-styled; fruit a drupe, nut 1 or 2-seeded; seeds pendulous from the side; perisperm very thin, fleshy; radicle above; corculum straight. — Stem woody; leaves simple, glandular at bottom or on the petiole; flowers complete, hermaphrodite.

Drupe not glaucous; nut globular .... Cerasus. 360.
Drupe glaucous; nut ovate, pointed .... Prunus. 361.

I. 360. CERASUS. Theophrastus. Cherry.

Drupe fleshy, globose, bald, rather furrowed on one side, not covered with a glaucous pollen; nut smooth, globular, with a rather prominent angle on one side.

a. Padus. Leaves deciduous; petiole glandular; flowers racemose.

Leaves ovate, lanceolate, deciduous, bald, doubly serrate; petioles with 2 glands at the base; flowers racemose; racemes pendulous.

*Cerasus avium nigra et racemosa, Raii Syn. 463, 1; Ger. em. 1504, 9.*
*Cerasus avium rubra, Ger. em. 1504, 10.*
*Cerasus avium racemosa, Park. 1517.*
*Prunus Padus, Lin. S. P. 677.*
*Cerasus Padus, De Candolle Fl. Gall. 3781.*


Woods and hedges; tree; May.
Leaves petioled, veiny, odour like rue; racemes single, from the base of the young leaves; flowers white; petals finely serrated; drupe black; (nut with cavities on the outside, Stokes)—Bark in decoction used to cure the venereal disease; fruit nauseous, but gives an agreeable flavour to wine and brandy, a decoction of the fruit used in dysentery.

b. Cerasus. Leaves deciduous; flowers umbellicated.

2. Cerasus hortensis. Garden cherry. Umbels few-flowered, peduncled; leaves ovate, lanceolate, bald, doubled together.

Cerasus sylvestris fructu rubro, Rail Syn. 463, 1.
Prunus avium, Lin. S. P. 680.
Wild cherry.
Woods, also cultivated; tree; April to June.
Petioles with 1 or 2 glands near the end, sometimes 0; leaves with the lowermost teeth on one and sometimes both sides glandular; drupe red.—Fruit of the cultivated varieties esculent, but generally difficult of digestion; wood close grained; gum differs in chemical qualities from that called gum Arabic, but is equally nutritive.

β. parva. Drupe heartshape, small, red.

Cerasus sylvestris fructu minimo cordiformi. Rail Syn. 463, 3.
Prunus Cerasus β, Smith Fl. Brit. 527.

γ. acidula. Drupe round, red, tart, flesh easily separable from the nut.

Cerasus vulgaris, Ger. em. 1502, 1.
Kentish cherry.

δ. majalis. Leaves when young downy underneath along the main and large ribs; drupe round, uniformly red, flesh easily separable.

May duke cherry.

ε. cordiformis. Drupe heartshape, white and red; flesh whitish, adhering to the nut.

Cerasus Hispanica, Ger. em. 1502, 3.
Cerasus Hispanica, sive alba, Park. Par. 573, 3.
White heart cherry.

ζ. nigra. Drupe heartshape, reddish black; flesh blackish red, very sweet.

Cerasus cordata, Park. Par. 573.
Black heart cherry. Small la cœur or heart cherry.
*Umbels sessile; leaves ovate, lanceolate, downy beneath.*
 Cannesylvestrisfructunigro, *RAII Syn. 462, 2.*
Black cherry. *Mazzards. GeE.*

Woods and hedges, also cultivated; tree; April.

Fruit ovate, blackish, sweet.

Corun cherry. *Carrons.*

II. 361. PRUNUS. Pliny.

*Plum.*

_Drupe fleshy, bald; furrowed on one side, covered with a glaucous pollen; nut ovate, oblong, compressed; rough; edge furrowed angularly; tip pointed._

1. Prunus spinosa. Thorny plum.

_Branches ending in spines; leaves elliptical, lanceolate; peduncles solitary; fruit upright, roundish._

Prunus sylvestris, *RAII Syn. 462, 1; Ger. em. 1497, 5; Park. 1033.*
Black thorn. *Sloe.*

Woods and hedges; shrubby; March and April.

_Branches divaricating; flowers white, appearing before the leaves are expanded; drupe black._—Root spreads wide; wood, hard, tough; thorns produce unpleasant wounds; leaves when young used to reduce the price of tea; fruit rather acid, very rough; bark may be used for the Peruvian; flowers in infusion purgative; juice of the fruit serves to mark linen with an indelible stain.


_Branches mostly ending in a spine; leaves lanceolate, ovate, convolute, villous beneath; peduncles rarely solitary; drupe roundish._

Prunus sylvestris major, *RAII Syn. 462, 2.*
Black bullace. *Black bullasse.*
Woods and hedges, also cultivated; tree; April.
Leaves narrow at bottom; petals white, reverse ovate; drupes solitary.—Fruit eatable, but inferior in flavour, is rendered better by exposure to frost.


Branches unarmed, spreading; leaves ovate, lanceolate, hirsute beneath; peduncles solitary; drupe ovate, spherical.

*Prunus domestica,* Ger. em. 1497, 1; Lin. S. P. 650 β.


Woods and hedges; also cultivated; tree; April.
Leaves serrated; peduncles short, sometimes in pairs or threes; drupe dark purple.—Fruit austere, used chiefly in pastry; also to make an acerb wine, which serves to reduce or imitate port wine.

Many varieties of this species are cultivated, differing in the size, shape, and colour of the fruit, and in its flavour; this fruit is peculiarly apt to induce the cholera morbus.

Fam. XXVIII. 63. LEGUMINOSÆ. Jussieu.

Calyx 1-leaved, mostly 5-cut, free; corolla inserted on the calyx; petals usually 5, irregular, papilionaceous; upper petal ( vexillum or standard) covering the others, 2-side petals (wings) and the two lower (keel) mostly soldered together; stamens usually 10; monadelphous; or diadelphous, 9 on an androphore and 1 single; ovary free; style 1; legumen 2 valved, 1 or 2-celled; seed affixed on one of the sutures; perisperm 0; radicle inclining to lobes; cotyledons thick, sometimes carried up in germination unchanged and distinct from the seminal leaves.—Stem shrubby or herbaceous; leaves alternate, mostly pinnate, or ternate, rarely 0; leaflets sometimes sleep at night; stipules axillary.

a. Stamens monadelphous; leaves simple, ternate, or pinnate with an odd leaflet.

Cal. deeply 2-cut; lobes keeled at bottom; legumen scarcely longer than the calyx . . . . ULEX. 362.
Cal. 2-lipped, 2 and 3-toothed; keel decumbent, not enclosing the stamens and style

**Genista.** 363.

Cal. 5-cut, bellshape; standard striated; legumen rhomboidal, sessile ............... **Ononis.** 364.

Cal. 5-toothed, mouth contracted, middle swoln; legumen small, 1 or 2-seeded ... **Anthyllis.** 365.

b. Stamens diadelphous; leaves ternate, or pinnate with an odd leaflet.

Cal. tubular, 5-toothed; keel simple; wings short; legum. 12-seeded; flow. in heads ........................................ **Trifolium.** 366.

Cal. tubular; 5-toothed; keel simple; wings short; legum. longer than the calyx; flowers racemous ............... **Melilotus.** 367.

Cal. tubular, 5-cut; keel remote from standard; legumen curved or spiral .... **Medicago.** 368.

Cal. tubular, 5-cut; wings and stand. connivent; legumen round; stipules leaf-like ...................................... **Lotus.** 370.

Cal. bellshape, 5-cut; keel very small; wings and stand. spreading; legum. compressed, peduncled, many-seeded .... **Trigonella.** 369.

Cal. 2-lipped; upper lip 4-cut, equal; lower simple, linear; keel 2-petaled; leg. ovate, 3 to 6-seeded .......... **Glycyrrhiza.** 371.

c. Stamens diadelphous; legumen 2-celled; leaves pinnate with an odd leaflet.

Cal. 5-cut; keel pointed; legumen 2-celled; upper suture bent inwards ... **Oxytropus.** 372.

Cal. 5-cut; keel blunt; legumen 2-celled; lower suture bent inwards ... **Astragalus.** 373.

d. Stamens diadelphous; legumen 1-celled; leaves abruptly pinnate, main petiole ending in a tendril or thread.

Style above flat, villous ............... **Lathyrus.** 374.

Style above keeled, villous ............... **Pisum.** 375.

Style linear, slender, hairy at the tip ... **Orobus.** 376.

Style bearded beneath the stigma ....... **Vicia.** 377.
e. Stamens diadelphous; legumen many-celled; cells 1-seeded, not opening spontaneously.

Legumen cylindrical, bent ........ Ornithopus. 378.
Legumen compressed, bent, membranaceous, one suture deeply toothed .... Hippocrepis. 379.
Legumen compressed, prickly; keel very blunt; wings very short .... Onobrychis. 380.

A. Stamens monadelphous.

I. 362. ULEX. Pliny.

Corolla-keel 2 petaled; stamens monadelphous; androphore tubular, cut above; legumen turgid, scarcely longer than the calyx, few-seeded.—Stem undershrubby, very spinous; leaves simple, lanceolate; flowers axillary, yellow.

1. Ulex Europaeus. European furze.

Twigs upright; leaves lanceolate, linear, villous; bracteae ovate, weak; calyx-teeth very small, connivent.

Genista spinosa vulgaris, Rail Syn. 475, 1; Ger. em. 1319.
Genista spinosa major vulgaris, Park. 1003.
Ulex Europaeus, Lin. S. P. 1045.

Dry heaths, also cultivated; shrub; all the year, chiefly in May.

Branches very close, tangled; spines very sharp, evergreen; peduncles solitary, 1-flowered; corolla golden-yellow, odour like honey; legumen 4-seeded.—Young shoots bruised used to feed sheep and cattle; also cut for fuel, and to light fires of fossil coals.

2. Ulex nanus. Dwarf furze.

Twigs decumbent; leaves linear, bald; bracteae very small, pressed close to the stem; calyx-teeth lanceolate, distant.

Genista spinosa minor, Rail Syn. 475, 2; Park. 1003.
Genista aculeata minor, Ger. em. 1321, 6.
Ulex Europaeus β, Lin. S. P. 1045.
Ulex minor, Roth Pl. Germ.
Scorpion furze.

High heaths; shrubby; August and September.
Plant much smaller than U. Europaeus; legumen hairy.
II. 363. GENISTA.

Broom.

Calyx 2-lipped; upper lip 2-toothed, lower 3-toothed; standard oblong, turned back; keel lying down, not entirely covering the stamens and pistils; stamens monadelphous; legumen oblong.—Stem shrubby; leaves simple or ternate; stipules scarcely any; flowers yellow.


Leaves oblong, ternate or solitary; branches stiff, angular; flowers axillary; peduncles short; legumen many-seeded; edge hairy.

Genista angustissima trifolia, Ratii Syn. 474.
Genista, Ger. em. 1311, 1.
Genista vulgaris, et Scoparia, Park. 228.
Spartium Scoparia, Lin. S. P. 996.

Fields and dry woods; shrubby; May and June.

Branches evergreen, bald; leaves small, bald; flowers solitary, drooping, large; corolla gold or citron-yellow.—Tops and seeds in infusion diuretic, serviceable in dropsy; seeds roasted substituted for coffee; young flowers pickled for sauce; ashes afford a tolerably pure subcarbonate of potash; when sheep are pastured on it in bloom the rot is prevented; twigs used for carpet-brooms, and their bark may be made into flax.


Branches round, streaked, upright, unarmed; leaves lanceolate, bald; flowers racemose; legumen bald, roundish, many-seeded.

Genistella tinctoria, Ratii Syn. 474, 1; Ger. em. 1316, 1; Lin. S. P. 998.
Genista tinctoria vulgaris, Park. 228.

Pastures and woods; shrubby; July and August.

Root woody; branches ascending; leaves sessile, slightly hairy on the edge; flowers axillary; calyx angular.—Plant in decoction diuretic; seeds purgative; flowers dye wool yellow.


Stem tubercled, decumbent, unarmed; leaves lanceolate, folded, blunt, hairy beneath; flowers axillary, nearly sessile; calyx, corolla, and legumen hairy, hairs silklke.

Genista pilosa, Lin. S. P. 999.
596 563. Genista. 63. LEGUMINOSÆ. Pl. ex. cal.

High sandy fields; shrubby; May.
Root woody; stem streaked; leaves in bundles, petioled; legumen compressed, 2 or 3-seeded.

b. Branches spinous.

Leaves ovate, bald; spines simple and compound; flowering branches spineless; flowers axillary, solitary, nearly racemose; corolla and legumen bald.
Genista minor aspalathoides, sive Genista spinosa Anglica, Raii Syn. 475, 1.
Genista aculeata, Ger. em. 1320, 4.
Genistella aculeata, Park. 1004.
Genista Anglica, Lin. S. P. 999.
Needle furze. Petty whin.

Spongy heaths; shrubby; May and June.
Root woody; stem ascending; spines spreading, awlshape; leaves pointed; flowers citron; standard gold-colour; legumen turgidj many-seeded.

III. 364. ONONIS. Theophrastus. Rest-harrow.
Calyx bellshape, 5-cut, lobes linear; standard striated; stamens monadelphous; legumen inflated, sessile, few-seeded.—Leaves ternate, leaflets slightly serrated; stipules joined to the petiole; flowers (in the English species) axillary, sessile, purplish.

Stem villous, ascending; twigs grow spinous; leaves often simple, not in the least cut at bottom; flowers nearly sessile, solitary or in pairs.
Ononis arvensis, Lightfoot Fl. Scot. 386.
Barren pastures and waysides; perennial;
Root black; stem annual, leafy; branches villous; lower leaves ternate; leaflets ovate, rather viscid.

b. repens. Branches villous; leaves round, serrate.
Ononis procumbens maritima ostris folis hirsutis pubescentibus, Raii Syn. 332, 3.
Ononis repens, Lin. S. P. 1006.

γ. antiquorum. Branches nearly smooth; flowers solitary, larger than the leaves.
Ononis arvensis b, Smith Fl. Brit. 758.

δ. spinosa. Stem hairy, hairs brown; leaves rather bald; flowers in pairs larger than the leaves.
Anonis spinosa, flore purpureo, Raii Syn. 332, 1; Park. 994.
Anonis sive Resta bovis, Ger. em. 1322, 1.
Cammock. Ground furze. Rest harrow.

Roots in decoction recommended in gravelly complaints.

v. inermis. Branches hairy; spines 0; flowers in pairs, shorter than the leaves.

Anonis non spinosa purpurea, Raii Syn. 332, 2.
Odour like a goat, but not the O. hircina of Jacquin.


Calyx ovate, oblong, inflated in the middle, persisting, 5-toothed, mouth connivent; stamens monadelphous; legumen small, 1 or 2-seeded, closed up in the persistent calyx.
—Flowers yellow, in heads; leaves pinnate.

Anthyllis leguminosa. Podded kidney-vetch.

Stem herbaceous; leaves lyrately pinnate, leaflets not in the least cut; head terminal, double.

Vulneraria rustica, Raii Syn. 335, 1.
Anthyllis leguminosa, Ger. em. 1340, 1.
Anthyllis leguminosa vulgaris, Park. 1393.
Anthyllis vulneraria, Lin. S. P. 1012.

Ladies finger.

Chalk and sandy pastures; perennial; July and August.
Root woody; stem hairy; hairs close to the stem; leaves glaucous, hairy underneath; head many-flowered, bracteolate; bractæ palmate; calyx white, hairy; corolla gold yellow.

b. coccinea. Flowers scarlet.

Vulneraria supina, flore coccineo, Dillen in Raii Syn. 325, 2.

B. TRIFOLIATE. Cotyledons always rising out of the earth, mostly formed like seed-leaves; leaves ternate, or pinnate with an odd one; stamens diadelphous; legumen 1-celled.

V. 366. TRIFOLIUM. Pliny. Trefoli.

Calyx persisting, tubular, 5-toothed; heel simple, shorter than the wings or standard; legumen very small, 1 or 2-seeded, covered with the calyx.—Leaves ternate; flowers in heads.
a. Trifoliastrium. Calyx bald, not inflated after flowering; legumen 2 or 4-seeded, covered with the calyx; root perennial; flowers white or reddish.

1. Trifolium repens. Creeping trefoil.
Head umbellled; legumen 4-seeded; calyx-teeth unequal; leaflets olate, oblong, nicked, finely serrate; stem creeping.

Trifolium pratense album, Rait Syn. 327, 1; Park. 1110.
Trifolium pratense, Ger. em. 1185.
Trifoliastrium, Micheli Nov. Gen. 25, 3.
Trifolium repens, Lin. S. P. 1090.
Meadow trefoil. White Dutch clover. Shamrock.

Fields and pastures; perennial; May to September.
Stem prostrate; petioles long; leaves often spotted with brown and white; peduncles long, upright; heads become pendulous; calyx 10-ribbed.—Considered as indicating a rich soil.

b. quinatum. Leaflets 4 or 5, dark brown.
γ. sanguineum. Leaflets deep purple.
Bloodwort.
δ. carneum. Flowers flesh-colour.
ε. proliferum. Flowers bearing a small head of leaves.
ζ. hybridum. Stem ascending, branchy; calyx-teeth unequal.

Trifolium repens hybridum, Hudson Fl. Angl.
Trifolium hybridum, With. B. Arr. ed. 3 and 4, not of Linnaeus.
Differs from T. hybridum of Linnaeus by its calyx-teeth.

b. Calyx bald, not inflated after flowering; flowers white or reddish; legumen 1-seeded; root annual.

Head spherical, axillary and terminal, sessile; calyx-teeth unequal, heartshape, reflected, venose, awned, spread; leaflets reverse ovate, finely serrated; legumen 1-seeded.

Trifolium cum glomerulis ad caulium nodos rotundis, Rait Syn. 329, 10.

Sandy fields and pastures; annual; July.
Stem prostrate, striated; stipules ovate, scarious; head hemispherical, many-flowered; calyx bell-shape, pale, teeth half as long as the tube, reflected; corolla rose-colour.
   Head roundish, sessile, lateral and terminal; calyx-teeth lanceolate, acute, recurved, longer than the corolla; legumen 2-seeded.

   *Trifolium minimum supinum*, Rau Hist. Pl. 1. 992.

   Sandy sea-shores; annual; June and July.

   Stem short, tortuous; petioles long; leaflets blunt; stipules membranaceous, broad, divaricating; flowers sessile, glomerated; corolla white.—Leaves alone appear above the sand.

c. Calyx villous or hirsute, not inflated after flowering; corolla-tube very long; standard deciduous; flowers white or reddish; fruit covered with a hardened central involucrum.

   Head villous, 4 or 5-flowered; coma or involucrum central, reflected, stiff, stellate, covering the fruit.

   *Trifolium punifolium supinum*, flosculis longis albis, Rau Syn. 327, 2.

   Sandy and gravelly places; annual; May.

   Stem prostrate, depressed, spreading; leaves hairy; stipules ovate, lanceolate; peduncles in fruit deflected into the ground; calyx tubular; teeth hairlike, nearly equal; corolla slender, white; legumen 1-seeded.

d. *Trifolium.* Calyx villous or hirsute, not inflated after flowering; corolla 1-petaled; flowers spiked, perennial.

   Spike close, ovate; four of the calyx-teeth equal; corolla unequal; stipules ovate, awned; leaflets ovate, scarcely cut; stem ascending.

   *Trifolium pratense purpureum*, Rau Syn. 328.
   *Trifolium pratense*, Lin. S. P. 1082.

   Marie grass. Purple clover. Honeysuckle trefoil.

   Fields and pastures; perennial; May to September.

   Stem rather branchy; leaves nearly bald, ribs purplish and anastomosing near the margin; spike solitary, sessile; calyx 10-ribbed; standard longer than the wings.

   b. *sativum.* Stems many, large, more upright; leaflets oblong, oval, hairy; peduncles mostly in pairs.

   Broad clover.

g. *album.* Flowers cream-colour.
6. Trifolium medium. **Middle-size trefoil.**
Spike open, nearly globular, solitary; 3 lower teeth of the calyx longest, shorter than the corolla; stipules awl-shape; leaflets elliptic, very finely serrated; stems branchy, bent.

Trifolium flexuosum, Jacquin Aust. 386.
Trifolium alpestre, Hudson Pl. Angl. 326, not of Jacquin.
Zigzag trefoil.

Clacky and clayey pastures; perennial; July.
Leaves rather glaucous beneath, edge hairy; propagates itself by the root.—Cattle not fond of it until the frost has affected it.

7. Trifolium incarnatum. **Flesh-colour trefoil.**
Spike oblong, villous, blunt, leafless; leaflets roundish, reverse heartshape, ovate, crenated, villous.

Trifolium pratense purpureum minus foliis cordatis, Dillen in Raiti Syn. 328, 5.
Trifolium incarnatum, Willd. S. P.
Trifolium pratense 3, Smith Fl. Brit. 785.

Damp pastures; perennial; July.
Stem simple, stiff; upper leaves often opposite; leaflets small; stipules ovate, awned; peduncles long; calyx-teeth 4, nearly equal; flowers large, flesh-coloured.

8. Trifolium ochroleucum. **Yellowish-white trefoil.**
Spike villous, ovate, roundish; stem nearly upright, branchy, downy; leaflets oblong; lower leaflets reverse heartshape; lowest tooth of the calyx much the longest.

Trifolium pratense hirsutum majus, flore albo sulphureo, seu ἀγκελλων, Raiti Syn. 328, 3.

Chalky and sandy dry pastures; perennial; June, July.
Stem upright, rather branchy; leaves distant; upper leaflets opposite, not in the least cut; stipules linear, ribs simple; head terminal, peduncled, solitary; corolla sulphur-yellow.

c. Lagopodium. Calyx villous, not inflated; corolla 5-petaled; flowers spiked; roots annual.

9. Trifolium arvense. **Fallow trefoil.**
Spike very villous, nearly cylindrical; calyx-teeth bristle-like, equal, rather longer than the corolla; leaflets reverse ovate, lanceolate.
Trifolium arvense humile spicatum, seu Lagopus, Raiti Syn. 330, 14.
Lagopodium, Pes leporis, Ger. em. 1193, 3.
Lagopus vulgaris, Park. 1101.
Trifolium arvense, Lin. S. P. 1083.
Hare-foot. Hares foot trefoil.

Sandy fields; annual; July and August.

Stem mostly upright, very much branched, villose, hairy; stipules linear, tip awlshape; spike greyish; odour permanent, aromatic when dried; corolla white or flesh-colour.

β. namum. Stem trailing, 2 or 3 in. high; leaves and stipules silky; spikes many, roundish; peduncles short.

Trifolium q. Lagopus perpusillus, supinus perelegans maritimus Lobelli, Dillen in Raiti Syn. 330, 15.

Spike hairy; calyx-teeth leaflike, equal; stem diffused; leaflets reverse-heartshape, toothed; stipules elliptical.

Trifolium stellatum, Lin. S. P. 1083.

Sea-shores; annual; July.

Stem much branched; hairs horizontal; spike round or ovate; calyx-teeth spreading; mouth when half grown surrounded by a red and white circle; standard red; wings and keel pale red or white.

Spike hairy, globular; calyx-teeth spreading and dilating after flowering; leaflets reverse ovate, lanceolate; stipules lanceolate upright.

Trifolium stellatum glabrum, Raiti Syn. 329, 8; Ger. em. 1208.
Trifolium maritimum, Hudson ed. 1, 284.
Trifolium stellatum, Hudson Pl. Angl. 326.

Star-headed trefoil. Teasel-headed trefoil.

Bogs by the sea; annual; June and July.

Stem spreading; branches rather hairy; upper leaves opposite, leaflets scarcely cut, hairy; spike small, blunt; calyx-tube hairy at the tip; teeth equal, growing long after flowering, 3-ribbed, persisting; corolla pale red; petals nearly equal.

f. Calyx villous; not inflated; corolla 5-petaled; flowers in heads; roots annual.


Heads ovate, sessile, lateral; calyx-teeth unequal, lanceolate, mucronate, stiff, bent back; leaflets reverse-ovate, finely serrate.

Sandy and chalky fields; annual; May and June.
*Stem* prostrate, rough; *leaves* hairy; *stipules* scarious, lanceolate; *heads* hairy; *calyx* furrowed; *corolla* white.

*Heads* ovate, sessile, lateral and terminal; *calyx* elliptical, hirsute, furrowed; *teeth* bristlelike, growing long, spreading; *stipules* ovate, pointed, scarious, ribbed.

*Soft-knotted trefoil.*

Dry barren sands; annual; June.
*Stem* procumbent, villous, branchy; *leaflets* reverse ovate or reverse heartshape; *calyx* furrowed; *corolla* purplish.

g. *Calyx* becoming inflated; *legumen* 2-seeded; *flowers* white or reddish.

*Strawberry trefoil.*
*Head* roundish; *calyx* when in fruit inflated, membranaceous, downy; *teeth* bristlelike, 2 bent back.

Trifolium fragiferum, *Raii Syn.* 329, 12; *Ger.* em. 1208, 4; *Lin.* S. P. 1086.
Trifolium fragiferum Frisicum, *Park.* 1109.

Damp fields and pastures; perennial; July and August.
*Stem* prostrate; *leaflets* toothed, bald; *corolla* flesh-colour; *calyx* reticulately veined.

h. *Lupulinum.*
*Calyx* not enlarging; *standard* persistent, bending back; *flowers* yellow; *root* annual.

15. *Trifolium procumbens.*
*Procumbent trefoil.*
*Spike* ovate, imbricate; *standard* furrowed; *stem* procumbent *leaflets* reverse ovate, middle leaflet petioled.


*Hop trefoil.*

Dry sandy pastures; annual; July.
*Stem* diffused, ends ascending; *leaflets* toothed, bald; *stipules* semi-ovate, not cut, fringed; *spike* many-flowered, axillary, peduncled; *calyx-teeth* unequal; *standard* bent inwards, reverse heartshape.
*Spike* headed, hemispherical; *peduncles* stiff; *standard* rather smooth; *stem* procumbent; *leaflets* reverse ovate, middle *leaflet* petioled; *petiole* lengthened above.  
*Trifolium lupulinum alterum minus*, *Raii* Syn. 330, 17.  
*Trifolium luteum minimum*, *Ger. em.* 1186, 6; *Park*. 111.  
*Trifolium procumbens*, *Hudson* Fl. Ang. 328.  
*Trifolium dubium*, *Sibthorp* Fl. Oxon. 231.  
Little yellow trefoil. Small hop trefoil.  

Dry sandy pastures; annual; June to August.  
*Stem* prostrate; *leaves* reverse heartshape, streaked; *stipules* ovate, fringed; *peduncles* hairlike; *spike* 8 to 10-flowered; *calyx-teeth* unequal; *standard* ovate, not bent inwards.

*Spike* headed, loose, few-flowered; *peduncles* hairlike, bent; *standard* smooth; *stem* prostrate, very slender; *leaflets* reverse heartshape, middle *leaflet* petioled.  
*Trifolium lupulinum minimum*, *Dille in Raii* Syn. 331, 17*.  
*Trifolium filiforme*, *Lin. S. P.* 1088.  
Damp sandy places; annual; June and July.  
*Stem* threadshape; *leaves* toothed; *stipules* ovate; *peduncles* hairlike; *spike* 3 to 5-flowered; *flowers* small; *calyx* bald; *standard* ovate, not inflected.

VI. 367. **MELILOTUS.** Pliny.  
Melilot.  
*Calyx* tubular; 5-toothed; *keel* simple, shorter than the wings or standard; *legumens* longer than the *calyx.*—*Leaves* ternate; *flowers* yellow, in loose racemes.

*Melilotus officinalis.*  
*Legumens* racemose, hanging, rather wrinkled, pointed; 1 or 2-seeded; *stem* upright; *leaflets* ovate, oblong, toothed, bald.  
*Melilotus vulgaris*, *Raii* Syn. 331, 1; *Park*. 719.  
*Melilotus Germanica*, *Ger. em.* 1205†.  
*Trifolium Melilotus officinalis*, *Lin. S. P.* 1078.  
*Melilotus officinalis*, *Willd. S. P.*  
Common *melilot.* Plaster clover. Harts clover, Yorkshire.  

Fields and hedges; annual; June and July.  
*Stem* 2 feet high, branchy; *racemes* close, many-flowered; *flowers* gold-yellow, sometimes white, drooping; *legumens* hairy.—When dry, fragrant, the distilled water, although only slightly odorous, improves the flavour of other substances.
VII. 368. MEDICAGO. Tournefort.  

Lucerne.

Calyx nearly cylindrical, 5-cut; keel distant from the standard; legumen many-seeded, falcate or spiral, twisted. —Leaves ternate; flowers in heads or solitary, yellow, rarely blue.

a. Legumen sickleshape, or curved circularly.

Peduncle racemous; legumen smooth, slightly spirally twisted; stipules not in the least cut; leaflets oblong, toothed; stem upright, bald.

Trifolium Burgundiacum, Ger. em. 1189.  
Medicago sativa, Lin. S. P. 1096.  

Fields and pastures, naturalized; also cultivated; peren.; June and July.

Root woody; stem 2 feet high, much branched, bald; leaves petioled; leaflets serrated at the tip, hairy beneath; flowers violet; legumen 2 or 3-whirled.—Herb affords good forage, and in rich ground may be cut several times in the summer.

Peduncle racemous; legumen twisted, sickleshape, smooth; leaflets oblong, toothed at the tip; stem prostrate at the base.

Medica sylvestris, Rall Syl. 3331, 1.  
Trifolium luteum siliqua cornuta, Ger. em. 1191.  
Medica frutescens flavo flore Clusii, Park. 1114.  
Medicago falcata, Lin. S. P. 1096.  
Yellow horned trefoil. Butter jags.

Edges of fields and old walls; perennial; July.

Leaves slender; flowers yellow, violet, or yellow and violet, or greenish; legumen 4 to 8-seeded.

Spike ovate; legumens kidneyshape, 4-seeded, downy, streaked; leaflets ovate, slightly toothed at the tip; stem procumbent.

Melilotus qu. Trifolium luteum lupulinum, Rall Syl. 331, 1.  
Trifolium luteum lupulinum, Ger. em. 1188. 5.  
Trifolium montanum lupulinum, Park. 1105.  
Medicago lupulina, Lin. S. P.  

Fields and pastures, also cultivated; biennial; May to August.

Stem prostrate, angular; peduncles long; flowers small; legumen hairy, black.
β. scabra. Legumen cochleate, about 10 on one peduncle, slightly compressed, rough, with many tubercles.

Trifolium cochlæatum, quod Medica polycarpos fructu minore compresso scabra Doody, Rauli Syn. 333, 4.

γ. glabra. Legumen bald.

b. Legumen snail-like, whirls many, downy, rather spinous.


Peduncles many-flowered; stipules semi-ovate, undivided; leaflets reverse ovate, slightly toothed; legumens orbicular, hirtous; spines stiff, hooked, divericating.


Medica echinata parva recta, Park. 1115.
Small hedgehog trefoil.

Sandy places; annual; June.

Plant very small, very downy; leaves not spotted.

β. maritima. Plant larger, less downy.

Trifolium cochlæatum, quod Medica marina supina nostras, foliis viribus ad summos ramulos villosis Plukeneti, Dillein in Rauli Syn. 334, 5.

c. Legumen snail-like; whirls many, bald, spinous.


Peduncles 3 or 4-flowered; legumens bald, flat upon both sides, whirls 5; spines very short, awlshape, radiating; stipules 1-leaved, toothed; leaflets rhomboid, ovate, toothed, hairy.

Trifolium cochlæatum modiolis spinosis, Rauli Syn. 333, 5.
Medica polymorpha muricata, Lin. S. P. 1098.

Sea-shores; annual; June.

Leaves not spotted, hairy.


Peduncles 2 to 4-flowered; legumens compressed on both sides; prickles awlshape, long, bent, spreading; stipules dilated, toothed; leaflets reverse heartshape, toothed, spotted, smooth.

Trifolium cochlæatum folio cordato maculado, Rauli Syn. 333, 1.
Trifolium cordatum, Ger. em. 1191, 4.
Medica Arabica Camerarii, sive Trifolium cordatum, Park. 1115.
Medica polymorpha Arabica, Lin. S. P.
Medica maculata, Sibthorp Fl. Ox.

Heart trefoil.
Sandy pastures; annual; June and July.

*Stem* prostrate; *leaves* bald, spotted with black; *flowers* yellow; *standard* nicked, larger than the wing.

VIII. 369. TRIGONELLA. Linnaeus. Fenugreek-trefoil.

*Calyx* bellshape, 5-cut; *keel* very small; wings and *standard* slightly spread, appearing like a 3-petaled corolla; *legumen* peduncled, oblong, many-seeded, compressed or cylindrical, pointed, nearly upright.—*Stem* herbaceous; *leaves* ternate; *flowers* axillary and terminal.


*Legumens* 2 or 3, peduncled, slightly compressed, rather falcate, 8 or 10-seeded; *stem* declined; *leaflets* ovate, toothed.

*Fenugracum humile repens*, ornithopodiil *siliquis brevibus erectis*, *Raii Sym.* 331, 1.

*Trifolium* Melilotus *ornithopodioides*, *Lin. S. P.* 1078.

*Trigonella* ornithopodioides, *De Cand. Pl. Gall.* 3926.

Barren sandy heaths; annual; June and July.

*Stem* prostrate, slightly branched; *leaves* bald; *stipules* lanceolate, connate; *peduncles* axillary, 3-flowered; *calyx-teeth* bristlelike; *standard* reddish; *legumen* wrinkled, hairy.


*Calyx* tubular, persisting, 5-cut; *wings* connivent above, shorter than the *standard*; *legumen* oblong, upright, cylindrical.—*Leaves* trifoliate; *stipules* leaflike, ovate, distinct from the petiole.


*Head* depressed, 8 to 10-flowered; *stem* decumbent, solid; *legumens* spreading, stiff; *claw* of the *standard* ovate.

*Lotus corniculata glabra minor*, *Raii Sym.* 334, 1.


*Small cadded trefoil*. Milk vetch.

Fields and pastures; also cultivated; perennial; June to August.

*Stem* decumbent; opposite *leaflets* closed together; *flowers* gold-colour; *standard* fulvous; *legumens* larger towards the end.—Herb, in moist meadows, makes excellent hay; *flowers* turn green in drying, like those of indigo.

2. *tenuifolius*. *Stem* long, slender, rather shrubby; *leaves* and *stipules* linear, lanceolate, bald; *legumen* slender.

Lotus corniculatus minor, folis subtus incanis, Dill. in Raii Syn. 334, 5.

β. glabra. Leaves bald; stipules semi-ovate; filaments clubshape.
Lotus corniculatus 6, Withering Bot. Arr. 808.

2. Lotus major. Great birdsfoot-trefoil.
Heads depressed, 20-flowered; stem upright, pipey, cylindrical; calyx-teeth bearded, bent back; legumens cylindrical; spreading; claw of the standard linear.
Lotus corniculatus major, Raii Syn. 334, 3.
Lotus uliginosus, Hoffmann Germ. 2, 100.
Lotus rectus, De Candolle Fl. Gall. 3939.
Damp places and woods; perennial; June and July. Stem 3 feet high; branches long, diffuse; stipules nearly heartshape; flowers golden; legumens tapering towards the end.

β. pilosus. Herb slightly hairy.
Lotus pentaphyllus medius, pilosus, Dillen in Raii Syn. 334, 4.

Peduncles 1 or 2-flowered; stem much branched, decumbent; leaves and calyx hairy; legumens round, linear, stiff, very slender.
Rocks and sandy shores of the sea; peren.; May, June. Leaflets ovate, acute; peduncles axillary; flowers golden; legumens 6 times as long as the calyx; seeds globular.

X. 371. GLYCYRRHIZA. Dioscorides. Liquorice.
Calyx tubular, 2-lipped, upper lip 4-toothed, teeth unequal; lower lip simple, linear; keel two-petaled; legumen ovate, rather compressed, 3 to 6-seeded.

Glycyrrhiza glabra. Bald liquorice.
Legumen bald; stipules 0.
Glycyrrhiza vulgaris, Raii Syn. 324, 1; Ger. em. 1802, 2.
Glycyrrhiza vulgaris siliquosa, Park. 1038.
Cultivated; perennial.
Flowers in racemes; leaflets ovate, rather glutinous beneath; seldom flowers and never ripens its fruit in England.
—Root very sweet, and diminishes rather than increases thirst.
C. ASTRAGALIDEÆ. Stamens diadelphous; legumens 2-celled; partitions longitudinal, complete or incomplete.

XI. 372. OXYTROPIS. De Candolle. Axe-vetch.

Calyx 5-cut; keel ending in a straight point; legumen 2-celled, or imperfectly 2-celled; upper suture bent inwards.


Herb stemless, villous, silky; legumen 2-celled, upright, ovate, cylindrical, inflated, downy; style persistent; stipules adherent to the petiole.

Astragalus Uralensis, Lin. S. P. 1071.
Oxytropis Uralensis, De Candolle Fl. Gall. 3955.

Sandy alpine places; perennial; July.

Leaves radical; leaflets ovate, lanceolate; petioles persistent; stipules scarious; spike longer than the leaves; flowers violet, spiked or in heads; bracteae linear, lanceolate, the length of the calyx.

2. Oxytropis campestris. Field axe-vetch.

Herb stemless, rather silky; scape nearly as long as the leaves; legumen upright, ovate, inflated, downy, imperfectly 2-celled; stipules adherent to the petiole.

Astragalus campestris, Jaquin Col. 1, 1319.
Oxytropis campestris, De Candolle Fl. Gall. 3956.

Alpine fields; perennial; July.

Leaves radical; flowers spiked, yellow; base of the keel purple; spike leafless.

XII. 373. ASTRAGALUS. Dioscorides. Milk-vetch.

Calyx 5-toothed; keel blunt; legumen 2-celled, or imperfectly 2-celled; lower suture bent inwards.

a. Stipules not adherent to the petiole; flowers purple; stem diffuse.


Stem procumbent; petioles oblong; spike ovate; peduncles longer than the leaves; legumen upright, ovate, channelled.

Astragalus incanus parvus purpureus nostras, Rall Syn. 336, 2.
Astragalus hypoglottis, Lin. Mant. 2, 274.
Astragalus arenarius, Hudson Fl. Angl. 323.
Astragalus Danicus, Retz. Observ.
Astragalus Glaux, Villars Delph. 3, 459.
Astragalus epiglottis, Dickson Hort. Sicc. 1, 13.
Purple milkvort. Purple cocks-head.
High sandy and chalk fields; perennial; June and July.

Root creeping, branched; stem rather branched; leaflets small, hairy beneath; stipules ovate, lanceolate; bracteae very short; flowers purple, sometimes white; legumen hairy, 1-seeded, channelled on the back.

b. Stipules not adherent to the petiole; flowers yellowish; stem prostrate.


Stem prostrate; leaflets bald, ovate, blunt with a point; stipules oval, lanceolate; racemes peduncled, shorter than the leaves; legumes rather 3-sided, slightly bent.

Astragalus luteus perennis procumbens vulgaris sive sylvestris, Raiti Syn. 326, 1.
Hedysarum glycyrrhizatum, Ger. em. 1233.
Glaux vulgaris leguminosa, seu Glycyrrbiza sylvestris, Park. 1098; description not figure.
Astragalus glycyphyllus, Linn. S. P. 1067.
Sweet milkvetch. Wild liquorice. Liquorice vetch.

Woods and hedges on chalk; perennial; June and July.

Root branchy; stem round; leaves light green; calyx-teeth very short; legumen many-seeded.

C. LATHYROIDÆ. Cotyledons not coming out of the ground; leaves pinnate; main petiole ending in a filament or tendril; stamens 10, diadelphous; legumen 1-celled.

XIII. 374. LATHYRUS. Theophrastus. Vetchling.

Calyx 5-cut, 2 upper lobes short; style flat, broad at the tip; hairy or downy before; legumen oblong, many-seeded. —Petiole ending in a tendril.

a. Annual; peduncle 1 or 3-flowered.

1. Lathyrus aphyllus. Leafless vetchling.

Leaves 0; stipules arrowshape, approaching to heartshape, very large; peduncles 1-flowered.

Aphaca, Raiti Syn. 320, 1; Ger. em. 1250, 3; Park. 1067.
Lathyrus Aphaca, Linn. S. P. 1029.
Yellow vetchling. Small yellow vetch.

Corn-fields and woods; annual; June to August.

Stem branchy at bottom; tendrils simple; stipules ribbed, glaucous; peduncles bracteate; flowers small, drooping; legumen bald.
2. Lathyrus gramineus.  
Grassy vetchling.  
Tendril 0; leaves simple, lanceolate; stipules awlshape; peduncle 1 or 2-flowered.

Caldnancp leguminosa quorundam, Raii Syn. 325, 1.
Ervum sylvestre, Ger. em. 1249, 2.
Ervum sylvestre seu Caldancpe, Park. 1079.
Lathyrus Nissolia, Lin. S. P. 1099.
Crnim grass-fetch.

Edges of fields and woods; annual; May.

Stem 2 feet high; leaves sessile, linear, lanceolate; peduncles shorter than the leaves; standard red; wings and keel white and purple; legumen linear, roundish, hanging.

3. Lathyrus hirsutus.  
Rough vetchling.

Leaves 1-paired; leaflets lanceolate, pointed; peduncles 2 or 3-flowered; legumen compressed, hairy; seeds rough.

Lathyrus siliqua hirsuta, Raii Syn. 320, 4.
Lathyrus hirsutus, Lin. S. P. 1032.
Rough coddled chichling pea.

Fields; annual; July.

Stem winged; tendril 3-cut; leaflets bald; stipules arrowshape, pointed, hairy; peduncles thrice as long as the leaves; flowers purple; calyx hairy; stigma very blunt.

b. Perennial; peduncles many-flowered.

4. Lathyrus pratensis.  
Meadow vetchling.

Leaves 1-paired; tendrils nearly simple; leaflets lanceolate, 8-ribbed; stipules arrowshape, as large as the leaflets; peduncles many-flowered.

Lathyrus luteus sylvestris dumetorum, Raii Syn. 320, 3.
Lathyris sylvestris flore luteo, Ger. em. 1231, 6; Park. 1062.
Lathyrus pratensis, Lin. S. P. 1033.
Tare everlasting.

Fields and pastures; perennial; July and August.

Root-tubercul; stem much branched, acute-angled; leaflets bald; peduncles much longer than the leaves; calyx hairy; corolla gold-yellow; legumen bald.—Being very vivacious, it has been proposed for forage; but cattle are not fond of it.

5. Lathyrus sylvestris.  
Wood vetchling.

Leaves 1-paired; leaflets swordshape; internodes winged; wings membranaceous; peduncles 4 or 5-flowered.

Lathyrus major florubente et albido minore dumetorum, sive Germanicus, Raii Syn. 319, 2.
Lathyrus sylvestris, Lin. S. P. 1033.
Narrow leaved everlasting pea.
Damp woods and hedges; perennial; July and August.
Root branched; stem 6 feet high; tendrils 3 or 4-cut; leaflets bald, ribbed; stipules very slender, not cut; peduncles longer than the leaves; calyx bald; standard purple; wings violet; keel greenish; legumen brownish.

Leaves 1-paired; leaflets elliptical; internodes winged; wings membranaceous; peduncle many-flowered.
Lathyrus major latifolius, Raii Syn. 319, 1; Ger. em. 1229, 1.
Lathyrus major perennis, Park. 1061.
Lathyrus latifolius, Lin. S. P. 1038.
Pea everlasting.
Woods; perennial; July and August.
Leaves many-ribbed; tendrils 5-cut; stipules ovate, broader than the stem; flowers very large, rose-colour.

Leaves many-paired; leaflets linear, lanceolate, acute; stipules rather arrowshape, lanceolate; internodes winged; wings membranaceous; peduncle 3 to 6-flowered.
Lathyrus vicieaeformis, seu Vicia lathyroides nostras, Raii Syn. 320, 1.
Lathyrus palustris, Lin. S. P. 1034.
Damp fields and pastures; perennial; July and August. Tendrils 2-cut; peduncles twice as long as the leaves; flowers bluish violet; legumen bald.

XIV. 375. PISUM. Theophrastus. Pea.
Calyx 5-cut; two upper lobes shortest; style 3-sided, keeled below; stigma rough-haired; legumen oblong, many seeded; seeds globular; hilum rounded.

1. Pisum arvense. Field pea.
Petiole round; leaves pinnate; stipules nearly heartshape, crenated; peduncle 1 or many-flowered.
Pisum arvense flore roseo, fructu ex cinereo-nigricante, Raii Syn. 318, 2.
Pisum arvense, Lin. S. P. 1097.
Gray pea.
Cultivated in fields; annual; June and July.
Peduncle 1-flowered; standard rose-colour; wings dark purple; seed gray.—Leaves used as fodder; seeds nutritive but flatulent.
612 375. Pisiim. 63. LEGUMINOSÆ. Pl. ex. cal.

3. variegatum. Peduncle many-flowered; seed gray and reddish.

Pisum flore roseo, fructu variegato, Dillen in Raii Syn. 318, 3.
Maple pea.

γ. rufum. Peduncle many-flowered; standard rose-colour; wings dark purple; seed reddish.

δ. umbellatum. Peduncle many-flowered, terminal; stipules 4-cut, pointed; standard white; wings pink; seed purplish brown.

Pisum umbellatum, Dillen in Raii Syn. 318, 4; Ger. em. 1220, 3.
Pisum umbellatum, sive roseum, Park.
Rose pea. Tufted pea. Scotch pea.

ζ. quadratum. Peduncles many-flowered; seeds gray, angular, large.

Pisum majus, Ger. em. 1210, 1.
Pisum saccharatum, Park. Par. 523, 5.
Rounivial pea.

η. humile. Stem upright, not twining, branching; leaves 2-paired, leaflets rounded.

Pisum minus, Ger. em. 1219, 2.
Pisum sylvestre primum, Park. 1059.
Pisum sativum, Lin. S. P. 1026.
Field pea. Garden pea.


Petioles flattish above; stem trailing, angular; stipules arrowshape; peduncles many-flowered.

Pisum marinum, Raii Syn. 319, 6; Ger. em. 1250, 3.
Pisum spontaneum maritimum Anglicum, Park. 1059.
Pisum sylvestre, Ger. em. 1220, 3.
Pisum maritimum, Lin. S. P. 1027.

Sea-shore; perennial; June and July.
Root creeping; stem simple, bald; stipules bent back, toothed at bottom; calyx bald; standard purplish blood-colour; wings and keel bluish flesh-colour; legumen smooth. —Nutritive; first observed on the beach at Orford in Suffolk, during the famine of 1550.

XV. 376. OROBUS. Theophrastus. Peaseling.

Calyx 5-cut; 2 upper lobes shortest; style slender, linear, rough-haired at the tip; legumen oblong, roundish, many-seeded; hyle generally linear.
1. Orobus sylvaticus. Wood peaseling. Leaves pinnate, hairy, 7 to 10-paired; leaflets ovate, oblong; stipules nearly arrowshape; stem branched, trailing, hairy at bottom.

Orobus sylvaticus nostras, Raúi Syn. 324, 1.
Orobus sylvaticus, Lin. S. P. 1029.
Vicia Cassubica, Fl. Dan. 98, not of Linnaeus.

Mountainous woods and hedges; perennial; May, June. Root woody; stems many, slightly branched; tendrils very small; leaflets ovate, pointed, hairy beneath; flowers many, racemous, 1-sided, yellowish with purple lines; calyx hairy; legumen ovate, bald, 3-seeded.

β. simplicifolius. Leaves very large, simple; plant barren.

2. Orobus tuberosus. Tuberous peaseling. Leaves pinnate, 2 to 4-paired; leaflets lanceolate, pale, glaucous beneath; stipule nearly arrowshape, 4 or 5-toothed; stem simple, winged.

Orobus sylvaticus foliis oblongis glabris, Raúi Syn. 324, 2.
Astragalus sylvaticus, Ger. en. 1937, 2.
Lathyrus sylvestris ligniosior, Park. 1072.
Orobus tuberosus, Lin. S. P. 1028.
Heath pea. Wood pea. Cor-meille, Highlanders.

Heaths and pastures; perennial; May and June. Root tuberous; stem angular; leaves not ending in a tendril; leaflets blackish green, bald, flat; flowers racemous, one-rowed, purplish red growing blue; legumen many seeded; style persisting.—Tubers nutritious.

3. Orobus tenuifolius. Fineleaved peaseling. Leaves pinnate, 2 or 3-paired; leaflets slender, linear, pointed, grooved above; stipules lanceolate, pointed, toothed at bottom.

Orobus tuberosus β, Willd. S. P.
Orobus tenuifolius, Roth Fl. Germ. 1305.

Sandy places; perennial; May and June. Root tuberous; stem 9 inches high, weak, 4-angled below, winged above; flowers small, light-coloured.

XVI. 377. VICIA. Pliny. Vetch

Calyx tubular, 5-cut; 2 upper lobes short; style thread-like, in a right angle with the ovary, hairy above and below the tip; legumen oblong, many-seeded.
a. Cracca. Peduncles long, many-flowered; calyx-teeth short; stigma bearded all over; perennial.

1. Vicia sylvatica. Wood vetch. Peduncles many-flowered, longer than the leaves; leaflets illiptical, oblong, rather pointed; stipules lunate, bristle-like, toothed.


Mountainous woods and hedges; perennial; July, Aug. Root branched; stem much branched; leaves many-paired, tendril branched; flowers spreading, white, purple or blue veined with flesh-colour; legumen bald, 4-seeded.

2. Vicia multiflora. Many-flowered vetch. Peduncle many-flowered, longer than the leaves; flowers embricated; leaflets linear, rather woolly; stipules nearly arrowshape, linear, lancolate, not cut.


Tufted vetch. Woods, hedges, and fields; perennial; July and August. Root creeping; stem weak; leaves many-paired, silky; peduncles branched; stipules villous; calyx coloured, rather naked; legumen bald.

b. Ervum. Peduncles long, few-flowered; calyx-teeth long, unequal; stigma capitate, bearded all over; annual.

3. Vicia tetrasperma. Four-seeded vetch. Peduncle 2 or 3-flowered, as long as the leaves; leaflets oblong, truncate; legumen bald, 4-seeded.


Smooth tare. Fields and hedges; annual; June. Root fibrous; stem upright, branchy, hairy; leaflets many, alternate; tendrils 2-cut; stipules inclining to haste; flowers pale purple; standard streaked.

β. major. Flowers large; legumen 5 to 7-seeded.

4. Vicia hirsuta. Hairy vetch. Peduncles 3 to 7-flowered, as long as the leaves; leaflets hairy, blunt; legumen hairy, 2-seeded.
Cracca minor, Rall Syn. 322, 1.
Vicia sylvestris, seu Cracca minima, Ger. em. 1228, 5,
Aracus, seu Cracca minor, Park. 1070.
Ervum hirsutum, Lin. S. P. 1039.
Small wild tare. Tine tare.

Pastures; annual; June.
Stem nearly bald; flowers purplish white.

c. Vicia. *Flowers axillary, sessile, purple; legumen dry; hilum of the seed lateral; annual.*

Legumen sessile, generally in pairs, upright; lower leaves retuse; leaflets ovate, truncated, pointed; stipules toothed, nearly arrowshape, spotted; seeds smooth.
Vicia, Rall Syn. 320, 1; Ger. em. 1227, 1.
Vicia sativa, Lin. S. P. 1037.
Fetches. Tares.
Dry fields, also cultivated; annual; April to June.
Leaves many-paired; tendrils 2 or 3-cut; flowers solitary, or in pairs, purple; legumen rough; seeds slightly compressed.—Herb used green or dried for fodder; seeds given to pigeons.

β. nigra. Leaflets reverse heartshape, rather wedgeshape; seeds black.
Vicia vulgaris sativa, Park. 1072.

γ. alba. Leaflets of some leaves roundish, of others long, slender; seeds white.
Vicia albo semine, Rall Hist. Pl.

δ. linearifolia. Leaflets linear.
Vicia sylvestris, sive Cracca major, Rall Syn. 321, 4; Ger. em. 1227, 4.
Aracus sive Cracca major, Park. 1071.
Vicia lathyroides 2, Hudson Fl. Angl. 318.
Strangle tare. Tine vetch.

ε. angustifolia. Lower leaflets reverse-heartshape, micronate; upper leaflets strapshape; flowers large, blood-red; legumen long, black.
Vicia sylvestris flore ruberrimo, siliqua rubra nigerrima, Rall Syn. 321, 5.
Vicia angustifolia, Sibthorp Fl. Ox. 224.

Legumen sessile, solitary, bald, upright; lower leaves 2-paired, retuse; upper leaves 4 to 6-paired; stipules not dotted; seeds cubical, tuberculated.
Vicia minima praecox Parisiensium, Dillen in Raîi Syn. 321.7.
Vicia lathyroides, Lin. S. P. 1037.
Ervum soloniense, Lin. S. P. 1042.
Spring vetch. Spring tare.

Fallow lands in gravel or chalk; annual; April, May.
Stem procumbent, downy; tendrils simple or 0; leaflets reverse heartshape, upper leaflets slender; flowers bluish or white; legumen bald, many-seeded.

d. Vicia. Flowers solitary, yellow, axillary, sessile; legumen dry, bent back; perennial.

Legumen solitary, sessile, bent back, hairy; stem diffuse; stipules coloured; standard bald.
Vicia lutea, Lin. S. P. 1037.
Sea shores and rocks; perennial; August.
Root creeping; stem bald, slightly branched; leaves many-paired; leaflets hairy underneath; stipules blackish red; flowers sulphur-yellow or white, streaked; legumen 5 or 6-seeded; seeds smooth.

Legumen solitary, sessile, bent back, hairy; stem upright; standard villous; leaflets naked.
Vicia luteo flore sylvestris, Raîi Syn. 321, 6.
Vicia hybrida, Lin. S. P. 1037.
Bushy places; perennial; June.
Stipules green; flowers yellow streaked with purple; standard reddish at bottom; legumen 5-seeded.

Legumen sessile, solitary, bent back, bald; stem rather upright; leaflets quite bald.
Vicia hybrida, Hudson Fl. Angl. 319.
Sea vetch.
Rocks by the sea; perennial; July and August.
Stem branched, quite bald; leaflets elliptical, lanceolate; stipules green; flowers greyish yellow, or pale purple; legumen 5-seeded.
e. Aphaca. Peduncles few-flowered, axillary; legumens small; hilum lateral; perennial.

Peduncles 4-flowered; legumens upright; leaves many-paired; leaflets ovate, obtuse; outer leaflets smallest.

Vicia sepium perennis, Raii Syn. 320, 2.
Vicia maxima dumetorum, Ger. em. 1727, 2; Park. 1072.
Vicia sepium, Lin. S. P. 1038.

Bush vetch.

Bushy places and hedges; perennial; May and June.

Stem 2 feet high; tendrils branched; stipules lunate, toothed; flowers purplish or blue; calyx hairy; legumen bald; seeds globular, smooth.

β. alba. Flowers white.

Vicia folio subrotundo, brevi, obtuse mucronato, pediculo brevi insidente, flore viciae sepium seu dumetorum vulgaris, Raii Syn. 321, 3.


Peduncles 1 or 2-flowered; legumens upright, rough; leaflets 2 to 6-paired, ovate, lanceolate; stipules toothed.

Vicia Bithynica, Lin. S. P. 1038.

Sandy pastures; perennial; July and August.

Stems many, branched, bald; tendrils long, bald; leaflets large, acute, hairy beneath; stipules large; teeth unequal, acute, divaricated; calyx-teeth fringed; standard large, lead colour; wings and keel white; legumen 5 or 6-seeded; seeds round, smooth.

f. Faba. Peduncles few-flowered, axillary; legumens large, leathery; hilum terminal; annual.


Legumens 3 or 4, gibbous; leaflets ovate, not cut; stipules arrowshape, toothed at the base; tendrils awlshape.

Faba, Raii Syn. 323, 1.
Faba major hortensis, Ger. em. 1209, 1.
Faba sativa, Park. 529.
Vicia Faba, Lin. S. P.
Faba vulgaris, De Candolle Fl. Gall. 4028.

Great garden bean. Windsor bean. Mazagan bean.

Cultivated; annual; April and May.

Stem angular, upright, pipey; tendrils very short; corolla white with black spots; seeds compressed.—Stem made into flax; seeds nutritive but flatulent, eaten fresh, or when dry ground with wheat into flour.
\( \beta. \) equina. Leaves ovate, oblong; seeds rounded, small.

Faba minor sive equina, Raii Syn. 323, 2.
Faba minor sylvestris, Park. 1054.

Seeds used in this country for horse-corn, but eaten by the poor in foreign countries; also ground with wheat.

D. Ornithopodiæ. Stamens diadelphous; legumen one-celled, or many-celled, not opening spontaneously; cells transverse, 1-seeded.


Calyx 5-toothed, tubular; keel very small; legumen bent, slender, round, pointed, jointed; joints cylindrical.

Ornithopus perpusillus. Very-small birds-foot.

Herb downy; leaves pinnate, 6 to 9-paired; flowers in heads, bracteated; legumen roundish, bent inward.

Ornithopodium majus, and minus, Ger. em. 1241, 3 and 4.
Ornithopus perpusillus, Lin. S. P. 1040.

Sandy fields; annual; May.

Root fibrous; stem prostrate, much branched; leaves pinnate with an odd leaflet; heads few-flowered; standard and wings red variegated; keel greenish; legumen 6 or 8-celled, necklaceshaped, slightly compressed.

\( \beta. \) nodosa. Root with tubercles.

Ornithopodium radice nodosa, Raii Syn. 326, 1; Park. 1093.

XVIII. 379. HIPPOCREPIS. Linneus. Horseshoe-vetch.

Calyx unequally 5-toothed; standard-claw longer than the calyx; legumen oblong, compressed, membranaceous, jointed, bent; one suture deeply toothed.

Hippocrepis comosa. Tafted horseshoe-vetch.

Legumens 5 or 8 in a tuft, crowded, peduncled, bent, rough, crenated on both edges.

Ferrum equinum Germanicum siliquis in summitate, Raii Syn. 325, 1.
Hedysarum glycyrrhizatum, Ger. 1056, 2; not Ger. em.
Ferrum equinum comosum, Park. 1091.
Hippocrepis comosa, Lin. S. P. 1050.

Dry chalky fields; perennial; May to August.

Herb bald; stem prostrate, branched; leaves pinnate with an odd leaflet; leaflets reverse ovate, nicked; stipules lanceolate; peduncles axillary, umbelled; calyx bald; legumen-cells and seeds kidneyshape.
Onobrychis sativa. Cultivated sainfoin.

Stem ascending; leaves pinnate; leaflets wedgeshape, bald; keel shorter than the standard; legumen bald, prickly, toothed.


Chalky fields, also cultivated; perennial; June and July.


Calyx 5-cut; keel blunt at the end; wings very short; legumen compressed, short, 1-celled, 1-seeded, mostly prickly; upper suture flattened, truncated.

Onobrychis saliva. Cultivated sainfoin.

Stem ascending; leaves pinnate; leaflets wedgeshape, bald; keel shorter than the standard; legumen bald, prickly, toothed.


Chalky fields, also cultivated; perennial; June and July.

Stem short, branchy, bald; leaflets cut; racemes terminal drooping; bracteae membranaceous, bristlelike; corolla yellow; seed hard, shining.

II. 382. EVONYMUS. Theophrastus. Spindletree.
Calyx 4 or 5-cut, flat, with a peltate disk; petals 4 or 5, spreading; stamens 4 or 5, placed on glands prominent above the calyx-disk; style 1; capsule 5-celled, 5-valved; seeds covered with a coloured arille, inserted at the inner angles of the cells.

**Evonymus Europæus.** European spindle-tree.
Stamens mostly 4; peduncles compressed, many-flowered; stigmata awlshape; leaves petioled, bald.

Evonymus vulgarius, Rail Syn. 468, 1; Park. 241.
Evonymus Theophrasti, Ger. em. 1468, 1.
Evonymus Europæus, Linn. S. P. 286.

Woods and hedges; shrubby; April and May.
Branches bald, green, when young 4-angled; leaves opposite, lanceolate, serrate; peduncles axillary, forked; flowers white, foetid; capsules purple; seeds white; arille yellow.—Branches used for butchers’ skewers, and toothpicks; berries vomit and purge very violently.

Calyx 1-leaved, 4 or 5-cut; corolla 0, or many-petaled, inserted on the calyx-disk; petals as many as the calyx-lobes; stamens as many as the lobes, and opposite to the petals; ovary simple, free, girth with the calyx-disk; berry many-celled; seeds ascending or upright; perisperm 0, or very thin; corculum straight; radicle below.—Stem arborescent or shrubby; leaves stipuled, alternate or opposite.

Calyx pitchershape, 4 or 5-cut; petals 4 or 5, sometimes 0; stamens 4 or 5; style 1; stigmata 2 or 4; berry 2 or 4-celled, 2-seeded; hile cartilaginous, at the bottom of the seed.
a. Rhamnus. Branches spinous; stigma 4-cut; plant dioicus.

1. Rhamnus catharticus. Purging buckthorn.
   Calyx 4-cut; leaves ovate, toothed; teeth acute; stem upright; branches ending in spines; plant dioicus.
   Rhamnus catharticus, Raiti Syn. 466, 1; Lin. S. P. 279.
   Rhamnus solutivus, Ger. em. 1337, 1.
   Rhamnus solutivus, seu Spina infectoria vulgaris, Park. 243.
   Woods and hedges; shrubby; May and June.
   Branches stiff, alternate; leaves in bundles, petioled, ribbed, when young downy; flowers hermaphrodite; stigma 2-cut; leaves petioled, not cut, bald; berry 2-seeded.

   2. Rhamnus alnoides. Alderlike buckthorn.
   Branches spineless; flowers hermaphrodite; style 1; leaves petioled, not cut, bald; berry 2-seeded.
   Frangula seu Alnus nigra baccifera, Raiti Syn. 465, 1; Park 240.
   Alnus nigra, sive Frangula, Ger. em. 1470.
   Rhamnus Frangula, Lin. S. P. 280.
   Wet woods; shrubby; May.

   Stem much branched; peduncles axillary, 1-flowered; corolla white; anthers purple; berries dark violet.—Inner bark purgative in doses of 2 to 4 drachms in infusion, also dyes yellow; wood makes soft charcoal, fit for gunpowder.
Subseries III. D. PLANTÆ EXOGENÆ THALAMIFLORÆ.

Perigonium double; petals many, distinct or soldered together, inserted along with the stamens on the thalamus.

FAMILIES.

A. Ovary single; placentarium central; stamens more than 10.

Stamens polyadelphous; styles 3 or 5; leaves opposite; flowers yellow .. HYPERICINEÆ. 67.

Stamens monadelphous; styles many; leaves alternate; cal. double; pet. regular MALVACEÆ. 69.

Stamens distinct; style 1; leaves alternate; petals 5; perisperm fleshy ...... TILIACEÆ. 70.

B. Ovary single; placentarium central; stamens not more than 10.

Perisperm 0; stigmata 5; ovary 5-sided;
stem herb.; leaves stipuled, alternate .. GERANIEÆ. 66.
Perisperm 0; stigmata 5; ovary globular;
stem herb.; leaves stipuleless ............. LINEÆ. 71.
Perisperm 0; stigma 1; sanares 2;
stem arbor.; leaves opposite; pet. 5, equal ACERINEÆ. 68.
Perisperm farinaceous; corculum curved;
stem herb., jointed; leaves opposite;
pet. 5, clawed ............... CARYOPHYLLÆÆ. 71.

C. Ovaries solitary, or many soldered together; placentarium parietal; stamens more than 10.

Petals 4; calyx 2-sepaled; seeds many;
stamens many; ovary 1-celled... PAPAVERACEÆ. 82.

Pet. 5; calyx 5-sepaled; caps. 5-valved;
stamens many; leaves opposite ...... CISTINEÆ. 73.

Pet. 4 to 6, irregular; cal. 4 to 6-cut;
stam. 10 to 20; ovary 1-celled; caps. gaping RESEDACEÆ. 76.
D. Ovaries solitary, or many soldered together; placentarium parietal; stamens less than 10.

Pet. 4, regular; stam. 6, 2 short; cal. four-sepaled; ovary 1; stem herb.; leaves alternate

CRUCIFERÆ. 80.

Pet. 4, irregular, soldered; stam. 6, diadelphous; ovary 1, 1-celled; stem herb. 

FUMARIEÆ. 81.

Pet. 5, unequal; stam. 5; caps. 1-celled, 3-valved; stem herb.; leaves stipaled. VIOLACEÆ. 78.

Pet. 5, regular; stam. 5; styles 5;
cap. 3 to 5-valved; perisperm fleshy DROSERACEÆ. 75.

Pet. 5, equal; stam. 5; styles 2 to 4;
cap. 4-valved; perisperm 0. 

PARNASSIEÆ. 79.

Pet. 5; stam. 5 or 6; style 1; stigmata 5;
cap. 1-celled, many-seeded. FRANKENIACEÆ. 74.

Pet. 3, soldered; stamens monadelphous;
caps. 2-celled; cal. 5-lobed, unequal POLYGALEÆ. 77.

E. Ovaries many, or stamens opposite to the petals.

Ovaries many, 1-celled. RANUNCULACEÆ. 85.

Ovary 1; flowers racemose, bracteated; stamens 4 or 5. 

BERBERIDEÆ. 84.

Ovary 1, many-seeded; leaves peltate; plants aquatic. NYMPHÆACEÆ. 83.

Fam. I. 66. GERANIEÆ.

Calyx persisting, 5-parted, 2 to 5-sepaled; petals 4 or 5, hypogynous, clawed, often unequal or irregular; stamens hypogynous, 5 to 10; filaments unequal, sometimes united at bottom, sometimes without anthers; ovary simple, free, 5-sided, often girt with 5 glands; style 1; stigmata 5; fruit simple, 5-celled, or composed of 5 arilles with a long awn; seeds single; perisperm 0; corculum bent inwards.—Stem herbaceous; leaves stipulate, alternate, often lobed or many-cut.

Pet. 5, regular; filam. 10; anthers 5;
avn bearded on the inside. ERODIUM. 384.

Pet. 5, regular; anthers 10;
avn twisted, not bearded. GERANIUM. 385.

Pet. 4, irregular, upper hoodlike;
anth. 5, joined; caps. 3-celled, many-celled. IMPATIENS. 386.
Pet. 5, equal; anthers 10, free; capsule 5-celled; calyx 5-parted .......... Oxalis. 387.

A. Geranieæ. Arillus 1-seeded, awned; seed upright; perisperm 0; corculum bent; radicle adverse.


Calyx 5-sepaled; petals 5, rarely rather irregular; stamens 10; filaments 10, sometimes united, 5 with anthers, 5 without; nectaries 5, at the base of the antherbearing stamens; arillus 1-seeded, awned, at the base of a beaked receptacle; awn spiral, bearded on the inside.

a. Leaves pinnate; peduncles many-flowered, annual.


Stamens hirtous, prostrate; leaves pinnate; leaflets sessile, pinnatifidly-cut; peduncles many-flowered; petals rather unequal, longer than the calyx.

Geranium cicutae folio inodorum, Raiti Syn. 357, 2; Ger. em. 945, 3.
Geranium moschatum inodorum, Ger. 800; Park. 708.
Geranium cicutarium, Lin. S. P. 951.
Geranium Charophyllum, Cavanilles Diss. 4, 226.

Dry sandy places; annual; July and August.

Root fusiform, white; stems many, branched, hairy; stipules ovate, acute, scarious; peduncles longer than the leaves; corolla purple; cotyledons 3-cut.

b. album. Flowers white, large; leaves very hairy, not much cut.

Geranium inodorum album, Raiti Syn. 357, 3; Ger. em. 946, 4.

2. Erodium pimpinellæfolium. Burnet-leaved cranesbill.

Stem trailing, rather hairy; leaves pinnate; leaflets ovate, sessile, deeply toothed; peduncles many-flowered; petals unequal, smaller than the calyx; awn bald.

Geranium pimpinellæ folio, Dillen in Raiti Syn. 358, 5.
Geranium cicutarium 2, Withering Bot. Arr. 752.
Erodium pimpinellæfolium, Sibthorp Pl. Ox. 212.

Barren sandy places; annual; April and May.

Stem 6 in. long; peduncles nearly radical; leaflets sessile, broad at bottom; petals small or equal to the calyx, purple, 2 or 3 having a green spot at the bottom; awn bald; cotyledons heartshape, not 3-lobed.
3. Erodium moschatum. **Musk cranesbill.**

*Stem* trailing; *leaves* pinnate; *leaflets* oblong, unequal at bottom, slightly petioled, deeply toothed; *peduncles* many-flowered; *petals* equal, as long as the calyx.

Geranium moschatum, *Raii Syn.* 358, 4; *Ger. em.* 941; *Park.* 709;
*Lin.* 5. 951.


Hilly pastures; annual; May to October.

*Hairs* viscous; *odour* like musk; *leaves* elliptical, oblique at bottom; *peduncles* short, 4 to 10-flowered; *awns* hairy; 
*cotyledons* pinnatifid.

b. *Leaves* lobed; *peduncles* 2 or 3-flowered; *perennial.*

4. Erodium maritimum. **Sea cranesbill.**

*Stem* depressed; *leaves* heartshape, deeply crenate; *peduncles* 2 to 4-flowered; *awns* bald.


Sandy sea-shore; *perennial;* May to September.

*Stem* broad, depressed, branchy; *petioles* long; *leaves* hispid; 
*corolla* flesh-coloured.

II. 385. GERANIUM. Dioscorides.  

*Geranium.*

*Calyx* 5-sepaled; *petals* 5, regular; *stamens* 10, monadelphous, 5 alternately longer, with a nectariferous gland at the base; *arilles* 5, 1-seeded, at the base of a beaked receptacle; *awn* convolute, not bearded on the inside.

a. *Peduncle* 1-flowered; *petals* notched.

1. Geranium sanguineum. **Bloody geranium.**

*Leaves* orbicular, 5-parted; *lobes* 3-cut; *peduncles* one-flowered; *fruit* brisly at the tip.

Geranium hematodes, *Raii Syn.* 356, 14; *Park.* 229.

Geranium sanguinarium, *Ger. em.* 945.


*Bloody cranesbill.*

Limestone rocks and heaths; *perennial;* July to Sept.

*Root* woody; *stem* weak, prostrate or ascending, hairy; *leaves* 3 to 7-cut; *lobes* 3-cut or pinnatifid; *peduncle* very long; *sepales* awned, hairy, 5-ribbed; *petals* pale red, veined, very large; *fruit* smooth; *seed* slightly wrinkled.

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626 385. Geranium. 66. GERANIIÆ. Pl. ex. that.

b. majus. Leaves large, pale, deeply divided.
Geranium hematodes foliis majoribus, pallidioribus et altius incisis, Rail Syn. 360, 15.

γ. Lancastrense. Plant smaller; stem knotted, knots inflated; leaves opposite, deeply 5-lobed; lobes 3-cut; corolla small, pale flesh-colour or white, veined with red.
Geranium hematodes Lancastrense flore eleganter striate, Rail Syn. 360, 16.
Geranium prostratum, Cavanilles Diss. 196.

Sandy shores of the sea.

b. Stem upright; peduncles 2-flowered; petals notched; perennial.

2. Geranium Pyreniacum. Pyrenean geranium.
Stem upright, branched; peduncles 2-flowered; leaves kidneyshape, 5 to 7-lobed; lobes oblong, blunt, 3-cut, crenate; petals notched; arilles downy; seeds smooth.

Geranium pyreniacum, Lin. Mant. 97 and 257.
Fields and pastures; perennial; July.
Root tuberous; stem 3 feet high; leaves opposite, hirsute, calyx awned; petals twice as long as the calyx, deeply 2-cut, purple, rarely white, hairy at bottom; anthers sometimes only 5.

Stem 4-sided, upright; peduncles 2-flowered; petals notched; stem-leaves 3-lobed, serrated; lobes oblong, pointed; fruit smooth, hairy.

Geranium nodosum Plateau, Rail Syn. 361, 20; Ger. em. 947, 2.
Geranium nodosum, Lin. S. P. 953.
Knotty eraneshill.
Mountains; perennial; May to August.
Root tuberous; stem spreading; joints swelled, reddish; leaves opposite, shining; peduncles very long; calyx awned: petals red.

Stem upright, corymbose; leaves nearly peltate, 5-lobed, deeply serrate; peduncles 2-flowered; petals slightly notched; filaments awlshape; fruit hairy.

Geranium batrachoides montanum nostras, Rail Syn. 361, 18.
Geranium batrachoides alterum, Ger. em. 942, 2.
Geranium batrachoides minus, Park. 704.
Geranium sylvaticum, Lin. S. P. 954.
Mountainous woods; perennial; June and July.

Root woody; stem 3 feet high; leaves petioled, soft, hairy, paler underneath; bracteae lanceolate; calyx awned; petals purple, veined with blood-red, hairy at bottom; arilles keeled, not wrinkled; seeds dotted.

b. minus. Plant small; flowers very large.

c. Stem upright; peduncles 2-flowered; petals not notched; perennial.

5. Geranium pratense. Meadow geranium.

Stem upright, hairy; hairs bent back; peduncles two-flowered; leaves peltate, many-parted, wrinkled, pointed; petals not nicked; filaments bristlelike, deltoid at bottom; arille and awn hairy.

Geranium batrachoides, Rauí Syn. 360, 17.
Geranium batrachoides, Ger. em. 942, 1.
Geranium batrachoides flore cœruleo, Park. Par. 228.
Geranium pratense, Lin. S. P. 954.
Crowfoot cranes-bill.

Damp fields; perennial; June and July.

Stem 3 feet high, woolly; peduncles short; calyx awned; petals very large, blue; seeds dotted.


Stem upright, panicled; peduncles upright, solitary, two-flowered; calyx hairy, slightly awned; arilles keeled, hispid at the bottom, plaited across at the tip.

Geranium montanum fuscum, Dillen in Rauí Syn. 361, 21.
Geranium batrachoides pullo flore, Ger. em. 942, 3.
Geranium pullo flore, Park. 704.
Geranium phæum, Lin. S. P. 953.
Dusky cranesbill.

Mountainous pastures; perennial; May and June.

Stem 2 feet high; joints large, red; radical leaves petioled, many-cut; upper leaves sessile, 3-cut; peduncles opposite to the leaves; petals blackish red; claw white.

d. Stem weak; peduncles 2-flowered; petals not notched; annual.


Leaves ternate and quinate, 3-cut, pinnatifid; peduncles 2-flowered; calyx awned, 10-angled; petals not notched, twice as long as the calyx; arilles reticulated.
Geranium Robertianum, Raii Syn. 358, 6; Ger. em. 939, 1; Lin. S. P. 955.

Geranium Robertianum vulgare, Park. 710.

Walls and banks; annual; May to October.

Root fibrous; stem trailing, reddish; leaves 5-angled, shining; petals purple, rarely white; seeds very smooth.—Herb infused as tea celebrated in nephritic and calculous complaints.

Geranium Robertianum, Lin. S. P. 955.

Walls and banks; annual; May to October.

Root fibrous; stem trailing, reddish; leaves 5-angled, shining; petals purple, rarely white; seeds very smooth.—Herb infused as tea celebrated in nephritic and calculous complaints.

Geranium lucidum, Herb shining; leaves small, deeply cut.

Geranium lucidum saxatile, foliis gerani Robertiani, Raii Syn. 358, 7.

Geranium lucidum, Lin. S. P. 955.

Walls and banks; annual; May to October.

Root fibrous; stem trailing, reddish; leaves 5-angled, shining; petals purple, rarely white; seeds very smooth.—Herb infused as tea celebrated in nephritic and calculous complaints.

Geranium lucidum, Lin. S. P. 955.

Walls and banks; annual; May to October.

Root fibrous; stem trailing, reddish; leaves 5-angled, shining; petals purple, rarely white; seeds very smooth.—Herb infused as tea celebrated in nephritic and calculous complaints.

Geranium lucidum, Lin. S. P. 955.

Walls and banks; annual; May to October.

Root fibrous; stem trailing, reddish; leaves 5-angled, shining; petals purple, rarely white; seeds very smooth.—Herb infused as tea celebrated in nephritic and calculous complaints.

Geranium lucidum, Lin. S. P. 955.

Walls and banks; annual; May to October.

Root fibrous; stem trailing, reddish; leaves 5-angled, shining; petals purple, rarely white; seeds very smooth.—Herb infused as tea celebrated in nephritic and calculous complaints.
Root fusiform; stems many, ascending, hairy; leaves alternate, downy, down very soft; peduncles opposite to the leaf; flowers small; corolla purple, rarely white.

Peduncles 2-flowered; calyx awnless; petals scarce as long as the calyx; leaves kidneyshape, 5 to 7-lobed; lobes 3-parted; arilles hairy; seeds smooth.
Geranium pusillum, Lin. S. P. 957.
Geranium molle, Hudson Fl. Angl. 303.
Geranium parviflorum, Curtis Fl. Lond.
Geranium malvaceum, Burnmann Geran. 25.
Ruins and waysides; annual; July and September.
Stem 1 foot high; leaves deeply lobed; anthers only 5; arilles keeled, hairs pressed close.

β. humile. Stem very short; leaves opposite, small; corolla very small.
Geranium columbinum humile flore caeruleo minimo, Dillen in Raii Syn. 359, 9.
Geranium malacodes seu columbinum minimum, Park. 707.
Geranium pusillum, Burmann Geran. 27.

Peduncles longer than the leaves, 2-flowered; leaves five-parted; lobes many-cut, segments linear; calyx awned; petals notched, as long as the calyx; arilles bald, smooth; seeds wrinkled.
Geranium columbinum dissectis foliis, pediculis florum longissimis, Raii Syn. 359, 12.
Geranium columbinum, Lin. S. P. 956.
Gravelly and chalky soils; annual; June and July.
Stem slender, spreading; stem-bristles bent down; leaf-bristles pressed close; calyx pyramidal; sepales 3-ribbed; petals rose-red; arilles keeled; seeds reticulately dotted.

Peduncles shorter than the leaves, 2-flowered; leaves 5-parted; lobes 3-cut and pinnatifid; calyx awned; petals notched, as long as the calyx; arilles hairy; seeds wrinkled.
Geranium columbinum majus foliis dissectis, Raii Syn. 359, 1; Ger. em. 938, 2.
Geranium malacoides laciniatum seu columbinum alterum, Park. 706.
Geranium dissectum, Lin. S. P. 956.
Great dove's-foot.
Ruins and barren places; annual; May and June.
Stem hirsute; hairs bent down; sepals 3-ribbed; petals purple; anthers purple; arilles scarcely keeled, hairy; hairs spreading; seeds reticulately dotted.

β. majus. Plant large.

B. BALSAMINEÆ. Capsule 3-celled, many-seeded; perisperm 0; corculum straight; radicle above.

III. 386. IMPATIENS. Dodoneus. Touch-me-not.
Calyx 2-leaved, very small; petals 4, hypogynous, irregular, unequal; upper petals arched, lower with a short spur; stamens 5; anthers united; capsule oblong, 5-celled, 5-valved, many-seeded; valves twisted spirally, opening elastically.

Impatiens palustris. Marsh touch-me-not.
Joints of the stem swelled; leaves ovate, obtusely serrated; peduncles many-flowered, solitary.
Balsamine lutea, sive Noli me tangere, Rau. Syn. 316.
Persicaria siliquosa, Ger. em. 446, 4.
Mercurialis sylvestris, Noli me tangere dicta, sive Persicaria siliquosa, Park. 296.
Impatiens Noli tangere, Lin. S. P. 1329.
Yellow balsam. Quick in hand.
Damp fields; annual; August.
Herb juicy, pale, pellucid, bald, much branched; leaves alternate; peduncles axillary, 3 or 4-flowered; flowers yellow, dotted with red; spur turned back at the tip.—Plant acrid.

C. OXALIDÆÆ. Capsule 5, many-seeded; seeds covered with an arille; perisperm fleshy; corculum straight, central; radicle above; cotyledons leaflike.

IV. 387. OXALIS. Dioscorides. Wood-sorrel.
Calyx persistent, 5-parted; petals 5, hypogynous, equal, regular; stamens 10; filaments nearly joined at bottom, alternately shorter; anthers free; capsule short, oblong, 5-sided, 5-celled; cells 1 or many-seeded.

Root toothed, scaly; stem 0; peduncles radical, longer than the leaves, 1-flowered; leaves ternate, reverse-heart-shape, hairy; style as long as the interior stamens.
Oxys alba, Rait Syn. 281, *1; Ger. em. 120, 1.
Trifolium acetosum vulgar, Park. 746.
Oxalis Acetosella, Lin. S. P. 620.

Woods; perennial; April and May.
Root fleshy, horizontal; leaflets slightly petioled, coloured beneath, edge not cut; scape bracteated above the middle; petals flesh-coloured with red lines; seeds 2 in each cell.—Juice contains much oxalate of potash, which renders it gratefully acid, and may be separated by crystallization; leaves in infusion cooling, and make an agreeable whey.

β. cærulea. Plant small, rather villous; petals bluish purple.

Stem upright, branched; peduncles umbell-bearing, shorter than the petioles; leaves ternate, reverse-heartshape; petioles half-round; stipules 0; petals blunt; style as long as the interior stamens.

Oxalis stricta, Lin. S. P.
Cultivated grounds, naturalized; annual; July and Aug.
Leaves rather bald; corolla yellow.

Stem branched trailing, rooting; peduncles rather umbelled, shorter than the petioles; leaves ternate, reverse heartshape; petioles stipuled; styles as long as the interior stamens.

Oxys lutca, Ger. em. 1202.
Yellow wood-sorrel.

Ruins and dunghills; naturalized? annual; May to Oct.
Stem roundish, reddish; leaves hairy; stipules growing to the petiole; flowers small; corolla yellow; cells of the capsules many-seeded.

Fam. II. 67. HYPERICINEÆ.

Calyx 1-sepaled, 4 or 5-parted; petals 4 or 5, hypogynous; stamens hypogynous, many, indefinite, polyadelphous; ovary free; styles 3 to 5; fruit many-celled, rarely fleshy and 1-celled, mostly capsular, 3 to 5-celled, 3 to 5-valved;
edges of the valves bent inwards; perisperm 0; corculum straight, radicle above.—Stem herbaceous or undershrubby; leaves opposite, often glandular; corolla yellow.

Androphores 5; styles 3; berry 1-celled .................................. Androsænum. 388. Androphores 3 or 5; styles 3 or 5; capsule 3 or 5-celled .................................. Hypericum. 389.

I. 388. ANDROSÆNUM. Dioscorides. Tout-sain.

Calyx 5-cut; petals 5; stamens in 5 bundles; styles 3; berry 1-celled; placentia ternate, affixed to the sides of the berry by means of a membrane, at first entire, afterwards 2-parted.

Androsænum officinale. Shop tout-sain.

Stem shrubby, 2-edged; leaves ovate, sessile; flowers terminal; sepales unequal, roundish, ovate, blunt.

Hypericum maximum Androsænum vulgare dictum, Rauí Syn. 343, 6.
Glymenon Italorum, Ger. em. 543, 1.
Androsænum vulgare, Park. 375.
Hypericum Androsænum, Lin. S. P. 1102.
Androsænum vulgare, De Cand. Fl. Gall. 4570.
Tutsan. Park-leaves.

Stem forked, bald; leaves at first green, afterwards dark red, stipuled, edge not cut; flowers cymose; corolla golden yellow; berry elliptic, at first red, then black.—Juice of the leaves, when dark red, resembles claret; leaves used as a dressing to wounds and ulcers.


Calyx 5-cut; petals 5; stamens in 3 or 5 bundles; styles 3 or 5; capsule 3 or 5-celled.—Flowers yield a blood red juice when bruised.

a. Styles 5; capsule 5-celled; calyx-lobes bald, edge not cut.


Stem shrubby, branchy, 4-sided; leaves oblong, 2-rowed; flowers solitary, terminal; calyx-lobes blunt; styles 5.

Hypericum calycinum, Lin. Mant. 106.

Woods; naturalized; shrubby; July to September.

Stem 1 foot high; branches simple, square, terminated by a flower, leafy; flowers very large; petals golden yellow.
b. Styles 3; capsules 3-celled; calyx-lobes not cut.

2. Hypericum quadrangulare. Four-angled St. John's-wort. Stem 4-sided, rather branched; leaves ovate, dotted; dots transparent; calyx-lobes lanceolate, pointed.

Hypericum Aseyron dictum caule quadrangulo, Rall. Syn. 34, 7.
Aseyron, Ger. em. 542, 1.
Aseyron vulgare, Park. 575.

Hypericum quadrangulum, Lin. S. P. 1104.

Damp hedges and river-sides; perennial; July and Aug. Root creeping; stem stiff; leaves in pairs, decussating; edge black, not cut; flowers terminal; corolla yellow, sometimes spotted with black.


Hypericum dubium, Leers Fl. Herb. 165.
Hypericum Delphinense, Villars Delph. 3, 497.

Mountain fields and hedges; perennial; July and Aug. Root creeping; shoots bright, scarlet; leaves slightly spotted at the edge; petals not notched, yellow streaked with dark purple.


Hypericum, Rall. Syn. 342, 1; Ger. em. 539, 1.
Hypericum vulgare, Park. 572.
Hypericum perforatum, Lin. S. P. 1105.
St. John's wort. St. John's grass.

Woods and hedges; perennial; July and August. Root creeping; stem upright; leaves elliptic, oblong, blunt, edge black; panicle terminal; petals golden with purple spots and lines, crenated; anthers glandular.—Sprigs used to keep fiends and evil spirits out of houses; leaves vermifuge; flowers tinge spirit and oil purple; herb in flower infused in oil forms an excellent vulnerary balsam.

5. Hypericum humifusum. Trailing St. John's-wort. Stem 2-edged, trailing, herbaceous; leaves oblong, blunt; flowers terminal nearly corymbose, and axillary solitary; calyx-lobes oblong, obtuse.

Hypericum minus supinum, Rall. Syn. 343, 3; Park. 572.
Hypericum supinum glabrum, Ger. em. 541.

Woods and pastures; perennial; July.
Root fibrous; stems many, threadshape; leaves rarely 3 in a whirl; flowers pedicelled; petals golden, smaller than the calyx-lobes; anthers not glandular.

c. styles 3; capsule 3-celled; calyx-lobes toothed or glandular.

6. Hypericum montanum. Mountain St. John's-wort. Stem round, upright; leaves oblong, embracing the stem, without dots; edge black spotted; flowers corymbose panicled, terminal; calyx-lobes lanceolate, acute, serrated, glandular.

Hypericum elegantissimum non ramosum folio lato, Raiti Syn. 343, 5.
Androsacamum Matthioli, Park. 575.
Hypericum montanum, Lin. S. P. 1103.
Mountain woods; perennial; July.
Root creeping; stem 2 feet high, simple, stiff; panicle contracted; petals lanceolate, light yellow.


Hypericum barbatum, Jacquin Fl. Austr. 259.
Coppices; perennial; September and October.
Stem bald, stiff, branched at top; leaves spotted on both sides, spots dark purple, glandular; panicles forked; petals yellow, reverse ovate.


Hypericum pulchrum Tragi, Raiti Syn. 342, 2; Ger. em. 540, 5.
Hypericum pulchrum, Lin. S. P. 1106.
Woods on clay soils; perennial; July.
Stem 18 in. high, reddish, bald; branches barren; leaves dotted, beneath glaucous; panicle stiff; petals gold-yellow, red on the outside.


Hypericum Androsacamum dictum. Raiti Syn. 343, 4.
Hypericum hirsutum, Lin. S. P. 1105.
Woods and hedges on chalk; perennial; June and July. Stem stiff, branched; leaves ribbed; panicle many-flowered; flowers small; corolla gold-yellow.


Hypericum q. Ascyrn supinum villosum paluste, C. Bauhini, Ralf Syn. 344, 8.
Hypericum tomentosum, Ger. em. 540, 3.

Spongy bogs; perennial; July and August. Root fibrous; stem procumbent; leaves ribbed, from the base; panicle terminal becoming lateral, forked; petals yellow, with green ribs; nectaries 3, glandular, between the androphores.

Fam. III. 68. ACERINEÆ. Jussieu. Acera De Candolle.

Calyx 1-leaved, persisting, 5-cut; petals 5, clawed, on a hypogynous disk, alternate with the calyx-lobes, or 0; stamens definite on the disk; ovary free, simple, or many soldered; style 1; stigmata 2; capsule 2-celled, cells one-seeded; perisperm 0, radicle prone in the lobes, ascending; cotyledons leaflike.—Stem arborescent; leaves opposite, mostly palmately ribbed.

390. ACER. Pliny.

Maple.

Calyx 5-parted; petals 5; stamens 8; ovary 2-lobed; style 1; stigmata 2, pointed; samares 2, united at their base, 1-celled, winged with a membrane; 1 or 2-seeded.


Leaves 5-lobed, unequally serrated, obtuse; racemes hanging, rather tomentose.

Acer majus, Ralf Syn. 470, 1; Ger. em. 1484, 1.
Acer majus latifolium, Sycamorus false dictum, Park. 1425.
Sycamore. Maple.

Woods and hedges near houses; naturalized; tree; May. Trunk straight; branches smooth; twigs depending; leaves bald, paler beneath; flowers green, sometimes barren; filaments mostly bald, rarely hairy; pollen globular, when burst by moisture 4-valved; ovary very hairy; stigmata downy.—Wood soft, very white, used for turnery work; juice saccharine, affords sugar by evaporation.
1. **Acer campestre.**  
*Field maple.*  
Leaves 5-lobed, blunt, bald; racemes upright; bark cork-like, wrinkled.

Acer minus, *Raii Syn. 470, 2.*  
*Ger. em. 1484, 2;*  
*Lin. S. P. 1497.*  
Common maple.

Hedges; tree; May and June.

Branches spreading; racemes terminal, branched; flowers greenish; stamens yellow; samara-wing much spread, reddish.

2. **Acer rubens.**  
*Plant smaller; samara villous, reddish; wing purplish.*

Acer campestre et minus, fructu rubente, *Raii Syn. 470, 3.*

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**Fam. IV. 69. TILIACEÆ.**

*Calyx* many-sepaled, or many-parted; *petals* hypogynous, definite, alternate with the calyx-lobes; *stamens* hypogynous, indefinite, mostly distinct; *ovary* simple, free; *fruit* 1 or many-celled, berried or capsular, 1 or many-seeded; *seed* peritropial; perisperm fleshy; corculum rather bent inwards, flat; cotyledons leaflike; radicle below.—Stem arborescent; leaves alternate, simple, stipuled; *flowers corymbose.*

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391. **TILIA.** *Pliny.*

*Calyx* deciduous, 5-parted; *petals* 5; *stamens* many; ovary globular, hisrute; *style* threadlike; *stigma* capitate, 5-toothed; *carcerule* 5-celled; cells 2-seeded, becoming 1-celled, 1-seeded.—*Flowers corymbose; bracteae adnate to the peduncle.*

1. **Tilia parvifolia.**  
*Small-leaved linden.*  
Leaves heartshape, roundish, pointed, acutely serrated; *carcerule* nearly globose, scarcely ribbed, very thin, brittle.

*Tilia folio minore, *Raii Syn. 473, 2.*  
*Tilia femina minor, *Park. 1407.*  
*Tilia parvifolia, *Ehrhart.*  
*Tilia microphylla, De Candolle Fl. Gall. 4508.*  
*Tilia Europæa, Persoon Syn. 2, 66.*  
*Tilia Europæa B, Smith Fl. Brit. 571.*  
Small-leaved lime tree. Bast tree.

Woods; arborescent; August.

Leaves villous, glaucous beneath.
   Leaves heartshape, roundish, pointed, unequally serrated; carcerule topshape, woody, thick; ribs prominent.
   Tilia vulgaris platyphylllos, Rait Syn. 473, 1.
   Tilia fœmena, Ger. em. 1298, l.
   Tilia fœmena major, Park. 1407.
   Tilia Europaea, Lin. S. P. 733.
   Tilia platyphylla, De Candolle Pl. Gall. 4504.
   Lime tree. Female lime tree. Bast.

Woods and hedges; arborescent; July.
Branches smooth; leaves bald, villous beneath the ribs and veins; peduncles axillary, corymbose; flowers sweet-scented, yellowish.—Plant bears cutting; bark fibrous, affording coarse lines by maceration; wood soft, without knots, used for carved and turnery work, and to cut upon; leaves used as fodder for cattle; flowers in infusion a pleasant antispasmodic; fruit affords a buttery substance resembling chocolate.

β. rubra. Leaves hairy; twigs red; carcerules 4-angled.
   Tilia foliis molliter hirsutis, viminibus rubris, fructu tetragono, Rait Syn. 473, 3.
   Red lime.

γ. ulmifolia. Leaves like those of the elm; carcerules 6-sided.
   Tilia ulmifolia, semine hexagono, Dillen in Rait Syn. 473, 4.

Fam. V. 70. MALVACEÆ.

Calyx mostly double; inner calyx 1-leaved; outer 1 or many-sepaled; petals hypogynous, regular, often soldered to the lower part of the tube of the stamens, rather cohering at bottom; stamens hypogynous, indefinite, monadelphous; androphore tubular, petal-bearing, divided at top; anthers kidneyshape; ovary free, simple, often lobed; style 1, sheathed by the androphore; stigmata many; fruit (in natives) many-coqued; coques 1-seeded, not opening; perisperm 0, or very thin, mucilaginous; corculum curved; cotyledons leaflike, plaited.—Stem herbaceous or undershrubby; leaves alternate, simple, stipuled; flowers axillary.

Outer calyx 3-sepaled ................. MALVA. 392.
Outer calyx 6 to 9-cut .................. ALTHAEA. 393.
Outer calyx 3-cut ........................ LAVATERA. 394.

I. 392. MALVA. Pliny.
   Calyx double; inner 5-cut; outer 3-sepaled; coques many, in a circle, 1-seeded, not opening.

   Stem prostrate; leaves heartshape, orbicular, slightly 5-lobed; peduncles when in fruit declining.
   Malva sylvestris minor, Raii Syn. 251, 2; Park. 299.
   Malva sylvestris pulilla, Ger. em. 930, 2.
   Malva rotundifolia, Lin. S. P. 969.
   Dwarf mallow. Mauls.
   Ruins and waysides; annual; July.
   Root branched; stems many, mostly simple; petals flesh-colour, longer than the calyx.

b. pusilla. Petals scarcely longer than the calyx; leaves 5-lobed, lobes deeply cut.
   Malva minor, flore parvo caeruleo, Dillen in Raii Syn. 251, 3.
   Malva parviflora, Hudson Fl. Angl. 301.

   Stem upright, herbaceous; leaves 7-lobed, pointed; petioles and peduncles hairy.
   Malva vulgaris, Raii Syn. 251, 1; Park. 299.
   Malva sylvestris, Ger. em. 930, 1; Lin. S. P. 969.
   Uncultivated places; perennial; May to August.
   Root fusiform, white; stem branched; leaves rather rough, sometimes variegated; upper nearly palmate; calyx hispid; petals purple, reverse heartshape, 3 times as long as the calyx.—Yields very fine fibre.


   Stem upright; hairs simple, tubercular at bottom; root-leaves kidneyshape, cut; stem-leaves 5-parted, pinnately many-cut; outer-calyx-sepales linear, acute, hairy.
   Alcea vulgaris, Raii Syn. 252, 1, omitting the synonyms.
   Alcea tenuifolia crispa, Dillen in Raii Syn. 253, 2.
   Malva moschata, Lin. S. P. 971.
   Edges of fields and waysides; perennial; July and Aug.
   Root woody; stem branched; herb rough with hairs, odorous; petals large, rose-red, rarely white.

II. 393. ALTHÆA. Dioscorides. Marsh-mallow.
   Calyx double; inner 5-cut; outer deeply 6 or 9-cut; coques many, not margined, 1-seeded.
Leaves tomentose, oblong, ovate, nearly 3-lobed, toothed.

*Althaea vulgaris*, *Raii Syn.* 252, 1; *Park.* 303.
*Althaea*, *Ibiscus*, *Ger. em.* 933, 1.
*Althaea officinalis*, *Lin. S. P.* 966.

Salt marshes; perennial; July to September.
Root fusiform; *herb* velvety, hairs stellate, interwoven; stem upright, simple; *outer calyx* 10 or 12-cut; *petals* flesh-colour, fringed at bottom.—Plant mucilaginous, mild, used in infusion, and externally in poultices.


Leaves heartshape, blunt, 5-lobed, bald above; stem hirsute.

*Althaea hirsuta*, *Lin. S. P.* 966.

Fields; perennial; August.

III. 394. LAVATERA. Tournefort.

*Lavatera*. 
*Calyx* double; *inner calyx* 5-cut; *outer* 3-cut; *coques* many, 1-seeded.—*Hairs* radiating, or in bundles.

*Lavatera arborea*. Tree lavatera.
*Stem* herbaceous, upright; *leaves* 7-angled, velvety, plaited; *peduncles* axillary, crowded, 1-flowered.

*Malva arborea marina nostras*, *Raii Syn.* 252, 4; *Park.* 301.
*Lavatera arborea*, *Lin. S. P.* 972.

*English sea tree mallow*. Velvet leaf.

Sea-shore; biennial; July to October.
*Stem* 6 feet high, naked, leafy at top; *petioles* long; *flowers* numerous, axillary; *outer calyx* very large; *inner woolly; petals* purplish red with dark blotches at the base; androphore woolly.

Fam.VI. 71. LINEÆ. De Candolle.

*Calyx* persisting, 4 or 5-parted; *petals* 5, clawed, alternate with the *calyx-lobes*; *stamens* 4 or 5, slightly joined at bottom; *scales* 4 or 5, alternating with the *filaments*; *styles* 4 or 5; *stigmata* 4 or 5; *ovary* free, simple; *capsule* many-celled, many-valved; edge of the valves turned in; *seeds* single, pendent; *perisperm* 0; *corculum* straight; *cotyledons* nearly leaflike; *radicle* above.
395. LINUM. Theophrastus.

Calyx 5-parted; petals 5; stamens 5; styles 5.

a. Flowers blue or reddish; leaves alternate.


Stem mostly single; leaves lanceolate, 3-ribbed; sepals ovate, acute, 3-ribbed, pointed; petals crenate; capsule sharp at the tip.

Linum sylvestre vulgarius, *Park.* 1334.
Linum sativum, *Ger.* em. 556; *Park.* 1335.
Lin. Lyne.

Corn-fields, also cultivated; annual; July.

Root small; stem upright, simple at bottom, panicled at top; petals reverse ovate, light blue, streaked; stigmata clubshaped, obtuse.—Fibres of the stem used for thread and cloth; seeds yield oil, and furnish a pectoral infusion; the farina of the seeds emollient in poultices, as also the ground cake left after pressure of the oil, which last is likewise used to feed broken-winded horses, to fatten cattle, and for manure.


Stems many, ascending; leaves linear, lanceolate, 1-ribbed; sepals reverse ovate, blunt, 5-ribbed, bald; capsules blunt at the tip.


Chalky hills; perennial; June and July.

Root woody; stem ascending, rather branched at top; leaves slightly recurved; petals notched, blue; stigmata capitate, blunt.

β. procumbens. Stem trailing; flowers and capsules small.


Stems many, ascending; leaves linear, lanceolate, 3-ribbed; sepals elliptical, 3-ribbed, pointed; capsules pointed.


Sandy and chalky pastures; perennial; July.

Twigs panicked; leaves 3 to 5-ribbed; petals sometimes notched, sometimes not, light purple; stamens short; stig mata rather clublike.

b. Chamælinum. \textit{Flowers white; leaves opposite; petals 5; stamens 5.}

4. \textit{Linum catharticum.} \textit{Purging flax.}

Stem forked, above; leaves opposite, reverse ovate, lanceolate; sepals serrated; petals acute.

\textit{Linum sylvestre catharticum}, \textit{Raii Syn.} 362, 6; \textit{Ger.} em. 560, 5.

Chamælinum Clustii flore albo, sive \textit{Linum sylvestre catharticum}, \textit{Park.} 1336.

\textit{Linum catharticum}, \textit{Lin. S. P.} 401.

\textit{Mill-mountain.}

Stem upright, simple at bottom; flowers drooping before expansion; sepals 1-ribbed, serrated; stigmata headed.—Dried plant infused in wine purgative, useful in rheumatism.

c. \textit{Radiola. \textit{Flowers white; leaves opposite; petals 4; stamens 4; styles 4.}}

5. \textit{Linum millegranum.} \textit{Thousand-seeded flax.}

Stem very much forked; leaves ovate; petals reverse-ovate; sepals 5-lobed.

\textit{Radiola vulgaris serpyllifolia}, \textit{Raii Syn.} 345.

\textit{Millegrana minima}, \textit{Ger.} em. 569, 2.


\textit{Linum Radiola}, \textit{Lin. S. P.} 403.


\textit{All-seed. Dwarf all-seed. Least rupture-wort.}

Inundations on sand; annual; July and August.

Stem corymbose, 2 inches high; flowers solitary, from the forks of the stem; calyx 4-cut; stamens equal; stigmata headed.

Fam. VII. 72. \textit{CARYOPHYLLEÆ.} \textit{Jussieu.}

Calyx persisting, 4 or 5-toothed, or 4 or 5-sepaled; petals 4 or 5, hypogynous, clawed, alternating with the calyx-lobes; stamens twice as many as the petals, rarely equal in number and alternating with them; ovary simple, sometimes rather stipititated; styles many; capsules 1 or many-celled, many-valved, opening at the tip; seeds fixed to the bottom of the capsule, or to a central placentarium; peri-
sperm farinaceous involved with the corculum; radicle below.—Stem herbaceous or under-shrubby, jointed; leaves opposite, not cut.

a. Caryophylleæ veræ. Calyx tubular, 4 or 5-toothed; stamens 10; capsule toothed at the top.

Cal. scaly at bottom; styles 2 ........... Dianthus. 397.
Cal. naked, cylindrical; styles 2 ........ Saponaria. 396.
Cal. naked, cylindrical; styles 3 ........ Silene. 399.
Cal. naked, cylindrical; styles 5 ........ Lychnis. 400.
Cal. naked, bellied; styles 3 or 5;

ovary coloured ......................... Cucubalus. 398.

b. Alsineæ. Calyx 4 or 5-sepaled; stamens 3 to 10.

Capsule 2-valved; calyx 4-sepaled;
petals 4; styles 2 ....................... Buffonia. 401.
Caps. 3 or 4-valved; calyx 3 or 4-sepaled;
pet. 3 or 4; stam. 6 or 8; styles 3 or 4 .... Elatine. 402.
Caps. 3-valved; calyx 5-sepaled;
pet. 5, notched, small; stam. 10; styles 3 Cherleria. 405.
Caps. 4-valved; calyx 4-sepaled;
pet. 0 or 4, small; stam. 4; styles 4 ........ Sagina. 403.
Caps. 5-valved; calyx 5-sepaled;
pet. 5, not cut; stam. 5 or 10; styles 5 .. Spergula. 404.
Caps. 5-valved; calyx 5-sepaled;
pet. 5, not cut; stam. 10; styles 3 ...... Arenaria. 406.
Caps. 6-toothed; calyx 5-sepaled;
pet. 5, not cut; stam. 10; styles 3 ...... Alsinella. 407.
Caps. 5 or 10-toothed; cal. 4 or 5-sepaled;
pet. 5, 2-cut; stam. 5 or 10; styles 3 ... Stellaria. 409.
Caps.5 or 10-toothed; cal. 4 or 5-sepaled;
pet. 5, toothed; stam. 3 to 5; styles 2 .... Holostea. 408.
Caps. 6-toothed; cal. 5-sepaled;
pet. 5, not cut; stam. 4; styles 4 ........ Møenchia. 410.

A. Caryophylleæ veræ. Calyx tubular, 4 or 5-toothed; stamens 10; capsule opening at the tip.


Calyx tubular, 5-toothed, base destitute of scales; petals 5, clawed, claws as long as the calyx; mouth crowned; limb not notched; stamens 10; styles 2; capsule 1-celled, many-seeded, opening at the top.
Ph. ex. thal.  72.  CARYOPHYLLEÆ.  396.  Sap.  643

Saponaria officinalis. Shop sopewort.  
Calyx cylindrical, bald; leaves ovate, lanceolate.

Saponaria, Ger. em. 444, 1. 
Saponaria vulgaris, Park. 641. 
Saponaria officinalis, Lin. S. P. 584. 
Brisewort.

Fields and hedges; perennial; August and September. 
Roots very long; stolones creeping; leaves 3-ribbed, connate; panicle many-flowered; flowers rose-red, odoriferous, rarely double.—Plant bitter, saponyaceous, lathering with water, and dissolving grease; decoction used in gonorrhœa and the sequelæ of syphylis, also externally in itch.

b. convoluta.  Leaves convolute.

Gentiana concava, Ger. em. 435. 
Saponaria Anglica folio convoluto, Park. 641. 
Hollow-leaved sopewort.  Hollow felwort.

II.  397.  DIANTHUS.  Linnaeus.  

Pink.  
Calyx tubular, 5-toothed; scales 2 or 4, opposite, imbricate at the base; petals 5, claws as long as the calyx; stamens 10; styles 2; capsules 1-celled, toothed at the tip.

1. Dianthus pratensis. Meadow pink. 
Flowers aggregate, bundled; calyx-scales lanceolate, villous, as long as the calyx.

Caryophyllus latifolius barbatus minor annuus, flore minore, Raii Syn. 337, 4. 
Caryophyllus pratensis, Ger. em. 594, 11. 
Caryophyllus pratensis nostras major and minor, Park. 1338. 
Dianthus Armeria, Lin. S. P. 586. 
Deptford pink.

Sandy and gravelly pastures; annual; July and August. 
Root fusiform; stem downy, stiff; leaves linear, keeled at bottom, downy; calyx downy; petals serrated, red, rarely white.

2. Dianthus prolifer. Childing pink. 
Flowers aggregate, headed; calyx-scales ovate, blunt, not armed, overtopping the tube.

Caryophyllus sylvestris, prolifer, Dillen in Raii Syn. 337, 5. 
Armeria prolifera Lobelii, Ger. em. 599, 5. 
Dianthus prolifera, Lin. S. P. 587. 
Childing sweet-Williams.

Sandy pastures; annual; July.  2 r 2
Stem mostly simple; leaves linear; head many-flowered; calyx-scales, common very large; proper 2, slender; petals notched, small, pale purple, soon withering.


*Flowers solitary; calyx-scales 4*, very short, ovate, slightly mucronate; petals crenated, mouth naked; leaves linear, awlshape, channelled, glaucous.

Caryophyllus simplex flore minore pallide rubente, Raui Syn. 336, 3.
Cariophyllus sylvestris simplex, Ger. em. 591, 1.
*Dianthus Caryophyllus*, Lin. S. P. 587.
'Single purple pink.' Common pink. Carnation.

Root woody; stem branched; flowers flesh-colour, odoriferous.—Syrup of the flowers cordial.

3. *Dianthus minor*. Plant smaller; flowers white; petals acutely crenated, mouth encircled with black.

*Dianthus arenarius*, Hudson Fl. Angl. 185, not of Linnæus.
*Pheasants-eye pink.*


*Flowers solitary; calyx-scales mostly 2*, ovate, lanceolate, acute; leaves rather blunt, downy; petals crenated; barren stems trailing.

Caryophyllus minor repens nostras, Raui Syn. 335, 1.
Caryophyllus montanus purpureus, Ger. em. 593, 6.
*Dianthus deltoides*, Lin. S. P. 588.
*Maiden pink.*

Chalky and sandy fields; perennial; July to October.

*Roots* in tufts; stem ascending; leaves linear, lanceolate; flowers small, rose or flesh-red; mouth naked with a purple ring; calyx-scales half as long as the tube.—Used in Hungary to cure intermittent fevers.

3. *Dianthus glaucus*. Leaves glaucous; calyx-scales 2 or 4; flowers white, without the purple ring.

*Dianthus glaucus*, Lin. S. P. 588.


Stem 1 or 2-flowered; calyx-scales short, roundish; petals crenated, downy; leaves rough on the edge.

Caryophyllus q. Armeritæ species flore in summno caule singulari, Raui Syn. 336, 2.
*Dianthus glaucus*, Hudson Fl. Angl. 185.
*Dianthus virginicus β*, Lin. S. P. 590.
*Mountain pink.*
Dry rocks; perennial; June and July.
  Root woody; stem simple, bald, 1 or 2-flowered; calyx-scales one-third the length of the tube; petals with purple hairs at the mouth.

III. 398. CUCUBALUS. Pliny.  
  Spatling-poppy.
  Calyx tubular, inflated, 5-toothed; petals 5-clawed; stamens 10; styles 3 or 5, longitudinally villous on the inside; ovary coloured; capsule 1-celled.

  Stem weak; branches spreading; flowers solitary; calyx bellshape, downy; petals distant; capsule globular, fleshy.

   Cucubalus Plinii, Dillen in Rait Syn. 267, 1.
   Alsine baccifera, Ger. em. 614, 13.
   Cucubalus baceiferus, Lin. S. P. 591.
   Silene fissa, Salisb. Prod. 302.
   Berry-bearing chickweed.

Shady rich land; perennial; June and July.
  Root creeping; stem much branched, downy; leaves spreading, pale green; flowers terminal, single, drooping; petals slightly toothed at the throat.

  Stem upright; flowers paniced, drooping; calyx ovate; petals slightly nicked, rather naked; capsule ovate.

   Lychnis sylvestris, qua Ben album vulgo, Rait Syn. 337, 2.
   Beben album, Ger. em. 678, 2.
   Papaver spumeum, sive Ben album vulgo, Park. 263.
   Cucubalus Beben, Lin. S. P. 591.
   Cucubalus inflatus, Salisb. Prod. 302.

Fields and waysides; perennial; July.
  Root tufted; stem upright, glaucous; leaves ovate, lanceolate; flowers drooping, white; calyx whitish.

β. hirsutus.  Stem and leaves hairy; calyx-teeth fringed; petals small.

  Stem trailing; flowers solitary, or in pairs, terminal; calyx ovate; petals 2-cut, crowned; capsule roundish.
Lychnis maritima repens, Raii Syn. 337, 1.
Lychnis marina Anglica, Ger. em. 469, 2.
Lychnis marina repens alba, Park. 638.
Cucubalus Behen H., Lin. S. P. 591.
Silene amena, Hudson Fl. Angl. 188.

Sea campion. Sea catchfly.

Rocks and sands by the sea, or alpine rivers; perennial; August and September.

Root creeping; stem tufted, sometimes trailing; leaves linear, lanceolate; flowers drooping, white.

IV. 399. SILENE. Theophrastus. Catchfly.

Calyx tubular, cylindrical or conical, 5-toothed; petals 5, claws long, rarely naked, usually crowned with scales, limb often 2-cut; stamens 10; styles 3; capsule 3-celled, 6-valved.


Herb hirsute, viscous; petals nicked; flowers spiked, lateral flowers upright, alternate; lower capsules reflected, spreading.

Lychnis sylvestris flore albo minimo, Raii Syn. 339, 10.
Silene arvensis, Salisb. Prod. 301.

Sandy fields; annual; July.

Roots fibrous; stem branchy, upright; leaves linear, lanceolate; flowers solitary, white; calyx cylindrical; capsule ovate.


Herb hirsute; petals roundish, not cut; flowers solitary; lateral flowers alternate; capsules upright.

Silene quinquevulnera, Lin. S. P. 595.

Sandy fields; annual; June and July.

Roots fibrous; stem much branched, ascending, weak; leaves elliptical, lanceolate; petal-limb rounded, not cut, white with a blood-red spot in the centre.


Herb downy; flowers panicked, facing one way, nodding; leaves lanceolate; petals 2-parted, lobes linear.

Lychnis sylvestris alba nona Clusii, Raii Syn. 340, 11; Ger. em. 470, 8.

Lychnis major noctiflora Dubrensis perennis, Raii Syn. 340, 12?
Lychnis sylvestris alba, sive Ocymoides minus album, Park. 631,

Silene nutans, Lin. S. P. 596.

Silene paradoxa, Lin. S. P. 1675?
Cucubalus viscosus, Hudson Fl. Angl. 186?

Nottingham catchfly. Dover catchfly.
Chalk rocks and buildings; perennial; July.
Root woody; stems many, simple, upright; root-leaves reverse ovate, crowded; panicle forked; calyx 10-ribbed; petals white; stamens 5 long, exserted, 5 short; capsule ovate.

4. **Silene parviflora.**  
Small-flowered catchfly.
Plants dioecious; flowers panicked; petals linear, undivided, wavy, bald, naked.

Muscipula Salamatica major, *Park.* 636.
Spanish catchfly.

Dry sandy and chalky fields; perennial; July and Aug.
Root woody; stem upright, panicked above; peduncles in whirls, forked; leaves petioled, spatulashape, downy; flowers small, yellowish green; calyx ribbed; petals sometimes 0.

5. **Silene conica.**  
Conical catchfly.
Stem forked; leaves lanceolate, downy; petals notched, crowned; calyx when in fruit conical, 30-streaked.

Lychnis sylvestris angustifolia caliculis turgidis striatis, *Dillen in Raii Syn.* 341, 18.

Sandy fields; annual; July.
Root branched; stem upright, forked, downy; leaves velvetlike; flowers from the forks; peduncles upright, solitary; calyx membranaceous; teeth 5, straight; petals rose-red; capsule ovate, flaskshape.

6. **Silene noctiflora.**  
Nightflowering catchfly.
Stem forked; leaves lanceolate, hairy; calyx 10-angled, teeth as long as the tube; petals notched, bluntly crowned.


Sandy fields; annual; July.
Stem upright, branchy, downy; leaves dark green; flowers from the forks, peduncled, upright; calyx viscid; petals flesh-colour; capsule ovate.

7. **Silene latifolia.**  
Broadleaved catchfly.
Upper leaves heartshape, bald; panicle forked, bundled, many-flowered; petals notched, acutely crowned.
Lychnis viscosa purpurea latifolia lavis, Dillen in Rait Syn. 341, 17.
Muscipula Lobellii, Ger. em. 601.

Fields and old walls; annual; July and August.

Stem branched, viscid beneath the joints; leaves clasping the stem; lower leaves ovate; panicle leafless; flowers upright, rose-red; calyx 10-angled, teeth rounded; capsule elliptical, pedicelled.


Stem very short, branched; leaves linear, fringed at bottom; peduncles solitary, 1-flowered; petals slightly notched, crowned.

Lychnis alpina minima, Rait Syn. 341, 16.
Caryophyllus pumilio alpinus, Ger. em. 593.
Silene acaulis, Lin. S. P. 603.
Cucubalus acaulis, Hudson Fl. Angl. 181.
Moss campion. Grass leaved campion.

Alpine rocks; perennial; June and July.

Roots tufted; stems trailing; leaves crowded, keeled, linear; peduncles terminal, angular; flowers upright, rose-red; calyx 5-ribbed; capsule cylindrical.

V. 400. LYCHNIS. Theophrastus.

Lychnis. Calyx tubular, 5-toothed; petals 5, clawed; stamens 10; styles 5; capsules 1-celled, or apparently 5-celled.

a. Viscaria. Calyx-teeth short; petals not cut; capsule apparently 5-celled.


Stem jointed, viscous; leaves linear, lanceolate, blunt; calyx wrinkled; petal-claws margined, membranaceous, fringed.

Lychnis sylvestris viscosa rubra angustifolia, Rait Syn. 340, 14; Park. 636.
Muscipula angustifolia, Ger. em. 601, 3.
Lychnis Viscaria, Lin. S. P. 625.
Red German catchfly.

Fissures of rocks; perennial; May and June.

Roots tufted; stems angular; leaves keeled, bald; panicle rather spiked; flowers crowded, rose-red, rarely white; calyx hairy, membranaceous; capsule ovate.
b. Calyx-teeth short; petals cut; capsule 1-celled.

2. Lychnis alpina. Alpine lychnis. 
Herb bald; flowers densely corymbose; calyx smooth; petals notched; claws not margined, bald. 
Lychnis alpina, Lin. S. P. 
Mountains; perennial; July. 
Stems in tufts, upright; leaves acute; flowers nearly sessile; petals rose-red, very slightly crowned.

3. Lychnis plumaria. Feathery lychnis. 
Flowers loosely panicked; petals 4-cut, crowned; capsule roundish.

Lychnis plumaria sylvestris simplex, Rait Syn. 338, 4; Park. Par. 253. 
Armerius pratensis mas et femina, Ger. em. 600, 1 and 2. 
Lychnis Flos cuculi, Lin. S. P. 625. 

Damp fields; perennial; July. 
Root fibrous; stem upright, angular; leaves lanceolate; panicle leafy; calyx cylindrical, ribbed; petals flaccid, rose-red, white, often becomes doubled.

Herb rather villous; stem kneed, upright; leaves lanceolate; petals reverse heartshape, crowned. 
Lychnis sylvestris albo flore, Rait Syn. 339, 8; Ger. em. 468, 1; Park. 630. 
Lychnis dioica 6, Lin. S. P. 626. 
Lychnis vespertina, Sibthorp Fl. Ox. 146. 
Lychnis dioica, De Candolle Fl. Gall. 4366. 
Wild white campion. White batchelors buttons when double. 

Fields and hedges; perennial; May to September. 
Root fusiform; stem firm, tall; flowers white, odoriferous at night, unisexual rarely hermaphrodite; calyx of the males elliptical, clubshape, 10-ribbed, veins 0; of the females ovate with intercostal veins; capsule conical, larger than that of L. diurna.

5. Lychnis diurna. Day lychnis. 
Herb hirsute; stem kneed, weak; leaves ovate; petals reverse-heartshape, crowned. 
Lychnis sylvestris rubello flore, Rait Syn. 339, 9; Ger. em. 469, 1. 
Lychnis sylvestris, flore rubro, Park. 631. 
Lychnis dioica a, Lin. S. P. 626. 
Lychnis diurna, Sibthorp Fl. Ox. 146. 
Lychnis sylvestris, De Candolle Fl. Gall. 4367. 
Wild red campion. Red batchelors buttons when double.
Damp woods and hedges; perennial; May to September.
Root fusiform; leaves soft, pale; flowers rose-red, inodorous; mostly unisexual; calyx in both sexes 10-ribbed, without intermediate veins; capsule conical, smaller than that of L. vespertina.

**Caryophyllaceae.**

**Lychnis.**

**Lychnis segetum.**

Corn lychnis.
Herb hirsute; calyx-teeth twice as long as the corolla.
Psuedo melaninthum, *Ger.* em. 1087.
Lychnis Githago, *De Candolle Fl. Gall.* 302.
Githago segetum, *Des Fontaines Att.* 1, 363.

Cockle. Corncockle.

**Alsine.**

**B. Alsineæ.** Calyx 4 or 5-sepaled; stamens 3 to 10.

**VI. 401. Buffonia.** Linnaeus.

**Buffonia annua.** Annual Buffon.

Buffonia annua. Lamarck Illustr. 349.

Calyx 4 or 4-sepaled; petals 4; styles 2; capsule compressed, 1-celled, 2-valved, 2-seeded.

**Buffonia annua.**

Stem weak, panicked; flowers terminal and lateral; calyx streaked.

Alsine polygonoides tenuifolia, flosculis ad longitudinem caulis velut in spicam dispositis nostra, *Rad* Syn. 346.


Buffonia annua, *Lamarck Illustr.* 349.

Sea-shore; annual; July. A doubtful native.

Stems many; leaves awlshape, pressed to the stem, connate at the base; flowers peduncled, white.

**VII. 402. Elatine.** Dioscorides.

**Elatine serpyllifolia.** Thyme-leaved waterwort.

Elatine serpyllifolia. Lin. S. P. 327.

Stem rooting, much branchy; leaves opposite; flowers alternate.


Edges of lakes on sand; annual; August.

Herb bald; stem 2 in. high; flowers axillary, peduncled, single; seeds bent, streaked.
VIII. 403. SAGINA. Linnaeus.  
**Pearlwort.**  
*Calyx* 4-sepaled; *petals* 4, very small; *stamens* 4; *styles* 4; *capsule* 1-celled, 4-valved, many-seeded.

1. *Sagina procumbens.*  
**Procumbent pearlwort.**  
*Stem* trailing, bald; *leaves* linear, pointed; *petals* very short, not cut.

Alsinella muscoso flore repens, Rait Syn. 345, 2.  
Caryophyllus minimus muscosus noster, Park. 1340.  
*Sagina procumbens*, Lin. S. P. 185.  
*Seal wort. Chickweed breakstone.*  

Sand and old walls; perennial; May to August.

*Stems* many, rooting; *leaves* bald, connate; root-leaves in tufts; *peduncles* single, longer than the leaves; *flowers* yellowish; *calyx* spreading, blunt.

2. *Sagina maritima.*  
**Sea pearlwort.**  
*Stem* rather upright, divaricating, bald; *leaves* blunt, not armed; *petals* very small.

Alpine and marine rocks; annual; April and May.  
*Stem* purplish; *leaves* membranaceous at bottom.

3. *Sagina apetala.*  
**Bloomless pearlwort.**  
*Stem* nearly upright, downy; *leaves* awned, hairy; *petals* very minute.

*Sagina apetala*, Lin. Mant. 2, 519.  
*Annual pearlwort.*  

Sandy places and walls; annual; May and June.  
*Stems* many, downy, not rooting; *peduncles* long, hairy; *petals* white, or 0; *seeds* girt with a black line.

IX. 404. SPERGULA. Dodoneus.  
**Spurry.**  
*Calyx* 5-sepaled; *petals* 5, not nicked; *stamens* 5 or 10; *styles* 5; *capsule* 1-celled, 5-valved.

a. *Leaves* opposite; *stipules* 0.

1. *Spergula subulata.*  
**Awlshape spurry.**  
*Herb* rather hairy, hairs glandular; *leaves* nearly facing one way, linear awlshape, fringed, slightly awned; *peduncles* very long, solitary; *petals* the length of the calyx.
Alsinella q. Saxifraga graminea pusilla foliis brevioribus, crassioribus et succulentioribus, Raii Syn. 345, 4.
Sagina procumbens 2, Lin. S. P. 185.
Spergula laricina, Hudson Fl. Angl. 203.
Spergula saginoides, Curtis Fl. Lond.
Sandy heaths; perennial; July and August.

Stem trailing at bottom, afterwards erect; leaves connate; peduncles hairy; flowers drooping, white; sepals ovate, blunt, viscid; stamens 5 or 10; capsule 5-valved; seeds with a black line round them.

2. Spergula saginoides. 

Herba bald; leaves linear, awlshape, smooth, pointed; peduncles solitary, very long, bald; petals shorter than the calyx.

Sagina procumbens 2, Withering Bot. Arr. 278.

Alpine rocks; perennial; June.

Stem decumbent, upright at the tip; peduncles mostly terminal; flowers drooping; sepals ovate, blunt; petals roundish, blunt; stamens 10; seeds not edged.

3. Spergula nodosa. 

Leaves awlshape, smooth, rather blunt; lower leaves widely sheathing; upper leaves bundled, axillary; stem mostly simple, few-flowered; petals twice as long as the calyx.

Spergula q. Alsinia palustris foliis tenuissimis, sive Saxifraga palustris alsinefolia, Ger. em. 567, 6; Raii Syn. 350, 5.
Saxifraga palustris Anglica, Park. 427.
Alsinia nodosa Germanica, Park. 764.
Spergula nodosa, Lin. S. P. 630

Moist sandy places; perennial; July to August.

Stem tufted, spreading, 9 in. high.

b. Leaves in whirls, stipuled at bottom.

4. Spergula arvensis. 

Field spurry.

Leaves in whirls; fruit-bearing peduncle bent back; seed kidneyshape, angular, not edged.

Spergula q. Alsinia Spergula dicta major C. Bauhini, Raii Syn. 351, 7.
Saginae Spergula, Ger. em. 1125.
Saginae Spergula major, Park. 562.
Spergula arvensis, Lin. S. P. 630.

Sandy fields, also cultivated; annual; July and August.

Stem upright, spreading, panicked at top; panicle manyflowered; peduncles downy, 1-flowered; sepals ovate, blunt,
margined; stamens 5 or 4; seeds kidneyshape, tubercular, rough.—Herb nutritive to cattle, and causes them to give much milk; seeds used to feed poultry, and to make bread.

5. Spergula pentandra. Five-stamened spurry.

Leaves in whirls; flowers 5-stamened; seeds flat, margined.

Spergula annua semine foliaceo nigro, circulo membranaceo albo cincto, Raìi Syn. 351, 8.
Spergula pentandra, Lin. S. P. 630.

Sandy fields; annual; June.
Leaves very fleshy; calyx-margin scarcely scarious; seeds smooth, margin white.

X. 405. CHERLERIA. Haller.

Cherleria sedoides. Sedumlike cherler.

Stems tufted; leaves 3-sided, awlshape, 3-ribbed; peduncle single, axillary, 1-flowered.

Sedum montanum perpusillum luteolis floribus, Park. 737.
Cherleria sedoides, Lin. S. P. 608.

Mossy cyphel.

Alpine rocks; perennial; July.
Root woody, branched; leaves close, blunt; peduncles 2-bracteated in the middle; flowers yellowish green, upright; sepales keeled; seeds angular.

XI. 406. ARENARIA. Linnaeus.

Sandwort.

Calyx 5-sepaled; petals 5, very small, nicked; stamens 10; styles 3; capsule 3-valved, 3-celled; cells 2-seeded.

a. Stipularia. Stipules at the base of the leaves, scarious.


Stem prostrate; leaves linear, mucronate, longer than the internode; seeds compressed, angular, roughish.

Spergula purpurea, Raìi Syn. 351, 9.
Alsine spergulae facie, Ger. emt. 1125, 5.
Saginae Spergula minima, Park. 561.

Arenaria rubra, Lin. S. P. 606.
Arenaria campestris, Allioni Pedem.

Chickseed spurrey. Small red spurrey.

Sandy fields; annual; July and August.
Stem divaricating, bald; leaves flat; stipules torn; panicle terminal, downy; flowers bluish flesh-colour; capsule three-valved, as long as the calyx; seeds wedgeshape.

Stem prostrate; leaves semicylindrical, fleshy, not armed, as long as the internodes; seeds compressed, margined, smooth.

*Spergula maritima* flore parvo caeruleo, semine vario, *Dillen in Raiti Syn.* 351, 11.


*Arenaria marina*, *Fl. Danica*, 740.

*Arenaria marginata*, *De Candolle Fl. Gall.* 4434.

*Arenaria rubra media*, *Hudson Fl. Angl.* 193.

Red samphire.

Sea-coasts; annual; June and July.

Stem very smooth; leaves fleshy, bald; stipules torn; flowers large, pale flesh-red or purple; capsule longer than the calyx; seed flat, slightly margined.—Succulent.

b. *Arenaria media*. Seeds margined; margin membranaceous, streaked.

*Spergula q. Alsine spargulae facie media* C. Bauhini, *Raiti Syn.* 351, 10.

*Arenaria media*, *Lin. S. P.* 606.


b. Leaves awlshape; stipules 0.


Leaves awlshape, acute; stem much branched, forked, panicked; sepales longer than the petals, awlshape, streaked; petals lanceolate; capsule upright.


*Arenaria tenuifolia*, *Lin. S. P.* 607.

Sandy barren fields; annual; June.

Herb bald or hairy; stem upright; leaves bristlelike, 3-ribbed; lower leaves connate, dilated; peduncles upright; flowers small, white; sepales margined; petals blunt; seeds compressed.


Stems many, tufted, long, panicked; leaves awlshape, rather blunt, ribbed; sepales 3-ribbed, ribs remote, equal; petals reverse ovate, longer than the sepales.


*Arenaria verna*, *Lin. Mant.* 72.


Mountains; perennial; May to August.

Stems much branched, downy; leaves wide at bottom, connate, mostly bald; sepales ovate, acute, shorter than the petals.
3. *larcifolia.* Sepals linear, pointed, shorter than the petals.


γ. *juniperina.* Sepals ovate, rather bald; nearly as long as the petals.


5. *Arenaria fastigiata.* Even-topped sandwort.

Stem upright, stiff, corymbose; leaves awlshape; calyx-side-ribs dilated; petals very short.


Mountains; annual; June.

Flowers small; seeds elegantly toothed.

XII. 407. *ALΣINEΔΑ. Dillenius.*

*Alsinelle.*

Calyx 5-sepaled, spreading; petals 5, not nicked; stamens 10; styles 3; capsule ovate, 1-celled; 6-toothed at the tip.—Leaves ovate; stipules 0.

1. *Alsinella serpyllifolia.* Thyme-leaved alsinelle.

Leaves nearly sessile, ovate, scabrous; sepals longer than the petals, hairy; outer sepals 5-ribbed, inner 3-ribbed.


*Alsine petraea,* *Ger. em.* 612, 6.


Dry sandy places and walls; annual; June and July.

Stems many, ascending, stiff, forked; leaves small, ribbed; peduncles upright; flowers white, small; seeds wrinkled.


Leaves ovate, acute, petioled, fringed, 3 or 5-ribbed; stem slender, branched; sepals slightly 3-ribbed; keel rough.


*Alsinella trinervis,* *Lin. S. P.* 605.

*Plantain-leaved chickweed.*

Damp woods and hedges; annual; May and June.

Stem weak, ascending, hairy; peduncles from the forks of the stem, 1-flowered, bending down after flowering; petals reverse ovate, as long as the calyx; seeds smooth.


Stem prostrate, branched; leaves slightly petioled, oblong, ovate, spatulate, fringed at the base; flowers terminal, solitary; sepals lanceolate, mostly 7-ribbed, smaller than the petals.
Arenatia ciliata, *Wulf in Jacquin, Coll.* 1, 245.  
Mountains; perennial; July and August.  
*Leaves* tubercular, rough; *peduncles* downy, hairs bent backwards; *flowers* large.

XIII. 408. **HOLOSTEUM.** Dioscorides. *Holostenum.*  
*Calyx* 5-sepaled; *petals* variously cut; *stamens* 3 or 5;  
*styles* 3; *capsules* 1-celled, 6-toothed.

*Holosteum umbellatum.*  
*Leaves* ovate, acute; *flowers* umbelled, terminal; *petals* toothed.

*Caryophyllus Holostius arvensis,* Ger. *em.* 595, 16.  
*Holosteum umbellatum,* Lin. *S. P.* 130.  
*Cerastium umbellatum,* Hudson *Fl.* Angl. 201.  
*Broad-leaved wild pink.*  
*Umbelliferous chickweed.*

Old walls; annual; April.  
*Stem* branchy at bottom, small, viscid at the top; *umbells* simple; *peduncles* bracteated, becoming divaricated; *flowers* white or reddish.

XIV. 409. ** STELLARIA.** Brunsfel. *Chickweed.*  
*Calyx* 5-sepaled; *petals* 2-cut; *stamens* 3 to 10; *styles* 3;  
*capsules* 1-celled, 5 or 6-toothed.

a. **Alsinae.**  
*Petals* deeply 2-parted; *stamens* 5 or 10; *leaves* ovate; *capsule-mouth* 5 or 6-toothed.

1. **Stellaria media.** *Middle-size chickweed.*  
*Herb* bald; *leaves* ovate, petioled; *stem* procumbent, with alternate lateral lines of hairs.

*Alsine vulgaris seu Morsus gallinae,* Rail *Syn.* 347, 6.  
*Alsine media seu minor,* Ger. *em.* 611, 2.  
*Chickweed.*

Damp places and gardens; annual; April to September.  
*Plant* very various in size; *stem* prostrate, brittle; *leaves* bald; *petioles* fringed; *peduncles* axillary and terminal, solitary, 1-flowered; *calyx* hairy; *petals* white, deeply 2-cut, shorter than the calyx; *capsule* 6-toothed.—Young shoots boiled make an excellent spinach-herb; plant used as greens for small birds.
2. Stellaria aquatica. **Water chickweed.**

*Plant hairy; leaves heartshape; upper leaves sessile; peduncles lateral, solitary, when fruitbearing turned back; capsule ovate, 5-toothed; styles 5.*

Alsine major, *Ger. em.* 611; *Park.* 759, 2.
*Cerastium aquaticum, Lin. S. P.* 529.

*Watery places; perennial; July.*

*Root creeping; stem weak, branched; petals white, deeply 2-parted, as long as the sepals; styles 5.*

3. *Stellaria nemorum.* **Wood chickweed.**

*Herb rather hairy; stem hollow; lower leaves heartshape, petioled; upper ovate, sessile; panicle forked; peduncles becoming reflected; styles 3; capsule ovate, 6-toothed.*

Alsine montana folio smilacis instar, flore laciniato, *Dillen in Raii Syn.* 347, 5.

*Stellaria nemorum, Lin. S. P.* 603.

*Damp woods; perennial; May and June.*

*Root creeping; stem weak; leaves pale green; panicle many-flowered, leafy; calyx hairy at the base; sepals scarious, margined.*

b. *Stellariae verae.* **Petals reverse heartshape; stamens 10; stem 4-sided; leaves linear, lanceolate, stiff; capsule six-toothed, teeth deeply cut; styles 3.**

4. *Stellaria glauca.* **Sea-green chickweed.**

*Stem rather upright, weak; leaves linear, lanceolate, glaucous, edge smooth; floral leaves scarious; peduncles upright; sepals 3-ribbed; petals twice as long as the calyx.*

*Stellaria media, Sibthorp Fl. Ox.* 141.
*Stellaria graminea 2, Hudson Fl. Angl.* 190.

*Damp fields and hedges; perennial; June and July.*

*Stem smooth; peduncles axillary and terminal.*

5. *Stellaria graminea.* **Grassy chickweed.**

*Stem rather upright, weak; leaves linear, lanceolate, edge smooth; panicles divaricating, terminal; sepals 3-ribbed; petals as long as the calyx.*

*Stellaria graminea, Lin. S. P.* 604.

*Lesser stitchwort.*
Sandy pastures; perennial; May.
Stems, leaves, and peduncles smooth; sepals membranaceous, white; ribs green.

6. Stellaria holostea. All-bone chickweed.
Stem upright, stiff; leaves lanceolate; edge rough, finely serrated; sepals ribless; petals 3 times as long as the calyx.
Stellaria holostea, Lin. S. P. 603.
Stitchwort. Great stitchwort.

Dry woods and coppices; perennial; May.
Root creeping; stem diffuse, rough; leaves acute; panicle forked, leafy; peduncles upright; capsule globular.

7. Stellaria scapigera. Stalkbearing chickweed.
Stems in tufts; leaves linear, lanceolate, crowded; edge rough; peduncles longer than the stem; sepals 3-ribbed; petals as long as the calyx.
Stellaria scapigera, Willdenow S. P. 2, 716.

Rivulets; perennial; May and June.
Stem very short, stiff; leaves acute, ribbed; peduncles many, 4-sided, simple.

c. Cerastium. Petals 4 or 5, 2-cut; stamens 4 to 10; capsule-mouth 10-toothed; leaves nearly ovate, hairy.

Stem hairy, tufted, spreading; leaves elliptical, oblong, blunt; peduncles in pairs or threes, 1-flowered; calyx downy; sepals 1-ribbed; petals twice as long as the calyx.
Stellaria cerastoides, Lin. S. P. 604.

Alpine places; perennial; July.
Root creeping; stem branched at bottom, with a single line of hairs; leaves bald, bent back; peduncles downy, upright; sepals blunt, half the length of the petals; styles 3, 4, or 5; capsules oblong, 6, 8, or 10-toothed.

Plants hairy, viscid; stems in tufts; leaves ovate; flowers in bundles; peduncles very short; petals as long as the calyx; capsules oblong.
Myosotis q. Alisne hirsuta myosotis latifolia precocior, Rait Syn. 348, 3.
Cerastium vulgatum, Lin. S. P. 627.
Cerastium viscosum, Hudson Fl. Angl. 200.
Fields and walls; annual; April and May.
Herb light green; stem ascending, forked; leaves broad, blunt; peduncles upright; sepals acute; capsule cylindrical, curved, twice as long as the calyx.

10. Stellaria viscosa.  
Viscous chickweed.
Herb hairy, viscous, diffused; leaves lanceolate, oblong; flowers panicled, shorter than the peduncles; petals the same length as the calyx; capsule oblong.
Myosotis q. Alsine hirsuta myosotis Lobelii, Rait Syn. 349, 4.
Cerastium viscosum, Lin. S. P. 627.
Cerastium vulgatum, Hudson Fl. Angl. 200.

Fields and walls; perennial; May to September.
Herb dark green; stems ascending; leaves rather blunt; peduncles viscid, twice as long as the flower; sepals all margined; capsules cylindrical, curved, twice as long as the calyx.

Stems tufted, hairy, viscid above; leaves upright, ovate, oblong; flowers conglomerated, 5-stamened; petals notched, shorter than the calyx; capsules cylindrical.
Myosotis q. Cerastium hirsutum minus, parvo flore Dillenii, Dillen in Rait Syn. 348, 2.
Cerastium semidecandrum, Lin. S. P. 627.

Sandy places and walls; annual; March and April.
Stem upright; lower leaves rather bald; peduncles longer than the calyx; sepals margined; stamens 5, rarely 10; capsules twice as long as the calyx.

12. Stellaria pumila.  
Dwarf chickweed.
Stems in tufts, hairy, viscid at top; leaves upright, ovate, oblong; flowers conglomerate, 5-stamened; petals as long as the calyx; capsules twice as long, cylindrical.
Cerastium pumilum, Curtis Fl. Lond.
Cerastium semidecandrum 6, Smith Fl. Brit. 497.

Dry pastures; annual; February and March.  
Flowers more conspicuous; petals larger and deeper cleft; capsule longer than in S. semidecandrum.

Four-stamened chickweed.
Stems diffused, hairy, rather viscid; leaves elliptical or ovate; peduncles 3 times as long as the calyx; flowers conglomerate, 4 or 5-stamened; petals 2-cut, shorter than the calyx; capsule cylindrical, rather longer than the calyx.

2 u 2

*Stems* tufted, rough; *leaves* elliptical; *peduncles* terminal, simple, mostly solitary; *petals* longer than the calyx; *capsules* ovate, turgid.

*Myosotis q. Alside myosotis luguinosa alpina grandiflora,* **Raii Syn.** 349, 6.

*Cerastium latifolium,* **Lin. s. P.** 629.

*Cerastium tomentosum,* **Hudson Pl. Angl. ed.** 1, 176.

Alpine hills; perennial; June.

*Stem* ascending, densely leaved; *leaves* elliptical, hairy; *hairs* short, stiff, jointed; *peduncles* downy, terminal, solitary, nearly as long as the stem; *bracteae* 0; *sepales* margined; *petals* half as long again as the calyx.


*Leaves* elliptical, naked or hairy; *panicle* forked, few-flowered, bracteated; *capsule* oblong, bent.

*Myosotis q. Alside myosotis facic, lychnis alpina flore amplo niveo, repens D. Lhoyd, Raii Syn.** 349, 5.

*Cerastium alpinum,* **Lin. s. P.** 628.

*Cerastium latifolium, Lightfoot Pl. Scot.** 242.

Rills among alpine rocks; perennial; June and July.

*Root* creeping; *stem* upright, simple; *leaves* bald, or with soft hairs; *peduncles* 3 or 4 together, 1-flowered; *bracteae* opposite, lanceolate; *petals* reverse-heartshape; *capsules* cylindrical, awned, longer than the calyx.


*Stems* in tufts; *leaves* linear, lanceolate, downy, blunt, fringed at bottom; *petals* twice as long as the calyx; *capsule* oblong, straight.

*Myosotis q. Caryophyllus arvensis hisritus flore majore,* **C. Bauhini, Raii Syn.** 348, 1.

*Caryophyllus Holostius,* **Ger. em.** 595, 15.

*Cerastium arvense,* **Lin. s. P.** 628.

Chalky and gravelly fields; perennial; May to August.

*Root* creeping; *stem* downy; *panicle* forked, few-flowered; *sepales* ovate, blunt, margined; *petals* large, white, reverse-heartshape.
XV. 410. MOENCHIA. Ehrhart.  

*Calyx* 4-sepaled; sepales connivent, lanceolate, acute, margined; *petals* shorter than the *calyx*, not cut, pointed; *stamens* 4; *stigma* 4, sessile, villous; *capsule* 1-celled, opening in 8 teeth at the tip; *seeds* kidneyshape, rough.

*MOENCHIA glauca.*  Glanuous *MOENCH.

*Herb* glanous; *leaves* lanceolate, acute; *peduncles* solitary, long, 1-flowered.

Moenchia quaternella, *Ehrhart Beitr.* 2, 177.  

Least stitchwort. Upright pearwort.

Gravelly pastures; annual; September and October.

*Root* small; *stems* few, upright, stiff, or many, trailing; *peduncles* 1 or 2, very long; *petals* white, not so long as the *calyx*; *capsules* cylindrical.

Fam. VIII. 73. CISTINEÆ. De Candolle. *Cisti,* Jussieu.  
*Cisteae,* Lamarck.

*Calyx* 5-sepaled, persisting; *petals* 5, hypogynous, equal, caducous, expanded; *stamens* many, indefinite, hypogynous; *ovary* 1, free; *style* 1; *capsule* many-seeded, 1 to 10-celled, 3 or many-valved; *seeds* affixed to the middle of the valves, or bottom of the cells; *perisperm* fleshy; *corculum* bent or spiral.—*Stem* shrubby or undershrubby; *leaves* mostly opposite, stipuled.


*Calyx* unequal, 2 outer sepales smallest; *capsule* 1-celled, 3-valved; *seeds* adnate to the middle of the valves; *corculum* bent.—*Flowers* mostly yellow.

a. *Flowers* yellow; *leaves* not stipuled at the base.


*Stem* rather shrubby, procumbent; *leaves* opposite, ovate or oblong, flat; beneath white, tomentose; *flowers* race-mose.

*Cistus marifolius,* *Lin. S. P.* 741.  
*Cistus hirsutus,* *Hudson Fl. Angl.* 232.  
*Cistus Anglicus,* *Lin. Mant.* 245.  
*Cistus canus,* *Jacquin Austr.* 277.

Alpine rocks; shrubby; May and June.
Leaves petioled, green above; flowers small; calyx vil-
loous; petals 4 or 5, not cut; ovary bald; style kneed.

Stem herbaceous, upright; leaves opposite, oblong, three-
ribbed, hairy; radical leaves ovate; racemes without bracteae.
Cistus flore pallido, pulicante macula insignito, Ral. Syn. 342, 1.
Cistus annuus flore maculatus, Ger. em. 1281, 19.
Cistus annuus flore guttato, Park. 661.
Cistus guttatus, Linn. S. P. 741.
Sandy pastures; annual; June and July.
Stem 9 inches high, 4-sided; racemes terminal, 1-rowed;
calyx glandular; petals with a reddish spot at the base;
stigma sessile.

b. Flowers yellow; leaves stipulated at the base.

Stem herbaceous, upright, rather bald; flowers lateral,
alternate; peduncles upright, shorter than the calyx.
Cistus annuus, Ger. em. 1280, 17.
Cistus annuus longifolius Lobelli, Ger. em. 1280, 18.
Cistus ledifolius, Linn. S. P. 742.
Cistus salicifolius, Hudson Fl. Angl. 233.
Sandy pastures; annual; June and July.
Stem upright, sometimes branched at the bottom, few-
flowered; leaves downy on both sides; stipules one-third of
the length of the leaves; flowers solitary; petals shorter
than the calyx, falling off extremely soon.

Stem rather shrubby, trailing; leaves ovate, oblong;
beneath hairy, spotted; stipules and petals lanceolate.
Helianthemum vulgare, petalis florum perangustis, Dillen in Ral. Syn.
341, 2.
Cistus Surreianus, Linn. S. P. 743.
Cistus Helianthemum ?, Hudson Fl. Angl. 283.
Chalky hills; shrubby; July and August.
Stem simple, hairy; hairs bent back; leaves petiolated,
green on both sides, hairy and dotted underneath; stipules
fringed; racemes many-flowered, solitary; petals slender,
pointed.

Stem rather shrubby, trailing; leaves elliptical, oblong,
woolly beneath; stipules lanceolate; calyx nearly bald;
petals roundish.
5. Helianthemum vulgare, Rau. Syn. 341, 1; Park. 656; De Candolle Fl. Gall. 4495.

Helianthemum Anglicum luteum, G. em. 1892, 1.

Cistus Helianthemum, Lin. S. P. 744.

Common dwarf cistus. Little sun-flower.

Sandy and chalky pastures; shrubby; July and August.

Stem mostly simple; leaves slightly rolled back, above hairy, beneath clothlike, white; stipules fringed; stamens as long as the style, upright, bending down as soon as touched; flowers gold yellow.


Stem shrubby, trailing; leaves elliptical, oblong; beneath snowy, clothlike, hairs stellate; stipules acute.

Cistus tomentosus, Scopoli Fl. Carn. 1, 276.

Mountains; undershrubby; July.

Leaves of the young shoots roundish; hairs of the upper surface of the leaves simple, of the under stellate; flowers large, gold yellow.

C. Flowers white; leaves stipulated at the base.


Stem rather shrubby, trailing; leaves oblong, revolute, beneath woolly; hairs on both surfaces stellate.


Cistus polifolius, Lin. S. P. 741.

Helianthemum polifolium, De Candolle Fl. Gall. 4499.

Rocks by the sea; undershrubby; June and July.

Hairs of the stem adpressed; leaves green above, white beneath; petals white, often crenulated.

Fam. IX. 74. FRANKENIACEÆ. Saint Hilaire.


calyx: nearly cylindrical, 5-toothed; petals 5, hypogynous, clawed, alternating with the calyx-lobes; stamens 5 or 6; ovary simple; style 1; stigmate 2 or 3; capsule one-celled, 2 or 3-valved; placental parietal; ceralum straight, axile; perisperm fleshy; radicle below, or near the hilum.

412. FRANKENIA. Linnaeus.

Sea-heath.

Calyx nearly cylindrical, 5-toothed; petal-claw channelled, crenulated with a scale.
1. Frankenianaeae.  
(1) Smooth sea-heath.
Flowers solitary; petals rather repand, blunt; leaves linear, fringed at the bottom.

- Lychnis supina maritima ericæ facie, Raii Syn. 338, 3.
- Polygonum serpyllifolium, Ger. em. 566, 3.
- Erica supina maritima Anglica, Park 1484.

Bogs on the sea-coast; perennial; July.

Stem forked, trailing; leaves in bundles, revolute; flowers from the forks of the stem, sessile; petals flesh-colour.

2. Frankenianaeae.  
(2) Powdery sea-heath.
Flowers solitary; petals rather repand; leaves reverse ovate, retuse, flat, powdery beneath.

- Spergula q. Alsine maritima supina, foliis chamieois Tournefort, Dillen in Raii Syn. 352, 13.
- Frankenianaeaeae, Lin. S. P. 474.

Sea-coasts; annual; July.

Stem trailing, round, pubescent; calyx prismatic.

Fam. X. 75. DROSERACEAE. De Candolle. Cappari-dearum pars, Jussieu.

Calyx 5-cut; petals 5, withering quickly; stamens 5; styles 5; ovary simple, girt with the persistent calyx and corolla; capsule 1-celled, 3 or 5-valved; placentarium on the middle of the valves; seeds many; perisperm fleshy; corculum very small, straight at the base; radicle below; cotyledons very short.—Stem herbaceous; leaves radical, alternate, concave, covered with glandular fringes; flowers on scapes, spiked; spikes when young involute.

418. DROSERA. V. Cordus.  
Sun-dew.

Calyx 5-cut; petals 5; stamens 5; styles 5; capsule 3 or 5-valved.

(1) Round-leaved sun-dew.
Leaves radical, orbicular; petioles hairy; scape racemous.

- Ros Solis folio rotundo, Raii Syn. 356, 1; Ger. em. 1556, 1.
- Ros Solis minor, Park. 1052.
- Drosera rotundifolia, Lin. S. P. 402.


Turf bogs; perennial; July and August.

Leaves very obtuse, concave, covered above with reddish hairs; scapes many; flowers upright; sepals blunt; petals reverse ovate, white; stamens short; styles 6; stigmata
awlshape; capsule 3-valved.—Plant acrid, caustic, supposed to occasion the rot in sheep, and curdles milk, juice removes warts and corns; infusion in milk takes away freckles and sunburn; distilled with wine produces a very stimulating spirit, or may be made into a tincture, spiced and sweetened; formerly much used. Leaf-hairs support globules of liquor even in the hottest weather, are very irritable, and close upon small insects that touch them, after which the leaf itself bends and holds the dead insect imprisoned.

β. caulescens. Plant with a stem.

γ. perennis. Root perennial.

Ros solis, q. Rorella rotundifolia perennis Willisel, Raii Syn. 356, 3.

Leaves radical, reverse-ovate; petioles bald; scape racemous.

Ros Solis folio oblongo, Raii Syn. 356, 2; Ger. em. 1556, 2.
Ros Solis sylvestris longifolius, Park. 1052.
Drosera longifolia, Lin. S. P. 403.
Long-leaved rosa Solis.

Bogs; perennial; July and August.
Leaves oblong, blunt; scapes many; styles 6 or 9; capsule 3-valved.

β. caulescens. Plant with a stem.

γ. perennis. Root perennial.

Ros Solis q. Rorella longifolia perennis Willisel, Raii Syn. 356, 4.

Leaves radical, oblong, blunt; petioles bald; scapes racemous; styles 8; capsule 4-valved.

Ros Solis q. Rorella longifolia maxima Willisel, Raii Syn. 356, 5.
Drosera Anglica, Hudson Fl. Angl. 135.

Bogs; perennial; July and August.
Leaves linear, reverse-ovate; scapes 12 in. high; styles 8; stigmata clubshape; capsule 4-valved.

Fam. XI. 76. RESEDACEÆ. De Candolle. Capparidearum pars, Jussieu.

Calyx 4 or 6-cut, persistent; petals 4 or 6, hypogynous, irregular, lobed; stamens 10 to 20; ovary nearly sessile, simple; styles 3 to 5; short; stigmata 3 to 5; capsule one-celled, angular, gaping at top, many-seeded; seeds parietal;
perisperm very thin or 0; corculum roundish, bent; cotyledons thick; radicle above.—Stem herbaceous; leaves not cut or pinnatifid; flowers racemose, yellow or white, bracteated.

414. RESEDA. Pliny. 

Dyers-weed.

Calyx 4 or 6-cut; petals 4 or 6, lobed; upper petal with a nectary at the bottom; stamens 10 to 20, declinate.

1. Reseda salicifolia. Willow-leaved dyers-weed. Leaves lanceolate, waved, not cut; calyx 4-cut; stem upright.

Reseda q. Luteola, Raiti Syn. 366, 2.
Luteola, Ger. em. 494.
Luteola vulgaris, Park. 602.
Reseda Luteola, Lin. S. P. 643.
Yellow weed. Wild weld. Dyers weed.

Waysides and walls, also cultivated on poor soils; annual; June and July.

Root fusiform; stem stiff, branched; leaves bald; spike many-flowered, bracteated; middle petal 4-cut; side petals entire or 3-cut; nectary crenated.—Plant affords a yellow dye much used; also used to make the yellow paint, called Dutch pink: on rich soils the stem becomes hollow, and contains less colouring matter.

b. polygalæfolia. Flowers small; capsules slender, three-toothed.

Reseda q. Luteola minima polygalæ folio Du Bois, Dillen in Raiti Syn. 367, 2.*

2. Reseda lutea. Yellow dyers' weed. Lower leaves pinnatifid, waved; upper 3-cut; calyx six-parted; capsules oblong, triangular, truncated at the tip.

Reseda vulgaris, Raiti Syn. 366, 1.
Reseda Plinia, Ger. em. 277, 1.
Reseda minor, seu vulgaris, Park. 825.
Reseda lutea, Lin. S. P. 615.
Base rocket. Italian rocket. Wild mignonette.

Chalky fields and hills; annual; July and August. Root woody; stems branched; leaf-lobes channelled, bald; spike upright; petals 6, variously lobed; nectary jagged; capsules wrinkled.

b. crispa. Leaves curled.

Reseda crispa Gallica, Raiti Syn. 366, 2.*
Fam. XII. 77. POLYGALEÆ. Jussieu.

*Calyx* 5-sepaled; aestivation imbricate; side-lobes often largest, petaloid; *petals* 3 or 5, joined by the androphore, rarely distinct; *stamens* 8, hypogynous; *filaments* connate below into a tubular androphore; *anthers* 1-celled, inserted at the base, opening by a pore at top; *ovary* simple, two-celled; ovule solitary, pendulous; *style* 1; *stigma* often 2-lipped; *pericarp* mostly capsular, 2-celled, 2-valved; valves septiferous in the middle; *seed* pendulous; hilum strophiolate or comose; corculum axile; perisperm fleshy.

—*Stem* herbaceous or shrubby, mostly bald; *leaves* simple, not cut, alternate; *stipules* 0; *flowers* spiked, terminal.

415. POLYGALA. Dioscorides.

*Milk-wort.*

*Calyx* 5-parted, coloured; 2 side-lobes largest, wing-shaped; *corolla-lower-lip* bearded beneath.


*Leaves* linear, lanceolate, acute; *calyx-wings* ovate, 3-ribbed, as long as the corolla.


*Polygala minor,* Park. 1332.

*Polygala vulgaris,* Lin. *S. P.* 986.

*Procession flower.* *Rogation flower.* *Hedge hyssop,* Herb women.

*Fields* and pastures; perennial; June and July.

*Roots* woody; *stem* simple, trailing; *leaves* bald; *flowers* purple, red or white.


*Leaves* blunt; upper *leaves* linear, lanceolate; radical reverse ovate; *calyx-wings* ovate, 3-ribbed, blunt, longer than the corolla.

*Polygala amara,* *Wild.* *S. P.*

*Pastures* and heaths; perennial; June and July.

*Roots* woody; *stem* upright; *flowers* purple, flesh-colour, or white.

Fam. XIII. 78. VIOLACEÆ. De Candol. *Viola,* Jussieu.

*Calyx* 5-parted; *petals* 5, hypogynous, unequal, one generally spurred; *stamens* 5, hypogynous; *anthers* often coalescent; *ovary* 1, free; *style* 1; *capsule* 1-celled, 3-valved, many-seeded; valves septiferous in the middle; *perisperm* thin, fleshy; corculum straight.—*Stem* herbaceous; *leaves* alternate, stipuled; *flowers* solitary, blue or yellow; *autumnal flowers* often apetalous.
416. VIOLA. Pliny.

_Violet._

_Calyx_ 5-parted, lower lobe produced at bottom; _petals_ 5; upper largest, spurred at the base; _anthers_ slightly joined together, membranaceous at the tip.

a. Viola. _Stigma_ acute, bent back at the tip.

1. _Viola hirta._

_Hairy violet._

_Stem_ 0; _leaves_ heartshape, petioled; _petioles_ hairy; _calyx-lobes_ blunt; _capsule_ hairy.

_Viola Martia major hirsuta inodora, Raii Syn. 365, 8._
_Viola hirta, Lin. S. P. 1324._

_Mountain pansies._

Woods and hedges on chalk; perennial; March, April.

_Shoots_ short, horizontal, tufted; _leaves_ nearly upright, serrated, hairy on both sides; _petioles_ long, hairy; _hairs_ short, bent down; _stipules_ lanceolate; _scape_ and _calyx_ bald; _bracteae_ awlshape; _flowers_ blue, scentless.

2. _Viola odorata._

_Sweet violet._

_Stem_ 0; _shoots_ creeping; _leaves_ heartshape, bald; _petioles_ bald; _calyx-lobes_ blunt.

_Viola Martia purpurea, Raii Syn. 364, 1._
_Viola nigra sive purpurea, Ger. em. 830, 1._
_Viola simplex Martia, Park. Par. 282._
_Viola odorata, Lin. S. P. 1324._

_Shady places; perennial; March and April._

_Root_ woody; _shoots_ long, rooting, leafy; _leaves_ bald above, very slightly downy beneath; _petioles_ and _scape_ rather bald; _flowers_ purple, fragrant.—Root 3ij. to 3iv. emetic and purgative; _flowers_ laxative in syrup, which, when well made, is of a fine blue colour, and used as a test for acids and alkalies; seeds also laxative.

_b. alba._ _Flowers_ white or reddish; _side petals_ beardless.

_Viola Martia alba, Raii Syn. 364, 2._
_Viola flore alba, Ger. em. 850, 2._
_Viola simplex Martia flore albo, Park. Par. 282._

3. _Viola palustris._

_Marsh violet._

_Stem_ 0; _leaves_ kidneyshape, bald on both faces, ribbed beneath; _calyx_ blunt; _spur_ very short; _root_ creeping.

_Viola palustris rotundifolia glabra, Raii Syn. 364, 6._
_Viola palustris, Lin. S. P. 1324._

_Moist meadows and bogs; perennial; April and May._
Leaves crenate; petioles quite bald, roundish; scape four-sided, bald; flowers pale blue, veined, inodorous; stigma pitchershape.

\[\beta.\ rubra.\] Flowers red, streaked.
Viola rubra striata Eboracensis, Rait Syn. 365, 7; Park. 755.

Stem at full growth ascending, nearly 3-sided; leaves oblong, heartshape, acute; stipules long, toothed, fringed; calyx acute.
Viola Martia inodora sylvestris, Rait Syn. 364, 3.
Viola canina flore albo, Dillen in Rait Syn. 364, 3.
Viola canina sylvestris, Ger. em. 851, 6.
Viola sylvestris, Park. 755.
Viola canina, Lin. S. P. 1344.
Woods and hedges; perennial; April to June.
Root woody; stem when young 0, afterwards long; leaves nearly bald; petioles slightly winged above, bald; stipulae fringed; peduncles 4-sided, upright; flowers blue or white, streaked, inodorous; stigma globular.

\[\beta.\ pumila.\] Plant small; spur yellowish.
Viola canina vulgari omnibus partibus multo minorem; floris calcari luteolo, Dillen in Rait Syn. 364, 5.

\[\gamma.\ alpina.\] Leaves round.
Viola Martia alpina folio tenello circinato, Rait Syn. 366, 12.

\[\delta.\ lactea.\] Stem round; leaves ovate, lanceolate, running at the base into the petiole; stipulae glandular.
Cream-coloured violet.


Herb bald; stem angular, branched, diffuse; stipules pinнатifid; petals twice as long as the calyx.
Viola tricolor, Rait Syn. 365, 9; Ger. em. 854, 1; Lin. S. P. 1326.
Viola tricolor major et vulgaris, Park. 756.
Hearts-ease. Pansie, i.e. Panacea. Love in idleness. Cult me to you. Kiss me ere I rise. All from a fancied resemblance in the throat of the flower. Herb trinity. Three faces under one hood, from the colours.
Fields; annual; May to September.
Stem leafed, downy; branches upright; leaves alternate, petioled, rarely slightly downy on the edges; flowers axillary, single, inodorous; peduncles very long; petals purple and yellow, reverse heartshape.

Corn violet.

Plant bald; stem angular; branchy, diffused; petals scarcely as long as the calyx; stipules pinnatifid at the bottom.

*Viola bicolor arvensis,* Rail Syn. 366, 11.
*Viola tricolor petrea,* Ger. em. 854, 4.
*Viola arvensis,* Sibthorp Pl. Ox. 84.

Corn-fields; annual; May and August.

*Stem* slightly pubescent; *lower leaves* round, heartshape; upper leaves ovate, oblong, crenated; *peduncles* long; *flowers* white and yellow.

7. *Viola lutea.*

Yellow violet.

*Stem* 3-sided, simple, upright; *leaves* ovate, oblong, crenated, fringed; *stipules* palmately cut, fringed.

*Viola montana lutea grandiflora nostras,* Rail Syn. 365, 10.
*Viola lutea,* Withering Bot. Arr. 263.

Great yellow pansy.

Mountainous pastures; perennial; May to September.

*Stem* weak at bottom; *stipule-lobes* divaricating, outer lobes smallest; *petals* longer than the calyx, yellow, streaked with black at the bottom, sometimes blue.

Fam. XIV. 79. PARNASSIÆ. *Capparidibus affines,* Juss.

*Calyx* 5-parted, persisting; *petals* 5, hypogynous, regular, alternating with the sepales; nectariferous scales 1 or 2, fringed, glandular, at the base of each petal; *stamens* 5, hypogynous, alternating with the petals; *anthers* 2-celled; *ovary* 1, sessile; free; *styles* 0; *stigmata* 2 or 4, persisting; *capsule* 4-valved, 1-celled, or apparently 4-celled; partitions on the middle of the valves; *seeds* ascending, margined; *perisperm* 0; *corculum* straight; *cotyledon* small; *radicle* below.—*Stem* herbaceous; *leaves* radical, heartshape, ribless, bald, not in the least cut; *scape* 4-flowered at the tip; *bractea* 1, leaflike in the middle of the scape.


*Calyx* 5-parted; *petals* 5 or 6; *scale* 1, at the base of each of the petals; *stamens* 5; *capsule* 4-sided, 1-celled.

*Parnassia palustris.* Marsh grass-of-Parnassus.

*Root-leaves* heartshape; *nectariferous scales* many-bristled.
Spongy bogs; perennial; September and October.

Root fibrous; petals heartshape, with pellucid veins; scales short; stamens at first incumbent upon the pistill; then upright; anthers heartshape, yellow.

Fam. XV. 80. CRUCIFERÆ.

Calyx 4-sepaled, mostly deciduous; petals 4, placed crosswise, on the hypogynous disk, alternating with the sepales, mostly clawed; stamens 6, 4 long, 2 short; ovary 1, on the stamenbearing disk; style 1 or 0; stigma usually 2-lipped; pericarp a siliqua or silicula, mostly 2-celled, 2-valved, many-seeded; valves free, opening lengthways; partition membranaceous, margined, central, sometimes prominent or beaked; perisperm 0; corculum bent; radicle opposite to the hilum; seminal leaves nicked at the tip.—Stem herbaceous; leaves alternate.


Silicula 1-celled, 1-seeded, 2-valved .......... Isatis. 435.

Silic. 2-jointed; upper-joint-seeds erect, sessile; lower joint mostly barren .......... Cakile. 432.

Silic. 2-jointed; upper-joint-seed pedicelled; lower joint mostly barren .......... Crambe. 433.

Silic. 2-celled, valveless, 2-seeded ... Coronopus. 434.

Silic. 2-celled, 2-valved, not nicked; valves flat; cells many-seeded ............... Draba. 444.

Silic. 2-celled, 2-valved, not nicked; valves bellied; cells many-seeded; cotyledons linear .......... Subularia. 443.

Silic. 2-celled, 2-valved, not nicked; valves bellied; cells 3 or 4-seeded; style leaflike .......... Vella. 436.

Silic. 2-celled, 2-valved, not nicked; valves bellied; cells many-seeded; cotyl. incumbent .......... Camelina. 445.

Silic. 2-celled, 2-valved, not nicked; valves bellied; cells many-seeded; cotyl. accumbent .......... Cochlearia. 442.

Silic. 2-celled, 2-valved, not nicked; valves flattish; cells 1-seeded .......... Alyssum. 446.
Silic. 2-celled, 2-valved, not nicked, keeled; cells 2-seeded; filam. simple Nasturtium. 438.
Silic. 2-celled, 2-valved, nicked, keeled; cells 2-seeded; filaments scale-bearing Teesdalia. 439.
Silic. 2-celled, 2-valved, keeled; cells 1-seeded; petals equal Lepidium. 441.
Silic. 2-celled, 2-valved, nicked, keeled; cells 1-seeded; petals 2 larger Iberis. 440.
Silic. 2-celled, 2-valved, nicked, keeled; cells many-seeded Thlaspi. 437.

b. Siliquosa. Pericarp long, many-seeded.

b. 1. Cotyledons conduplicate; seeds globular; siliqua cylindrical.

Siliqua valveless, nearly jointed; cells 2; sepales closed Raphanus. 430.
Siliqua valveless, nearly jointed; cell 1; sepales closed Raphanistrum. 431.
Siliqua 2-valved, nearly 2-jointed; cells 2; sepales spreading Sinapis. 429.
Siliqua 2-valved; beak barren or 1-seeded; sepales closed Brassica. 428.

b. 2. Cotyledons conduplicate; seeds compressed; siliqua 2 or 4-angled.

Cot. incumbent, flat; sepales upright; stigma sessile, 2-lobed; siliq. 2 or 4-sided Hesperis. 427.
Cot. incumbent; sepales upright; stigma-lobes connivent; longer filam. dilated Matthiola. 426.

Cot. incumbent; sepales upright; stigma headed; siliq. 4-sided; seed not margined Erysimum. 424.
Cot. incumbent, flat; sepales spread; stigma headed; siliq. 4-sided; seed not margined Sisymbrium. 423.
Cot. accumbent; sepales spread; siliq. roundish; valves convex, ribless Nasturtium. 422.
Cot. accumbent; sepales closed, bagged at the base; stigma 2-lobed Cheiranthus. 425.
Cot. accumbent; sepales connivent; siliq. 2 to 4-angled; seeds one-rowed .... BARBAREA. 421.
Cot. accumbent; sepales connivent; siliq. linear; valves ribbed; seeds 1-rowed ... ARABIS. 419.
Cot. accumbent; sepales connivent; siliq. linear; valves ribless; seeds 2-rowed CARDAMINE. 418.
Cot. accumbent; sepales connivent; siliq. 2-edged; valves ribbed; seeds 2-rowed TURRITIS. 420.

A. Siliqua long, 2-valved, 2-celled, or 4-edged; nectariferous glands 2; cotyledons not folded.

Siliqua-edges truncated, linear; valves flat, ribless, often flying back elastically; partition very narrow.—Flowers white.

Stem quite simple; lower leaves pinnate, upper simple.
Dentaria bulbifera, Ger. em. 994, 1; Lin. S. P. 912.
Toothed violet. Dog's tooth violet.

Shady places; perennial; April and May.
Root creeping, toothed; stem naked at bottom; upper leaves bulbiferous in the axillae; bulbs scaly, dark purple; corymbus many-flowered; corolla large, pale purple.

Leaves simple, ovate, not in the least cut, one-third the length of the petioles; flowering stem as long as the leaves.
Cardamine bellidifolia, Lin. S. P. 913.
Alpine grassy places; perennial; August.
Stem 2 in. high, simple, bald; root-leaves very longly petioled; corymbus terminal, few-flowered; petals white; siliqua bald, linear.

Lower leaves ovate, undivided, petioled; upper 3-lobed or pinnate.
Cardamine resedæfolia, Lin. S. P. 913.
Alpine grassy places; perennial; August.
Stem simple, 3 in. high. Perhaps a variety of the former, as it was considered by Haller.
4. Cardamine amara.  
   Bitter cuckow-flower.  
   Leaves pinnate; leaflets of root-leaves roundish, of stem-leaves angularly toothed; style oblique; stigma rather acute; stem rooting at the base.
   Nasturtium aquaticum amarum, Park. 1239, 8.  
   Cardamine amara, Lin. S. P. 915.  
   Bitter cress.
   Watery places; perennial; April.  
   Root toothed; petals white; anthers violet-colour; siliqua oblique.—Slightly acrid and bitter, eaten in sallads.

5. Cardamine pratensis.  
   Meadow cuckow-flower.  
   Leaves pinnate; root-leaf-leaflets nearly round; stem-leaf-leaflets lanceolate; style striated; stigma headed.
   Cardamine, Rau. Syn. 299, 2; Ger. em. 239.  
   Nasturtium pratense major seu Cardamine latifolia, Park. 825.  
   Cardamine pratensis, Lin. S. P. 915.  
   Ladies smock, Cheshire.  
   Cuckow-flower.  
   Canterbury bells, Norfolk.
   Damp fields and pastures; perennial; April and May.  
   Root toothed; stem simple; root-leaves longly petioled; corymbus many-flowered; flowers large, purple; anthers yellow.—Flowers useful in epilepsy and hysteria, gr. 20 to 90 twice a day; probably anthelmintic: some use the flowering tops.

3. duplicata.  Flowers double.

6. Cardamine impatiens.  
   Touch-me-not cuckow-flower.  
   Leaves pinnate; leaflets lanceolate, slightly cut; stipules fringed; petals linear, or o.
   Sium minus impatiens, Ger. em. 260, 7.  
   Sium minimum, Noli me tangere dictum, sive impatiens, nasturtii sylvestris folio, Park. 1241.  
   Cardamine impatiens, Lin. S. P. 914.
   Damp hilly places; annual; May and June.  
   Stem upright, branchy, angular; leaves many-paired; leaflets cut; stipules fringed; fruits racemose.

7. Cardamine hirsuta.  
   Shaggy cuckow-flower.  
   Leaves pinnate, stipuleless; leaflets petioled; root-leaf-leaflets nearly roundish; stamens 4 or 5, nearly equal to the petals; stigma nearly sessile.
Cardamine impatiens, *Fl. Dan.* 735.

Hairy cress.

Ruins and damp shady places; annual; May and June.

*Herb* hairy; stem branchy, flexuous, rarely stiff; *siliqua* hairy, slender.

II. 419. ARABIS. Dioscorides.  

*Silique* linear; crowned with the sessile stigma; valves veined and ribbed; *seeds* in a single row; *cotyledons* accumbent; *calyx* upright.—*Flowers* white.

1. *Arabis stric.ta.*  

Leaves toothed, blunt, hispid; root-leaves nearly lyrate; stem-leaves hispid; *petals* upright.

Cardamine pumila, bellidis folio, *alpina*, *Rail Syn.* 300, 5; *Ger. em.* 260.
*Arabis stric.ta, Hudson Fl. Angl.* 292.
*Arabis hispida, Alton Hort. Kew.*, 2, 400, not *Linnæus, Bristol rock-cress."

Stems tufted, upright; *leaves* dark green, rather shining, reddish beneath; *hairs* simple, rarely forked; *corymbus* few-flowered; *flowers* whitish; *silique* upright, stiff, scarcely torulous.

2. *Arabis hispida.*  

Root-leaves sinuated, lyrate, longly petaioled; stem-leaves mostly uncut, bald; *fruit-bearing peduncles* spreading, half as long as the *silique*.

*Sisymbrium arenosum, Lin. Fl. Suec.* 233, not *Lin.* S. P.
*Cardamine petraea, Hudson Fl. Angl.* 293.
*Welch rock-cress.*

High alpine rocks; perennial; June and July.

Stems many, tufted, 9 in. high, ascending; leaves hairy, hairs forked, spreading; *flowers* purple, or white with a purplish mouth; *petal-limb* horizontal; *silique* torulous.

*f. hastula.*  

Leaves nearly bald, slightly lobed.

*Alpine rock-cress.*

3. *Arabis Thaliana.*  

*Thalius’* Turkey-pod.

Leaves toothed, hairy; root-leaves oblong, petaioled; *stamens* nearly as long as the petals; *silique* ascending.

2 x 2
Turritis vulgaris ramosa, Rauii Syn. 294, 3.
Paronychia major et altera minor, Park. 556.
Arabis thaliana, Lin. S. P. 929.
Cuddled mouse-car.

Walls and sandy places; annual; April.

Stem branched, upright, hairy; root-leaves depressed; stem-leaves petioled; petals white, upright; siliquae bent, ascending; pedicells spreading.

Leaves slightly toothed, oval, bald, fringed; root-leaves nearly sessile, blunt; stem-leaves nearly embracing the stem.

Turritis ciliata, Willdenow S. P. 3, 544.

Sea-shore; perennial; July.

Stem 10 in. high, upright, smooth; leaves toothed; flowers white; siliquae upright, spreading.

5. *Arabis hirsuta.* Hairy Turkey-pod.
Leaves hispid, toothed; stem-leaves nearly embracing the stem; siliquae stiff.

Turritis murais minor, Rauii Syn. 294, 2.
Erysino similis hirsuta planta, Park. 834.
Turritis hirsuta, Lin. S. P. 930.
Arabis hirsuta, Scopoli Carn.

Wall cress. Daisy leaf tower mustard.

Walls and stony places; perennial; May.

Stem upright, 12 in. high, branchy; hairs simple, spreading; leaf-hairs some simple, some forked; petals white; siliquae erect, afterwards drooping, 4-sided, shining, torulous.

Leaves embracing the stem; siliquae flat, thick at the edges; bracteae leafy.

Turritis major, Ger. em. 272.
Arabis Turritis, Lin. S. P. 920.

Great tower-mustard.

Old walls; biennial; May.

Stem upright, hairy; leaves toothed, rather rough; petals yellowish-white; siliquae bent down, very long.


Siliquae long, 2-edged; valves ribbed, or keeled; seeds 2-rowed; cotyledons accumbent.—Flowers white.
**Turritis glabra.** Bald tower-mustard.

Root-leaves toothed, hairy; stem-leaves embracing the stem, not in the least cut, bald.

Turritis, Rau Syn. 293, 1; Gen. em. 272, 1.
Turritis vulgator, Park. 832.
Turritis glabra, Lin. S. P. 930.
Tower-mustard. Towers treacle.

Sandy pastures; annual; May and June.

Stem simple, stiff, 2 feet high, bald; root-leaves lanceolate; stem-leaves arrowshape; petals white, upright; siliquaé racemose, hard, pedicelled, upright.

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**IV. 421. BARBAREA. Dodonæus.** Winter cress.

Siliquæ 4-sided or 2-edged; seeds 1-rowed; cotyledons accumbent; calyx upright; stamens, the 2 shorter with a gland between them.—Flowers yellow.


Lower leaves lyrate; terminal lobe rounded; upper leaves reverse ovate, toothed.

Eruca (spuria) lutea seu Barbarea, Rau Syn. 297, 2.
Barbarea, Gen. em. 243.
Barbarea flore simplici, Park. 819.
Erysimum Barbarea, Lin. S. P. 919.

Ruins and pastures; annual; May to August.

Stem 2 feet high, upright, angular; leaves shining, dark green; sepales often coloured; petals golden yellow; siliquaé short, nearly upright.—Herb mucilaginous, nauseously bitter.


Lower leaves lyrate; upper leaves pinnatifid, lobes linear, oblong, not in the least cut.

Belle Isle cress. French cress.

Moist places, also cultivated; biennial; April to October. Petals pale yellow; sepales broad; siliquaé long.—Eaten in sallads, has the taste of water cress; flowers frequently double in gardens.
V. 422. NASTURTIUM. Pliny.

**Silique** nearly cylindrical, sometimes short; valves concave, ribs 0; keel 0; cotyledons accumbent; **calyx** spreading.—**Silique** decline.

1. **Nasturtium officinale.**

*Leaves pinnate; leaflets ovate, rather heartshape, repand.*

*Nasturtium aquaticum seu Sisymbrium Cardamine, *Ratib* Syn. 300, 1.  
*Nasturtium aquaticum, sive Crateva Sium, Ger. em. 251.  
*Nasturtium aquaticum vulgare, *Park. 1239.  

**Water cress.**

Damp places and brooks; perennial; June and July.  
**Stem** declinate, rooting at bottom; **leaves** shining; **petals** white; **siliques** spreading.—An excellent spring salald, antiscorbutice, less acrid than scurvygrass.

2. **Nasturtium officinale.**

*Leaves smaller; flowers earlier.*

*Nasturtium aquaticum folis minoribus praecoccis, *Ratib* Syn. 301, 2.

3. **Nasturtium officinale.**

*Leaflets fewer paired.*

*Nasturtium aquaticum pinnulis paucioribus, *Dillen in *Ratib* Syn. 301, 3.

2. **Nasturtium sylvestre.**

*Wild cress.*

*Leaves pinnate; leaflets lanceolate, serrate or deeply cut.*

*Eruci (spuria) aquatica, *Ratib* Syn. 297, 1; Ger. em. 248, 6; *Park. 1242.  

**Water rocket.**

Marshes and river banks; perennial; June to September.  
**Root** creeping; **stem** upright, angular, panicled; **leaves** bald; leaflets decurrent; **petals** gold-yellow; **fruit** racemose.

3. **Nasturtium terrestre.**

*Land cress.*

*Leaves pinnatifid, toothed, bald; root fusiform; petals as long as the calyx.*

*Raphanus aquaticus folis in profundis lacinias divisis, *Dillen in *Ratib* Syn. 301, 2.  
*Sisymbrium terrestre, *Curtis Fl. Lond.  

**Water radish.**

Inundated places; annual; June to September.  
**Stem** upright, branched; **petals** very small, yellow; **siliques** spreading horizontally, racemose.
Leaves oblong, lanceolate, pinnatifid, or serrate; petals longer than the calyx; root fibrous.


Sisymbrium amphibium, Lin. S. P. 917.
Sisymbrium amphibium β, Hudson Pl. Angl. 296.
Sisymbrium aquaticum, Pollich 2, 290.

River-sides; annual; June to August. Stem rooting, slightly branched; leaves simple, sometimes downy; flowers yellow; siliqua very short.

β. pinnatifidum. Leaves pinnately lobed.

Raphanus aquaticus, Ger. em. 240, 2.

Sisymbrium amphibium γ, Lin. S. P. 917.


Siliqua nearly cylindrical or angular; cotyledons incumbent, sometimes obliquely flat; calyx spreading, sometimes rather upright.—Flower yellow; siliqua upright.


Siliqua awlshape, downy, pressed close to the rachis; leaves runcinate, hairy; stem hispid.

Eruca (spuria) hirsuta, siliqua caule adpressa, Erysimum dictum, Rail Syn. 298, 4.

Erysimum Dioscorides Lobelio, Ger. em. 254, 1.
Erysimum officinale, Lin. S. P. 922.

Hedge mustard. Scrambling rocket.

Walls and hedges, also cultivated; annual; June, July. Herb hairy; stem 2 feet high, branches spreading; petals lemon-yellow. Used as a potherb, is warm and acrid; juice of great use in hoarseness, and ulcers of the throat, made into a syrup, and slowly swallowed.


Leaves runcinate, toothed, bald; stem smooth; siliqua upright, spread.

Erysimum latifolium Neapolitanum, Rail Syn. 298, 2.
Sisymbrium Irio, Lin. S. P. 921.
Irio levis Apulus, eruce folio, Column. Ecphr. 264.

Walls and ruins; annual; July and August. Herb always quite bald, acrid; stem upright, 2 feet high, branched at top; leaves pointed; petals yellow; siliqua very long.
3. Sisymbrium absinthioides. Wormwood-like bank-cress. Leaves doubly pinnate; leaflets linear, terminal leaflet longest; petals smaller than the calyx.

Erysimum Sophia dictum, Raïi Syn. 298, 3.
Sophia chirurgorum, Ger. em. 1063, 1; Park. 830.
Sisymbrium Sophia, Lin. S. P. 920.
Flix-weed. Flux-weed.

Ruins and dunghills; annual; July.

Stem 2 feet high, upright, branchy; leaflets decurrent, unequal, slightly hairy; petals yellow.—Seeds drank in wine used in the bloody-flux and other profuvia, also against worms; herb used in hysterics cases.

VII. 424. ERYSIMUM. Theophrastus. Hedge mustard.

Siliqueae 4-sided; seeds not margined, cotyledons incum- bent; stigma headed or notched, spread on the tube; calyx close.

1. Erysimum cheiranthoides. Wallflower hedge mustard. Leaves lanceolate, not in the least cut, or few-toothed, hairy, hairs three-parted, stellate; siliqua nearly upright; peduncles spreading; stigma undivided, nearly sessile.

Erysimum q. myagro affinis Plania siliqiiis longis Joh, Bauhini, Raïi Syn. 298, 1.
Camelina sive Myagrum alterum amarum, Park. 867.
Camelina, Ger. em. 273, 4.
Erysimum cheiranthoides, Lin. S. P. 923.
Cheiranthus erysimoides, Hudson Fl. Angl. 287.
Treacle wormseed.

Fields and osier-holts; annual; July.

Stem upright, branched at top; hairs pressed to the stem; sepales pale yellow; petals gold yellow; siliqua racemose; peduncles horizontal.—Seeds anthelmintic.

2. Erysimum cordifolium. Heart-leaved hedge mustard. Leaves heartshape, petioled, deeply toothed.

Hesperis allium redolens, Raïi Syn. 293, 2.
Alliaria, Ger. em. 794; Park. 112.
Hesperis Alliaria, De Candolle Fl. Gall. 4125.
Sauce alone. Jack by the hedge.

Shady hedges; perennial; May.

Herb shining, bald, smelling like garlick; stem mostly simple; petals white; siliquae upright, very long.—Herb fried, or eaten in sallads; also used as a sauce to saltfish; communicates a rank flavour to poultry that eat it.
Pl. ex. thal. 80. CRUCIFERÆ. 425. Cheiranthus. 681

VIII. 425. CHEIRANTHUS. Linnaeus. Wallflower.

Siliqueæ compressed or two-edged; cotyledons accumbent; calyx closed; opposite leaflets bagged at bottom; stigma sitting on the style, headed or 2-lobed; lobes spreading.

Cheiranthus fruticulosus. Shrubby wallflower.

Leaves lanceolate, pointed, hoary underneath; down quite simple, pressed close to the leaves; stem shrubby, branches angular.

Leucojum luteum, vulgo Cheiri flore simplici, Ræi Syn. 291, 2.
Cheiranthus fruticulosus, Lint. Mant. 94.
Cheiranthus Cheiri, Hudson Pl. Angl. 287.

Wild wallflower.

Old walls; perennial; May and June.

Stem much branched; leaves linear, hairy particularly underneath; flowers yellow, odoriferous; petals stiff, bent down; seeds not winged.

IX. 426. MATTHIOLA. Plumier. Stock.

Siliqueæ cylindrical or compressed, crowned; stigma 2-lobed; lobes connivent, thickened on the back; cotyledons incumbent or fastened by the point to the base longer filaments dilated.


Leaves lanceolate, not in the least cut; siliqueæ cylindrical, glandular; stigma-lobes thicker at the back, or nearly simple.

Cheiranthus incanus, Lin. S. P.

Sea-cliffs; biennial; June and July.

Herb hairy, downy; stem much branched; flowers purplish crimson, odoriferous; siliqueæ horned, cylindrical.


Leaves clothlike; lower leaves jagged; siliqueæ compressed, prickly; stigma-lobes thickened on the back or nearly simple.

Leucojum marinum majus, Ræi Syn. 291, 1; Park. 622.
Leucojum marinum purpureum, Ger. em. 460, 2.
Cheiranthus sinuatus, Lin. S. P. 926.

Purple sea stock-gilliflower.

Sea-shores; biennial; August.
Herb woolly, hairs stellate, entangled; stem branched; leaves blunt; flowers light violet, odoriferous in the evening; petals notched; stigma 4-cut; seeds margined.

X. 427. HESPERIS. Pliny.  
Dames-violet.  
_Siliqueae_ 4-sided or 2-edged; stigma nearly sessile, lobes connivent; cotyledons incumbent, flat; calyx close.

_Hesperis inodora._  
Scentless dames-violet.  
Petal-limb reverse-ovate; _siliqueae_ upright, torose, edges plain.

_He-peris sylvestris inodora, Dillen in Rail Syn. 293, 1._
_Hesperis Pannonica inodora, Park. 628, descr. 1682, fig._
_Viola matronalis flore purpureo, sive albo, Ger. em. 462, 1._
_Hesperis matronalis, Lin. S. P. 937._
_Hesperis inodora, Lin. S. P. 929._

Pastures and rivulets; perennial; May and June.  
Stem branched above, hairs simple or forked; leaves rough, woolly on both sides; flowers large, purplish red; peduncles expanded.

B. _Siliqueae_ long, 2-valved, 1-celled, beaked; cotyledons conduplicate; flowers mostly yellow; nectariferous glands 4.

XI. 428. BRASSICA. Pliny.  
Colewort.  
_Siliqueae_ 2-valved, beaked; beak barren or 1-seeded; cotyledons conduplicate; calyx closed.

1. _Brassica macrorhiza._  
Long-rooted colewort.  
Root fusiform, stemforming; leaves smooth; upper leaves heartshaped, lanceolate, embracing the stem; lower leaves lyrate.

_Napus sylvestris, Rail Syn. 295, 1._
_Bunias sylvestris Lohelii, Ger. em. 233, 2._
_Bunias seu Napus sylvestris nostras, Park. 865._
_Brassica Napus, Lin. S. P. 931._
_Brassica gongylodes, Miller Diet._
_Wild navew. Wild rape._

Corn-fields and hedges; biennial; May.  
Stem branched, bald; leaves glaucous, especially beneath; upper leaves scarcely cut, much spread; petals gold-yellow; _siliqueae_ spreading; beak angular.

_β. sativa._ Root thick.

_Bunias, Ger. em. 235, 1._
_Napus sativus, Park. Par. 507._
_Rapa Napus, Miller Diet._
_Navew gentle. French turnep. Colsa. Mowing cabbage. Rape._
Cultivated.

Root nutritious, used as a potherb; seeds yield much oil, used in woolcombing and for other purposes; oil-cakes fatten cattle, and are also used as manure.

2. Brassica sphærorrhiza.  
Roundrooted colewort.  
Root stem-forming, orbicular, flattened, fleshy; root-leaves lyrate, rough; stem-leaves not in the least cut.

Rapa sativa rotunda, Raai Syn. 294, 1.
Rapum majus, Ger. em. 232, 1.
Brassica Rapa, Lin. S. P. 931.

Edges of fields, also cultivated, in light soils; biennial; April.

Root fleshy; stem upright, smooth, branched; root-leaves rough, dark green; stem-leaves smooth, rather glaucous; siliquae cylindrical.—Roots nutritive to man and cattle, either raw or dressed; rind slightly acrid; juice of the root with sugar used in colds and hoarsenesses, also fermented for a common sort of cyder; seeds pressed for oil; young shoots used for salads, or as a potherb.

β. oblonga.  
Root oblong.

Rapa sativa oblonga, seu fœmina, Raai Syn. 294, 2.
Rapæ radicæ oblongæ, Ger. em. 232, 2.
Long-rooted turneps.

Pot colewort.  
Root stem-forming, cylindrical, fleshy; leaves bald, glaucous, repand or lobed.

Brassica maritima arboreæ seu procérior ramosæ, Raai Syn. 293, 1.
Brassica oleracea a, Lin. S. P. 932.
Sea cabbage.  Sea colewort.

Cliffs by the sea, also cultivated; biennial; May, June.

Leaves rough, unequally toothed; flowers yellow; siliquæ torulose.—Roots eatable, but not so tender as those of turnep; leaves eatable, when wild require boiling in two waters to remove the saltiness; and when cultivated required to be blanched, by being kept from the light.

β. viridis.  
Leaves white with a glaucous tinge.

Brassica vulgaris sativa, Ger. em. 312, 1.
Brassica sativa, Park. 268.
Garden coleworts.

γ. subrubens.  
Leaves red.

Brassica rubra, Ger. em. 312, 3.
Red coleworts.  Red kale.
684 428. Brassica. 80. CRUCIFERÆ. Pl. ex. thal.

3. **rubra.** Leaves red, forming a roundish head before flowering.
   Brassica capitata rubra, Ger. em. 313, 5.
   Red cabbage, Park. Par. 504.

5. **capitata.** Leaves forming, before flowering, a roundish head, smooth.
   Brassica capitata alba, Ger. em. 312, 4.
   Brassica capitata, Park. 268.
   Cabbage; many varieties in cultivation.

6. **Sabauda.** Leaves green, forming a roundish head before it flowers, rough.
   Brassica patula, Ger. em. 315, 6.
   Savoy cabbage. Savoy.

7. **glomerosa.** Leaves green, forming a roundish head before flowering, edges turned back.
   Brassica Sabauda, Ger. em. 315, 11.
   Savoy colewort.

8. **Sabellica.** Leaves curled at the edges, green.
   Brassica sativa crispa, Ger. em. 312, 2.
   Green kale. Curled coleworts.

9. **selinoides.** Leaves pinnate; leaflets jagged.
   Brassica selinoides, Ger. em. 315, 13.
   Brassica laciniata, Park. 269.
   Parsley colewort.

10. **botrytis.** Stem forming, before it flowers, a reverse-ovate white head, surrounded by oblong leaves.
    Brassica florida, Ger. em. 314, 9.
    Cole-florie. Cauliflower.

11. **Italica.** Stem forming, before it flowers, several small heads, surrounded and intermixed with oval leaves.
    Brassica Sabauda crispa, Ger. em. 315, 12.
    Brassica florida, Park. 269.
    Broccoli. Purple broccoli. White broccoli.

12. **Sueccica.** Stem globular at the base.
    Brassica Napo-brassica, Hermbstaedt?

13. **gongylodes.** Stem before flowering cylindrical, globular at the top, with shoots from the ends and sides.
    Caulorapum rotundum, Ger. em. 318.

Cultivated for potherbs; the white and green are usually eaten boiled, or raw in sallads; sometimes they are previously salted; the red are generally pickled in vinegar: the roots of the two last varieties are used as turneps for men and cattle.
4. **Brassica Monensis.** Isle-of-Man colewort.  
Leaves pinnatifid; stem rather naked, bald; siliquae short, beak 1-seeded.


Sandy sea-shores; perennial; June and July.  
*Stem* spreading, quite simple, nearly leafless; *leaves* mostly radical, fleshy; lobes nearly equal; *petals* yellow, veined; *siliqua* short, beak 1-seeded.

5. **Brassica campestris.** Field colewort.  
Root and stem slender; *leaves* heartshape, pointed, embracing the stem; lower leaves lyrate, toothed, slightly hispid.

Fields; annual; June.  
*Stem* upright, leafy; *leaves* glaucous, paler beneath; *petals* yellow, broad; *siliqua* veined reticulately, torulose; beak long, striated.

6. **Brassica orientalis.** Eastern colewort.  
*Leaves* heartshape, embracing the stem, bald; root-leaves rough, not in the least cut; *siliqua* 4-sided.

Brassica campestris perfoliata flore albo, *Dillen in Raii Syn.* 293, 2.  
Perfoliata siliquosa vulgaris, seu Brassica campestris.  
Fields and cliffs by the sea; annual; June.  
*Stem* branched from the bottom, leafy, smooth; *leaves* bald, not in the least cut; *petals* small.

XII. 429. **SINAPIS.** Theophrastus. Mustard.

*Siliqua* 2-valved, sometimes 2-jointed, upper joint valveless; *cotyledons* conduplicate; calyx spreading.—*Flowers* yellow.

1. **Sinapis arvensis.** Field mustard.  
*Siliqua* many-angled, torose, turgid; beak 2-edged, long.

*Rapistrum arvorum, Ger. em.* 232, 2; *Park.* 862.  
Corn-fields; annual; May.
*Root* woody; *stem* hispid, bristles bent back; *leaves* ovate, toothed, nearly lyrate, pетioled, upper leaves sessile; *sepals* green; *petals* yellow; *silique* 8-angled, beak short.—Eaten as cabbage.

2. *Sinapis alba.*  
*White mustard.*  
*Silique* hispid; beak slanting, very long, swordshape.

*Sinapi album siliqua hirsuta, semine albo vel rufo, Raii Syn. 295, 3.*  
*Sinapi album, Ger. em. 244, 3.*  
*Sinapis alba, Lin. S. P. 933.*

Fields and waysides, also cultivated; annual; June.  
*Lower leaves* pinnatifid; upper leaves rather lyrate, rough; *sepals* green; *petals* yellow; *silique* spread, 4-sided; beak rough, as long as the silique; *seeds* large, yellow.—Young herb used as a sallad in winter and spring; *seeds* acrid, but much milder than the black.

3. *Sinapis nigra.*  
*Black mustard.*  
*Silique* pressed to the stem, bald, 4-sided; *style* awlshape; *upper leaves* linear, lanceolate, not cut.

*Sinapi sativum secundum, Raii Syn. 295, 1; Ger. em. 243, 2.*  
*Sinapis nigra, Lin. S. P. 933.*

Fields and waysides; also cultivated; annual; June.  
*Stem* much branched, smooth; *leaves* pетioled; *root-leaves* rough; *stem-leaves* bald; uppermost bent down; *sepals* coloured; *petals* yellow; *silique* upright, bald, many-seeded; beak short.—Seeds acrid, used as a warm sauce, and externally as a rubefacient.

4. *Sinapis tenuifolia.*  
*Fineleaved mustard.*  
*Silique* linear, bald, upright; beak very short; *peduncles* spreading; *leaves* lanceolate, pinnatifid or doubly pinnatifid; lobes very pointed; *stem* bald.

*Eruca sylvèstris, Raii Syn. 296, 1; Ger. em. 246, 2.*  
*Eruca sylvèstris vulgator, Park. 818.*  
*Sisymbrium tenuifolium, Lin. S. P. 917.*  
*Brassica muralis, Hudson Fl. Angl. 290.*  
*Sinapis tenuifolia, R. Brown in Hort. Kew.*  
*Wall rocket. Wild rocket.*

Old walls; perennial; July and October.  
*Stem* much branched, leafy; *leaves* smooth; *flowers* large, citron-yellow; *silique* upright.
5. Sinapis muralis. Wall mustard.
Silique linear, bald, nearly upright; beak very short; peduncles spreading; leaves sinuate, bald; stem spreading, hairy.

Sisymbrium murale, Lin. S. P. 918.

Sandy places by the sea; annual; July to September.

Stem rather branched, hairy; hairs bent back; leaves lanceolate, unequally serrated, green; peduncles very long, rather hispid, racemose; sepales bald; petals small, citron yellow; siliqua slender.

C. Silique long, valveless, 1-celled, jointed; cotyledons conduplicate.

XIII. 430. RAPHANUS. Theophrastus. Radish.
Silique round, pointed, spongy, valveless, many-celled, torulose; cells membranaceous, in a double longitudinal series; cotyledons conduplicate; calyx close.

Raphanus sativus. Cultivated radish.
Leaves lyrate; siliqua cylindrical.

Raphanus, Raii Syn. 296, 1.
Raphanus sativus, Ger. em. 237, 1 and 2; Lin. S. P. 935.
Raphanus vulgaris, Park. 861.
Salmon radish. Radish. Cultivated; annual or biennial; May to September.

Root fusiform, reddish; leaves lyrate-pinnate, hairy; siliqua bellied at bottom.—Root and young leaves eaten as sallad.

β. napiformis. Root globular.
Raphanus orbiculatus, Ger. em. 238, 3.
Turnep radish.

γ. nigra. Root fusiform, black.
Raphanus pyriformis, sive radice nigra, Ger. em. 238, 4.
Black radish.

XIV. 431. RAPHANISTRUM. Morison. Wild-radish.
Silique valveless, many-celled, jointed, becoming necklaceshape; cells bony, in a longitudinal series; cotyledons conduplicate; calyx closed.—Petals veined.

Leaves simply lyrate; siliqua-joints smooth.
Raphanistrum silicula articulata glabra major et minore, Raff Syn. 296, 1.
Raphanus sylvestris, Ger. em. 240, 1.
Rapistrum album articulatum, Park. 863.
Raphanus Raphanistrum, Lin. S. P. 935.
Raphanistrum Lampsana, Gartn. Fr. et Sem. 2, 30.
While Charlock.

Corn-fields; annual; June and July.
Stem branched at top, hispid; hairs standing out; leaves rather rough; sepales hispid; petals purplish, veined with violet.

Raphanistrum. Pul. petals yellow, veined with black.
Raphanistrum q. Rapistrum flore luteo, silica glabra articulata, Raff Syn. 296, 2.
Sinapis arvensis, Fl. Dan. 678.

2. Raphanistrum maritimum. Sea wild-radish.
Leaves interruptedly lyrate; silica-joints furrowed.
Raphanistrum q. Raphanus maritimus flore luteo, silica articulatis, secundum longitudinem eminenter striatis, Raff Syn. 296, 3.
Raphanus Raphanistrum γ, Smith Fl. Br. 723.
Sea beach; also cultivated; biennial; June and July.
Root large, succulent; leaves rough, sharply toothed; petals yellow, slightly veined.—Root preferred by some to horse-radish; leaves eaten by cattle.

D. Siliculae short, valveless, jointed; cells 1-seeded.

XV. 432. CAKILE. Serapio. Rocket.
Siliculae 2-jointed, joints 1-seeded; upper joint fertile, seed erect, sessile; lower sometimes abortive, seed pendulous.

Cakile maritima. Sea rocket.
Joints 2-edged; upper arrowshape; leaves pinnatifid, slightly toothed, fleshy.
Eruca marina, Ger. em. 248, 5.
Eruca marina Anglica, Park. 821.
Bunias Cakali, Lin. S. P. 936.
Cakile maritima, Scop. Carn. 844.
Cakile Serapiou, Gartn. Fr. et Sem. 2, 207.
Cakile pinnatifida, Stokes Bot. M. M. 3, 484.

Sea-shore; annual; June to September.
Herb smooth, fleshy, rather glaucous; stem much branched, flexuous, round; petals light purple.
XVI. 433. CRAMBE. Hippocrates.

Kale.

Siliculae jointed; upper joint nearly globular, seed inverted, inserted by a cord to the bottom of the cell; lower joint abortive, forming a cell-shape pedicell.

Crambe maritima. Sea kale.
Filaments long, 2-forked; silicula unarmed; leaves roundish, sinuated, waved, toothed, glaucous, bald; stem bald.

Brassica marina Anglica, Ger. em. 315, 15.
Brassica marina monospermos, Park. 270.
Crambe maritima, Lin. S. P. 937.
Brassica sectilis, Bergius Mat. Med. Veg. 516.

English sea colewort. Sea grape colewort.

Sandy shores by the sea; also cultivated under sand or pots; perennial; May and June.

Herb bald, glaucous; stem branched; leaves petiolate, waved, sinuated; flowers panicled; petals white; stigma peltate; silicula globular.—Herb used as spinage; also eaten by sheep.

E. Siliculae short, valveless, 2-celled; cells 1-seeded.

XVII. 434. CORONOPUS. Theophrast. Swine's-cress.

Siliculae twin, valveless, winged; cells 1-seeded; cotyledons incumbent, linear.

a. Coronopus. Silicula not nicked.

Silicula not nicked, crested, thorny; style porrected; corymbus few-flowered.

Coronopus Ruellii, Ger. em. 427, 2.
Coronopus recta vel repens Ruellii, Park. 502.
Cochlearia Coronopus, Lin. S. P. 904.
Coronopus vulgaris, De Candolle Fl. Gall. 4239.
Senebiera Coronopus, Persoon Syn. 2, 185.


Roadsides and walls; annual; June to August.

Stem branched, trailing; leaves bald, pinnatifid; lobes often jag-toothed; corymbus lateral, sessile, becoming race-mose.

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b. Senebiera. Silicula nickered.

Siliculae nickered, twin, reticulately wrinkled; style very small; corymbus many-flowered.
- Senebiera pinnatifida, *De Candolle Fl. Franc.* 4238.
- Lepidium prostratum, *Savi.*

Walls; annual; July.
- Stem trailing, hairy; leaves pinnatifid; corymbus lateral, becoming a long raceme; stamens 2 or 4, rarely more.

F. Siliculae short, slightly 2-valved, 1-celled; cells 1-seeded.

XVIII. 435. ISATIS. Dioscorides. *Woad.*
Siliculae 1-celled, 1-seeded; valves boatshape, tardy in opening; filaments toothless, distinct.

*Isatis tinctoria.* *Dyeing woad.*
Siliculae reverse-ovate, oblong, bald; stem-leaves arrowshape, bald.
- Glastum sativum, *Rai Syn.* 307; *Ger. em.* 491; *Park.* 600.
- *Woad.* *Wade.*

Corn-fields, also cultivated; biennial; July.
- Stem bald; leaves glaucous; root-leaves lanceolate; flowers panicked, terminal; sepals and petals yellow; siliculae pendulous, shining.—Herb manufactured into a blue pigment, by being ground, made into balls, dried upon hurdles, then ground again, watered, left to heat, until perfectly dry and mouldy. In Hungary it has been manufactured so as to be equal to indigo, but then it was as expensive. Our female ancestors painted their bodies with it in order to attend their religious ceremonies.

G. Siliculae 2-valved; 2-celled.

XIX. 436. VELLA. Galen. *Cresset.*
Siliculae bellied; style leaflike, ovate; cotyledons compound; calyx closed.
Vella annua. Yearling cresset.
Leaves pinnatifid; siliquae pendulous.
Nasturtium sylvestre erucæ affinis, Raii Syn. 304, 3.
Erucæ nasturtio cognata tenuifolia, Ger. em. 247, 4.
Vella annua, Lin. S. P. 895.
Valencia cress. Cross rocket.

Sandy corn-fields; annual; June.

Stem branched, hispid, bristles turned back; leaves doubly pinnatifid; flowers spiked; spikes terminal, many-flowered; sepales purple; petals bright yellow veined with violet.

XX. 437. THLASPI. Dioscorides. Treacle-mustard.

Siliculae compressed, nicked; valves 2, boatshape, often winged, many-seeded; filaments toothless, distinct, inserted in the mouth of the calyx; sepales equal, spreading.


Siliculae orbiculate; wing dilated, longitudinal; seeds concentrically streaked; leaves oblong, arrowshape, toothed, bald.

Thlaspi Dioscoridis, Raii Syn. 305, 3; Ger. em. 262, 1.
Thlaspi drabæ folio, Park. 836.
Thlaspi arvense, Lin. S. P. 901.
Penny cress. Treacle mustard. Smooth mithridate mustard.

Fields; annual; June and July.

Herb bald; stem upright, branched above; petals small, not nicked, white; siliculae very large.—Seeds acrid; herb has a garlic flavour, communicates a bad taste to the milk of cows that feed upon it.


Siliculae reverse ovate, retuse; cells 4 to 6-seeded; style standing out; stamens as long as the petals; stem-leaves heartshape, arrowshape; stem simple.

Thlaspi folis globularisæ, Raii Syn. 305, 4.
Thlaspi montanum glasti folio minus, Park. 842.
Thlaspi album supinum siliquis planis, flore spicato, Ger. em. 268, 6, right hand figure.

Thlaspi alpestre, Lin. S. P. 903.
Thlaspi montanum, Hudson Fl. Angl. 282.
White treacle mustard.

Mountainous pastures; perennial; June and July.

Stems many, nearly upright, simple; leaves bald, glaucous; root-leaves in a tuft, ovate; stem-leaves arrowshape; corymbus close, small, becoming a very long raceme; petals white.

2 x 2
Siliculae reverse heartshape, winged; style enclosed, very short; stem-leaves heartshape, slightly toothed, bald.

Thlaspi perfoliatum minus, Rail Syn. 305, 6; Park. 837.
Thlaspi minus Clusi, Ger. em. 268, 7.
Thlaspi rotundifolium, Ger. em. 266, 1.
Thlaspi perfoliatum, Lin. S. P. 902.
Round-leaved mustard.

Chalky pastures; annual; April and May.
Stem branched, spreading, on poor soils simple; leaves glaucous, blunt; root-leaves ovate; corymbus close, small, growing to a very long raceme; petals small, white.

b. Capsella. Siliculae wingless.

Siliculae reverse heartshape, wedgeshape; root-leaves pinnatifid.

Bursa pastoris, Rail Syn. 306; Ger. em. 276, 1.
Bursa pastoris major vulgaris, Park. 866.
Thlaspi Bursa pastoris, Lin. S. P. 903.
Nasturtium Bursa pastoris, Roth Germ. 1, 281.

Walls and road-sides; annual; March to October.
Stem branched; root-leaves pinnatifid; stem-leaves oblong; petals white; varies much in size, according to the soil.

XXI. 438. NASTURTIOLUM. Bobart. Dittander.
Siliculae elliptic, not nicked; valves 2, boatshape, wingless; cells 2-seeded; filaments toothless.

Nasturtium montanum. Mountain dittander.
Leaves pinnate, not in the least cut; petals not longer than the calyx; siliculae blunt each way; stigma sessile.

Nasturtium q. Nasturtiolum montanum annuum tenuissime divisum Bobart, Rail Syn. 304, 4.
Lepidium petraeum, Lin. S. P. 899.
Lepidium Linnaei, Crantz Austr. 1, 7.
Hutchinsia petrae, R. Brown Hort. Kew. 82.

Limestone rocks; biennial; March and April.
Stem 2 in. high, branchy; leaves bald; petals white.

Siliculae nicked; valves boatshape; cells 2-seeded; filaments with a small scale at the bottom, on the inner side.
Leaves lyrate; petals irregular.

Teesdalia irregularis. Irregular heath-cress.

Nasturtium petreum, Raii Syn. 303, 2.
Bursa pastoria minima, Ger. em. 276, 2.
Iberis nudicaulis, Lin. S. P. 907.
Shepherd's cress. Small shepherd's purse.

Barren heaths; annual; May.

Stems many, mostly simple; central upright, stiff, mostly leafless; side-stems ascending, leafy; root-leaves lying flat; corymbi at first in heads, become racemose.

XXIII. 440. IBERIS. Dioscorides. Candy-tuft.

Siliculae nicked, valveless, boatshaped, winged; cells 1-seeded; petals unequal.

Iberis amara. Bitter candy-tuft.

Plant herbaceous; leaves lanceolate, rather pointed, slightly toothed, bald; flowers racemose.

Thlaspi amarum; Ger. em. 263, 5.
Iberis amara, Lin. S. P. 906.
Clown's mustard.

Chalky fields; annual; July.

Herb bald, bitter; stems diffused, branched; leaves lanceolate; corymbi spiked, many-flowered; petals white.

XXIV. 441. LEPIDIUM. Dioscorides. Pepper-wort.

Siliculae 2-valved; valves boatshaped; cells 1-seeded; petals equal.

a. Lepidium. Siliculae not nicked, margined all round.


Leaves lanceolate, undivided, serrated or uncut; siliqua oval, not nicked.

Lepidium latifolium, Raii Syn. 304; Lin. S. P. 899.
Raphanus sylvestris officinarum Lepidium, Æginetæ Lobelii, Ger. em. 241, 2.
Piperitiis, sive Lepidium vulgare, Park. 855.
Dittander. Pepperwort.

Salt marshes and cliffs by the sea; perennial; July.

Stem 3 feet high, upright, branched, panicled; leaves glaucous, pointed; petals white, not cut; stamens 6.—Plant acrid, antiscorbutic; in infusion vomitive.
b. Thlaspidium.  Siliculae notched, or margined.

Root-leaves pinnatifid; branch-leaves linear, not nicked; flowers 2-stamened; petals 0; siliculae notched, spreading.

Nasturtium sylvestre osyridis folio, Raill. Syn. 303, 1; Park. 829.

Thlaspi minus, Ger. em. 303, 1.

Lepidium ruderale, Lin. S. P. 900.

Thlaspi ruderale, De Candolle Pl. Gall. 4266.

Bowyers' mustard. Narrowleaved wild cress.

Walls by the sea; biennial; June.

Stem 1 foot high, upright, branched, flexuous, woolly; leaves fleshy, bald; lower leaves pinnatifid; upper linear; flowers very small; racemes when in fruit very long.


Stem-leaves arrowshape, toothed; siliculae ovate, not notched, winged, glandularly dotted.


Lepidium campestre, Lin. S. P. 902.


Corn-fields and rubbish; annual; June and July.

Stem 1 foot high, paniculately branched; leaves woolly; silicula-valves margined, bald; styles very short; petals small.

β. glabrum.  Leaves nearly bald, broad.


Thlaspi vulgarissimum, Ger. em. 262, 2.

γ. hirtum.  Siliculae hirsute, dotted with glands.

Thlaspi hirtum, Hudson Fl. Angl. 281.


Stem-leaves arrowshape, toothed, hairy; siliculae elliptic oblong, nicked, winged, hairy, not dotted.


Lepidium hirtum, Lin. S. P. 901.

Hoary cress. Hairy Mithridate mustard.

Mountains; biennial? June and July.

Stem 2 feet high, branched; siliculae more oblong than those of L. campestre.


Leaves many-cut, oblong; cotyledons 3-parted.

Nasturtium hortense, Ger. em. 250, 1.

Nasturtium sativum, Park. Por. 501.

Lepidium sativum, Lin. S. P. 899.

Garden cress. Town cress. Garden cressse.

Cultivated and naturalized; annual; June and July.
Pl. ex. thal. 80. CRUCIFERÆ. 441. Lepidium. 695

Stem branched; leaves not nicked, curled.—Herb, while young, eaten as a warm salad; seeds diaphoretic, promote absorption.

XXV. 442. COCHLEARIA. Gesner. Scurvy-grass.

Siliculae nearly ovate, many-seeded; valves bellied; seeds not margined; cotyledons incumbent; filaments short, toothless; calyx open.


   Cochlearia, Raui Syn. 302, 1.
   Cochlearia rotundifolia, Ger. em. 401.
   Cochlearia major rotundifolia, sive Batavorum, Park. 285.
   Cochlearia officinalis, Lin. S. P. 903.

Sea-side; annual; May and June.
Herb bald, fleshy; stem angular; branches corybose; root-leaves round, petioled; stem-leaves embracing the stem, oblong, sinuated; corymbus many-flowered; siliqua globular, slightly wrinkled and veined, crowned with a very short style.

b. alpina. Plant small; leaves fleshy; flowers reddish, large.
   Cochlearia rotundifolia, Dillen in Raui Syn. 302, 2.
   Cochlearia Greelandica, Lin. S. P. 903.

   Cochlearia folio sinuato, Raui Syn. 303, 3.
   Cochlearia Britannica, Ger. em. 401, 2.
   Cochlearia vulgaris, Park. 285.
   Cochlearia Anglica, Lin. S. P. 903.
   Sea scurvy-grass.

Sea-shores on mud, also cultivated; annual; May.
Leaves fleshy: root-leaves longly petioled; flowers white; siliqua wrinkled reticulately, crowned with a very long style.—Herb acrid, but eaten as a salad, powerfully anti-scorbutic; the juice, distilled water, and a conserve of the leaves, are also employed in the true or sea-scurvy, the asthma, and rheumatism: it does not seem altered by cultivation in gardens.
Siliculae elliptic; leaves deltoid.
Cochlearia marina folio angulo parvo, Rail. Syn. 303, 5.
Thlaspi hederaceum, Ger. em. 271, 5; Park. 848.
Cochlearia Danica, Lin. S. P. 903.
Ivy mustard.

Muddy sea-shores; annual; May and June.
Leaves petioled, 3 or 5-lobed; petals small; siliculae elliptic, scarcely swollen, reticulately veined, crowned with a short style.


Siliculae oblong; stigma dilated, nearly sessile; root-leaves oblong, crenate; stem-leaves lanceolate, toothed or deeply cut.
Raphanus rusticanus, Rail. Syn. 301; Ger. em. 241, 1; Park. 860.
Cochlearia Armoracia, Lin. S. P. 904.
Horse-radish.

Watery places, also cultivated; perennial; May.
Root white, cylindrical, very long, acrid; stem upright, corymbose; root-leaves petioled, large, sometimes pinnatifid; stem-leaves sessile; petals white; siliculae elliptic, with a very short style and broad stigma; usually barren, increasing only by its root.—Root scraped used as sauce, eaten by itself it induces difficulty of breathing; the infusion in milk is employed as a cosmetic; also used in palsy and dropsy as a stimulant and diuretic; the distilled water is acrid and stimulant.

XXVI. 443. SUBULARIA. Ray.  
Aowl-wort.

Siliculae valvular, not notched, many-seeded; valves belled; cotyledons incumbent, linear.

Subularia aquatica.  Water awl-wort.
Stem 0; leaves awlshape.
Subularia aquatica, Lin. S. P. 896.
Irish rush-cress.

Alpine lakes on gravel; annual; July.
Plant immersed; leaves radical, bald; scape twice as long as the leaves, racemose; flowers pedicellated; petals white, connivent.

Scape naked; leaves oblique, pointed, hirtous, slightly serrate; petals 2-cut.

Paronychia vulgaris, *Raii Syn.* 292, 1; *Ger. em.* 624, 1.  
Paronychia vulgaris alsines folio, *Park.* 556.  

Common whitlow grass. *Whiteblow.*  

Walls; annual; March and April.  
Leaves radical, hairy; hairs simple or forked; scape upright, simple, racemose; petals white; *siliculae* bald crowned by a sessile persistent stigma.—Eaten as a sallad, also used in whitlows or felons.


Scape naked or 1-leaved; petals not cut; *siliculae* lanceolate, downy; leaves flat, lanceolate, hairy.  

Alpine rocks; perennial; May and June.  
Roots tufted; leaves radical, lanceolate, fringed; sometimes hairy beneath; hairs quite simple, ascending; scape simple; racemes corymbose; calyx hairy; petals white; *siliculae* generally hairy, sometimes bald; hairs very short, forked.


Leaves cauline, many, hoary, slightly toothed; *siliculae* oblong, bald, twisted.  
Wreathed cress.  
Limestone rocks; biennial; May and June.  
Plant woolly; hairs short, stellate, entangled; stem simple or branched above; leaves sessile, ovate, ribbed; calyx hairy; petals nicked; *siliculae* twisted, bald, with a very short style; pedicells very short.

**b. minor.**  
Plant small.  

4. Draba muralis.  
Wall whitlow-grass.  
Stem branched; leaves ovate, embracing the stem, toothed; siliculae spreading, bald.  
Draba muralis, Lin. S. P. 897.  
Shady hills; annual; May.  
Stem branchy from the bottom, hairy; hairs stellate; leaves heart-shaped, hairy; hairs simple or forked; flowers numerous, corymbose, changing to a very long raceme; petals not nicked; siliculae flat, bald, half as long as the pedicells, crowned with a very short style.

5. Draba aizoides.  
Sengreen whitlow-grass.  
Scapes naked, bald; leaves lanceolate, linear, stiff, keeled; stamens equal to the petals; style half as long as the ovary.  
Sedum petraeum, Ger. em. 514, 8.  
Draba aizoides, Lin. Mant. 91.  
Moenchia aizoide?, Roth Germ. 273.  
Small rock sengreen.  
Walls and alpine rocks; perennial; March.  
Roots fibrous, many-headed; leaves radical, rosaceous, perennial, 1-ribbed, shining, fringed; fringe white, stiff; scapes solitary; petals nicked, gold-yellow; siliculae bald, crowned by a long style.

XXVIII. 445. CAMELINA. Crantz. Cameline.  
Siliculae nearly ovate, many-seeded; valves bellied; cotyledons incumbent; filaments toothless.

Camelina sativa.  
Cultivated cameline.  
Siliculae reverse-ovate, margined; stigma simple; leaves lanceolate, arrowshape.  
Myagrum, Raiti Syn. 302; Ger. em. 273, 3.  
Myagrum sativum, Park. 867; Lin. S. P. 894.  
Myagrum sylvestre, seu Pseudomyagrum, Park. 868.  
Moenchia sativa, Gmelin Syst. Nat. 2, 971.  
Camelina sativa, Crantz, Austr. 1, 17.  
Gold of pleasure. Sesamum.  
Corn-fields, and among flax, naturalized; annual; June.  
Stem upright, downy, paniced at top; corymbus many-flowered, changed to very long racemes; petals yellow, not nicked; siliculae upright, not notched, reverse-ovate, not margined.—Cultivated for the oil yielded by its seeds.
XXIX. 446. ALYSSUM. Dioscorides. Alysson.

Siliculae nearly round; valves more or less compressed; cells 1 to 4-seeded; seeds margined; cotyledons accumbent.

Alyssum maritimum. Sea alysson.

Siliculae not notched, bald; cells 1-seeded; filaments toothless; leaves linear, lanceolate, pointed, slightly hoary; hairs 2-parted, pressed close.

Alyssum minimum, Lin. S. P. 908.
Alyssum maritimum, Willd. S. P.
Alyssum halimifolium, Lin. S. P. 907.
Sweet cameline.

Sea cliffs, naturalized; perennial; August, September.

Flowers many, white, odoriferous; petal-claws and stamens blue, becoming purple.

Fam. XVI. 81. FUMARIDEÆ.

Calyx 2-sepaled, deciduous; petals 4, irregular; lower petals mostly spurred; stamens definite, diadelphous; ovary 1; style 1; stigma cut, persisting; pericarp capsular or siliquose, 1-celled, or many-seeded; seeds peritropal, parietal; perisperm fleshy; corculum small, bent; cotyledons very short; radicle below.

Pericarp globular, valveless, 1-seeded. Fumaria. 447.
Per. podshaped, 2-valved, many-seeded Corydalis. 448.


Calyx very small; petals 4, irregular, 1-spurred; stamens diadelphous; androphores 2; anthers 3 to each androphore; pericarp spherical, valveless, 1-celled, 1-seeded; seed affixed by the umbilical cord to the inner surface of the capsule.

1. Fumaria parviflora. Small-flowered fumitory.

Stem branched, trailing; leaves more than twice compound; leaflets 3-parted, linear, channelled; spikes loose.

Fumaria spicata, Lin. Syst. Veg.
Fumaria tenuifolia, Symons Syn. 200.
Fumaria parviflora, Lamarck Enc. Meth. 2, 567.

Fields; annual; August and September.

Leaf-lobes very narrow, convex beneath; flowers small, pale.
2. *Fumaria officinalis*. **Shop fumitory.**

*Stem* branched, trailing; *leaves* more than twice compounded; *leaflets* wedgeshape, lanceolate, cut; *pericarp* globular, retuse.

*Fumaria vulgaris*, *Raiz Syn.* 204, 1; *Park.* 287.
*Fumaria purpurea*, Ger. em. 1088, 1.
*Fumaria officinalis*, *Lin. S. P.* 981.

*Common fumitory.* *Fumus terrae.*

*Fields and gardens; annual; May to August. Plant* glaucous; *stem* angular; *leaf-lobes* dilated; *spike* loose, opposite to the leaves; *petals* rose-colour, blood-red at the tip, keel green; *pericarp* smooth, retuse and umbilicated at the tip.—*Juice of the plant alterative, useful in scurvy and other chronic diseases; also as a cosmetic.*

3. *Fumaria capreolata*. **Tendrilled fumitory.**

*Stem* branched, climbing; *leaves* ternate; *leaflets* reverse ovate, wedgeshape, cut; *partial petioles* cirrus-like convolute.

*Fumaria major scandens, flore pallidiore*, *Raiz Syn.* 204, 2.
*Fumaria capreolata*, *Lin. S. P.* 985.
*Fumaria officinalis β, Hudson Fl. Angl.* 309.

*Corn-fields; annual; June to September.*

*Stem* 3 feet high, very much branched; *petioles* cirrus-like, twisted; *leaves* bipinnate; *leaflets* broad, green; *spike* loose, few-flowered; *flowers* large; *calyx* large; *pericarp* shining; tip 2-scrobiculate.

II. 448. **CORYDALIS. De Candolle. Corydale.**

*Calyx* very small; *petals* 4, irregular, 1-spurred; *stamens* diadelphous; *anthers* 1 to 3 to each androphore; *capsule* siliqua-form, 1-celled, 2-valved, many-seeded; *placentaria* 2, threadlike, within the sutures of the valves.

1. *Corydalis clavicula*. **Tendrilled corydale.**

*Stem* branched, climbing; *lower leaves* biternate; *upper leaves* ternate, cirrhose; *root* fibrous; *pericarp* lanceolate, 2 or 3-seeded.

*Fumaria alba latifolia*, *Raiz Syn.* 335; *Park.* 288.
*Fumaria alba latifolia clavicula*, Ger. em. 1088, 2.
*Fumaria claviculata*, *Lin. S. P.* 985.
*Corydalis claviculata*, *De Candolle Fl. Gall.* 4100.

*Climbing fumitory.*

*Hedges; annual; June and July.*

*Stem* reddish, flattened; *leaves* juicy, thin, beneath glaucous; *spike* few-flowered; *petals* white.
2. Corydalis digitata. **Fingered corydale.**

Stem simple; raceme terminal; bracteae wedgeshape, fingered, longer than the peduncle; leaves biternate; root bulbous, solid.

Radix cava minor, Ger. em. 1091, 9.
Fumaria bulbosa γ, Lin. S. P. 983.
Fumaria Halleri, Wild. S. P. 863.
Fumaria digitata, Curtis Bot. Mag. 231.
Fumaria minor, Roth Germ. 1, 500.
Fumaria intermedia, Withering Bot. Arr. 620; not of Errhart.
Corydalis bulbosa, De Candolle Fl. Gall. 4098.
Corydalis digitata, Persoon Syn. 2, 289.
Bunnikens holwort.

Woods; perennial; April and May.

Stem upright, simple, rarely 2-cut, cylindrical; leaves few, leaflets cut at the tip; spike solitary; petals pale at bottom, purple at the tip; spur cylindrical, as long as the peduncle; pericarp short, many-seeded.

3. Corydalis lutea. **Yellow corydale.**

Stem diffuse, branched, angular; bracteae minute; leaves bipinnate; pericarp round, shorter than the peduncle; spur short, rounded.

Fumaria lutea, Ger. em. 1088, 4; Lin. Mant. 2, 258.
Capnoides lutea, Gartner Fr. et Sem. 2, 163.
Corydalis lutea, De Candolle Fl. Gall. 4099.
Yellow fumiterre.

Old walls; perennial; May.

Root fibrous; stem upright, 3-sided, leafy; leaflets broad, wedgeshape; bracteae ovate, serrated; petals yellow; spur bent.

Fam. XVII. 82. PAPAVERACEÆ.

Calyx free, mostly 2-sepaled, deciduous; petals hypogynous, mostly 4; stamens many, indefinite; ovary 1; style mostly 0; stigma divided, persisting; fruit capsular or siliquose, 1-celled, many-seeded; seeds peritropal, on parietal receptacles, half-covered with membranaceous involucra; perisperm fleshy; corculum straight; radicle below.

—Plants herbaceous, lactescent; leaves alternate, pinna-tifid; flowers solitary and terminal, or umbelled.
Stigma 2-lobed; siliqua 2-valved, 1-celled; seed crested; ped. umbelled Chelidonium. 449.
Stigma 2 or 3-lobed; siliqua 2 or 3-valved, 2 or 3-celled; seed granulated; ped. 1-flowered. Glauclum. 450.
Stigma radiated; pericarp oblong, 4-ridged, appearing 4-valved; peduncle 1-flowered. Cerastites. 451.
Stigma radiated; pericarp ovate, ridgeless, appearing many-celled; holes many under the stigma. Papaver. 452.

I. 449. CHELIDONIUM. Dioscorides. Celandine.
Calyx 2-leaved; petals 4; stigma capitate, 2-lipped; pericarp long, linear, 1-celled, 2-valved; seeds many, crested.
—Flowers umbelled, axillary, yellow; juice yellow.

Leaves pinnatifid; lobes blunt, crenated; petals not nicked.

Papaver corniculatum luteum, Chelidonia dictum, Rall Syn. 309, 9.
Chelidonium majus, Ger. em. 1069, 1; Lin. S. P. 743.
Chelidonium majus vulgare, Park. 616.
Swallow wort. Tetter wort.

Damp shady places; perennial; May and June.
Stem branched; leaves bald, slightly glaucous; umbels solitary, peduncled; calyx slightly hairy.—Juice yellow, acrid, destroys warts, and is used for tettters, ringworms, the jaundice, and the itch; diluted with milk consumes spots on the eyes.

Leaves pinnatifid; lobes acutely cut; petals lanceolate.

Papaver q. Chelidonium majus foliis quernis, Dillen in Rall Syn. 309, 9.
Chelidonium majus, folio majus dissecto, Ger. em. 1069, 2.

Old walls; perennial; May to July.

II. 450. GLAUCIUM. Dioscorides. Horned-poppy.
Calyx 2-sepaled; petals 2; stigma capitate, 2 or 3-lipped; pericarpium long, linear, 2 or 3-valved; apparently 2 or 3-celled; seeds many, dotted.—Flowers solitary, terminal or axillary, peduncled; juice colourless.
a. Pericarp 2-valved, apparently 2-celled.

Stem bald; leaves embracing the stem, sinuated; pericarpium tuberculated.

Papaver cornubianum luteum, Raill Syn. 307, 7; Park. 261.
Papaver cornutum flore luteo, Ger. em. 367, 1.
Chelidonium Glaucium, Lin. S. P. 724.
Glaucium luteum, Gartner Fr. et Sem. 2, 166.

Sandy shores of the sea; annual; July and August.

Herb glaucous; stem branched, spreading; root-leaves lyrate pinnatifid, rough; stem-leaves embracing the stem; sepales hispid; petals large, rounded; pericarpium very long, bent.

Stem hispid; leaves sessile, pinnately cut; pericarpium bristly.

Papaver cornubianum flore rubro, Ger. em. 367, 2.
Chelidonium cornubianum, Lin. S. P. 724.
Glaucium phoenicium, Gartner Fr. et Sem. 2, 165.
Glaucium cornubianum, Curtis Fl. Lond.

Sandy corn-fields; annual; June and July.

Leaves hispid, glaucous; root-leaves lyrate pinnatifid; stem-leaves embracing the stem; petals reddish; pericarpium hairy, hairs pressed to the pericarpium.

b. Pericarpium 3-valved, 1-celled.

Stem smooth; leaves bipinnatifid; lobes linear, bald; pericarpium 3-valved.

Papaver cornubianum violaceum, Raill Syn. 309, 8.
Papaver cornutum flore violaceo, Ger. em. 367, 4.
Chelidonium hybridum, Lin. S. P. 724.
Chelidonium violaceum, Lamarck Fl. Fr. 3, 169.
Glaucium violaceum, Jussieu Gen. 236.

Corn-fields; annual; May and June.

Stem branched; leaves dark green, sometimes tripinnatifid; petals violet; stigma 3-cut.

III. 451. CERASTITES. Beaked-poppy.

Calyx 2-sepaled, deciduous; petals 4, rarely 6; stigma 4 to 8-rayed; capsule oblong, 4-ribbed; valves opening only at the tip; imperfectly 4-celled; seeds many. — Flowers solitary, terminal; hairs pressed to the peduncle.
a. Capsule bald; style long; petals and juice yellow.


Papaver luteum perenne, laciniato folio, Cambro-britannicum, Rait Syn. 309, 5.
Argemone lutea Cambro-britannica, Park. 369.
Papaver Cambricum, Lin. S. P. 727.
Yellow bastard-poppy.

Shady mountainous places; perennial; June.

Stem 1 foot high, slightly hairy; hairs erect; leaf-main-rib winged; leaflets bald; sepals hairy; petals lemon-yellow.

b. Capsule bald; style 0; petals red; juice colourless.

2. Cerastites dubia. Doubtful beaked-poppy. Capsule oblong, bald; stems many-flowered, hairy; peduncle-hairs pressed to the peduncle; leaves bipinnatifid.

Papaver laciniato folio, capitulo longiore glabo, Rait Syn. 309, 5.
Papaver dubium, Lin. S. P. 726.

Sandy fields; annual; June and July.

Stem 2 feet high, hairy; hairs spreading; leaf-lobes broad; petals pale scarlet; stamens linear; pollen yellow; capsule 3 times longer than broad.


Papaver dubium, Fl. Dan. 902.

Fields and parks; annual; June.

Capsule only twice as long as broad; calyx hairy, hairs glandular.

c. Capsule spinous; style 0; petals red.


Papaver laciniato folio, capitulo hispido rotundiore, Rait Syn. 308, 4.
Argemone capitulo torulo, Ger. em. 373, 1.
Argemone capitulo rotundiore, Park. 369.
Papaver hybridum, Lin. S. P. 725.

Fields; annual; July.

Stem slender, branched, hispid; bristles inclined to the stem; leaves 3-parted, pinnatifid; lobes linear, awned, hispid; branches naked, 1-flowered; calyx-bristles yellow; petals scarlet, violet at the base; stigma 6 or 8-rayed; capsule-bristles ascending, bent.


*Argemone capitulo longiore*, *Ger. em. 373, 2; Park. 370.*

*Papaver Argemone*, *Lin. S. P. 725.*

Fields; annual; June and July.

Stems many-flowered; bristles spreading; petals pale scarlet; stigma 4 or 5-rayed; capsule 5-sided above; flowers sometimes double.


*Papaver maritimum*, *Withering Bot. Arr. 486.*

IV. 452. **PAPAVER.** Pliny. Poppy.

*Calyx* 2-sepaled, falling off; petals 4; stigma 10 or 12-rayed; *pericarpium* ovate, smooth, ribless, valveless, opening by many foramina under the stigma, incompletely many-celled; seeds many, affixed to placentia on the sides of the pericarpium.—Flowers solitary; hairs spreading.

a. Capsule smooth; calyx hairy; leaves pinnatifid.


Capsule bald, nearly globular; stem many-flowered, hispid; hairs on all parts spreading; leaves pinnatifid; stigma 10-rayed.

*Papaver laciniato folio*, capitulo breviore glabro annuum, *Rheas dictum, Raii Syn. 308, 2.*

*Papaver Rhoeas, Ger. em. 371* (misprinted 401), 1; *Lin. S. P. 726.*

*Papaver erraticum rhoeas, sive sylvestre, Park. 367.*


Corn-fields; annual; June and July.

Leaves hairy; petals dark scarlet, sometimes with a black spot at the base; filaments hairlike, attenuated.—Petals communicate a fine red colour to water or syrup: and are slightly narcotic.

b. Capsule and calyx smooth; leaves simple.


Capsule globular; bald; calyx bald; leaves embracing the stem, cut, bald, glaucous.

*Papaver sylvestre, Raii Syn. 308, 1; Ger. em. 370* (misprinted 400), 5.

*Papaver somniferum*, *Lin. S. P. 726.*


White poppy. Cheese bowls.

Neglected gardens; also cultivated; annual; July.

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Stem 3 feet high; leaves simple, lobed; petals white, plain, streaked, marbled, or with a dark spot at the bottom; stigma 10 or 12-rayed; seeds white.—Capsules, in decoction, emollient; seeds oily, formerly used in emulsions, also strewed on cakes, yield an oil sold for that of the olive; juice of the capsule dried (English opium), as also the extract, and syrup of the dried capsules without the seeds, are in great use as narcotic, hypnotic, and stupefying.

Fam. XVII. 83. NYMPHÆACEÆ. R. A. Salisbury.

Calyx 4 or 5-sepaled, inserted on the thalamus; petals and stamens disposed in many series alternate to the sepals; stamens many, indefinite; anthers adnate, 2-celled; style 0; stigmata 8 or 10, radiated; ovary (in natives) 1, free, many-celled; pericarpium dry, valveless; seeds ovate; perisperm farinaceous; corculum topshaped. — Plants herbaceous, aquatic; stem thick, creeping; leaves longly petioled, peltately ribbed; peduncles 1-flowered; bracteæ 0.

Sepales larger than the petals; petals nectariferous; filaments linear ...... NUPHAR. 453.

Sepales smaller than the petals; stigma nectariferous; inner filament dilated ...................... NYMPHÆA. 454.

I. 453. NUPHAR. R. A. Salisbury. Water-can.

Calyx 4 or 5-sepaled; petals many, nectariferous on the back, inserted on the receptacle; stamens very numerous; filaments linear; stigmata 8 or 10, linear; berry ovate, barked, 8 or 10-celled.—Flowers yellow, exserted above the water.

1. Nuphar luteum. Yellow water-can.

Calyx 5-sepaled; stigmata not toothed; petiole 2-edged; leaves heartshape, lobes coming close together.

Nymphæa lutea, R. & L. Syi 368, 1; Ger. zer. 819, 2; Lin. S. P. 729.

Nymphæa major lutea, Park. 1252.


Yellow water lily.

Rivers and stagnant waters; perennial; July.

Leaves blunt, smooth, edge not cut; scape round; sepales coloured; petals yellow, smelling like brandy, shorter than the sepales; filaments all linear; fruit ovate, beaked.—Roots poisonous to crickets and moles; the infusion useful in leprosy.

Calyx 5-sepaled; stigmata margined, toothed; petiole 2-edged; leaves heartshape, lobes rather distant.

Nymphaea lutea minima, Wodd. S. P.

Alpine lakes; perennial; July.

Plant small; leaves rather silky beneath; flowers golden yellow; stigmata edged with green.

II. 454. NYMPHÆA. Theophrastus. Water-lilly.

Calyx 4 or 5-sepaled, coloured; petals many, indefinite, on the ovary; stamens many; filaments outer row dilated, petal-like; stigmata many, radiated, cut, nectariferous; berry globular, 8-celled, many-seeded; bark hard.

Nymphaea alba. White water-lilly.

Leaves heartshape, smooth beneath, edge not cut; petals elliptical, oblong; stigmata 10, bent back; trunk horizontal.

Nymphaea alba var. vulgaris. Park. 1251.

White water can. Candock. When double, Water rose.

Rivers and stagnant waters; perennial; June and July.

Leaves imbricate, roundish; flowers white, floating on the water; sepals 4, coloured above; inner petals smallest; outer stamens yellow, dilated; fruit blunt.—Root bulbous, dyes dark brown; is sometimes made into bread.

Fam. XIX. 84. BERBERIDEÆ. Jussieu.

Calyx deciduous, sepals in 2 series, 2 or 3 in each series; petals 4 or 6, opposite to the sepals; stamens as many as the petals opposite to them; anthers adnate, 2-celled, opening from the base to the tip by a valve; ovary 1, free; style 0; pericarpium 1-celled; seeds affixed to the base of the cells; perisperm fleshy; corculum straight, axile; radicle below.—Plant shrubby or herbaceous; leaves alternate, often compound; flowers racemose, bracted.

Petals and stam. 6; berry 1-celled ... BERBERIS. 455.

Petals and stam. 4; pericarp 1-celled;
2-valved ........................................... EPIMEDIUM. 456.

I. 455. BERBERIS. Brunfels.

Outer sepals 3, inner 6; petals 6, glands 2, at the base of the petals; stamens irritable; stigma broad, sessile, umbilicated, persisting; berry ovate, cylindrical, 1-celled, 2 or 3-seeded.—Shrub thorny; leaves simple.
Berberis vulgaris.  Common barberry.
Racemes simple, pendulous; leaves reverse ovate, fringed, toothed.

Berberis dumetorum, Rau Syn. 465.
Spina acida sive Oxyacantha, Ger, em. 1325, 1.
Berberis, Park. 1559.
Berberis vulgaris, Lin. S. P. 471.

Barberry bush. Pipewidge tree.

Woods and hedges; shrubby; May and June.
Branches angular, bald; leaves in bundles, petioled; spines 3 together; racemes solitary, many-flowered; flowers yellow; berry scarlet.—Root dyes wool and leather yellow; bark renders wine purgative; inner bark with alum dyes linen yellow; leaves acid, eaten as sauce; flowers offensive to the smell when too near; berries acid, not eaten by birds, boiled with sugar form a pleasant confection. Is supposed by some to cause wheat growing near it to become mildewed; but this is denied by others.

II. 456. EPIMEDIUM. Dioscorides. Barrenwort.

Outer sepales 2, inner 4; sepales spreading; petals 4; nectariferous scale 1, petal-like, cupshape, coloured, at the inner base of each petal; stamens 4; style lateral, from the top of the ovary; stigma simple; pericarpium oblong, 1-celled, 2-valved, many-seeded.

Epimedium alpinum. Alpine barrenwort.

Epimedium, Ger. em. 480.
Epimedium alpinum, Lin. S. P. 171.

Shady alpine situations; perennial; May.

Rhizoma horizontal; leaves upright, solitary, irregularly ternately compounded, flower-bearing; leaflets petioled, heartshaped, drooping, pointed, light green, glaucous beneath; panicle from a kneejoint towards the middle of the main petiole, upright, slightly racemose; flowers drooping; petals dark red; nectaries yellow.

Fam. XX. 85. RANUNCULACEÆ. Jussieu.

Calyx 3 to 6 sepales, free; petals 5 to 10, hypogynous; stamens 5 or many and indefinite, hypogynous; anthers adnate, 2-celled, mostly fastened on the outside of the filaments; ovaries many, indefinite, inserted on the receptacle, 1-styled; pericarpia 1-seeded, not opening, (cariopsides), or many-seeded, opening by longitudinal sutures, (camares); perisperm horny; corculum much swollen, at the tip or
base of the perisperm.—*Plants* herbaceous or shrubby; leaves alternate, lobed, dilated at bottom, slightly sheathing; stipules 0.

**A. Anthers opening towards the centre of the flower.**

- *Sepales 4, deciduous; petals 4; berry 1-celled, many-seeded* .......... *Actaea. 457.*
- *Sepales 5, persisting; petals 5; camares many-seeded* .......... *Paeonia. 458.*

**B. Anthers opening outwardly; camares many, many-seeded.**

- *Petals 4, 2 upper spurred; sepales irregular, petaloid; upper forming a spur* .......... *Consolida. 459.*
- *Petals 5, tailed; sepales 5, regular; petaloid, deciduous* .......... *Aquilegia. 460.*
- *Pet. 8 or 10, 2-lipped; sepales 5, regular, coriaceous, persisting; camares sessile* .......... *Helleborus. 461.*
- *Pet. 5 to 10, 2-lipped; sepales 5 to 10, regular, petaloid; camares sessile* .......... *Trollius. 462.*
- *Petals 0; sepales regular, petaloid, camares sessile* .......... *Caltha. 463.*

**C. Anthers opening outwardly; cariopsides many, on the receptacle.**

- *Petals 9, base scaled; sepales 3, base not produced; cariopsides blunt* .......... *Ficaria. 464.*
- *Petals 5, base scaled; sepales 5, base not produced; cariopsides smooth* .......... *Ranunculus. 465.*
- *Petals 5, base pitted; sepales 5, base not produced; cariopsides wrinkled* .......... *Batrachium. 466.*
- *Petals 5, base nectariferous; sepales 5, base produced* .......... *Myosurus. 467.*
- *Pet. 5 to 10, base naked; sepales 5; involucrum 0; style straight; pointed* .......... *Adonis. 468.*
- *Pet. 0; sepales 5 to 10; involucrum 3-leaved, distant; leaves cut; cariopsides tailless* .......... *Anemonanthea. 470.*
- *Pet. 0; sepales 5; involucrum 3-leaved, distant; leaves cut; cariopsides tailless* .......... *Pulsatilla. 471.*
- *Pet. 0; sepales 4; cariopsides tailless, sessile, longitudinally streaked* .......... *Thalictrum. 472.*
- *Pet. 0; sepales 4; cariopsides tailless, sessile, feathered* .......... *Clematis. 473.*
A. Ranunculaceae spuriæ. Anthers opening on the inner side.


**Herb-Christopher.**

*Calyx* 4-sepaled; deciduous; *corolla* 4-petaled; *stamens* indefinite; *anthers* fastened inwardly; *ovary* 1, ovate; *stigma* capitate, sessile; *pericarpium* (berry) fleshy, not opening; *seeds* many, horizontal, in 2 series.—**Herb perennial**; *leaves* petioled, simple, lobed and variously cut; *flowers* racemose; *peduncle* bracteate; *sepals* and *petals* very deciduous.

**Actea spicata.** Spiked herb-Christopher.

*Berry* nearly globular; *petals* as long as the *stamens*; *racemes* ovate; *leaves* bi-ternately or tri-ternately cut; *lobes* ovate, lanceolate, serrated or slightly cut.

- *Christophoriana, Rau. Syn. 262; Gr. e. 979.*
- *Christophoriana vulgaris, Park. 379.*
- *Christophoriana spicata, Manch. Meth. 279.*
- *Baneberries.*

Alpine woods on limestone; perennial; May and June. *Root* fibrous; *leaves* bald; *bracteae* oblong; *flowers* racemose; *berries* black.—**Root useful in nervous diseases; herb repellent; berries very active, poisonous.**


*Calyx* 5-sepaled; *sepals* leaflike, unequal, orbicular, persistent; *petals* 5 to 10, orbicular, nearly equal, not clawed; *stamens* indefinite; *anthers* fastened outwardly; *ovaries* 2 to 5, girt by a fleshy disk; *stigmata* sessile, two-lamellar; *camarès* 2 to 5, ovate, 1-celled, many-seeded; *seeds* shining, nearly globular; *corculum* basillary.—**Root perennial**; *crown* horizontal, thick; *fibres* fasciculate, thickened or tuberculated; *sheaths* scaly, at the bottom of the stem; *leaves* alternate, twice ternate; *flowers* terminal.


*Stem* herbaceous; *camarès* woolly, bent back from the bottom; *leaves* 2-ternate; *lobes* ovate, not cut, bald.

- *Pæonia mas, Rau. Syn. Ind. pl. dub.; Gr. e. 980, 1; Park. 1381.*
- *Pæonia officinalis mascula, Lin. S. P. 747 s.*
- *Pæonia foemina, Miller Dict.*
- *Pæonia corallina, Ritz. Observ. 354.*
- *Malt piony. Male piony.*
Clefts of rocks; naturalized; perennial; May.

Root fasciculate; fibres thick, oblong, cylindrical; stem 3 feet high, purplish; petals sometimes 6, crimson, sometimes pale red and white; ovaries 5; camares spread; seeds globular, red.—Used indifferently with the P. officinalis, and preferred by some.

2. Paeonia officinalis.

Stem herbaceous; camares woolly, upright at the base, diverging at top; leaves 2-ternately-cut; lobes bald, oblong; middle lobe cut; side-lobes not cut.

Paeonia femina, Rau! Syn. Ind. pl. dub.; Ger. em. 981, 2; Park. 1380.
Paeonia officinalis femina, Linn. S. P. 747 a.
Paeonia mascula, Miller Dict.
Paeonia officinalis, Retz Observ. 35.
Paeonia nemoralis, Salisbury Prod. 315.
Female piony. Female peony.

Woods, naturalized; perennial; May.

Stem greenish.—Root made into necklaces, used against the epilepsy in children, also given inwardly to adults; seeds used in the nightmare; syrup of the flowers anti-epileptic.

B. Helleborae. Calyx petaloid; aestivation imbricate; petals 5, 10, irregular, 2-lipped, nectariferous; or 0; aestivation imbricate; anthers opening on the outside; camares dehiscent, many-seeded; seeds horizontal.—Stem herbaceous; leaves alternate.

III. 459. CONSOLIDA. Brunsfel.

Calyx coloured, deciduous, 5-sepaled; upper sepale spurred; petals 4, sometimes soldered; 2 upper petals forming an inner spur; stamens many; ovary 1; camares distinct; seeds many, dry-berrylike.—Roots annual; stem upright, branchy; flowers racemose; bractea 3 to each pedicell.

Consolda regalis. Royal larks-spur.

Stem upright, bald, divaricately branched; flowers few, in loose racemes; pedicells longer than the bractea; capsules bald.

Delphinium segetum, floré caeruleo; Dillen in Raü! Syn. 273.
Consolda regalis sylvestris, Ger. em. 1083, 5.
Delphinium Consolda, Linn. S. P. 748.
Delphinium segetum, Lamarck Pl. Fr. 325.
Delphinium versicolor, Salisbury Prod. 315.
Field larks-spur. Larks-heel. Larks-claw.
Sandy fields; annual; June and July.
Stem herbaceous, bald or downy; stem branched; flowers of various colours.—Seeds acrid.

IV. 460. AQUILEGIA. Tragus.  
Calyx 5-sepaled, deciduous, sepales coloured, petal-like; petals 5, gaping above, 2-lipped; outer lip large, flat; inner very small; produced behind into spurs exserted between the sepales; stamens many, in 5 to 10 series; interior filaments membranaceous, oblong, without anthers; ovaries 5; camares 5, upright, many-seeded.—Root perennial; stem herbaceous, upright; lower leaves longly petioled; petioles 3-cut, binate; lobes 3-fid, toothed, blunt; upper leaves lobed, lobes linear; flowers terminal, variously coloured.

Aquilegia vulgaris.  
Spurs bent inwards; capsules villous; stem rather bald, leafy, many-flowered; leaves nearly bald; styles not longer than the stamens.

Aquilegia flore simplici, Rail Syn. 273.
Aquilegia caerulea, and A. rubra, Ger. em. 1093, 1, and 2.
Aquilegia vulgaris simplex, Park. 1367.
Aquilegia vulgaris, Lin. S. P. 752.

Fields and copses; perennial; July.
Herb mostly bald, rarely downy; leaf-lobes mostly cut; flowers panicled, drooping, pale.

V. 461. HELLEBORUS. Dioscorides.  
Calyx persisting, 5-sepaled; sepales large, roundish, obtuse, mostly green; petals 8 or 10, very short, tubular; below slender, nectariferous; stamens 30 to 60; ovaries 3 to 10; stigmata terminal, orbicular; camares coriaceous; seeds in 2 rows, elliptic, umbilicated.—Plants herbaceous, perennial, hard, coriaceous, bald, sometimes slightly downy under the leaves; root-leaves petioled, palmately or pedately cut; lobes oblong, toothed: stem-leaves various, oftenest 0.

a. Stem few-flowered, mostly forked; floral leaves sessile, cut.

1. Helleborus viridis.  
Green hellebore.
Root-leaves quite bald, pedately cut; stem-leaves nearly sessile, palmately parted; peduncles often 2-cut; sepales roundish, ovate, green.
Helleborus niger hortensis flore viridi, *Raii Syn. 271, 1.*  
Helleborastrum, *Ger. em. 976, 2.*  
Helleboraster minor, flore viridante, *Park. 212.*  

*Wild black hellebore. Bears foot.*  
Woods and pastures on chalk; perenn.; March to May.  
Roots fleshy; fibres long; herb quite bald; stem forked at top; leaves shining; root-leaves growing longer than the stem after flowering; lobes oblong, lanceolate, acutely serrated, outer lobes often 2 or 3-cut; stem-leaves 3 or 5-parted; flowers green, slightly drooping.—Leaves infused in beer used as a prophylactic in epidemic fevers, are violently purgative, and vermifuge.

b. *Stem many-flowered, leafy; peduncles bracteated.*

2. *Helleborus foetidus.*  
*Stinking hellebore.*  
Stem many-flowered, leafy; leaves pedately cut, quite bald; lobes oblong, linear.

Helleboraster maximus, *Raii Syn. 271, 2; Ger. em. 976, 3.*  
Helleboraster maximus seu Consilia, *Park. 212.*  

*Great ox heel. Bearsfoot setewort.*  
Chalky shady places; perennial; March and April.  
Stem panicled; leaves blackish green; bracteae ovate, not cut, tip deeply toothed; pale yellowish green; flowers drooping; sepales erect, connivent, green with a purple edge, persistent; camaraes 3 or 4.—Root purgative; root or stem used as a seton by the ferriers.

VI. 462: TROLLIUS. *Linnaeus.*  
*Globe-flower.*  
Calyx coloured, 5, 10, or 15-sepaled; sepales deciduous, petal-like; petals 5 to 20, small, tubular at bottom, 1-lipped; stamens and ovaries many; camaraes many, sessile, nearly cylindrical, many-seeded.—Plant herbaceous, bald, upright, perennial; root fibrous; fibres black, in bundles; leaves petioled, palmately many-cut; flowers terminal, yellow.

*Trollius Europaeus.*  
European globe-flower.  
Sepales 15, connivent, forming a ball; petals 5 or 10, as long as the stamens.

Ranunculus globosus, *Raii Syn. 272; Ger. em. 955, 12; Park. Par. 218.*  
Trollius altissimus, *Crants Austr. 2, 123.*  
Trollius globosus, *Lamark Fl. Fr. 3, 323.*  
Trollius connivens, *Mench Meth. 313.*  
Trollius montanus, *Salisbury Prod. 373.*  
Trollius sphaericus, *Salisb. Tr. Soc. Lin. 8, 302.*  
Globe crowfoot.  
Locke Gowlands.
Alpine pastures; perennial; May to July.
Stem 2 feet high, many-flowered; flowers first pale, then golden yellow; sepales 10 to 15.

VII. 463. CALTHA. Pliny. Bootes.
Calyx coloured, 5-sepaled; sepales nearly orbicular, petal-like; petals 0; stamens many; ovaries 5 to 10; caruncles 5 to 10, compressed, spreading, 1-celled, many-seeded.—Herbs perennial, quite bald; roots fibrous; stems cylindrica; leaves peltiolar, heartshape, ears not bent in; flowers terminal, yellow.

Stem upright, many-flowered; leaves heartshape, nearly round, crenated; ears rounded.

2. Caltha minor. Small bootes.
Stem ascending, 1-flowered; leaves heartshape, nearly orbicular, crenated; ears rounded.

Stem creeping, few-flowered; leaves triangular, heartshape, serrate, crenated.

PI. ex. that. 35. RANUNCULACEÆ. 464. Ficaria. 715

C. RANUNCULÆ. Æstivation of the calyx and corolla imbricate; petals 5 to 15, with a scale at the inside of the claw, sometimes 2-lipped, lips very unequal; anthers ovate, opening outwardly; cariopsides many, mucronate; seeds erect.—Stems herbaceous; leaves radical or alternate; involucrum 0; flowers terminal, yellow.

VIII. 464. FICARIA. Brunsfel. Pilewort.

Calyx 3-sepaled, deciduous; petals 9, pitted at the bottom on the inside; stamens and ovaries many, indefinite; cariopsides smooth, compressed, blunt.—Herb bald, perennial; roots grumous; tubers reverse ovate, blunt; stem branched, spreading; leaves petioled, heartshaped, rather angular; peduncles 1-flowered, axillary, and terminal; sepals sometimes 5; petals 8 or 12.

Ficaria ranunculoides. RENUNCULUSLIKE PILEWORT. Root grumous; stem leafy; leaves heartshaped.


Damp fields and pastures; perennial; March to May. Stem long; leaves longly petioled, shining; flowers yellow shining, becoming whitish at the tip; varies with the stem long or short; leaves entire or angled, heart or kidneyshaped, with or without a black spot; axillex naked or bulb-bearing; calyx 3 to 5-sepaled; petals 8 to 12.—Herb mild, esculent as a potherb; juice of the roots used as a lotion for the piles.

IX. 465. RANUNCULUS. Pliny. Crowfoot.

Calyx 5-sepaled; sepales deciduous without separating at bottom; petals 5 or 10, with a nectariferous scale or pit at the base; stamens and ovaries many, indefinite; cariopsides ovate, slightly compressed, smooth, or prickly, not streaked; ending in a short horn; disposed.—Stem cylindrical; peduncles terminal or axillary; flowers white or yellow.
a. Ranunculus. Flowers yellow; leaves bald, many-cut, toothed; roots fibrous, annual; cariopsides tubercular or spinous on both sides.

1. Ranunculus parviflorus. Smallflowered crowfoot.
Leaves villous, round, 3-lobed, large-toothed or cut; stem lying down, soft haired; peduncles opposite to the leaves; calyx equal to the petals, becoming reflected; cariopsides granularly tuberculated.

Ranunculus hirsutus annus flore minimo, Raiti Syn. 248, 5.
Ranunculus parviflorus, Lin. S. P. 780.
Ranunculus muricatus, Manch. Meth. 215.

Hairy crowfoot.

Fields and hedges on gravel; annual; May and June.

Leaves bald; seed-leaves toothed at the tip; root-leaves 3-parted; stem-leaves many-cut, lobes linear; stem upright, many-flowered; cariopsides with long prickles on each side.

Ranunculus arvorum, Raiti Syn. 248; Ger. em. 951, 3; Park. 328.
Ranunculus arvensis, Lin. S. P. 780.
Ranunculus echinatus, Crantz Austr. 2, 118, not of Ventenat.

Cornfields; annual; June.

Leaves 3-lobed or 3-cut, lobes blunt, deeply toothed, the middle peduncled; calyx turned back; stem not bulbous at bottom; cariopsides with a single row of very small tubercles round the edge.

Ranunculus rectus pallidioribus foliis, Raiti Syn. 247, 3.
Ranunculus philonotis, Retz Obs. 6, 31.
Ranunculus agrarius, All. Auct. 27.
Ranunculus sardous, Crantz Austr. 2, 84.
Ranunculus pallidior, Villars Delph. 4, 751.
Walls and waysides: annual; June to August.

Stem 18 in. high, branchy, many-flowered, upright or trailing; hairs spreading; sometimes bald; leaves 3-parted, hirsute, pale.


*Ranunculus intermedius*, Poiret Dict. 6, 116.
*Ranunculus pumilus*, Thuill. Par. 1, 277, not of Poiret.

Damp shady places.


*Ranunculus parvulus*, Lin. Mant. 79.
*Ranunculus parvis florus*, Gouan Pl. Monsp. 270, not of Linn.

Dry stony places.

b. *Leiosperma*. Flowers yellow; leaves lobed or many-cut; root fibrous; cariopsides smooth.


Root-leaves petioled, 3-cut, slightly pinnately cut; lobes 3-cut, deeply toothed, the middle lobe slightly petioled; stem upright, bulbous at the neck; calyx turned back.

*Ranunculus bulbosus*, Raiti Syn. 247, 2; Ger. em. 953, 6; Park. 329; Lin. S. P. 778.
*Ranunculus laetus*, Salisbury Prod. 313.
*Ranunculus flavellatus*, Bivona Sicul. 68.

Fields and meadows; perennial; May.

Root bulbous, solid, proliferous above; stem 1 foot high; leaves more or less hirsute, segments 3-cut or lobed.


*Ranunculus maximus Anglicus*, Ger. em. 957, 1.
St. Anthony’s turnsp. Rape crowfoot. Yellow bachelor’s buttons.


Leaves pinnately 3-cut; segments wedgeshape, 3-lobed, deeply toothed; stem with creeping prostrate runners from the crown, the flower-bearing stem nearly upright; calyx close; cariopsides with a straight beak.

*Damp fields; perennial; June to August.

Stems prostrate, middle stems sometimes upright or ascending; leaves with the middle segment always petioled,
side segments sometimes sessile; upper surface very smooth, dark green, spotted with black or white, sometimes downy, or spotless; segments 3-cut or 3-parted, sometimes many-
cut; flowers often double or proliferous from the centre.

*Acrid crowfoot.*  
Leaves downy or nearly bald, palmately parted; lobes deeply toothed, acute; upper lobes linear; stem upright, many-flowered, slightly downy; *peduncles* cylindrical; *calyx* villous; *cáriopsides* terminated by a nearly straight *mucro*.

- *Ranunculus pratensis erectus acris vulgaris*, *Park.* 329.  

Upright meadow crowfoot.

Fields and pastures; perennial; May to July.  
*Stem* 2 feet high, branched above; hairs pressed to the stem; leaves spotless, sometimes with a black spot in the middle; flowers often double.

7. *Ranunculus sceleratus*.  
*Wicked crowfoot.*  
Leaves bald; root-leaves petioled, 3-parted; lobes 3-lobed, slightly and bluntly cut; uppermost leaves three-
parted, lobes oblong, linear, not cut; *floral-leaves* oblong; *calyx* bald; *cáriopsides* very small, forming an oblong spike.

- *Ranunculus palustris Sardonius bevis*, *Park.* 1215.  

Round-leaved water crowfoot. Celery-leaved crowfoot.

Watery places; annual; June to August.  
Herb pale green; stem thick, juicy; flowers small; petals scarcely longer than the *calyx*; *stamens* 8 to 12; *cáriopsides* very numerous, smooth, deciduous.—Herb corrosive, ulcerating the places to which it is applied.

8. *minimus*. Stem very short; root-leaves 3-cut; fruit ovate.

9. *submersus*. Leaves all under water, translucid, membranaceous; lobes long.

8. *Ranunculus auricomus*.  
*Golden-haired crowfoot.*  
Leaves bald; root-leaves petioled, heartshape, generally 3-parted or 3-lobed; stem-leaves parted into linear lobes, sometimes slightly toothed; *calyx* downy, shorter than the petals.
Ranunculus nemorosus dulcis, secundus Tragi, Raiti Syn. 248; Park. 326.
Ranunculus auricomus, Ger. em. 954, 7; Lin. S. P. 775.
Ranunculus polymorphus, Attioni Ped. 1449.
Ranunculus mitis, Gilibert in Ulst. Del. 2, 420.
Ranunculus variifolius, Salisb. Prod. 1, 373.
Sweet wild crowfoot. Golden locks.

Damp fields and shady places; perennial; April to July.
Stem 2 feet high, branched; sepals coloured, edge sometimes dilated; petals sometimes 0.—Herb mild.

c. Flowers yellow; leaves toothed, or not cut; root fibrous.

Leaves linear, not in the least cut, bald; stem creeping, emitting a root at each joint.
Ranunculus reptans, Lin. S. P. 773.

Sides of Alpine lakes; perennial; June to August.
Stem threadlike, creeping; leaves nearly threadlike; flowers solitary, small, yellow.

Leaves bald, linear, lanceolate, slightly cut; lower leaves petioled; stem lying down, many, slightly rooting at bottom; peduncles opposite to the leaves; cariopsides smooth.

Ranunculus flammus minor, Raiti Syn. 250, 7; Ger. em. 961, 2.
Ranunculus flammus minor, sive augustifolius, Park. 1214.
Ranunculus Flammula, Lin. S. P. 772.
Small spear wort. Bane wort.

Bogs and meadows; perennial; July to September.
Stem 2 feet high; leaves bald, slender; flowers rich, shining yellow.—Herb acrid, poisonous to sheep; the distilled water is emetic, acting instantly.

β. serratus. Leaves nearly lanceolate, serrated.
Ranunculus flammus serratus, Ger. em. 962, 3.

γ. ovatus. Leaves mostly ovate, petioled.
Ranunculus Flammula, Poirret Dict. 6, 98.
Ranunculus ovatus, Persoon Ench. 2, 102.

Leaves lanceolate, slightly serratate, sessile, nearly embracing the stem; stem upright, bald.
Ranunculus flammus major, Run. Syn. 250, 8; Ger. em. 961, 1.
Ranunculus pulestris flammus major, Park. 1215.
Ranunculus lingua, Lin. S. P. 773.
Ranunculus longifolius, Lamarck Fl. Fr. 3, 189.

Great spear wort.

Ditches; perennial; July.

Stem, leaves, and flowers, larger than in R. flammus; leaves not cut or serrulated; bald, or slightly hairy; hairs pressed to the leaves.

d. Flowers yellow; leaves not in the least cut; roots bundled.


Leaves lanceolate or linear, not cut; stem upright, quite bald, fibrous at the collar; nectariferous-scale tubular; root in bundles.

Ranunculus gramineus Lobellii, Ger. em. 954, 9, is double.
Ranunculus gramineus, Lin. S. P. 773.
Ranunculus graminitiolius, Salisb. Prod. 372.

Fields; perennial; May and June.

Root tuberous, cylindrical, radiatedly fibrous at top; leaves very smooth, glaucous, rather stiff; sepals smooth, spread; flowers often double.

e. Flowers white; leaves lobate, multifid, or toothed; cariopsides smooth.


Leaves orbicular, 3-lobed; lobes cut, crenate, rather blunt; stem mostly 1-flowered; calyx bald; petals 5, reverse heartshape, or 3-lobed.

Ranunculus montanus flore minore, Ger. em. 964, 3.
Ranunculus alpestris, Lin. S. P. 772.

Alps; perennial; May and June.

Leaves smooth, bald; root-leaves orbicular, round, 3-cut or parted; stem-leaves linear, or cut into 3 linear lobes; scape 4 inches high, 1-flowered; petals entirely white.

X. 466. BATRACHIUM. De Cand. Water-crowfoot.

Calyx 5-sepaed; sepals deciduous, not produced at bottom; petals 5 or 10, white, base yellow, with a nectariferous hole: stamens and ovaries many; cariopsides ovate, compressed, not armed, transversely wrinkled. — Plants aquatic; roots fibrous; leaves quite bald; those out of water toothed, slightly lobed; leaves in water capillary, many-cut; peduncles 1-flowered, opposite to the leaves.

Stem creeping; leaves nearly kidney-shaped, 3 or 5-lobed; lobes broad, not cut, very blunt; petals oblong, scarcely longer than the calyx; stamens 5 to 12; cariopsides bald.

*Ranunculus aquatilis* hederaceus albus, *Raii* Syn. 249, 2.
*Ranunculus hederaceus* folio aquaticus, Park. 1216.
*Ranunculus hederaceolus*, *Salisb.* Prod. 373.

Inundated places and springs; perennial; May to Aug.

Stems trailing or swimming, rooting, branched, divaricating; leaves longly petioled, rather fleshy, smooth; flowers small, white.


Stem floating; leaves under water, many-cut, threadlike, out of water 3-parted; lobes wedgeshaped, toothed at the tip; petals oblong, rather sharp, as long as the calyx; cariopsides bald.

*Ranunculus tripartitus*, *micranthus*, *De Cand.* Syst. Nat. 1, 234.

Ditches and springs; perennial; May and June.

Flower and cariopsides similar to those of B. hederaceum; stem, leaves, and habit, similar to B. heterophyllum.


Stem floating; leaves under water many-cut, threadlike; out of water 3-parted, lobes wedgeshaped, toothed at the tip; petals reverse ovate, obtuse, longer than the calyx; cariopsides smooth.

*Ranunculus tripartitus* obtusiflorus, *De Cand.* Syst. Nat. 1, 234.

Ditches and inundated places; perennial; May, June.

Leaves under water very few, sometimes 0.


Stem floating; leaves under water many-cut, threadlike; out of water 3-parted, lobes wedgeshaped, toothed at the tip; petals reverse ovate, larger than the calyx; cariopsides bristled; bristles stiff.

*Ranunculus aquatilis*, *Raii* Syn. 243, 9; *Ger. em.* 829, 2; *Lin.* S. P. 781.
*Ranunculus aquaticus hepatica facie*, Park. 1216.
*Ranunculus capillaris*, *Gat.* Fl. Mont. 102.
*Ranunculus heterophyllum*, *Hoffm.* Germ. 197.
*Ranunculus diversifolius*, *Schrank.* Fl. Bav. 103.

Water crowfoot.

Ditches and ponds; perennial; May and June.
Leaves above the water 3-parted, not peltate; stamens 12 to 24.—Herb troublesome in ponds; is not acrid, but will feed and even fatten cattle.

β. peltatum. Leaves above the water orbicular, 3-lobed, peltate.

Ranunculus peltatus, Manch Meth. 214.

5. Batrachium pantothrix. Fine-trimmed water-crowfoot. Stem floating; leaves many-cut, hairlike, outline orbicular, segments divergent, thin; petals reverse ovate, larger than the calyx; cariopsides bald.

Ranunculus aquatilis omnino tenuifolius, Rall Syn. 249, 4. Millefolium, sive Maratriphyllon, flore et semine ranunculi aquatici, hepaticae facie, Ger. em. 827, 2.

Ranunculus trichophyllus, Chaix in Vill. Dauph. 1, 335.
Ranunculus divaricatus, Manch Meth. 214.
Ranunculus capillaceus, Thuil. Par. ed. 2, 1, 278.
Ranunculus pantothrix, Brotero Fl. Lus. 2, 375.
Ranunculus pectinatus, Dubois Meth. Ort. 454.
Ranunculus aquatilis β, Smith Fl.Brit. 596.

Ponds and ditches; perennial; May and June. Herb mild; used for feeding cattle.

6. Batrachium caespitosum. Tufted water-crowfoot. Stem floating; leaves many-cut, hairlike, outline nearly orbicular, segments diverging, stiff; petioles slightly sheathing, eared; petals reverse ovate, larger than the calyx; cariopsides bald.

Ranunculus caespitosus, Thuill. Par. ed. 2, 1, 279.
Ranunculus pumilus, Poiret Dict. 6, 133.
Ranunculus circinatus, Sibthorp Fl. Ox. 175.
Ranunculus aquaticus γ, Smith Fl. Brit. 596.

Inundated places; perennial; May and June. Herb mild.

7. Batrachium fluviatile. River water-crowfoot. Stem floating; leaves many-cut, hairlike; segments long, parallel; petals reverse ovate, larger than the calyx; cariopsides bald.
Ranunculus q. Millefolium maratriphylum fluitans, ranunculus sive polyanthemo affinum J. Bauhini, Raiti Syn. 250, 6.
Ranunculus fluitans, Fl. Dan. 375.
Ranunculus peucedanifolius, Allioni Ped. 1469.
Ranunculus peucedanoides, Desfont. Fl. Atl. 1, 444.
Ranunculus fluitatilis, Willdenow S. P. 2, 1333.
Ranunculus aquatilis & Smith Fl. Brit. 596.
Ranunculus panthothrix peucedanifolius, Bocand. Syst. Nat. 1, 236.

Rivers and running waters; perennial; May and June.
Segments of the leaves very long.—Herb mild, like the preceding.

XI. 467. MYOSURUS. Dodonæus. Mouse-tail.
Calyx 5-sepaled; sepales produced beyond the insertion; petals 5, claws threadshape, tubular; stamens 5 to 20; ovaries many; cariopsides many, 3-sided, pointed, with a straight style, very crowded, forming a very long spike.—Plants herbaceous; root fibrous, annual; caudex simple, upright, tufted; leaves linear, not cut; scape 1-flowered, as long as the leaves, thickened.

Myosurus Europæae. European mouse-tail.

Myosuros, Raiti Syn. 251.
Cauda muris, Ger. em. 426, 4.
Holostemum Loniceri, Cauda muris vocatum, Park 500.
Myosurus minimus, Lin. S. P. 407.

Gravelly fields; annual; May.
Scapes 3 to 6 from the same root; leaves sometimes slightly hairy; flowers pale yellow; petals rarely anther-like.

D. ANEMONEÆ. Æstivation of the calyx and corolla imbricate; petals flat, or 0; cariopsides often tailed.—Plants herbaceous; roots grumose or bundled; leaves radical or alternate.

XII. 468. ADONIS. Matthioli. Maithes.
Calyx 5-sepaled, closed together; sepales sometimes enlarged at the bottom; petals 5 to 15, claw naked; stamens many, inserted at the bottom of the gynophore; ovaries many; cariopsides many, aggregated in an ovate or cylindical spike, 1-seeded, bald, terminated by a straight, conical style.—Plants herbaceous, caulescent; root annual, fusiform; stem-leaves pinnately parted; lobes many-cut; segments linear; involucrum 0; flowers small, red or yellow.
1. Adonis autumnalis.  
_Calyx_ bald; _petals_ concave, connivent, scarcely larger than the _calyx_; _cariopsides_ nearly reticulately collected into an ovate head; _stem_ branched.

_Flos Adonis_, _Raii Syn. 251_, _Park. Par. 292_.
_Flos Adonis flore rubro_, _Ger. em. 381_.
Adonis autumnalis, _Lin. S. P. 771_.  
Adonis flower. Red _maithes_. Red _camomile_. Rose-a-_rubys_. Red _morocco_.

Corn-fields; annual; May and October.  
Flowers blood-red.

2. Adonis aestivalis.  
_Calyx_ hispid at bottom; _petals_ flat, oblong, obtuse, twice as long as the _calyx_; _cariopsides_ reticulately disposed in a long loose spike; _stem_ scarcely branched.

Adonis aestivalis, _Lin. S. P. 772_.
Adonis miniata, _Jacquin Austr. 351_.

Corn-fields; annual; May to October.  
_Calyx_ long; _flowers_ peduncled, small, dark red; _petals_ oblong, blunt; _cariopsides_ distant on the spike.

XIII. 469. ANEMONANTHÆA. De Cand. Anemone.  
_Involucrum_ 3-leaved, distant from the _flower_; _calyx_ 5 to 15-sepaled; _sepales_ petal-like; _petals_ 0; _stamens_ many, indefinite; _cariopsides_ many, ovate, with a hooked more or less hirsute _style_.—Plants stemless; _leaves_ radical; _peduncles_ solitary or in pairs, leafless, 1-flowered.

a. _Involucrum-leaflets_ petioled; _rhizoma_ ovate, tuberose; _sepales_ 10 to 15.

1. Anemoneanthes Apena.  
_Apennine anemone_.  
_Leaves_ 3-ternately-cut; _segments_ lanceolate, deeply toothed, teeth acute; _petiole_ branched; _involucral leaflets_ petioled, 3-cut, deeply toothed; _sepales_ 12 or 14, oblong, blunt.  

Anemone q. _Ranunculus nemorosus_, _flore purpureo caeruleo_ Parkinson (325), _Dillen in Raii Syn. 259, 2_.  
Anemone geraniifolia, _Ger. em. 377_, 8.  
Anemone Apena, _Lin. S. P. 762_.  
_Geranium-leaved anemone_. _Stork's-bill wind-flower_.

Woods; perennial; April.  
_Root_ black; _leaves_ longly petioled; _scape_ bald; _involucrum_ like the _leaves_; _pedicelli_ villous; _flowers_ upright, light blue; _sepales_ 4 times as long as the _stamens_.

2. Anemone aestivalis.  
_Summer _maithes_.  
_Calyx_ hispid at bottom; _petals_ flat, oblong, obtuse, twice as long as the _calyx_; _cariopsides_ reticulately disposed in a long loose spike; _stem_ scarcely branched.

Adonis aestivalis, _Lin. S. P. 772_.
Adonis miniata, _Jacquin Austr. 351_.

Corn-fields; annual; May to October.  
_Calyx_ long; _flowers_ peduncled, small, dark red; _petals_ oblong, blunt; _cariopsides_ distant on the spike.

XIII. 469. ANEMONANTHÆA. De Cand. Anemone.  
_Involucrum_ 3-leaved, distant from the _flower_; _calyx_ 5 to 15-sepaled; _sepales_ petal-like; _petals_ 0; _stamens_ many, indefinite; _cariopsides_ many, ovate, with a hooked more or less hirsute _style_.—Plants stemless; _leaves_ radical; _peduncles_ solitary or in pairs, leafless, 1-flowered.

a. _Involucrum-leaflets_ petioled; _rhizoma_ ovate, tuberose; _sepales_ 10 to 15.

1. Anemoneanthes Apena.  
_Apennine anemone_.  
_Leaves_ 3-ternately-cut; _segments_ lanceolate, deeply toothed, teeth acute; _petiole_ branched; _involucral leaflets_ petioled, 3-cut, deeply toothed; _sepales_ 12 or 14, oblong, blunt.  

Anemone q. _Ranunculus nemorosus_, _flore purpureo caeruleo_ Parkinson (325), _Dillen in Raii Syn. 259, 2_.  
Anemone geraniifolia, _Ger. em. 377_, 8.  
Anemone Apena, _Lin. S. P. 762_.  
_Geranium-leaved anemone_. _Stork's-bill wind-flower_.

Woods; perennial; April.  
_Root_ black; _leaves_ longly petioled; _scape_ bald; _involucrum_ like the _leaves_; _pedicelli_ villous; _flowers_ upright, light blue; _sepales_ 4 times as long as the _stamens_.

2. Anemone aestivalis.  
_Summer _maithes_.  
_Calyx_ hispid at bottom; _petals_ flat, oblong, obtuse, twice as long as the _calyx_; _cariopsides_ reticulately disposed in a long loose spike; _stem_ scarcely branched.

Adonis aestivalis, _Lin. S. P. 772_.
Adonis miniata, _Jacquin Austr. 351_.

Corn-fields; annual; May to October.  
_Calyx_ long; _flowers_ peduncled, small, dark red; _petals_ oblong, blunt; _cariopsides_ distant on the spike.

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_Calyx_ long; _flowers_ peduncled, small, dark red; _petals_ oblong, blunt; _cariopsides_ distant on the spike.
b. Involucrum-leaflets petioled; rhizoma cylindrical, long; sepales 5 or 6.

2. Anemonanthea nemorosa.  
Wood anemone.
Leaves ternately cut; segments 3-cut, deeply toothed, lanceolate, sharp; involucral leaflets petiolets, similar to the leaves; sepales 6, elliptic.

3. Anemonanthea ramunculoides.  
Ramunculuslike anemone.
Root-leaves 3 to 5-cut; segments slightly 3-cut, deeply toothed; involucral leaflets slightly petioled, 3-parted, deeply toothed; sepales 5 or 6, elliptic.

4. PULSATILLA. Gesner.  
Pasque-flower.
Involucrum 3-leaved, distant from the flower; leaves sessile, palmately parted, lobes linear; sepales 5 or 6; glands (abortive stamens?) pedicelled, between the sepales and stamens; petals 0; stamens many; carpisides many, tailed; tails long, bearded.—Root-leaves finely divided; flowers purple.

Pulsatilla vulgaris.  
Common pasque-flower.
Leaves pinnately cut; segments many-cut; lobes linear; flowers slightly nodding; sepales 6, spreading.

Pl. ex. thal. 85. RANUNCULACEÆ. 469. Anemone. 725
Hilly pastures on chalk; perennial; April and May. 
Color very variable; often double.—Plant acrid.

XV. 471. THALICTRUM. Dioscorides. Meadow-rue.
Flowers dioicous, polygamous, often hermaphrodite; calyx 4 or 5-sepaled; sepals ovate, petaloid, soon falling off; stamens many; ovaries 4 to 15; styles short; carpel oblong; ovary, ovate, streaked lengthways.—Plants perennial; roots yellowish, fibrous; stems annual, fistulous; leaves many-cleft; stipules 0; flowers panicled, yellowish.

Stem not in the least branched, nearly naked, a finger's height; racemes simple, terminal; flowers nodding; leaf-segments bald.
Thalictrum minimum montanum atro-rubens, foliis splendentibus, Raii Syn. 204, 4.
Thalictrum Alpinum, Lin. S. P. 767.
Alpine turf-bogs; perennial; June.
Root creeping; stem bald; leaves 5 or 6, radical, pinnately cut; lobes sessile, 3 or 5-toothed; above shining, beneath pale; flowers 7 or 8; pedicels short, rather distant; stamens 12; ovaries few.

Stem cylindrical, covered with glaucous pollen; flowers loosely panicled, nodding, 4-sepaled; leaf-segments bald, roundish, toothed at the tip, glaucous beneath; carpel sharp at both ends.
Thalictrum minus, Raii Syn. 203, 2; Ger. ex. 1251, 2; Park. 264; Lin. S. P. 769.
Small bastard rhubarb. Fen rue.
Mountainous pastures on chalk; perennial; June, July.
Stem 1 foot high; leaves spreading; segments ovate, nearly round, 3 or 5-toothed at the tip; panicle naked, stiff, very open; carpel 3 to 6.
β. latifolium. Leaflets broad.
Thalictrum montanum minus, foliis latioribus, Raii Syn. 204.

Stem cylindrical, without glaucous pollen; flowers loosely panicled, drooping; leaf-segments bald, glaucous beneath, 3-cut; lobes ovate, slightly mucronate; carpel obliquely rounded.
Thalictrum sive Thalictrum majus, Ger. em. 1251, 1.
Thalictrum majus vulgar, Park. 263.
Thalictrum majus, Murray Syst. Veg. 513.
Great bastard rhubarb. English rhubarb.

Shady mountainous places; perennial; June and July.
Stem 3 feet high; leaves dark green; petioles diverging, spreading; panicle much bent; sepals greenish purple; cariopsides large, bellied on one side, obliquely rounded at bottom.—Root used as rhubarb.

Stem stiff, branched, furrowed; root fibrous; panicle manifold, upright, nearly corymbous; radical-leaf-segments wedge-shaped, 3-cut; stem-leaf-segments oblong, linear.
Thalictrum nigricans, Jacquin Austr. 5, 421.
Thalictrum rugosum, Poiret Dict. 5, 317.
Thalictrum flavum 2, Lightfoot Fl. Scot.

Edges of fields and rivers; perennial; July.
Lobes of the leaves neither all wedgeshape, nor all linear.

5. Thalictrum flavum. Yellow meadow-rue.
Stem upright, branched, furrowed; root fibrous; panicle manifold, upright, nearly corymbous; leaf-segments wedge-shape, 3-cut, acute.
Thalictrum seu Thalictrum majus, Rait Synt. 203, 1; not of Gerarde.
Thalictrum flavum a, Lin. S. P. 770.
Thalictrum flavum, Miller Diet.

Damp fields and sides of rivers; perennial; July.
Stem 3 feet high; panicle slightly leafed; flowers upright; sepals 4; stamens 2½; ovaries 8 to 10; stigmata thick, heartshape, white.—Root astringent yet purgative.

E. CLEMATIDÆ. Estivation of the calyx valvate, or induplicate; petals flat, or 0; anthers linear, fastened outside the filaments; cariopsides tailed; tails feathered; seeds pendulous.—Plants climbing, shrubby; leaves opposite.

XVI. 472. CLEMATIS. Dioscorides. Travellers-joy.

Involucrum under the flower 0; sepals 4 to 8; estivation valvate, or induplicate; petals 0; cariopsides many, ending in a long feathered beard; cotyledons distant.

Stem climbing; leaves pinnately cut; segments ovate, lanceolate, deeply toothed, acuminated; truncated heart-shape at the base; peduncles rather shorter than the leaf.
*


*Traveller's joy.*

Hedges; shrubby; July.

*Stem* contorted; *leaves* rather bald; *panicle* axillary, forked, leafy; *flowers* white, odoriferous.—*Herb in infusion used in dropsy:* is diuretic, astringent, and even corrosive.
ADDITIONS AND CORRECTIONS.

Page 10 & 11. Remove atherium regium, and A. dentatum, into the genus cyclopteris, changing the gender of the adjectives.


Flowers spathaceous, on a spadix, anthers and pistills separate. Spadix 2-flowered; spathe hoodliked, 1-leafed; perigonium 0; stamens 2 or more; anthers turned outwards; ovarium free, solitary, 1 or many-seeded; ovules upright; style 0; stigma 1; pericarp not opening, utricular or capsular; corculum axile; perisperm fleshy; radicle below.—Plants herbaceous, floating, stemless; roots from the lower surface of the leaves, ending in a conical appendage; leaves simple or rosaceous, proliferous from the margin, sheathing at the base; flowers lateral, in a marginal slit.

28.* LEMNA. Theophrastus. Duck-meat.

Spathe pitchershape, membranaceous, 2-flowered; Male above; stamens 2; anthers 2-celled; cells roundish; Fem. below; ovary roundish, compressed; style short, thick; stigma flat, expanded; utricle oblong, compressed, nicked, 1 to 5-seeded.—Leaves proliferous.


Roots solitary; leaves elliptical, lanceolate, narrow at bottom, sinuated at the tip.


On ditches and stagnant waters; annual; June and July.
Roots numerous, clustered; leaves reverse-ovate, orbicular, sessile, above flat, beneath convex.
*Lenticula palustris major,* Dillen. in Rail Syn. 129, 2.
*Lemna polyrhiza,* Lin. S. P. 1377.
On ditches; annual; July and August.
*Leaves* large, fleshy, purple underneath.

Roots solitary; leaves reverse-ovate, above flat, beneath hemispherical, reticulated.
*Lemna gibba,* Lin. S. P. 1377.
*Lemna minor,* Hudson Fl. Angl. 399.
On ditches and stagnant waters; annual; June.

P. 70. 2. *Cyperus Haworthii.* Haworth’s cyperus.
*Culms* 3-sided, in tufts, lying down; umbels slightly compound; involucrum 2-leaved; spikes linear, crowded; *bracteae* unequal, not half as long as the culm.
*Cyperus fuscus,* Hooker Flor. Lond. fig. too tall and upright.
*Culm* about 3 inches high, in close tufts.
In damp fields; annual; July and August.

P. 83. After *Gastridium.* 94, add
*Spathellules* 2, lower with one awn at the base, apex 2-cut; upper toothed .......... *Agrostis.* 89.

P. 84. After *Arundo.* 71, add
*Lower spatullelle* bristled; glume long;
*male flowers* 3-stamened; *hermaph.* 2-stamened .......... *Hierochloa.* 78.*

And for *Monilia.* 76. read Enodium. 76.

P. 108. 15.* *Poa stricita.* Stiff meadow-grass.
*Panicle* branched; *locustae* 3-flowered, ovate; *spathelles* lanceolate, 3-ribbed, nearly equal, pointed, keeled; *spathellules* 5-ribbed, truncated at the tip, villous at bottom.
*Poa stricta,* Don in Wern. Tr.
In pastures.


*Panicle* small, rather racemelike; pedicell very short, bald; *locustae* 2-flowered; *spathelles* lanceolate, pointed, equal, 3-ribbed, bent inwards; *spathellules* lanceolate, rather pointed.
*Poa leptostachya,* Don in Wern. Tr.
On banks of rivers.

P. 110. Change the name of the genus *monilia* to *enodium,* there being a genus of nematomyceae called by the former name, and add
ADDITIONS AND CORRECTIONS.

3. alpinum. Panicle pale green, slender; leaves long; spatheles 1-flowered.

P. 135.

XXXVII.* 78.* HIEROCHLOA. Gmel. Sacred-grass.

Glume 2-flowered; spatheles membranaceous, nearly as long as the glumelles; spatheletes 2; lower paperlike, mucronate; upper 2-cut, toothed; side flowers male, 3-stamened; middle flower hermaphrodite, 2-stamened; lodicule nearly orbicular; ovary beaked; style nearly simple; stigma bottlebrushlike; caryopsis free, not furrowed.—Panicle branched.

Hierochloa borealis. Northern sacred-grass.

Panicle nearly facing one way; peduncles bald; outer spathelets fringed on the edge; awns 0.

Avena odorata, *De Candolle Fl. Gall.* 1565.
Holcus borealis, *Schrader*.
Savastana hirta, *Schrank Fl. Bat.* 1, 337.

In mountain valleys; perennial; July.

Leaves linear, acuminate; panicle brownish; hermaphrodite flowret smaller than the males; locustae ovate; spatheles ovate, pointed, rather serrated at the point.


Leaves awlshape, rounded, jointed; panicle terminal, upright, 2 or 3-forked; branches seldom divided; heads many-flowered, lateral and terminal, nearly sessile; sepales lanceolate, pointed; capsule elliptical, ovate, rather blunt, slightly longer than the sepales.

Juncus polycephalus, *Donn*.

On alpine heights.

Heads few but large, 5 to 8-flowered.

P. 176. Phalangium serotinum.

Lydia alpina, *R. A. Salisbury in Hort. Trans*.

P. 185. Asparageæ, not asparagi.

Peduncles jointed in the middle.

P. 189. Tamaceæ.

Perisperm cartilaginous, hard; corculum cylindrical, opposite to the byle.


Found in Darent Wood, Kent, Aug. 18, 1819, by J. E. Gray.

4
P. 223. Plantæ exogenæ monochlamydeæ, C. at the end.

_Berry; stamens 3 or 9 ........ EMPETRIDEÆ._ 7.*

P. 240. 51.* Salix Borreri.  
_Borrer's willow._

_Leaves_ oblong, suddenly narrower at each end, beneath bald, glaucous; serratures often wavy; _ovary_ pedicelled, awlshape, bald; _style_ very long; _stigma_ 2-cut.

Salix phylicifolia, _Wahl. Lapp._ 270.

On mountains; shrub; May and June.

_Stem_ bushy; _leaves_ much thinner than those of the last species; _rachis_ downy.

P. 249. Fam. VII.* 7.* EMPETRIDEÆ.

_Flowers_ unisexual or dioicous, rarely hermaphrodite; _calyx_ 3-parted, persistent.—_Male._ _Petals_ 3, withering; _stamens_ 3; _filaments_ long; _anthers_ 2-parted.—_Female._ _Ovary_ above, depressed; _style_ 0 or very short; _stigma_ 9, turned over, spreading; _berry_ spherical, 1-celled; _cells_ 2 or 3-seeded; _seeds_ bony; _perisperm_ fleshy; _corculum_ axile; _radicle_ inferior.

15.* EMPETRUM.  Remove from p. 401.

P. 254. Xanthium is referred by many to the _compositæ._
P. 257, l. 1. For _capsules_ read _regma._

P. 269. 2.* _Persicaria interrupta._  _Interrupted peachwort._

_Stem_ nearly upright; _leaves_ lanceolate, wavy, spotless; _stipules_ fringed; _spikes_ slender, loose, interrupted, nearly upright; _style_ appearing 2-cut.

On watery places, near London.  A. H. Haworth.

P. 273. 1.* _Lapathum alpinum._  _Alpine dock._

_Leaves_ ovate, heartshape, blunt, wrinkled; _flowers_ polygamous; _sepals_ 1 or 2-seedbearing.

_Rumex alpinus, De Cand. Fl. Gall._ 2220.

Mountains, near cowyards; perennial

P. 273, line the last. Add _De Cand. Fl. Gall._ 2223.

P. 277. _Oxyria rotundifolia._


P. 295, last line. For _spread,_ read _scattered._

P. 296. _Limonium commune._

_Statice Limonium, Lin. S. P._ 394.

P. 297. _Primulaceæ,_ End of character; for spreading read scattered; and throughout the synopsis of the genera, for _calyx_ 4, 5, or 7-sepaled read _calyx_ 4, 5, or 7-parted; also add
Calyx 5-parted; cor. salvershape; stam. 5 fert. 5 abortive; caps. 5-valved ...... Samolus. 63.*
Calyx 5-parted; corolla 0; stamens 5; capsule 5-valved ............... Glaux. 63.**

P. 300. X.* 63.* SAMOLUS. Pliny. Water-pimpernel. Calyx partly adherent, 5-parted, persistent; corolla old-fashioned-salvershape, 5-lobed; scales (abortive stamens?) 5 from the divisions of the corolla, threadlike, bent inwards; stamens 5, in the bottom of the corolla; ovary partly inferior; capsule ovate, 1-celled; valves 5, short; placentalium central, free; seeds numerous; radicle turned to the hile.—Leaves uncut, alternate; flowers terminal, racemose, white.


Samolus Valerandi, Rail Syn. 283; Lin. S. P. 243.
Anagallis aquatica rotundifolia, Ger. em. 690.
Anagallis aquatica tertia Lobellii folio subrotundo non crenato, Park. 1237.

Brook-weed.

In marshes; perennial; July.

X.** 63.** GLAUX. Dioscorides. Glaux. Calyx bellshaped, coloured, 5-lobed, lobes turned over; corolla 0; stamens 5; capsule globular, girt by the calyx, 1-celled, 5-valved, 5-seeded; placental globular.

Glaux maritima. Sea-glaux.

Glaux maritima, Rail Syn. 285; Lin. S. P. 301.
Glaux maritima minor, Park. 1283.
Glaux exigua maritima, Ger. em. 562.
Polygonum maritimum, longius radicatum nostras, Rail Syn. 161?
Black salt-wort. Sea milk-wort.

In salt marshes; perennial; June and July. Stem 5 inches long, lying down; leaves ovate, fleshy; flowers sessile, solitary, axillary, rose-red.

P. 301. Use winter-herb as the English name of trientalis.

P. 307. 13.* Veronica hirsuta. Shaggy speedwell. Leaves ovate, lanceolate, pointed, slightly serrated with a few scattered hairs; stem lying down, bald at bottom; flowers spiked; capsule reverse-heartshape, not notched at the end.

Veronica hirsuta, Hopkins Fl. Glott. 9.
Veronica setigera, Don in Wern. Tr.

On dry heaths; perennial; June.
Stem 3 inches long; racemes long, many-flowered; corolla bluer and segments narrower in V. officinalis.

13.** Veronica Allionii. Alliony's speedwell.
Leaves ovate, slightly serrated, stiff, bald; stem lying down, bald; flowers closely spiked.

Veronica Allionii, Villars Delph. 8.

On mountains; perennial; June and July.

Flowers of a brilliant blue.

P. 309. 18.* Veronica filiformis. Threadlike speedwell.
Flowers solitary; leaves heartshape, crenated, shorter than the peduncles; bracteae lanceolate; peduncles thread-like, very long.

Veronica filiformis, Smith Tr. Lin. Soc. 1, 195.

On banks, on the road to Kew.

P. 378. 5.* Galeop. micrantha. Smallflowered hedge-nettle.
Stem hispid; internodes thicker above; leaves oval, serrated; whirls contiguous; tube of the corolla shorter than the calyx; galea nearly straight.

On road-sides; annual; July. J. E. Gray.

Stem hairs horizontal; corolla white; calyx teeth rather short.

P. 401. Ericinæ B. Anthers open by 2 slits, not foramens.

P. 401. Chamaecistus.
Anthers open lengthways; style upright, enclosed.

P. 401. Empetrum is to be removed to p. 248.

P. 413. Compositæ.
A. CicHORACEÆ. Flowers semiflosculous, hermaphrodite.
B. CynarocephaleÆ. Flowers flosculous; clinanthus fleshy; stigma articulated to the tip of the style.
C. CorymbiferaÆ. Flowers radiated or flosculous; clinanthus not fleshy; stigma not articulated to the style.

Leaves sessile, lancelolate, wavy, unequally spinous; beneath downy; flowers mostly solitary.

Cirsium Anglicum, Raii Syn. 193, 1.
Cirsium montanum Anglicum, Ger. em. 1183.
Cirsium Anglicum primum, Park 961.
Carduus pratensis, Hudson Angl. 353.
Carduus heterophyllus, Rethan Cant. 306.
Peckham thistle.

In moist fields; perennial; June.
Root creeping; stem 18 inches high; root-leaves 3 or 4, petioled; stem-leaves 2 or 3, small, distant, heartshape, embracing the stem; flower terminal, drooping, afterwards upright, pale purple.

P. 445, l. 13. For helianthemum read helianthus.

P. 462 & 463. For fleabane read fleawort, as the English name of pulicaria.

P. 491. Ilex is to be removed to celastrinae, p. 620.

P. 493. Umbelliferae. Sprengler’s arrangement.
2. Hydrocotylinae. Umbels imperfect; involucrums scarcely any or 0; leaves nearly simple, running into the petiole. Hydrocotyle.
4. Pimpinelleæ. Umbels perfect; involucrum universal 0; partial sometimes 0; fruit ovate, solid, 5-ribbed; branches wandlike; leaves compound, or doubly compound. Pimpinella, Sium, Ægopodium, Phellandrum, Carui, Silaus, Ænanthe, Apium, Petroselinum, Meum, Foeniculum.
5. Smyrnæ. Involucrums mostly 0; fruit barked and solid, or compressed and utriculated. Smyrnium, Crithmum, Coriandrum, Cicuta, Æthusa, Pseudospernum, Tordylium, Thysselinum.
6. Caucaľinae. Umbels various; involucrum whole or many-leaved; fruit armed, shaggy. Turgenia, Caucaľis, Daucus, Torilis, Libanotis.
7. Scandicinæ. Umbels various; involucrums 0; fruit pyramidal, beaked. Scandix, Myrrhis, Chœrophyllum, Cerefolium, Anthriscus.

P. 504. 3. Chœrophyll. aromaticum. Scented cow-parsley.

Stem slightly downy at bottom, bald at top; leaves binate; leaflets ovate, oblong, rather pointed, serrated, undivided.

Chœrophyllum aromaticum, Jacq. Austr. 140; Don Scot. Pl. 7.

On road-sides; perennial; June.

Stem 3 feet high; odour heavy but aromatic.
ADDITIONS AND CORRECTIONS.

P. 545, l. 3 from bottom. For adenaria marina read adenarium marinum.—And use glandwort for the English name, instead of sandwort.

P. 554. Ceratophyllæ.
Stamens twice as many as the lobes of the calyx; seed upright, not pendulous.

P. 589. Spiræa odorata.
Spiræa Ulmaria, Lin. S. P. 702.

P. 598. Trifolium glomeratum.
Trifolium glomeratum, Lin. S. P. 1084.

P. 609. Leguminosæ C.
Style pubescent beneath the stigma.

P. 613. 1.* Orobus niger. Black peaseling.
Leaves pinnate, 4 to 6-paired; leaflets ovate or elliptical; stem branched, angular, upright.
Orobus niger, Lin. S. P. 1028.
In woods; perennial.

P. 619. Celastrinæ.
Styles 4; muculanum 1-celled;
pyreæ 4, streaked, 1-seeded .............. ILEX. 382.*

P. 620. III. 382.* ILEX. Remove from p. 491.

P. 630. Geraniæ C.
Capsule 5-celled, not 5.

P. 650. Change the name of the genus Elatine into Willisellas; there being a genus of scrofularineæ bearing the former name in p. 321.

P. 661. Cistinæ.
Corculum surrounded by a slightly fleshy perisperm; radicle opposite to the hile.

Remove brassica orientalis, from p. 685, hither.

P. 685. Brassica orientalis, remove to erysimum, p 680.

P. 700. Fumaria capreolata.
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