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ters of convenient length; and the narrative enters sufficiently into detail to excite interest, and whet the appetite for farther information. Some valuable suggestions on the necessity of a preliminary acquaintance with the outlines of the ancient geography of Greece, and a tabular view of that subject to aid in carrying out these suggestions, are prefixed to the history; and appended is a useful chronological table, in which the leading events of sacred history are marked in synchronistic order."

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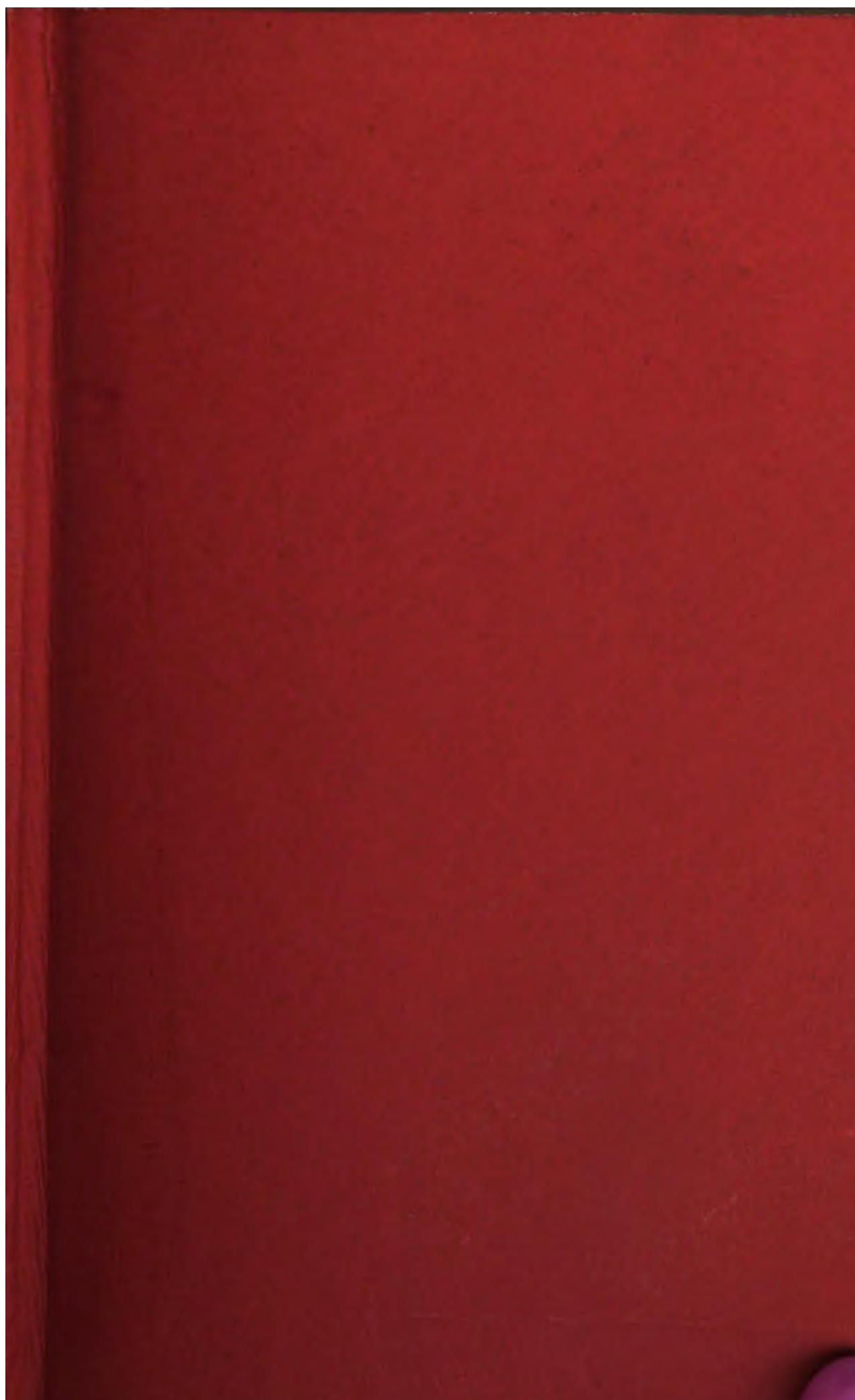
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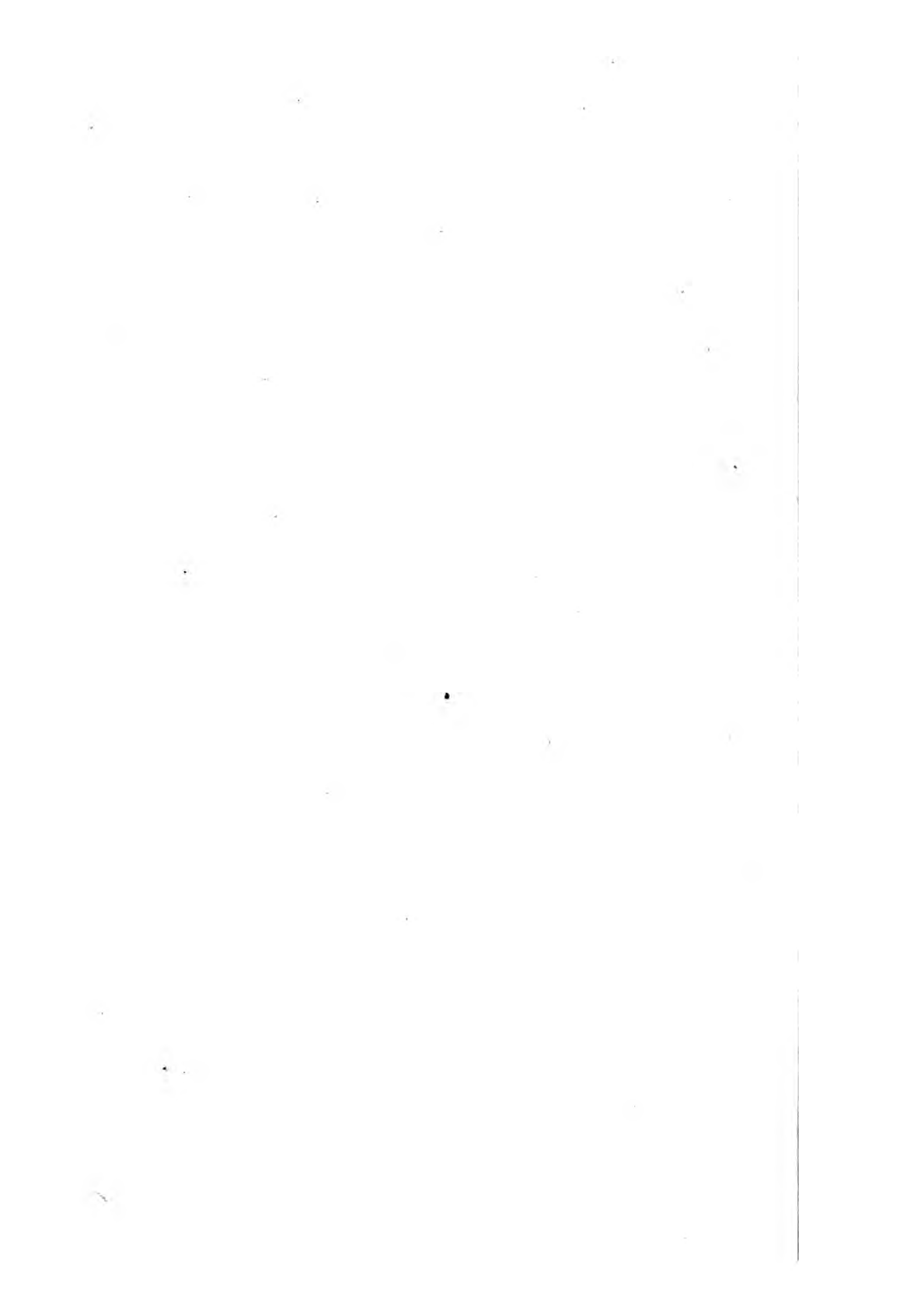
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A
SYNOPSIS
OF
THE BRITISH FLORA

ARRANGED ACCORDING TO

The Natural Orders.

LONDON
PRINTED BY SPOTTISWOODE AND CO.
NEW-STREET SQUARE.

A
SYNOPSIS
OF
THE BRITISH FLORA

ARRANGED ACCORDING TO

The Natural Orders.

CONTAINING

VASCULARES OR FLOWERING PLANTS.

BY

JOHN LINDLEY, PH.D. F.R.S.

&c. &c.

PROFESSOR OF BOTANY IN UNIVERSITY COLLEGE, LONDON.

THIRD EDITION

WITH NUMEROUS ADDITIONS, CORRECTIONS, AND IMPROVEMENTS.

LONDON

LONGMAN, BROWN, GREEN, LONGMANS, & ROBERTS.

1859

191. c. 95



TO

SIR JOHN SAUNDERS SEBRIGHT, BART.

OF BEECHWOOD, IN HERTFORDSHIRE

This Work

IS VERY RESPECTFULLY INSCRIBED

BY

THE AUTHOR.

PREFACE

THE present work was originally written for the use of the students in the University of London, and was intended as their pocket companion in the class-room or the field. It was therefore contracted as much as was consistent with its intended object ; perhaps too much so : it has, however, been found to possess advantages even in that respect. In the first edition, the analytical tables were prepared at a time when I had no experience in teaching by their aid. The use of them for several years has, however, led me to discover many sources of error, and at the same time the mode of correcting it ; so that these tables will be found far superior to those in the first edition. The genus *Salix* has been relieved from the burthen of an accumulation of false species, by adopting the arrangement of Koch ; *Rubus* has been reconsidered ; *Labiatae* have been recast in conformity with Mr. Bentham's views ; such new species have been introduced in a Supplement, as have been recently discovered ; and the references to the Supplement of English Botany have been completed ; so that this work is now, in fact, a complete systematic index of the plates of flowering plants in that valuable publication. All the genera to which new species are to be added are marked on the margin with an s, which refers to the Supplement, where their names and characters are given.

It may, perhaps, be a matter of surprise that I should not have rearranged the natural orders, according to the plan employed in my Introduction to the Natural System. This was impracticable, in consequence of the work having been stereotyped; and I do not consider it a matter of the slightest importance. All that is material is, that the natural orders themselves should have permanent limits, which do not fluctuate with changes of opinion concerning general arrangement. The few hundred plants which form the phænogamic Flora of a country have so little bearing upon general principles of classification, that the student need not occupy himself at all with such considerations while using a work like the present.

LONDON: *April* 1841.

A
SYNOPSIS
OF
THE BRITISH FLORA.

B

A

SYNOPSIS

or

THE BRITISH FLORA.

CLASSES.

1. VASCULARES.

Syn. Phanerogamia, or Phænogamia of authors—Cotyledoneæ
Juss.—Embryonatæ *Rich.*—Vasculares *Dec.*

Formed of cellular tissue, woody fibre, and spiral vessels.
Embryo furnished with cotyledons. Epidermis with cuticular
pores. Sexual organs developed.

2. CELLULARES.

Syn. Cryptogamia *Linn.*—Acotyledoneæ *Juss. Dec.*—Exem-
bryonatæ or Arhizæ *Rich.*—Cellulares *Dec.*—Nemea,
Cellularia *Fries.*—Acotyledoneæ and Pseudo-cotyle-
doneæ *Agardh.*

Formed of cellular tissue only, rarely with woody fibre. Em-
bryo destitute of cotyledons. Epidermis without cuticular pores.
Sexual organs none.

CLASS I. VASCULARES.

Substance of the plant composed of cellular tissue, woody fibre,
and spiral vessels. Leaves formed with parenchyma, and veins con-
sisting of woody fibre and spiral vessels. Epidermis with cuticular

pores. Flowers consisting of floral envelopes, stamens, and pistilla. Seeds distinctly attached to a placenta covered with a testa, and containing an embryo with one or more cotyledons; germinating at two fixed points, viz. the plumule and radicle.

SUBCLASSES.

1. DICOTYLEDONES.

Syn. Dicotyledones *Juss.* — Dicotyledoneæ or Exogenæ *Dec.* — Exorhizeæ and Synorhizeæ *Rich.* — Phanerocotyledoneæ or Seminiferæ *Agardh, aph.* 74.

Trunk consisting of bark, wood, and pith, in concentric layers. Leaves with reticulated veins. Cotyledons two or more, opposite; radicle naked.

2. MONOCOTYLEDONES.

Syn. Monocotyledones *Juss.* — Monocotyledoneæ or Endogenæ *Dec.* — Endorhizeæ *Rich.* — Cryptocotyledoneæ or Grani-feræ *Agardh, aph.* 73.

Trunk consisting of a homogeneous substance, with no distinction of bark, wood, and pith. Leaves with parallel veins. Cotyledon one, or, if two, alternate; radicle enclosed in a sheath.

OR

Flowers present	-	-	-	VASCULARES.
Leaves netted	-	-	-	DICOTYLEDONES.
Leaves with parallel veins	-	-	-	MONOCOTYLEDONES.
Flowers absent	-	-	-	CELLULARES.

Subclass I. DICOTYLEDONES.

TRUNK more or less conical, formed of three parts one within the other, viz. the bark, the wood, and the pith, of which the wood is enclosed between the two others; increasing by an annual deposition of new wood and cortical matter between the wood and bark. Leaves always articulated with the stem, with branching reticulated veins, often opposite and divided. Flowers generally with a distinct calyx and a quinary division of the floral envelopes. Embryo with two or more opposite cotyledons, which often become green and leaf-like after germination; radicle naked, i. e. elongating into a root without penetrating any external case.

DIVISIONS.

1. DICHLAMYDEÆ. Calyx and corolla both present; occasionally imbricated and confounded with each other.
2. MONOCHLAMYDEÆ. Calyx only present. Corolla none.
3. ACHLAMYDEÆ. Flowers destitute of calyx and corolla

Division I. DICHLAMYPDEÆ.

ARTIFICIAL ANALYSIS OF THE ORDERS.

§ 1. Polypetalous. (*Petals distinct.*)

STAMENS HYPOGYNOUS.

Carpels more or less distinct; sometimes single, and then having only one placenta.

- Anthers bursting by valves curling backwards - - - 2. BERBERIDÆÆ.
Anthers bursting by longitudinal slits - - - 1. RANUNCULACEÆÆ.

†† *Carpels combined into an undivided ovary, with more placentas than one.*

- § Ovary with the ovules attached to the face of the dis- } 3. NYMPHÆACEÆÆ.
sepiments - - - - - }

- § Ovary with parietal placentæ
Stamens, four long, and two short, or tetradynamous 6. CRUCIFERÆÆ.
Stamens not tetradynamous

- Sepals 2
Corolla regular - - - - - 4. PAPAVERACEÆÆ.
Corolla irregular - - - - - 5. FUMARIACEÆÆ.

- Sepals 4 or 5, never 2
Young leaves rolled spirally downwards - 9. DROSERACEÆÆ.

- Young leaves straight
Anthers with a membranous termin- } 7. VIOLACEÆÆ.
ation - - - - - }

- Anthers without do. do. - - - 8. CISTINEÆÆ.
Sepals very unequal - - -

- Sepals equal
Shrubs, with long hairs at the } 22. TAMARISCINEÆÆ.
end of the seeds - - - }

- Herbs, with hairless seeds - 10. FRANKENIACEÆÆ.

§ Ovary with the placentæ in the axis

- Sepals with their edges parallel (valvate).
Stamens distinct - - - - - 16. TILIACEÆÆ.
Stamens united into a column (monadelphous) 12. MALVACEÆÆ.

Sepals with their edges overlapping or not touching

- Stamens more than 10
Style one, stigma capitate - - - - - 8. CISTINEÆÆ.
Styles several - - - - - 13. HYPERICINEÆÆ.

Stamens about 10 or fewer

- Flowers unsymmetrical †
Flowers regular; stamens distinct - 17. ACERINEÆÆ.
Flowers irregular; stamens combined } 11. POLYGALÆÆÆ.
in a tube - - - - - }

- Flowers irregular; stamens distinct - 20. BALSAMINEÆÆ.

Flowers symmetrical

- Joints of stem tumid
Leaves undivided without stipules 14. CARYOPHYLLÆÆÆ.
Leaves lobed, with stipules - 18. GERANIACEÆÆÆ.

Joints of stem not tumid

- Ovary four-celled - - - - - S. ELATINEÆÆÆ.

Ovary five-celled

- Corolla twisted - - - - - 19. OXALIDÆÆÆ.

- Corolla spreading - - - - - 54. ERICEÆÆÆ.

- Ovary many-celled - - - - - 15. LINEÆÆÆ.

** STAMENS PERIGYNOUS.

† *Carpels more or less distinct, or only one.*

Calyx adhering more or less to the carpels (= ovar. inferior)

- Fruit, a capsule; herbs - - - - - 25. SAXIFRAGEÆÆÆ.
Fruit, an apple or haw; trees or shrubs - - - 33. POMACEÆÆÆ.
Fruit, a berry; parasites on trees - - - 41. LORANTHÆÆÆÆ.

† A flower is symmetrical when the sepals, petals, and stamens are all of the same number, or some multiple of that number, as 5, 5, and 10; it is unsymmetrical when the number is neither equal nor proportional, as 5, 5, and 8, or 5, 4, 7. This must not be confounded with irregularity, which only refers to inequality of size or form, and not to number.

- Calyx distinct from the carpels (= ovar. superior)
- Flowers papilionaceous - - - 31. LEGUMINOSÆ.
 - Flowers not papilionaceous
 - Carpels two, diverging when ripe - - 25. SAXIFRAGÆ.
 - Carpels more than two, or single
 - Succulent plants - - - 24. CRASSULACEÆ.
 - Not succulent - - - 32. ROSACEÆ.
- †† *Carpels combined into an undivided ovary which has more placentas than one.*
- Calyx distinct from the carpels (= ovary superior)
- Sepals usually two; rarely three - - 23. PORTULACÆ.
 - Sepals more than two
 - Ovary one-celled - - - 21. ILLECEBRÆ.
 - Ovary many-celled
 - Sepals united into a tube - - - 26. SALICARIÆ.
 - Sepals distinct, or nearly so.
 - Stamens opposite the petals - - 27. RHAMNÆ.
 - Stamens alternate with the petals
 - Stipules 0, leaves simple
 - Stamens inserted into a fleshy } 29. CELASTRINÆ.
 - disk - - - }
 - Stamens inserted into the petals } 28. ILICINÆ.
 - Stipules. Leaves compound - - 30. STAPHYLEACEÆ.
- Calyx adhering to the carpels (= ovary inferior)
- Ovary one-celled - - - 34. GROSSULACEÆ
 - Ovary with the ovules attached to the face of the } 3. NYMPHÆACEÆ.
 - dissepiments - - - }
 - Ovary with the placentæ in the axis
 - Flowers in umbels
 - Fruit like two seeds - - - 38. UMBELLIFERÆ.
 - Fruit a many-celled berry - - - 5. ARALIACEÆ.
 - Flowers not in umbels
 - Flowers regular
 - Seeds numerous - - - 35. ONAGRARIÆ.
 - Seeds solitary
 - Fruit dry - - - 37. HALORAGÆÆ.
 - Fruit succulent - - - 6. CORNÆÆ.
 - Flowers irregular - - - 36. CIRCÆACEÆ.

§ 2. *Monopetalous. (Petals united.)*

- Calyx distinct from the carpels (= ovary superior)
- Ovary four-lobed
 - Flowers regular and symmetrical - - 48. BORAGINÆÆ
 - Flowers irregular and unsymmetrical - - 65. LABIATÆ.
 - Ovary not four-lobed
 - Flowers regular
 - Carpels distinct, cohering by their stigma 56. APOCYNÆÆ.
 - Carpels united, or single
 - Stamens opposite the petals and equal } 59. PRIMULACEÆ.
 - to them in number - - - }
 - Stamens alternate with the petals if
 - equal to them in number
 - Ovary one-celled, or single
 - Styles several - - - 52. PLUMBAGINÆÆ.
 - Style one - - - 51. PLANTAGINÆÆ.
 - Ovary two or more celled
 - Stamens 2 - - - 53. OLEACEÆ.
 - Stamens more than 2
 - Ovules few
 - Trees - - - 28. ILICINÆÆ.
 - Herbs
 - Corolla plaited; stem } 49. CONVULVULACEÆ.
 - twining or creeping - - - }
 - Corolla not plaited; } 50. POLEMONIACEÆ.
 - stem not twining or } 50. POLEMONIACEÆ.
 - creeping - - - }
 - Ovules very numerous
 - Anthers hard and dry
 - with appendages
 - Shrubs - - - 54. ERICÆÆ.
 - Herbs - - - 55. PYROLACEÆ.

- Anthers soft, without appendages
 Ovary 3-celled - 50. POLEMONIACEÆ
 Ovary 2- or 4- or more-celled
 Leaves alternate. }
 Corolla deciduous } 58. SOLANÆÆ.
 Lvs. opposite and ribbed; rarely alternate. Cor. }
 persistent - } 57. GENTIANÆÆ.
- Flowers irregular**
 Ovules solitary
 Bracts coloured and gashed - 63. MELAMPYRACEÆ.
 Bracts green and scale-like - 64. VERBENACEÆ.
 Ovules numerous
 Ovary one-celled, with a free central placenta } 60. LENTIBULARIÆ.
 Ovary two-celled
 Leafy green plants
 Stamens 2 or 4 - 61. SCROPHULARINÆÆ.
 Stamens 5 - 58. SOLANÆÆ.
 Leafless brown plants - 62. OROBANCHEÆ.
 Calyx united to the carpels (= ovary inferior)
 Placentæ parietal - S. CUCURBITACEÆ.
 Placentæ not parietal
 Anthers united into a tube (syngenesious)
 Flowers in heads. Fruit seedlike - 47. COMPOSITÆ.
 Flowers not in heads. Fruit many-seeded 44. LOBELIACEÆ.
 Anthers distinct
 Stamens opposite the petals
 Parasites on trees - 41. LORANTHÆÆ.
 Herbs - 59. PRIMULACEÆ.
 Stamens alternate with the petals
 Ovules solitary
 Flowers in heads - 46. DIPSACEÆ.
 Flowers not in heads
 Fruit single - 45. VALERIANÆÆ.
 Fruit double; leaves whorled; stem square } 39. STELLATÆÆ.
 Fruit two- or more-celled; leaves opposite } 40. CAPRIFOLIACEÆ.
 Ovules several in each cell
 Anthers opening by two pores - 42. VACCINIÆÆ.
 Anthers opening lengthwise
 Juice milky - 43. CAMPANULACEÆÆ.
 Juice watery - 40. CAPRIFOLIACEÆ

N. B. The letter **S** refers throughout to the Supplement.

Order 1. RANUNCULACEÆ Juss.

Sepals 3-6, sometimes confounded with the petals.

Petals 5-15, hypogynous, distinct, occasionally deformed.

Stamens indefinite, hypogynous; *anthers* usually turned outwards.

Carpels numerous, seated on a torus, one-celled or partially united into a single many-celled pistil; one or more seeded.

Fruit either consisting of dry akenia; or berries with one or more seeds; or follicles; or capsules.

Seeds albuminous. *Embryo* minute. *Albumen* corneous.

Herbs or very rarely *shrubs*. *Leaves* alternate or opposite, generally divided, with the petiole dilated and forming a sheath half clasping the stem. *Inflorescence* variable.

ANALYSIS OF THE GENERA.

§ <i>Genuine Ranunculaceæ</i> . Anthers bursting outwardly.	
Æstivation of calyx valvate or induplicate - - -	1. CLEMATIS.
Æstivation of calyx imbricate	
Fruit one-seeded	
Seed pendulous	
Involucrum none	
Sepals and petals undistinguishable -	2. THALICTRUM.
Sepals and petals distinct - - -	3. ADONIS.
Involucrum three-leaved - - -	4. ANEMONE.
Seed erect	
Sepals lengthened at the base - - -	5. MYOSURUS.
Sepals not lengthened at the base - -	6. RANUNCULUS.
Fruit many-seeded	
Flowers regular	
Calyx deciduous	
Petals and sepals distinct - - -	7. TROLLIUS.
Petals and sepals not distinguishable -	8. CALTHA.
Calyx persistent - - -	9. HELLEBORUS.
Flowers irregular	
Petals all calcarate - - -	10. AQUILEGIA.
Only two petals calcarate - - -	11. DELPHINIUM.
Petals ecalcarate - - -	12. ACONITUM.
§ § <i>Spurious Ranunculaceæ</i> . Anthers bursting inwardly.	
Calyx deciduous - - -	13. ACTEA.
Calyx persistent - - -	14. PÆONIA.

§ *Genuine Ranunculaceæ*.

1. CLEMATIS Linn. TRAVELLER'S JOY.

Involucrum none, or shaped like a calyx immediately beneath the flower. *Sepals* 4–8, coloured. *Petals* none or shorter than the sepals. *Akenia* numerous, terminating in a bearded tail. — Roots *perennial*. Leaves *exactly opposite*. Dec.

1. C. Vitalba Linn.

E. B. 9. 612

Leaves pinnate; leaflets heart-shaped, partly cut. Petioles twining, permanent. Panicles forked, not longer than the leaves. *Smith*. In hedges. — Shrub. July.

2. THALICTRUM Linn. MEADOW-RUE.

Sepals and *petals* undistinguishable, petaloid, and very deciduous. *Stamens* numerous. *Ovaries* 4–15. *Styles* short. *Akenia* stalked, either having elevated ribs, or being triangular with winged angles, or inflated. *Embryo* very minute, with converging cotyledons. — *Caulescent* herbaceous plants, with yellow fasciculate roots, a fistular stem, compound leaves, and paniced flowers.

1. T. alpinum Linn.

E. B. 4. 262

Stem perfectly simple and almost naked, with a simple terminal cluster. *Smith*.

In elevated moist alpine pastures; on most of the highest mountains in Wales and Scotland. *Smith*. — Perennial. June.

2. *T. minus* Linn. E. B. 1. 11.
Leaves doubly pinnate; leaflets ternate, three-cleft, glaucous on both sides. Flowers paniced, pendulous. Stem zigzag. Stipulas rounded. *Smith*.
In chalky pastures, especially such as are rather mountainous; or in shell sand on the sea coast. *Smith*. — Perennial. *June, July*.
3. *T. majus* Crantz. E. B. 9. 611.
Leaves triply pinnate; leaflets ternate, lobed, glaucous beneath. Branches of the panicle aggregate, somewhat umbellate. Flowers drooping. Stipulas crescent-shaped, notched. *Smith*.
On bushy hills in the North of England. — Perennial. *June, July*.
4. *T. flavum* Linn. E. B. 6. 367.
Stem erect, furrowed, leafy. Leaves doubly pinnate; partly three-lobed. Panicle compound, close, corymbose. Flowers and stamens erect. *Smith*.
In wet meadows, and about the banks of rivers and ditches, common. — Perennial. *June, July*.

3. ADONIS Linn. PHEASANT'S-EYE.

Calyx of 5 adpressed sepals. *Petals* 5-15 with a naked claw. *Stamens* numerous, inserted at the base of a torus. *Akenia* numerous, arranged in a spike, tipped by the hardened style. — Caulescent herbaceous plants with finely multifid leaves, and solitary scarlet or yellow flowers. Involucre none.

1. *A. autumnalis* Linn. E. B. 5. 308.
Petals about eight, inversely heart-shaped. Fruit ovate. Stem branched. *Smith*.
A. æstivalis *Withering*.
In corn fields, but not common. — Annual. *May—October*.

4. ANEMONE Linn.

Involucrum of 3 cut leaves distant from the flower. *Sepals* and *petals* 5-15 in number, coloured, passing gradually into each other so that they cannot be distinguished.

1. *A. Pulsatilla* Linn. Pasque-flower. E. B. 1. 51.
Flower solitary, nearly upright. Involucrum in deep linear segments. Petals six, erect. Fruit with feathery tails. Leaves doubly pinnate, cut, with linear lobes. *Smith*.
A. pratensis *Sibth*.
In high open chalky pastures. — Perennial. *April, May*.
2. *A. nemorosa* Linn. E. B. 5. 355.
Flowers solitary. Petals six, elliptical. Fruit pointed, without tails. Involucrum of three ternate or quinate, stalked, lobed, and cut leaves. *Smith*.
In groves, thickets, and heathy ground, abundantly. — Perennial. *April*.
3. *A. apennina* Linn. E. B. 15. 1062.
Flower solitary. Petals numerous, lanceolate. Fruit pointed, without tails. Involucrum of three ternate, stalked, deeply cut leaves. *Smith*.
In groves in the central part of England, but rare. — Perennial. *April*.

4. *A. ranunculoides* Linn. E. B. 21. 1484.
Flowers solitary, or in pairs. Petals five, elliptical. Fruit pointed, without tails. Involucrum of three, somewhat stalked, deeply cut leaves.

In groves, very rare. Near King's Langley, Herts; and Wrotham, Kent; and near Abbot's Langley. — Perennial. *April*.

5. *MYOSURUS* Linn. MOUSE-TAIL.

Calyx of 5 sepals, distinct at the base, or elongated downwards considerably. *Petals* 5 with a filiform tubular claw. *Stamens* 5-20. *Ovaries*, and afterwards *fruits*, several, triquetrous, very much crowded, inserted in a spike up the elongated receptacle, and terminated by the straight style. *Dec.*

1. *M. minimus* Linn. E. B. 7. 435.
Stems the length of the leaves or longer. Appendages of the calyx somewhat leafy. *Dec.*

In corn fields, on a gravelly soil. — Annual. *May*.

6. *RANUNCULUS* Linn. CROWFOOT, or BUTTERCUP.

Calyx of 5 sepals, which are not elongated at the base. *Petals* 5-10, with a nectariferous scale at the base. *Stamens* numerous. *Cariopsides* ovate, somewhat compressed, ending in a short horn or mucro, arranged in a globose or cylindrical head. — Roots *fascicled*.

* *Leaves simple.*

1. *R. Flammula* Linn. E. B. 6. 387.
Leaves ovate-lanceolate, bluntish, stalked. Stem reclining. Roots fibrous. Fruit smooth. *Smith*.

In watery places, common. — Perennial. *June—September*.

2. *R. Lingua* Linn. E. B. 2. 100.
Leaves lanceolate, pointed, nearly sessile, somewhat serrated. Stem erect, many-flowered. Root fibrous. Fruit smooth. *Smith*.

In marshes and ditches, not common. — Perennial. *July*.

3. *R. gramineus* Linn. E. B. 33. 2306.
Leaves linear-lanceolate, many-ribbed, entire. Stem erect, very smooth, with few flowers. Roots tuberous. *Smith*.

In dry alpine pastures in Wales. — Perennial. *May, June*.

4. *R. Ficaria* Linn. Pilewort. E. B. 9. 584.
Leaves heart-shaped, angular, stalked, smooth. Petals numerous, elliptic-oblong. *Smith*.

Ficaria ranunculoides *Dec.*

In meadows, bushy places, and about hedge banks, every where. — Perennial. *April*.

** *Leaves lobed, or cut.*

5. *R. auricomus* Linn. Goldilocks. E. B. 9. 624.
Radical leaves kidney-shaped, deeply three-cleft, notched; stem-leaves divided to the base into linear segments. Stem many-flowered. *Calyx* coloured. *Smith*.

In dry groves, bushy and shady places, not uncommon. — Perennial. *April, May*.

6. *R. sceleratus* Linn. E. B. 10. 681.
 Stem erect, hollow, much branched. Leaves smooth; lower ones palmate; upper fingered. Fruit oblong, very numerous, minute. *Smith.*
 Common in watery places. — Annual. *June—August.*

7. *R. alpestris* Linn. E. B. 34. 2390.
 Leaves very smooth; radical ones somewhat heart-shaped, obtuse, in three deep lobed segments; those of the stem lanceolate, entire. Flower mostly solitary. Calyx smooth. *Smith.*
 In moist places, about two or three rocks, on the Clova mountains of Angushire, rarely flowering. *Sm.* — Perennial. *May.*

8. *R. bulbosus* Linn. E. B. 8. 515.
 Calyx reflexed. Flower-stalks furrowed. Stem upright, many-flowered. Leaves compound. Root bulbous. Fruit smooth. *Smith.*
 In pastures and meadows, common. — Perennial. *May.*

9. *R. Philonotis* Ehrh. E. B. 21. 1504.
 Calyx reflexed, pointed. Stem upright, many-flowered, hairy. Leaves ternate. Root fibrous. Fruit tuberculated. *Smith.*
R. hirsutus Curtis.
β smaller in all its parts.
R. parvulus Linn.
 In moist meadows, and waste or cultivated ground that is liable to be overflowed, frequent. *β* on wet commons. — Annual. *June—October.*

10. *R. repens* Linn. E. B. 8. 516.
 Calyx spreading. Flower-stalks furrowed. Shoots creeping. Leaves compound, cut; the uppermost entire.
 In meadows, pastures, and waste places, very common. — Perennial. *June—Aug.*

11. *R. acris* Linn. E. B. 10. 652.
 Calyx spreading. Flower-stalks round and even. Leaves in three deep lobed and cut segments; those of the uppermost linear and entire. Stem erect, covered with close hairs. *Smith.*
 In meadows and pastures very common. — Perennial. *June, July.*

12. *R. arvensis* Linn. E. B. 2. 135.
 Fruit very prickly at the sides. Leaves once or twice deeply three cleft, with linear-lanceolate segments. Stem erect, much-branched, many-flowered. *Smith.*
 In corn fields, not uncommon. — Annual. *June.*

13. *R. parviflorus* Linn. E. B. 2. 120.
 Fruit armed at the sides with hooked prickles. Leaves simple, hairy, sharply cut; upper ones three-lobed. Stem prostrate. *Smith.*
 In gravelly fields and under hedges. — Annual. *May, June.*

14. *R. hederaceus* Linn. E. B. 28. 2003.
 Fruit wrinkled. Leaves roundish kidney-shaped, with three or five lobes, entire, smooth. Stem creeping. *Smith.*
 In shallow rivulets, ditches, and pools. — Perennial. *May—August.*

15. *R. aquatilis* Linn.

E. B. 2. 101.

Stem floating. Leaves in capillary segments under water, above water three-parted, with cuneiform lobes toothed at the end. Petals obovate, larger than the calyx. Fruit hispid with rigid bristles. *Dec.*

In ditches and ponds, common. — Perennial. *May, June.*

16. *R. pantothrix* Dec.

Stem floating. Leaves wholly in capillary segments. Petals obovate, larger than the calyx. Fruit smooth. *Dec.*

R. circinatus Sibth.

R. fluviatilis Wiggers.

In ditches and ponds, common. — Perennial. *May, June.*

7. TROLLIUS Linn. GLOBE-FLOWER.

Calyx coloured of 5-10-15 sepals which are deciduous and petaloid. *Petals* 5-10, small, tubular at the base, one-lipped. *Stamens* and *ovaries* numerous. *Follicles* numerous, sessile, subcylindrical, many-seeded. — Upright herbaceous plants, with palmate multifid leaves and fascicled roots. *Dec.*

1. *T. europæus* Linn.

E. B. 1. 28.

Sepals 15, converging into a globe. Petals 5-10, the length of the stamens. *Dec.*

In shady, mountainous, rather moist situations. — Perennial. *May, June.*

8. CALTHA Linn. MARSH-MARIGOLD.

Calyx and *petals* 5 in number, undistinguishable from each other, coloured. *Stamens* indefinite in number. *Ovaries* 5-10. *Follicles* 5-10, compressed, spreading, many-seeded. — Perennial very smooth herbaceous plants.

1. *C. palustris* Linn.

E. B. 8. 506.

Stem erect. Leaves heart-shaped, rounded. *Smith.*

β *minor*; stem usually one-flowered, ascending. *Dec.*

In marshy meadows, and about the margins of ponds, rivers, and brooks, everywhere. β In similar situations, but much less frequent. — Perennial. *March, April. β May.*

2. *C. radicans* Forst.

E. B. 31. 2175.

Stem reclining, creeping. Leaves triangular, somewhat heart-shaped, sharply crenate. *Smith.*

By the sides of lakes and rivulets in Scotland. — Perennial. *May, June.*

9. HELLEBORUS Linn. HELLEBORE.

Calyx persistent, of 5 sepals, which are roundish, obtuse, large, and often green. *Petals* 8-10, very short, tubular, narrow, and nectariferous at the base. *Stamens* 30-60. *Ovaries* 3-10. *Stigmas* terminal, orbicular. *Follicles* coriaceous; seeds arranged in a double row, elliptical, umbilicated. *Dec.*

1. *H. viridis* Linn.

E. B. 3. 200.

Stem many-flowered, leafy. Leaves digitate. Petals spreading. *Smith.*

In woods and thickets. In Oxfordshire, Cambridgeshire, Sussex, and other chalk countries. — Perennial. *April, May.*

2. *H. fœtidus* Linn. Bear's-foot, or Setter-wort. E. B. 9. 613.
Stem many-flowered, leafy. Leaves pedate. Petals converging.
Smith.

In thickets and waste ground, on a chalky soil. — Perennial. *March, April.*

10. *AQUILEGIA* Linn. COLUMBINE.

Calyx of 5 sepals, deciduous, petaloid. *Petals* 5, gaping upwards, their upper lip large and flat, their lower very small; each elongated downwards into a hollow spur, callous at the apex, and projecting between the sepals. *Ovaries* 5. *Follicles* the same number, erect, many-seeded, pointed by the styles.

1. *A. vulgaris* Linn. E. B. 5. 297.
Spurs incurved. Follicles villous. Stem leafy, many-flowered, smooth, as well as the leaves. Styles not longer than the stamens.
β. Stems one-flowered; spurs less curved.
A. alpina *Huds.*

In meadows, pastures, and thickets. *β.* In more mountainous situations. — Perennial. *June, July.*

11. *DELPHINIUM* Linn. LARKSPUR.

Calyx deciduous, petaloid, irregular; the upper sepal elongated at the base into a spur. *Petals* 4; the two upper ones elongated at the base into appendages contained within the spur. *Dec.*

1. *D. Consolida* Linn. E. B. 26. 1839.
Stem erect, nearly smooth, branching in a straggling manner.
Flowers few, in long racemes. Pedicels longer than the bractææ.
Follicles smooth. *Dec.*

In sandy or chalky corn-fields. — Annual. *June, July.*

12. *ACONITUM* Linn. WOLF'S-BANE, or MONKSHOOD.

Calyx petaloid, irregular, deciduous, or withering; the upper sepal concave and helmet-shaped. The two upper *petals* with long claws, expanding into a sac at the apex and concealed beneath the helmet. — Leaves *palmate*. *Dec.*

1. *A. vulgare* *Dec.* E. B. Supp. 2730.
Upper petal arched at the back; lateral ones hairy at the inner side.
Ovaries three, smooth. Leaves deeply five-cleft, cut, with linear segments, furrowed above. *Smith.*
A. Napellus *Smith.*

By the side of the river Teme, Herefordshire; and still more abundantly on the banks of a brook, running into that river. *Smith.* — Perennial. *June, July.*

§§ *Spurious Ranunculaceæ.*

13. *ACTÆA* Linn. BANE-BERRIES, or HERB CHRISTOPHER.

Calyx deciduous, of 4 sepals. *Petals* 4 *Berry* many-seeded. — Perennial herbs. *Dec.*

1. *A. spicata* Linn. E. B. 13. 918.
 Cluster dense, ovate. Petals the length of the stamens. *Smith*.
 In the north-west corner of Yorkshire, as about Malham Cove, Clapham,
 Askrigg, and the base of Ingleborough hill. *Sm.* — Perennial. *May, June.*

14. *PÆONIA* Linn. *PÆONY*.

Calyx of 5 sepals, foliaceous, unequal. *Petals* 5-10, nearly orbicular.
Stamens indefinite in number. *Disk* fleshy, surrounding the ovaries.
Carpella 2-5, with fleshy stigmas formed by two plates; changing
 into coriaceous *follicles*. *Seeds* roundish, shining. — Roots *fascicled*.
Cauline leaves twice ternate. *Flowers* large, white, or purple.

1. *P. corallina* Retz. E. B. 22. 1513.
 Leaves twice ternate; leaflets ovate, undivided, smooth. *Follicles*
 downy, recurved. *Smith*.
 Abundant in the rocky clefts of the Steep Holmes, in the Severn. — Perennial.
May, June.

Order 2. BERBERIDEÆ *Vent.*

Sepals 3-4-6, deciduous, in a double row, surrounded externally by
 petaloid scales.

Petals hypogynous, either equal to the sepals in number, and opposite to
 them, or twice as many, generally with an appendage at the base in
 the inside.

Stamens equal in number to the petals, and opposite to them; *anthers*
 generally with two separate cells, opening elastically with a valve
 from the bottom to the top.

Ovarium solitary, one-celled; *style* rather lateral; *stigma* orbicular.

Fruit berried or capsular.

Seeds attached to the bottom of the cell on one side, 1-2 or 3; *albumen*
 between fleshy and corneous; *embryo* straight in the axis.

Shrubs or *herbaceous perennial* plants, for the most part smooth.

1. *BERBERIS* Linn. *BERBERRY*.

Sepals 6, in a double row, externally scaly. *Petals* 6, with two glands
 at the base of each. *Fruit* fleshy, one-celled, 2-3-seeded. — Shrubs,
 with *spiny* stems and leaves, and *yellow racemose* flowers.

1. *B. vulgaris* Linn. E. B. 1. 49.
 Thorns three-cleft. Clusters pendulous. Leaves obovate-oblong,
 with bristly serratures. Petals entire. *Smith*.
 In hedges, and on bushy calcareous hills. — Shrub. *May, June.*

2. *EPIMEDIUM* Linn. *BARRENWORT*.

Sepals 4, with two bracteolæ. *Petals* 4, with a scale at the base. *Pod*
 oblong, two-valved, 1-celled, many-seeded. — Herbaceous *plants*,
 with *compound* leaves.

1. *E. alpinum* Linn. E. B. 7. 438.
 Radical leaves none ; stem-leaf twice ternate. *Smith*.
 In mountain thickets, rare. — Perennial. *May*.

Order 3. NYMPHÆACEÆ *Dec.*

Sepals and *petals* numerous, imbricated, passing gradually into each other, the former persistent, the latter inserted upon the disk which surrounds the pistillum.

Stamens numerous, inserted above the petals into the disk ; *filaments* petaloid ; *anthers* adnate, bursting inwards by a double longitudinal cleft.

Disk large, fleshy, surrounding the ovary either wholly or in part.

Ovary many-seeded, many-celled, with the stigmas radiating from a common centre upon a sort of flat urceolate cup.

Fruit many-celled, not bursting.

Seeds very numerous, attached to spongy dissepiments, and enveloped in a gelatinous arillus. *Albumen* farinaceous. *Embryo* small on the outside of the base of the albumen, enclosed in a membranous bag ; *cotyledons* foliaceous.

Herbs, with peltate or cordate fleshy leaves, growing in quiet waters.

1. NYMPHÆA Linn.

Sepals 4. *Petals* and *stamens* numerous, inserted into a disk which surrounds the sides of the ovarium, and adheres to it. *Stigmata* radiating.

1. *N. alba* Linn. White Water-lily. E. B. 3. 160.
 Leaves heart-shaped, entire ; even beneath. *Petals* elliptic-oblong. Rays of the stigma sixteen, recurved. Root horizontal. *Smith*.
 In clear pools and slow rivers. — Perennial. *July*.

2. NUPHAR *Smith*.

Sepals 5-6. *Petals* 10-18, inserted along with the numerous stamens into a disk which surrounds the base of the ovarium. *Stigmata* radiating.

1. *N. lutea* *Smith*. Yellow Water-lily. E. B. 3. 159.
Sepals 5. Border of the stigma entire. Footstalks two-edged. Lobes of the leaves meeting each other. *Smith*.
 In rivers and pools frequent. — Perennial. *July*.
2. *N. pumila* Hoffm. E. B. 32. 2292.
Sepals five. Border of the stigma toothed. Footstalks two-edged. Lobes of the leaves rather distant. *Smith*.
N. minima *E. Bot.*
N. Kalmiana *Hook. Fl. Scot.* not of others.
 In the highland lakes of Scotland. — Perennial. *July*.

Order 4. PAPAVERACEÆ *Juss.*

Sepals 2, deciduous.

Petals hypogynous, either 4, or some multiple of that number, inserted in a cruciate manner.

Stamens hypogynous, either 8, or some multiple of four, generally very numerous, inserted in four parcels, one of which adheres to the base of each petal; anthers 2-locular, innate.

Ovarium solitary; *style* short or none; *stigmata* alternate with the placentæ, 2 or many; in the latter case stellate upon the flat apex of the ovarium.

Fruit one-celled, either siliquiform with 2 parietal placentæ, or capsular with several placentæ.

Seeds numerous. *Albumen* between fleshy and oily. *Embryo* minute, straight, at the base of the albumen, with plano-convex *cotyledons*.

Herbaceous plants or *shrubs* with a milky juice. *Leaves* alternate, more or less divided. *Peduncles* long, one-flowered. *Flowers* never blue.

ANALYSIS OF THE GENERA.

Placentæ several						
Stigmata radiating connected	-	-	-	-	-	1. PAPAVER.
Stigmata radiating distinct	-	-	-	-	-	2. MECONOPSIS.
Placentæ two						
connate and dividing the pod into 2 cells	-	-	-	-	-	3. GLAUCIUM.
distinct						
Seeds not crested. Pod with 2-4 valves	-	-	-	-	-	4. RÖMERIA.
Seeds crested. Pod with 2 valves	-	-	-	-	-	5. CHELIDONIUM.

1. PAPAVER *Linn.* POPPY.

Sepals 2, convex. *Petals* 4. *Stamens* numerous. *Style* none. *Stigmata* 4-10, radiating, sessile on the top of the ovarium. *Capsule* one-celled, dehiscing by minute valves concealed beneath the projecting rim of the top. *Placentæ* projecting into the cavity, and forming incomplete dissepiments. — Herbaceous plants, with divided leaves and white milky juice; the peduncles inflexed before flowering.

* *Capsules* bristly.

1. *P. hybridum* *Linn.*

E. B. 1. 43.

Capsule nearly globular, furrowed, bristly. Calyx hairy. Stem leafy, many-flowered. Leaves doubly pinnatifid. *Smith.*

In sandy or chalky fields, but rare. — Annual. *July.*

2. *P. Argemone* *Linn.*

E. B. 9. 643.

Capsule club-shaped, ribbed, bristly. Calyx slightly hairy. Stem leafy, many-flowered. Leaves doubly pinnatifid. *Smith.*

β. *maritimum*

Stem one-flowered.

P. maritimum Withering.

In corn fields and their borders, on gravelly or sandy ground. ♀. In sandy ground near the sea. — Annual. *June, July.*

3. *P. nudicaule* Linn.

E. B. Supp. 2681.

Capsule hispid, obovate-oblong. Sepals bristly. Peduncles very long, arising from the root. Leaves pinnatifid, with toothed or cut lobes. *Dec.*

On the north-west coast of Ireland. — Perennial. *June.*

** *Capsules smooth.*4. *P. dubium* Linn.

E. B. 9. 644.

Capsule smooth, oblong, angular. Stem many-flowered, hairy. Bristles on the flower-stalks close-pressed. Leaves doubly pinnatifid. *Smith.*

In cultivated fields, especially on a light soil. — Annual. *June, July.*

5. *P. Rhæas* Linn.

E. B. 9. 645.

Capsule smooth, nearly globular. Stigma many-rayed. Stem many-flowered, rough, like the flower-stalks, with spreading bristles. Leaves pinnatifid, cut. *Smith.*

In corn-fields, a troublesome weed. — Annual. *June, July.*

6. *P. somniferum* Linn.

E. B. 30. 2145.

Capsule nearly globular, smooth as well as the calyx and stem. Leaves notched, clasping the stem, glaucous. *Smith.*

On sandy ground in fens. Annual. *July.*

2. MECONOPSIS *Dec.*

Sepals 2. *Petals* 4. *Stamens* numerous. *Style* short. *Stigmas* 4-6, radiating, convex, distinct. *Capsule* one-celled, dehiscing by 4-6 valves at the top. *Placentæ* narrow, scarcely projecting. — Perennials, with yellow juice. *Dec.*

1. *M. cambrica* *Dec.*

E. B. 1. 66

Capsule smooth, with 5-6 valves. Leaves numerous, stalked, pinnate, cut.

Papaver cambricum Linn.

In rocky humid places in Wales and Westmoreland. — Perennial. *June.*

3. GLAUCIUM *Juss.* HORNED-POPPY.

Petals 4. *Stamens* numerous. *Pod* long, 2-valved, with the *placentæ* meeting in the middle, and forming a spongy dissepiment, which divides the cavity of the pod into two cells. *Seeds* destitute of a crest — Biennials, with glaucous, scabrous, pinnatifid leaves, and yellow milky juice.

1. *G. luteum* Scopoli.

E. B. 1. 8.

Stem smooth. Stem-leaves wavy. Pod roughish, with minute tubercles. *Smith.*

G. flavum Crantz.

Chelidonium Glaucium Linn.

On the sandy sea coast. — Biennial. *July, August.*

2. *G. corniculatum* Curtis. E. B. 20. 1433.
 Stem hairy. Stem-leaves pinnatifid, cut. Pod rough, with upright
 bristles. *Smith.*
G. phœniceum *Smith.*
 In sandy fields, or on the sea coast, a very rare, or perhaps doubtful, native.
Smith. — Annual. *June, July.*

4. RÖMERIA *Medicus.*

Petals 4. *Stamens* numerous. Pod long, 2-3-4-valved; the valves
 opening from the top to the bottom. *Placentæ* distinct. *Seeds*
 pitted, destitute of a crest. — Annuals, with yellow milky juice, and
 purple flowers. *Dec.*

1. *R. hybrida* *Dec.* E. B. 3. 201
 Pods 3-4-valved, erect, with rigid bristles at the apex. Leaves
 doubly pinnatifid, linear, smooth.
Chelidonium hybridum *Linn.*
Glaucium violaceum *Smith.*
 In corn-fields. — Annual. *May, June.*

5. CHELIDONIUM *Linn.* CELANDINE.

Sepals 2, smooth. *Petals* 4. *Stamens* numerous. Pod long, two-
 valved; the placentæ not connate; the valves opening from bottom
 to top. *Seeds* crested. — Herbaceous plants, with smooth, brittle,
 tender leaves, and an acrid yellow juice.

1. *Ch. majus* *Linn.* E. B. 22. 1581.
 Peduncles umbellate. Leaves pinnatifid, with rounded segments,
 the lobes of which are toothed. *Petals* elliptical, entire. *Dec.*
 In waste ground and thickets, especially on a chalky soil. — Perennial. *May,*
June.
2. *Ch. laciniatum* *Miller.*
 Peduncles umbellate. Leaves pinnatifid; their segments cut into
 linear, jagged, acute lobes. *Petals* serrate or cut. *Dec.*
Ch. majus β . *Smith.*
 Found at Wimbledon, in Surrey, according to Dillenius. — Perennial. *May,*
June.

Order 5. FUMARIACEÆ *Dec.*

Sepals 2, deciduous.

Petals 4, cruciate, parallel; the two outer, either one or both, saccate at
 the base; the two inner callous and coloured at the apex, where they
 cohere and enclose the anthers and stigma.

Stamens 6, in two parcels, opposite the outer petals; *anthers* mem-
 branous, all two-celled, except by abortion.

Ovarium superior, one-celled; *ovula* horizontal; *style* filiform; *stigma*
 with two or more points.

Fruit various; either an indehiscent one or two-seeded nut, or a two-
 valved polyspermous pod.

Seeds horizontal, shining, with an arillus. *Albumen* fleshy. *Embryo* minute, out of the axis; in the indehiscent fruit straight; in those which dehisce, somewhat arcuate.

Herbaceous plants, with brittle stems and a watery juice. *Leaves* multifid.

1. CORYDALIS Dec.

Petals 4, of which one is calcarate at the base. *Pod* 2-valved, compressed, many-seeded. *Dec.*

1. *C. bulbosa* Dec.

E. B. 21. 1471.

Stem mostly simple, erect. *Leaves* twice ternate. *Bracteas* palmate, longer than each flower-stalk. *Smith.*

Fumaria solida *Smith.*

About Kendal, and in other parts of Westmoreland; also at Perry Hall, near Birmingham. At Wickham, Hampshire. — Perennial. *April, May.*

2. *C. lutea* Dec.

E. B. 9. 588.

Pods nearly cylindrical, shorter than their stalks. *Stem* angular erect. *Bracteas* minute. *Spur* short, rounded. *Smith.*

Fumaria lutea *Smith.*

C. capnoides β *Dec.*

On old walls; very rare. — Perennial. *May.*

3. *C. claviculata* Dec.

E. B. 2. 103.

Pods lanceolate, undulated. *Stem* climbing. *Foot-stalks* ending in branched tendrils. *Smith.*

Fumaria claviculata *Smith.*

In bushy, shady situations. — Annual. *June, July.*

2. FUMARIA Tourn. Dec. FUMITORY.

Petals 4, the three upper connate at the base, the intermediate one being saccate. *Fruit* indehiscent, monospermous, not pointed by the style. *Dec.*

1. *F. officinalis* Linn.

E. B. 9. 589.

Cluster rather lax. *Pods* single-seeded, globose, abrupt, on upright stalks, twice as long as the bracteas. *Stem* spreading. *Segments* of the leaflets lanceolate. *Smith.*

In cultivated ground, and about hedges; common. — Annual. *May—August.*

2. *F. parviflora* Lam.

E. B. 9. 590.

Cluster lax. *Pods* single-seeded, globose, pointed. *Stem* spreading. *Segments* of the leaflets linear, channelled. *Smith.*

In fields in the south of England. — Annual. *August, September.*

3. *F. capreolata* Linn.

E. B. 14. 943.

Cluster rather lax. *Pods* single-seeded, globose. *Stem* climbing by means of the twisting footstalks. *Leaflets* wedge-shaped, lobed. *Smith.*

Fumaria media *Loisel.*

In cultivated fields; common about Liverpool. — Annual. *June—September.*

Order 6. CRUCIFERÆ *Juss.*

Sepals 4, deciduous, cruciate.

Petals 4, cruciate, alternate with the sepals.

Stamens 6, of which two are shorter, solitary, and opposite the lateral sepals, occasionally toothed; and four longer, in pairs, opposite the anterior and posterior sepals; generally distinct, sometimes connate, or furnished with a tooth on the inside.

Disk with various green glands between the petals and the stamens and ovarium.

Ovary superior, unilocular, with parietal placentæ often meeting in the middle, and forming a spurious dissepiment. *Stigmata* two, opposite the placentæ.

Fruit a siliqua or silicula, one-celled, or spuriously two-celled; one, or many-seeded; dehiscing by two valves separating from the septum; or indehiscent.

Seeds attached in a single row by a funiculus to each side of the placentæ, generally pendulous. *Albumen* none. *Embryo* with the radicle folded upon the cotyledons.

Herbaceous plants, annual, biennial, or perennial, very seldom suffruticose. *Flowers* usually yellow or white: seldom purple. *Leaves* alternate. *Bracts* none.

ANALYSIS OF THE SUBORDERS, TRIBES, AND GENERA.

SUBORDERS.

Radicle applied to the edges of the cotyledons	($\bigcirc =$ <i>accumbent</i>)	} . . . PLEURORHIZÆ
Radicle applied to the back of the cotyledons	($\bigcirc $ <i>incumbent</i>)	
Cotyledons flat	$\bigcirc $	. . . NOTORHIZÆ
Cotyledons folded lengthwise	$\bigcirc > >$	. . . ORTHOPLOCEÆ

Suborder PLEURORHIZÆ.

TRIBES.

<i>Fruit</i> <i>dehiscent</i>		
<i>a siliqua or pod</i>	- - - - -	i. ARABIDÆ.
<i>a silicula</i>		
<i>Septum broad; valves flat or convex</i>	- - -	ii. ALYSSINÆ.
<i>Septum narrow; valves navicular</i>	- - -	iii. THLASPIDÆ.
<i>Fruit indehiscent</i>	- - - - -	iv. CAKILINÆ.

i. ARABIDÆ

Calyx with two sacs at the base

 Stigmas converging; thickened or cornute at the back . . . 1. MATHIOLA.

 Stigmas two-lobed or capitate 2. CHEIRANTHUS.

[illegible]

Suborder NOTORHIZEÆ.

TRIBES.

<i>Fruit dehiscent</i>	-	-	-	-	-	-	-	v. SISYMBRIÆ.
<i>a siliqua</i>	-	-	-	-	-	-	-	
<i>a silicula</i>	-	-	-	-	-	-	-	
<i>Septum broad; valves flat or convex</i>	-	-	-	-	-	-	-	vi. CAMELINÆ.
<i>Septum narrow; valves carinate</i>	-	-	-	-	-	-	-	vii. LEPIDINÆ.
<i>Fruit indehiscent</i>	-	-	-	-	-	-	-	viii. ISATIDÆ.
v. SISYMBRIÆ	-	-	-	-	-	-	-	
Calyx with two sacs at the base	-	-	-	-	-	-	-	18. HESPERIS.
Calyx equal	-	-	-	-	-	-	-	
Pod taper	-	-	-	-	-	-	-	19. SISYMBRIUM.
Pod 4-cornered	-	-	-	-	-	-	-	
Calyx lax	-	-	-	-	-	-	-	20. ALLIARIA.
Calyx closed	-	-	-	-	-	-	-	21. ERYSIMUM.
vi. CAMELINÆ	-	-	-	-	-	-	-	22. CAMELINA.
vii. LEPIDINÆ	-	-	-	-	-	-	-	
Silicula ventricose, one-seeded	-	-	-	-	-	-	-	23. CORONOPUS.
Silicula emarginate, winged, many-seeded	-	-	-	-	-	-	-	24. CAPSELLA.
s. Silicula ovate, one-seeded	-	-	-	-	-	-	-	25. LEPIDIUM.
viii. ISATIDÆ	-	-	-	-	-	-	-	26. ISATIS.

Suborder ORTHOPLOCEÆ.

TRIBES.

<i>Fruit dehiscent</i>	- - - - -	ix.	BRASSICÆ.
<i>a siliqua</i>	- - - - -	x.	VELLÆ.
<i>a silicula</i>	- - - - -	xi.	RAPHANÆ.
<i>Fruit indehiscent</i>	- - - - -		

ix. BRASSICÆ

Pod taper

Calyx closed - - - - - 27. BRASSICA.

Calyx spreading - - - - - 28. SINAPIS.

Pod compressed linear - - - - - 29. DIPLTAXIS.

x. VELLÆ

30. CARRICHTERA.

xi. RAPHANÆ

Fruit a silicula - - - - - 31. CRAMBE.

Fruit a siliqua - - - - - 32. RAPHANUS

Suborder PLEURORHIZÆ *Dec.* O=.

Cotyledons flat, accumbent. Radicle lateral. Seeds compressed.

Tribe i. Arabideæ *Dec.*

Siliqua dehiscent; septum linear, something broader than the seeds. Seeds oval, compressed, often bordered. Cotyledons flat, accumbent, parallel with the septum. *Dec.*

1. MATTHIOLA *R. Brown.* Stock.

Siliqua taper. *Stigmata* connivent, thickened, or connate at the back. *Calyx* with two sacs at the base. *Seeds* compressed, in one row, generally bordered. *Cotyledons* flat. *Dec.*

1. *M. incana* *R. Brown.*

E. B. 27. 1935.

Stem shrubby, upright, branched. Leaves lanceolate, obtuse, entire, hoary. Pods without glands. *Smith.*

Cheiranthus incanus *Linn.*On maritime cliffs in the south of England. — Shrub. *May, June.*2. *M. sinuata* *R. Brown.*

E. B. 7. 462.

Stem herbaceous, spreading. Leaves downy, glandular, obtuse, sinuated; those of the branches undivided. Pods rough with prominent glands. *Smith.*

Cheiranthus sinuatus *Linn.**Ch. tricuspidatus* *Hudson.*On the sandy sea-coasts of Wales and Cornwall. — Biennial. *August.*2. CHEIRANTHUS *Linn.*

Siliqua taper or compressed. *Stigma* 2-lobed or capitate. *Calyx* with two sacs at the base. *Seeds* in one row, ovate, compressed *Dec.*

1. *Ch. Cheiri* *Linn.* WALL-FLOWER.

E. B. 27. 1934.

Leaves lanceolate, acute; most hoary beneath, with simple close

hairs. Stem shrubby. Branches angular. Style prominent.
Smith.

Ch. fruticulosus *Linn. Smith.*

On old walls. — Shrub. *April, May.*

3. NASTURTIIUM *R. Brown.*

Siliqua nearly taper, shortened, or declinate. *Stigma* almost two-lobed.
Calyx equal at the base, spreading. *Seeds* small, irregularly attached
in two rows, not bordered. *Dec.*

1. *N. officinale* *R. Brown.* WATER-CRESS. E. B. 12. 855.

Leaves pinnate; leaflets roundish-heart-shaped, wavy. *Smith.*

Sisymbrium Nasturtium *Linn.*

In clear springs, rivulets, and ponds, very common and abundant. — Perennial.
June, July.

2. *N. sylvestre* *R. Brown.* E. B. 33. 2324.

Leaves pinnate; leaflets lanceolate, deeply serrated or cut. Root
creeping. *Smith.*

Sisymbrium sylvestre *Linn.*

In gravelly wet meadows, about the margins of rivers and ditches. — Perennial.
June—September.

3. *N. terrestre* *R. Brown.* E. B. 25. 1747

Leaves pinnatifid, unequally toothed. Root tapering. Petals
scarcely so long as the calyx. Pod curved. *Smith.*

Sisymbrium terrestre *Smith.*

N. palustre *Dec.*

About the banks of ditches, and in damp meadows. — Annual. *June—Sep-
tember.*

4. *N. amphibium* *R. Brown.* E. B. 26. 1840.

Leaves oblong, pinnatifid, or serrated. Roots fibrous. Petals longer
than the calyx. Pod elliptical. *Smith.*

Sisymbrium amphibium *Linn.*

Common in meadows and by the side of rivers and ditches. — Perennial. *June—
August.*

4. BARBAREA *R. Brown.*

Siliqua with four angles, slightly compressed; the valves not pointed at
the apex, concave, keeled. *Calyx* equal at the base. *Dec.*

1. *B. vulgaris* *R. Brown.* BELLEISLE CRESS. E. B. 7. 443.

Lower leaves lyrate, the terminal lobe roundish; upper obovate,
toothed. *Smith.*

Erysimum Barbarea *Linn.*

Common in waste ground. — Perennial. *May—August.*

2. *B. præcox* *R. Brown.* E. B. 16. 1129.

Lower leaves lyrate; upper deeply pinnatifid, with linear-oblong
entire segments. *Smith.*

Erysimum præcox *Smith.*

In watery grassy places, or on the banks of ditches, rare. — Biennial. *April—
October.*

5. TURRITIS *Linn.* TOWER-MUSTARD.

Siliqua linear; the valves flat. *Seeds* in two rows in each cell. —
Flowers white or whitish. *Dec.*

1. *T. glabra* Linn. E. B. 11. 777.
Radical leaves toothed, rough; the rest entire, clasping the stem, smooth. *Smith*.
On banks and by road sides. — Annual. *May, June*.
6. *ARABIS* Linn.
Silique linear; valves flat, with a single rib in the middle. *Seeds* in one row in each cell, oval or orbicular, compressed. *Cotyledons* flat.
— Flowers *white, unfrequently pink*. Dec.
1. *A. thaliana* Linn. E. B. 13. 901.
Leaves hairy, more or less toothed; radical ones stalked, oblong. Stamens not much shorter than the petals. Stem branched. Pods pointing upwards. *Smith*.
On walls, dry banks, cottage roofs, and dry sandy ground, every where. — Annual. *April*.
2. *A. stricta* Hudson. E. B. 9. 614.
Leaves toothed, obtuse, bristly; radical ones somewhat lyrate. Stems hairy. Petals nearly erect. Calyx smooth. *Smith*.
On St. Vincent's rocks near Bristol, and elsewhere in that neighbourhood. — Perennial. *May*.
3. *A. hispida* Linn. E. B. 7. 469.
Radical leaves lyrate or hastate, smooth or bristly, tufted; stem-leaves lanceolate, entire, scattered, mostly smooth. Petals spreading. Root branched at the crown. *Smith*.
Cardamine petræa Hudson.
C. hastulata E. Botany.
Arabis Crantziana Willd.
Arabis petræa Lam.
On lofty alpine rocks of Wales and Scotland, in moist places. — Perennial. *July*.
4. *A. ciliata* R. Brown. E. B. 25. 1746.
Leaves somewhat toothed, smooth on both sides, distinctly fringed and bearded; radical ones obovate. Stem simple. *Smith*.
Turritis alpina Linn.
Turritis ciliata Willd.
On cliffs near the sea, in Ireland. — Biennial. *July, August*.
5. *A. hirsuta* R. Brown. E. B. 9. 587.
Leaves toothed and bristly. Stem rough, with simple spreading hairs. Pods quite erect, with slightly keeled valves. *Smith*.
Turritis hirsuta Linn.
On old walls, stony banks, or rocks, uncommon. — Perennial. *May*.
6. *A. Turrita* Linn. E. B. 3. 178.
Leaves toothed, clasping the stem. Flower-stalks the length of the calyx, each with a leafy bractea. Pods linear, flat, thick-edged, recurved in one direction. *Smith*.
A. umbrosa Crantz.
On the walls of Trinity and St. John's colleges, Cambridge, of Magdalen college, Oxford, and of the castle of Cliesh, Kinross-shire. — Biennial. *May*.

7. CARDAMINE Linn.

Siliqua linear ; valves flat, nerveless, usually dehiscing with elasticity.
Seeds ovate, not bordered ; umbilical cords slender. *Dec.*

* *Leaves simple.*

1. *C. bellidifolia* Linn. E. B. 33. 2355.
 Leaves simple, ovate, slightly wavy, entire ; the radical ones much shorter than their foot-stalks. Style short, conical. *Smith.*
 Gathered wild in Scotland by Mr. Milne. *Withering.* — Perennial. *August.*

** *Leaves pinnate.*

2. *C. impatiens* Linn. E. B. 2. 80.
 Leaves pinnate ; leaflets lanceolate, mostly cut. Stipulas fringed. *Smith.*
 In shady, rather moist, rocky situations, in the north of England ; rare in Scotland. — Annual. *May, June.*
3. *C. hirsuta* Linn. E. B. 7. 492.
 Leaves pinnate, without stipulas ; leaflets stalked, roundish-oblong, notched. *Smith.*
C. flexuosa *Withering.*
C. parviflora *Lightfoot.*
 In waste or cultivated ground, especially in moist shady places, very frequent. — Annual. *March—June.*
4. *C. pratensis* Linn. Ladies'-smock. E. B. 11. 776.
 Leaves pinnate, without stipulas ; leaflets of the radical ones roundish and toothed ; those of the stem-leaves lanceolate, entire. Petals with a tooth upon the claw. *Smith.*
 Common in meadows and moist pastures. — Perennial. *April, May.*
5. *C. amara* Linn. E. B. 14. 1000.
 Leaves pinnate, without stipulas ; leaflets of the lowermost roundish ; of the rest toothed or angular. Stem creeping at the base. Style obliquely elongated. *Smith.*
 In watery places, by the sides of rivers and brooks, but not common. — Perennial. *April, May.*

8. DENTARIA Linn. CORALWORT.

Siliqua lanceolate ; valves flat, without ribs, often dehiscing with elasticity ; placentæ not winged. *Umbilical* cords broad. *Seeds* ovate, not bordered, in one row. *Dec.*

1. *D. bulbifera* Linn. E. B. 5. 309.
 Lower leaves pinnated ; upper simple, with axillary bulbs.
 Near Mayfield, Sussex. In the Old Park Wood, near Harefield, Middlesex, abundantly. In woods between Beconsfield and Wickham, plentifully. On the north sides of the High Rocks, Tonbridge Wells, and elsewhere in that neighbourhood. — Perennial. *April, May.*

Tribe ii. *Alyssineæ* Dec.

Silicula dehiscing longitudinally ; septum broad, oval, membranous ; valves flat or concave. *Seeds* compressed, often bordered. Cotyledons flat, accumbent, parallel with the septum

9. GLYCE.

Silicula nearly ovate; valves flattish; cells one-seeded; the umbilical cords adhering by the base to the septum. *Seeds* usually bordered. *Calyx* spreading. *Petals* entire. Hypogynous glands 8. *Filaments* not toothed. *R. Brown.*

1. *G. maritima* Sweet Alyssum. E. B. 25. 1729.

Alyssum maritimum Willd.

A. minimum Linn.

A. halimifolium Bot. Mag.

Koniga maritima *R. Brown.*

On cliffs and other places near the sea. — Annual. *July, August.*

I am unwillingly obliged to reject Mr. Brown's name of *Koniga*, on account of its too close resemblance in sound and meaning to *Königia*. The meaning of the word now proposed is obvious.

10. DRABA Linn. WHITLOW-GRASS.

Silicula sessile, oval or oblong; valves flat or convex. *Seeds* numerous, not margined. *Calyx* equal. *Petals* entire. All the *stamens* without teeth. *Dec.*

1. *D. aizoides* Linn. E. B. 18. 1271.

Stalks solitary, naked. *Petals* slightly notched, twice the length of the calyx. Leaves lanceolate, rigid, keeled, fringed. *Smith.*

On walls and rocks in South Wales. — Perennial. *March, April.*

2. *D. rupestris* R. Br. E. B. 19. 1338.

Stalk nearly leafless. *Petals* undivided. *Silicula* elliptic-oblong. Leaves lanceolate, slightly toothed, fringed with simple hairs. *Smith.*

D. hirta Linn.

On rocks in the Highlands of Scotland. — Perennial. *May, June.*

3. *D. incana* Linn. E. B. 6. 388.

Stem-leaves numerous, hoary, like the stem, with close starry pubescence. *Silicula* elliptic-oblong, oblique or twisted, longer than the hairy partial stalks. *Smith.*

D. contorta *Dec.*

On alpine limestone rocks in the north. — Biennial. *May, June.*

4. *D. muralis* Linn. E. B. 13. 912.

Stem branched. Leaves heart-shaped, toothed, hairy. *Silicula* elliptical, obtuse, flat, shorter than the partial stalks. *Smith.*

On the shady sides of limestone mountains, or on walls, rare. — Annual. *April, May.*

11. EROPHILA *Dec.*

Silicula oval or oblong; valves flat. *Seeds* numerous, not bordered. *Calyx* equal. *Petals* divided in two. *Stamens* not toothed. — Annuals, with naked scapes and white flowers. *Dec.*

1. *E. vulgaris* *Dec.* E. B. 9. 586.

Silicula elliptical, shorter than the pedicel. Scapes with 5-10 flowers.

Draba verna Linn.

On walls, everywhere. — Annual. *March, April.*

12. COCHLEARIA Linn. SCURVY-GRASS.

Silicula sessile, ovate, globose, or oblong; valves ventricose. *Seeds* numerous, not bordered. *Calyx* equal, spreading. *Petals* entire. *Stamens* not toothed. — Flowers white. Leaves usually fleshy. Dec.

1. *C. officinalis* Linn. E. B. 8. 551.
Radical leaves roundish; those on the stem oblong and somewhat sinuated. *Silicula* globose. *Smith*.
On the sea coast, in stony or muddy situations, abundantly. — Annual. May.
2. *C. grænlandica* Linn. E. B. 34. 2403.
Leaves kidney-shaped, fleshy, entire; uppermost oblong. *Silicula* globose. *Smith*.
On the mountains of Clova, Angus-shire, and at Loch-ne-gare. Mr. G. Don. — Annual. August.
3. *C. anglica* Linn. E. B. 8. 552.
Radical leaves ovate, entire; those on the stem sessile, lanceolate, and toothed. *Silicula* elliptical, strongly reticulated with veins. *Smith*.
On the muddy sea shore, and about the mouths of large rivers, in many places. — Annual. May.
4. *C. danica* Linn. E. B. 10. 696.
Leaves all triangular and stalked. *Silicula* elliptical, reticulated with veins. *Smith*.
β. integrifolia; cauline leaves very few; radical reniform: all entire. Dec.
On the sea coast, in a muddy soil, but rare. *β*. At the Giants' Causeway in Ireland. — Annual. May, June.
5. *C. Armoracia* Linn. Horse-radish. E. B. 33. 2323.
Radical leaves oblong, crenate; those of the stem lanceolate, either cut or entire. *Smith*.
In waste places; generally an outcast from gardens. — Perennial. May.

Tribe iii. *Thlaspideæ* Dec.

Silicula dehiscing; septum very narrow; valves keeled, navicular. *Seeds* oval, sometimes bordered. *Cotyledons* flat, accumbent, at right angles with the septum.

13. THLASPI Linn.

Silicula emarginate; valves navicular, winged at the back; cells two or many-seeded. *Petals* equal. *Calyx* equal at base. Dec.

1. *T. arvense* Linn. Mithridate Mustard, or Penny Cress. E. B. 24. 1659.
Silicula orbicular, nearly flat, shorter than its stalk. Leaves smooth, oblong, toothed. Stem erect. *Smith*.
In cultivated or waste ground, but not common. — Annual. June, July.
2. *T. perfoliatum* Linn. E. B. 33. 2354.
Silicula inversely heart-shaped. Stem-leaves heart-shaped, rather sharp at the base, clasping the branched stem. Style very short. *Smith*.
Among the stone-pits about Burford in Oxfordshire. — Annual. April, May.

3. *T. alpestre* Linn.

E. B. 2. 81.

Stem-leaves arrow-shaped. Stems simple. Style prominent beyond the margin of the obovate abrupt silicula. *Smith.*

In mountainous pastures in the north of England, among limestone rocks and lead mines. *Smith.* — Perennial. *June, July.*

14. *HUTCHINSIA* *R. Brown.*

Silicula elliptical; valves navicular, not winged; cells 2-seeded, seldom many-seeded. *Calyx* equal. *Petals* equal. *Dec.*

1. *H. petræa* *R. Brown.*

E. B. 2. 111.

Leaves pinnate, entire. Petals scarcely equal to the calyx. Stigma sessile. Seeds two in each cell. *Smith.*

Lepidium petræum *Linn.*

On limestone rocks and walls, especially in the south of Britain. — Annual. *March, April.*

15. *TEESDALIA* *R. Brown.*

Silicula oval, emarginate; valves navicular; cells two-seeded. *Stamens* with a scale at the base.

1. *T. Iberis* *Dec.*

E. B. 5. 327.

Petals unequal.

Iberis nudicaulis *Linn.*

T. nudicaulis *R. Br.*

In dry barren gravelly fields. — Annual. *May.*

16. *IBERIS* *Linn.* CANDY-TUFT.

Two exterior *petals* larger than the others. *Silicula* much compressed, truncate-emarginate. *Seeds* ovate, pendulous. *Dec.*

1. *I. amara* *Linn.*

E. B. 1. 52.

Stem herbaceous. Leaves lanceolate, acute, partly notched. Flowers in oblong clusters. *Smith.*

In chalky fields, but rare. — Annual. *July.*

Tribe iv. *Cakilineæ* *Dec.*

Siliqua or *silicula* separating transversely into joints, with 1 or 2 cells, and 1 or 2 seeds. Seeds not bordered. Cotyledons flat, accumbent, parallel with the septum when there is one.

17. *CAKILE* *Tournefort.*

Silicula with two joints, compressed; the upper joint ensiform or ovate. *Seeds* solitary in each joint; that of the upper erect, of the lower pendulous. *Dec.*

1. *C. maritima* *Willd.* Sea Rocket.

E. B. 4. 231.

Joints of the *silicula* two-edged; the upper one arrow-shaped. Leaves fleshy, pinnatifid, obtuse. *Smith.*

Bunias Cakile *Linn.*

On the sandy sea coast frequent. — Annual. *June—September.*

Suborder NOTORHIZÆ *Dec.* O II

Cotyledons flat, incumbent. Radicle lying upon the back of the cotyledons. Seeds ovate, not bordered.

Tribe v. *Sisymbriæ* *Dec.*

Siliqua 2-celled, dehiscing lengthwise; valves concave or keeled. Seeds ovate or oblong, not bordered. Cotyledons flat, incumbent, at right angles with the septum.

18. *HESPERIS* *Linn.*

Siliqua nearly taper, or somewhat 4-cornered. *Stigmas* 2, erect, converging. *Calyx* with 2 sacs at the base. *Seeds* oblong, somewhat 3-cornered. *Stamens* without teeth. *Dec.*

1. *H. matronalis* *Linn.* Dame's Violet. E. B. 11. 731.

Partial flower-stalks the length of the calyx. Leaves ovate-lanceolate, toothed. Stem upright, slightly branched. Pods smooth, irregularly tumid, equilateral, nearly erect. *Smith.*

H. inodora *Linn.*

In hilly pastures, especially near rivulets, but rare. — Perennial. *May, June.*

19. *SISYMBRIUM* *Linn.*

Siliqua nearly taper, sessile on a torus. *Stigmas* 2, nearly distinct, or combined in a head. *Calyx* equal at base. *Seeds* ovate or oblong. *Cotyledons* flat, incumbent, sometimes oblique. *Stamens* without teeth. *Dec.*

1. *S. officinale* *Scopoli.* Hedge-mustard. E. B. 11. 735.

Pods pressed close to the main stalk, awl-shaped, downy. Leaves runcinate, hairy. Stem rough, with reflexed bristles. *Smith.*

In waste ground, by road sides, and on banks, common. — Annual. *June, July.*

2. *S. Irio* *Linn.* London Rocket. E. B. 23. 1631.

Leaves runcinate, toothed, smooth as well as the stem. Pods erect. *Smith.*

In waste ground, or on banks and heaps of rubbish, chiefly about London. — Annual. *July, August.*

3. *S. Sophia* *Linn.* Flixweed. E. B. 14. 963.

Leaves doubly pinnatifid, a little hairy. Petals smaller than the calyx. *Smith.*

About waste ground, frequent. — Annual. *July—September.*

20. *ALLIARIA* *Adanson.*

Siliqua nearly taper, somewhat 4-cornered, in consequence of its projecting ribs. *Calyx* lax. *Seeds* rather cylindrical. *Cotyledons* linear-oblong, flat. *Dec.*

1. *A. officinalis* *Dec.* Jack by the Hedge, or Sauce Alone.

E. B. 12. 796.

Leaves cordate. Pods prismatical, much longer than the pedicels. *Dec.*

Erysimum Alliaria *Linn.*

Common in hedges. — Annual. *May.*

21. *ERYSIMUM* Linn.

Siliqua 4-cornered. *Calyx* closed. *Cotyledons* flat, oblong. *Dec.*

1. *E. cheiranthoides* Linn. E. B. 14. 942.
 Leaves lanceolate, obscurely toothed, roughish with close forked bristles. Pods erect, on horizontal stalks. Stigma almost sessile.
Smith.
Cheiranthus erysimoides Huds.
 In turnip-fields, gardens, osier-holts, and hedges, not uncommon. — Annual.
July.
2. *E. orientale* R. Brown. E. B. 26. 1804.
 Leaves elliptic-heart-shaped, obtuse, clasping the stem; radical ones obovate; all smooth, glaucous, undivided, entire. *Smith.*
Brassica orientalis Linn.
Erysimum perfoliatum Dec.
 In fields and on cliffs near the sea. — Annual. *June.*

Tribe vi. *Camelineæ* Dec.

Silicula with concave valves; septum elliptical in its chief diameter. Seeds ovate. *Cotyledons* flat, incumbent, at right angles with the septum.

22. *CAMELINA* Crantz.

Silicula obovate or roundish; valves ventricose, dehiscing along with part of the style; cells many-seeded. *Style* filiform. *Seeds* oblong, not bordered. *Dec.*

1. *C. sativa* Crantz. Gold of Pleasure. E. B. 18. 1254.
Silicula obovate, bordered, twice as long as the style. Leaves lanceolate-arrow-shaped. *Smith.*
Myagrum sativum Linn.
Alyssum sativum *Smith.*
 In cultivated fields, chiefly among flax, with whose seeds it is often introduced from abroad, but does not long propagate itself with us spontaneously. *Smith.*
 — Annual. *June.*

Tribe vii. *Lepidineæ* Dec.

Silicula with a very narrow septum; valves keeled, or very concave. Seeds solitary or very few, ovate, not bordered. *Cotyledons* flat, incumbent, parallel with the septum.

23. *CORONOPUS* Gærtn.

Silicula double; valves ventricose or slightly carinate, scarcely dehiscing, one-seeded. *Seeds* roundish, three-cornered. *Cotyledons* incumbent, linear. — Racemes opposite the leaves. Flowers white. *Dec.*

1. *C. Ruellii* Gærtn. E. B. 24. 1660.
Silicula undivided, crested with little sharp points. Style prominent
 Leaves pinnatifid, subdivided. *Smith.*
Senebiera coronopus Dec.
Cochlearia coronopus Linn.
 Common in waste ground, and by waysides. — Annual. *June—September.*

2. *C. didyma* Smith. E. B. 4. 248.
Silicula cloven, of two round wrinkled lobes. Style scarcely discernible. Leaves pinnatifid, partly notched. *Smith*.
Senebiera didyma *Smith*.
S. pinnatifida *Dec*.
Lepidium didymum *Linn*.
 About Exeter, Milford Haven, Truro, and Penryn. — Annual. *July*.

24. CAPSELLA *Dec*.

- Silicula* triangular, wedge-shaped at the base; valves navicular, apterous; cells many-seeded. — Racemes *terminal*. Flowers *white*.
 1. *C. Bursa Pastoris* *Dec*. Shepherd's Purse. E. B. 21. 1485.
Thlaspi Bursa Pastoris *Linn*.
 Common every where in waste places. — Annual. *March—November*.

25. LEPIDIUM *Linn*.

- Silicula* ovate, or somewhat cordate; valves keeled, or occasionally ventricose, dehiscent; cells 1-seeded. *Seeds* somewhat triquetrous, or compressed. — Racemes *terminal*. Flowers *white*. *Dec*.
 1. *L. latifolium* *Linn*. E. B. 3. 182.
 Leaves ovate-lanceolate, undivided, serrated. *Smith*.
 In salt marshes, and wet sandy shady situations under cliffs, near the sea. — *S*. Perennial. *July*.
 2. *L. ruderale* *Linn*. E. B. 23. 1595.
 Stamens two. Petals none. Leaves smooth; lower ones pinnatifid, toothed; upper linear, entire. *Silicula* notched. *Smith*.
 In waste ground, especially near the sea, in a muddy or calcareous soil. — Annual. *June*.
 3. *L. campestre* *R. Brown*. E. B. 20. 1385.
Silicula scaly, notched; bordered at the summit. Style very short.
 Stem-leaves arrow-shaped, toothed. *Smith*.
Thlaspi campestre *Linn*.
 In cultivated fields. — Annual. *July*.
 4. *L. Smithii* *Hooker*. E. B. 26. 1803.
Silicula often hairy, not scaly, bordered at the summit. Style prominent. Stem-leaves arrow-shaped, slightly toothed. *Smith*.
Thlaspi hirtum *Linn*. — *Lepidium hirtum* *Smith*.
 In fields on hilly ground. — Perennial. *June*.
S.

Tribe viii. *Isatideæ* *Dec*.

Silicula with indistinct or indehiscent keeled valves, 1-celled, 1-seeded, with an imperfect septum. *Seeds* ovate, oblong. Cotyledons flat, incumbent, parallel with what should be the septum.

26. ISATIS *Linn*.

- Silicula* elliptical, flat, 1-celled, 1-seeded; valves keeled, navicular, scarcely dehiscent. *Seed* pendulous, oblong. — Flowers *small, yellow*. *Dec*.

1. *I. tinctoria* Linn. Dyer's Woad. E. B. 2. 97.
 Radical leaves copiously crenate; those of the stem entire. Silicula
 abrupt, smooth, thrice as long as broad. *Smith.*
 In cultivated fields, and about their borders, but rare. — Biennial. *July.*

Suborder ORTHOPLOCEÆ *Dec.* O > >

Cotyledons incumbent, folded lengthwise, so as to receive the radicle in the folds. Seeds generally round, never bordered.

Tribe ix. *Brassicæ* *Dec.*

Siliqua dehiscing lengthwise; septum linear. Seeds globose. Cotyledons folded together.

27. *BRASSICA* Linn.

Siliqua with valves dehiscing lengthwise; dissepiment linear. *Seeds* globose. *Cotyledons* doubled together. *Dec.*

1. *B. Napus* Linn. Rape, or Cole-seed. E. B. 30. 2146.
 Root spindle-shaped. Leaves smooth; upper ones lanceolate, heart-shaped at their base, clasping the stem; lower ones lyrate, toothed. *Smith.*
 In corn fields, waste ground, and on ditch banks. — Biennial. *May.*
 2. *B. Rapa* Linn. Common Turnip. E. B. 31. 2176.
 Root fleshy, orbicular, depressed. Radical leaves lyrate, rough; those of the stem smooth; the uppermost entire. *Smith.*
 In cultivated fields and their borders, more or less completely naturalised. — Biennial. *April.*
 3. *B. campestris* Linn. Wild Navew. E. B. 22. 2234.
 Root tapering. Radical leaves lyrate, rough; stem-leaves smooth, clasping, oblong, partly pinnatifid; all somewhat glaucous. *Smith.*
 Abundant by the sides of rivers, marsh ditches, &c. — Annual. *June, July.*
 4. *B. oleracea* Linn. Cabbage. E. B. 9. 637.
 Root cylindrical, fleshy. Leaves glaucous, waved, lobed, partly lyrate, all perfectly smooth. Pod without a beak. *Smith.*
 On cliffs near the sea. — Biennial. *May, June.*
 5. *B. monensis* Hudson. E. B. 14. 962.
 Leaves glaucous, deeply pinnatifid, nearly smooth; lobes oblong, unequally toothed. Stem simple, smooth. Pods quadrangular; beak lodging two or three seeds. *Smith.*
 On the sandy sea-coast, but not frequent. — Perennial. *June, July.*
- S.**

28. *SINAPIS* Linn.

Siliqua rather taper; valves ribbed. *Style* small, short, acute. *Seeds* in one row, roundish. *Calyx* spreading. — Flowers *yellow*. Dec.

1. *S. arvensis* Linn. Charlock. E. B. 25. 1748.
Pods with many angles, rugged, longer than their own awl-shaped beak. Leaves toothed; partly lyrate, or hastate. *Smith*.
In corn-fields, a very troublesome weed; abundant in waste ground newly disturbed. — Annual. *May*.
2. *S. alba* Linn. White Mustard. E. B. 24. 1677.
Pods bristly, rugged, spreading, shorter than their own flat two-edged beak. Leaves lyrate *Smith*.
In cultivated as well as waste ground, by road sides, &c. — Annual. *June*.
3. *S. nigra* Linn. Brown Mustard. E. B. 14. 969.
Pods quadrangular, smooth, slightly beaked, close-pressed to the stalk. Lower leaves lyrate; upper linear-lanceolate, entire, smooth. *Smith*.
In fields, waste ground, and on banks by road sides. — Annual. *June, July*.

29. *DILOTAXIS* Dec.

Siliqua compressed, linear. *Seeds* in two rows, ovate. *Calyx* equal at the base. — Flowers *yellow or white*. *Calyxes* usually covered with soft down. Dec.

1. *D. tenuifolia* Dec. E. B. 8. 525.
Pods stalked, erect. *Style* filiform, short, very rough. Upper leaves entire; lower pinnatifid; lobes linear, entire, or pinnatifid. Dec.
Sisymbrium tenuifolium Linn.
Sinapis tenuifolia R. Br.
On old walls and heaps of rubbish. — Perennial. *June—October*.
2. *D. muralis* Dec. E. B. 16. 1090.
Pods sessile, erect. *Style* short, somewhat filiform. Radical leaves toothed or lyrate, smooth. Stems almost leafless, ascending. Dec.
Sisymbrium murale Linn.
Sinapis muralis R. Brown.
In barren ground near the sea. — Annual. *August, September*.

Tribe x. *Velleæ* Dec.

Silicula with concave valves dehiscing lengthwise; septum elliptical. *Seeds* globose. Cotyledons folded together.

30. *CARRICHTERA* Dec.

Stamens all distinct. *Style* ovate, flat, foliaceous. — Flowers *small, pale-yellow*. *Siliculæ* pendulous, with inflexed stalks. Dec.

1. *C. Velleæ* Dec. E. B. 21. 1442.
Vella annua Linn.
Found in Ray's time, by a Mr. Lawson, on Salisbury Plain, not far from Stonehenge. A doubtful native. — Annual. *June*.

Tribe xi. *Raphaneæ* Dec.

Silicula or siliqua separating transversely into one or few-seeded joints or cells.
Seeds globose. Cotyledons folded together.

31. CRAMBE Linn.

Silicula with two joints, the lower abortive, the upper globose, one-seeded. *Cotyledons* thick, somewhat foliaceous, deeply emarginate. — Flowers *white*. Dec.

1. *C. maritima* Linn. Sea Kale. E. B. 13. 924.
Longer filaments toothed. Leaves roundish, sinuated, wavy, toothed, glaucous, very smooth as well as the stem. *Smith*.
On the sandy sea coast. — Perennial. *May, June*.

32. RAPHANUS Linn.

Siliqua divided across into many cells, or separating into several pieces.
Seeds in one row, globose, pendulous. *Cotyledons* rather thick, doubled together. Dec.

1. *R. Raphanistrum* Linn. Jointed Charlock. E. B. 12. 856.
Pods jointed, striated, of one cell. Leaves lyrate.
In corn fields, a troublesome weed. — Annual. *June, July*.
2. *R. maritimus* Smith. Sea Radish. E. B. 23. 1643.
Pods jointed, deeply furrowed, of one cell. Radical leaves interruptedly lyrate, serrated.
By the sea-side. — Biennial. *May, June*.

Order 7. VIOLACEÆ Juss.

Sepals 5, persistent, with an imbricate æstivation, usually elongated at the base.

Petals 5, hypogynous, equal or unequal, usually with an obliquely convolute æstivation.

Stamens 5, alternate with the petals, inserted on an hypogynous disk, often unequal; *anthers* bilocular, bursting inwards, either separate or cohering; *filaments* dilated, elongated beyond the anthers; two, in the irregular flowers, generally furnished with an appendage or gland at their base.

Ovary one-celled, many-seeded or one-seeded, with three parietal placentæ opposite the three outer sepals; *style* single, usually declinate, with an oblique hooded *stigma*.

Capsule of three valves, bearing the placentæ in their axis.

Embryo straight, erect, in the axis of fleshy *albumen*.

Herbaceous plants or low *shrubs*. *Leaves* simple, usually alternate, stipulate, entire, with an involute *vernation*.

1. VIOLA Linn.

Sepals unequal, auricled. *Petals* unequal, the lower spurred. *Stamens* on the apex of a 5-toothed torus; two lower *anthers* with processes at their back. *Capsule* 3-valved, opening with elasticity.

1. *V. hirta* Linn. E. B. 13. 894.

Stem none. *Leaves* heart-shaped, rough with hairs, as well as their foot-stalks. *Sepals* obtuse. *Lateral petals* with a hairy central line. *Smith*.

In groves and thickets, on a chalky or limestone soil — Perennial. *April*.

2. *V. odorata* Linn. Violet. E. B. 9. 619.

Stem none, producing runners. *Leaves* heart-shaped, nearly smooth, as well as their foot-stalks. *Sepals* obtuse. *Lateral petals* with a hairy central line.

In woods, hedges, and pastures, frequent. — Perennial. *March, April*.

3. *V. palustris* Linn. E. B. 7. 444.

Stem none. *Leaves* kidney-shaped, smooth. *Root* creeping. *Lateral petals* with a hairy central line. *Smith*.

In mossy bogs, or on sandy turfy heaths, chiefly, though not exclusively, in the northern and mountainous counties. *Smith*. — Perennial. *April*.

4. *V. canina* Linn. Dog Violet. E. B. 9. 620.

Stem at length ascending, channelled. *Leaves* oblong-heart-shaped. *Calyx* acute. *Stipules* serrated. *Bractees* awl-shaped, entire. *Smith*.

In groves, thickets, hedges, and heathy ground, common. — Perennial. *April, August*.

5. *V. lactea* Smith. E. B. 7. 445.

Stem ascending, round. *Leaves* ovate-lanceolate. *Stipulas* jagged. *Bractees* lanceolate, somewhat serrated.

On mountainous boggy heaths. — Perennial. *May*.

6. *V. flavicornis* Smith. E. B. Supp. 2736.
Stem ascending, woody, somewhat angular, much branched. Leaves heart-shaped, coriaceous, smooth and even. Stipules and bractæas fringed. Sepals lanceolate. *Smith.*
In pastures and on banks, in a gravelly soil. — Perennial. *May, June*
7. *V. tricolor* Linn. Pansy, Heart's-ease. E. B. 18. 1287.
Stem angular, diffuse, divided. Leaves oblong, deeply crenate. Stipules lyrate, pinnatifid. Bractæas obsolete. *Smith.*
β. Petals shorter than calyx.
Viola arvensis Sibthorp.
In cultivated fields, — Annual. *May, September.*
8. *V. lutea* Hudson. E. B. 11. 721.
Stem triangular, unbranched. Leaves ovate-oblong, crenate, fringed. Stipules lobed, palmate. Bractæas minute, scarcely toothed. Spur the length of the calyx. *Smith.*
V. grandiflora Huds. ed. 2.
In moist mountainous pastures. — Perennial. *May, September.*
- S.**

Order 8. CISTINEÆ *Juss.*

Sepals 5, continuous with the pedicel, persistent, unequal; the three inner with a twisted æstivation.
Petals 5, hypogynous, very fugitive, twisted in æstivation in a direction contrary to that of the sepals.
Stamens indefinite in number, hypogynous, distinct; *anthers* innate.
Ovarium distinct, one or many-celled; *ovula* with a foramen at their apex; *style* single; *stigma* simple.
Fruit capsular, usually 3 or 5-valved, occasionally 10-valved, either one-celled with parietal placentæ in the axis of the valves, or imperfectly 5 or 10-celled with dissepiments proceeding from the middle of the valves, and approaching each other in the centre.
Seeds indefinite in number. *Embryo* inverted, either spiral or curved in the midst of mealy albumen.
Shrubs or *herbaceous* plants. *Branches* often viscid. *Leaves* usually entire, opposite or alternate, stipulate or exstipulate. *Racemes* usually unilateral.

1. HELIANTHEMUM *Tournefort.* Rock Rose.

Sepals 3, equal, with 2 occasional external ones. *Petals* 5. *Stigma* capitate. *Style* either wanting or present. *Capsule* of 3 valves. — *Trailing* half shrubby plants.

* *Dwarf shrubs, without stipules.*

1. *H. canum* Dunal. E. B. 6. 396.
Leaves opposite, ovate or oblong, petiolate, flat, hoary beneath. Racemes terminal, with bractææ. Sepals 5, the inner with four

ribs. Style twisted at the base, reflexed; at the apex inflexed.

Seeds blackish? *Bentham*.

Cistus parvifolius *Linn.*

C. hirsutus *Huds.*

C. anglicus *Linn.*

On alpine rocks, rare. — Shrub. *May, June.*

**** Herbaceous, without stipulæ.**

2. *H. guttatum* *Miller.*

E. B. 8. 544.

Annual, erect. Leaves oblong-lanceolate or linear, the lower opposite, the upper alternate. Racemes without bracteæ. Sepals 5.

Style straight, very short. Stigma capitate. *Bentham.*

Cistus guttatus *Linn.*

In warm sandy pastures in the south. — Annual. *June, July.*

***** Herbaceous, with stipulæ.**

3. *H. ledifolium* *Willd.*

E. B. 34. 2414.

Herbaceous, downy, with stipulas. Leaves lanceolate. Flower-stalks solitary, erect, opposite to the leaves, shorter than the calyx. *Smith.*

Cistus ledifolius *Linn.*

C. salicifolius *Huds.*

Very rare in the south in sandy places. — Annual. *June, July.*

****** Dwarf shrubs, with stipulæ.**

4. *H. surrejanum* *Miller.*

E. B. 31. 2207.

Shrubby, procumbent, with stipulas. Leaves ovate-oblong, hairy, and dotted beneath. Petals lanceolate. *Smith.*

Cistus surrejanus *Linn.*

At Croydon, in Surrey. — Shrub. *July, August.*

5. *H. vulgare* *Gærtner.*

E. B. 19. 1321.

Leaves opposite, ovate or oblong, nearly flat, green on the upper surface. Racemes terminal, with bracteæ. Sepals 5, the inner furrowed and scarious at the edge. Style bent at the base, somewhat clavate at the apex. Seeds black. *Bentham.*

Cistus Helianthemum *Linn.*

Cistus tomentosus *Smith.*

Common in hilly places. — Shrub. *July, August.*

6. *H. apenninum* *Dec.*

E. B. 19. 1322.

Hoary in every part. Leaves opposite, ovate-oblong or oblong-linear, hoary on each side, more or less revolute at the edge. Racemes terminal, with bracteæ. Sepals 5, the inner furrowed and scarious at the edge. Style bent at the base, somewhat clavate at the apex. Seeds black. *Bentham.*

Cistus polifolius *Linn.*

On stony hills near the sea, very rare. *Smith.* — Shrub. *June, July.*

Order 9. DROSERACEÆ *Dec.*

Sepals 5, persistent, equal, with an imbricate æstivation.

Petals 5, hypogynous.

Stamens distinct, withering, either equal in number to the petals and alternate with them, or 2 3 or 4 times as many.

Ovary single; *styles* 3-5, either wholly distinct, or slightly connected at the base, bifid or branched.

Capsule of one or three cells, and three or five valves, which bear the placenta either in the middle or at their base.

Seeds either naked or furnished with arillus. *Embryo* straight, erect, in the axis of a fleshy or cartilaginous albumen.

Delicate herbaceous plants, often covered with glands. *Leaves* alternate, with *stipulary ciliæ* and a circinate vernation. *Peduncles*, when young, circinate.

1. DROSERÆ *Linn.* SUN-DEW.

Sepals and *petals* 5, without appendages. *Stamens* 5. *Styles* 3-5. divided in two. — *Glandular herbaceous plants.* *Dec.*

1. *D. rotundifolia* *Linn.* E. B. 13. 867.

Leaves depressed, nearly orbicular, on hairy foot-stalks. Flower-stalks radical, racemose. *Smith.*

On mossy turfy bogs, frequent. — Perennial. *July, August.*

2. *D. longifolia* *Linn.* E. B. 13. 868.

Leaves obovate, erect, on naked foot-stalks. Flower-stalks radical, racemose. *Smith.*

On mossy turfy bogs, with the preceding. — Perennial. *July, August.*

3. *D. anglica* *Hudson.* E. B. 13. 869.

Leaves oblong, obtuse, erect, on naked foot-stalks. Flower-stalks radical, racemose. *Styles* 8. Capsules with four valves. *Smith.*

On bogs, but rare. — Perennial. *July, August.*

Note. — For PARNASSIA, a genus of doubtful station, many of the characters of which are those of Droseraceæ, see Saxifrageæ.

Order 10. FRANKENIACEÆ *St. Hilaire.*

Sepals 4-5, united in a furrowed tube, persistent, equal.

Petals alternate with the sepals, hypogynous, unguiculate, with appendages at the base of the limb.

Stamens hypogynous, either equal in number to the petals, and alternate with them, or having a tendency to double the number. *Anthers* roundish, versatile.

Ovary superior. *Style* filiform, 2-fid or 3-fid.

Capsule one-celled, enclosed in the calyx, 2-3- or 4-valved, many-seeded; dehiscence septicidal.

Seeds attached to the margins of the valves, very minute. *Embryo* straight, erect, in the midst of albumen (divided into two plates. *Gærtn. fil.*).

Herbaceous plants or *under-shrubs*. *Stems* very much branched. *Leaves* opposite, exstipulate, with a membranous sheathing base. *Flowers* sessile in the divisions of the branches, and terminal, embosomed in leaves.

1. FRANKENIA Linn. SEA-HEATH.

Style 3-fid, with oblong lobes, the inner surface of which is stigmatic. *Capsule* of 3 or 4 valves, many-seeded. *Dec.*

1. *F. lævis* Linn. E. B. 3 205.
Flowers solitary. *Leaves* linear, revolute, crowded; fringed at the base. *Smith.*

In muddy salt marshes. — Perennial. *July.*

2. *F. pulverulenta* Linn. E. B. 31. 2222.
Leaves obovate, abrupt; downy and somewhat powdery beneath *Smith.*

On the sea coast of Sussex, very rare. — Annual. *July.*

Order 11. POLYGALEÆ Juss.

Sepals 5, persistent, unequal, the inner usually petaloid.

Petals 3-4, hypogynous, adhering to the tube of the stamens.

Stamens 8, monadelphous in two opposite equal parcels. *Anthers* one-celled, bursting by pores at the apex.

Ovarium single, generally 2-celled; *style* single, incurved; *stigma* funnel-shaped or two-lobed.

Fruit capsular or drupaceous, 1 or 2-celled; dehiscence loculicidal.

Seeds pendulous, solitary, with an arillus, sometimes hairy or comose.

Embryo straight; *albumen* usually copious and fleshy, occasionally absent; but, in that case, the inner coating of the testa is tumid.

Herbaceous plants or *shrubs*. *Leaves* mostly alternate, articulated with the stem. *Flowers* racemose. *Juice* of the root milky. *Bark* and *root* bitter.

1. POLYGALA Linn.

Sepals persistent, the two inner wing-shaped. *Petals* 3-5, adhering to the tube of the stamens; the lower carinate. *Capsule* compressed, elliptical, obovate, or obcordate. *Seeds* downy, without a coma, with a carunculate hilum. *Dec.*

1. *P. vulgaris* Linn. Milkwort. E. B. 2. 76.
Flowers crested. *Bractææ* three, at the base of each flower-stalk,

deciduous. Wings about equal to the corolla. Stems ascending, simple, herbaceous. Leaves linear-lanceolate. *Smith.*

In gravelly and heathy pastures, very common. — Perennial. *June, July.*

Many varieties of this species exist in Great Britain; they are well worth a careful examination.

S.

Order 12. MALVACEÆ *Juss.*

Sepals 5, very seldom 3 or 4, more or less united at the base, with a valvate æstivation, often provided with external bracteæ forming a kind of involucre.

Petals of the same number as the sepals, hypogynous, with a twisted æstivation, either distinct or adhering to the tube of the stamens.

Stamens usually indefinite, sometimes of the same number as the petals, hypogynous; *filaments* monadelphous; *anthers* one-celled, reniform, bursting transversely.

Ovary formed by the union of several carpella round a common axis, either distinct or coherent; *styles* the same number as the carpella, either united or distinct; *stigmata* variable.

Fruit either capsular or baccate; its carpella being either monospermous or polyspermous, sometimes united in one, sometimes separate or separable; dehiscence either loculicidal or septicidal.

Seeds sometimes hairy; *albumen* little or none; *embryo* curved, with twisted and doubled cotyledons.

Herbaceous plants, *trees*, or *shrubs*. *Leaves* alternate, more or less divided, stipulate. *Hairs* stellate. *Peduncles* usually axillary.

1. MALVA *Linn.* MALLOW.

Calyx surrounded by an involucre, formed generally of 3 leaves, seldom of 5 or 6; bracteolæ oblong or setaceous. *Fruit* numerous, capsular, one-seeded, arranged in a circle. *Dec.*

1. *M. sylvestris* *Linn.* E. B. 10. 671.

Stem upright, herbaceous. Leaves with seven acute lobes. Foot-stalks and flower-stalks hairy. *Smith.*

About hedges, road sides, and in cultivated as well as waste ground, common. — Perennial. *May—August.*

2. *M. rotundifolia* *Linn.* E. B. 16. 1092.

Stems prostrate. Leaves roundish heart-shaped, bluntly five-lobed. Stalks when in fruit bent downwards. *Smith.*

- β. *pusilla* *Smith.* E. B. 4. 241.

Petals not longer than the calyx.

M. parviflora *Hudson.*

In waste ground, and by way sides in towns or villages, frequent. β. Near Hithe, in Kent. — Annual. *June—September.*

3. *M. moschata* *Linn.* E. B. 11. 754.

Radical leaves kidney-shaped, cut; the rest in five deep, pinnatifid, jagged segments. *Calyx* hairy; its outer sepals linear-lanceolate. *Smith.*

In the grassy borders of fields, and by way sides, on a gravelly soil. — Perennial. *July, August.*

2. ALTHÆA Linn.

Calyx surrounded by an involucre, having from 6 to 9 divisions.

Fruit capsular, one-seeded, collected in a 5-lobed head. *Dec.*

1. *A. officinalis* Linn. Marsh-mallow. E. B. 3. 147.

Leaves simple, very soft and downy, slightly five-lobed. *Smith.*

In marshes, especially towards the sea, abundantly. — Perennial. *July—September.*

S.

3. LAVATERA Linn.

Calyx surrounded by an involucre, of from 3 to 6 divisions. *Fruit* capsular, one-seeded, collected in a circle round a common axis, which is dilated in various ways. *Dec.*

1. *L. arborea* Linn. E. B. 26. 1841.

Stem arboreous. Leaves downy, plaited, with seven angles. Stalks axillary, aggregate, single-flowered. *Smith.*

On maritime rocks, but rare. — Biennial. *July—October.*

Order 13. HYPERICINEÆ Juss.

Sepals 4-5, either more or less cohering, or wholly distinct, persistent, unequal, with glandular dots.

Petals 4-5, hypogynous, with a twisted æstivation and oblique venation, often having black dots.

Stamens indefinite, hypogynous, in three or more parcels; *anthers* versatile.

Ovary single, superior; *styles* several, rarely connate; *stigmata* simple.

Fruit a capsule or berry, of many valves and many cells; the inner edges of the former being curved inwards.

Seeds minute, indefinite, usually tapering; *embryo* straight, with an inferior *radicle* and no *albumen*.

Herbaceous plants, *shrubs*, or *trees*, with a resinous juice. *Leaves* opposite, dotted. *Flowers* generally yellow. *Inflorescence* variable.

1. HYPERICUM Linn. ST. JOHN'S-WORT.

Capsule membranous. *Styles* 3-5, sometimes variable in number.

Stamens numerous, polyadelphous, occasionally reduced to almost a definite number. *Petals* 5. *Sepals* 5, more or less united at the base. — Herbaceous plants or shrubs. *Leaves* opposite, often with pellucid dots, or black dots at the margin. *Dec.*

1. *H. calycinum* Linn. E. B. 29. 2017.

Styles five. *Flowers* solitary. Stem shrubby, branched, quadrangular. Segments of the calyx obovate, obtuse, permanently spreading. *Leaves* oblong. *Smith.*

In bushy places in the west of Ireland and Scotland. — A doubtful native. Shrub. *July—September.*

2. *H. quadrangulum* Linn. St. Peter's-wort. E. B. 6. 370.
 Styles three. Stem herbaceous, with four sharp angles. Leaves
 with copious pellucid dots. Segments of the calyx lanceolate.
Smith.
 Common in moist meadows and thickets, and about the banks of rivers. —
 Perennial. *July, August.*
3. *H. perforatum* Linn. E. B. 5. 295.
 Styles three. Stem two-edged. Leaves obtuse, with copious pellucid
 dots. Segments of the calyx lanceolate. *Smith.*
 In groves, thickets, and hedges, abundantly. — Perennial. *July, August.*
4. *H. dubium* Leers. E. B. 5. 296.
 Styles three. Stem obscurely quadrangular. Leaves obtuse, nearly
 destitute of pellucid dots. Segments of the calyx elliptical.
Smith.
H. delphinense Villars.
H. maculatum Crantz.
 In rather mountainous groves and thickets. — Perennial. *July, August.*
5. *H. humifusum* Linn. E. B. 18. 1226.
 Styles three. Flowers somewhat cymose. Stem compressed, pros-
 trate. Leaves elliptical, smooth. Segments of the calyx ovate,
 leafy. *Smith.*
 In sandy or gravelly, heathy, rather boggy, pastures, frequent. — Perennial.
July.
6. *H. montanum* Linn. E. B. 6. 371.
 Styles three. Calyx with dense, prominent, glandular serratures.
 Stem erect, round, smooth. Leaves ovate, naked, clasping the
 stem. *Smith.*
 On wild bushy hills, on a gravelly or chalky soil. — Perennial. *July.*
7. *H. barbatum* Jacq. E. B. 28. 1986.
 Styles three. Calyx and petals fringed and dotted. Stem erect,
 somewhat angular. Leaves ovate, naked, dotted, and glandular,
 clasping the stem. *Smith.*
 By the side of a hedge, near the wood of Aberdalgy in Strathearn, Perthshire. —
 Perennial. *September, October.*
- S.**
8. *H. hirsutum* Linn. E. B. 17. 1156.
 Styles three. Calyx lanceolate, with glandular serratures. Stem
 erect, round. Leaves ovate, downy. *Smith.*
 In thickets and hedges, chiefly on a dry chalky soil. — Perennial. *June, July.*
9. *H. pulchrum* Linn. E. B. 18. 1227.
 Styles three. Calyx ovate, with glandular serratures. Stem erect,
 round. Leaves clasping the stem, heart-shaped, smooth. *Smith.*
 In woods and bushy heathy places, on a clay soil, frequent. — Perennial. *July.*
10. *H. elodes* Linn. E. B. 2. 109.
 Styles three. Calyx obtuse, glandular. Stem procumbent, creeping,
 round, shaggy, like the roundish obtuse leaves. Panicle of few
 flowers. *Smith.*
 In spongy bogs. — Perennial. *July, August.*

2. ANDROSÆMUM *Allioni.*

Capsule berried, almost one-celled. *Calyx* divided into 5 pieces of unequal size. *Petals* 5. *Styles* 3. *Stamens* many, united at the base. — A shrub. Leaves *sessile*. Flowers *terminal*, stalked. *Dec.*

1. *A. officinale* *Allioni.* Tutsan. E. B. 18. 1225
Hypericum Androsæmum *Linn.*
 In shady lanes and woods. — Shrub. *July, August.*

Order 14. CARYOPHYLLÆ *Juss.*

Sepals 4-5, continuous with the peduncle; either distinct, or cohering in a tube, persistent.

Petals 4-5, hypogynous, unguiculate, inserted upon the pedicel of the ovarium; occasionally wanting.

Stamens twice as many as the petals, inserted upon the pedicel of the ovarium along with the petals; *filaments* subulate, sometimes monadelphous; *anthers* innate.

Ovary stipitate on the apex of a pedicel (called the anthophorus); *stigmata* 2-5, sessile, filiform, papillose on the inner surface.

Capsule 2-5-valved, either 1-celled or 2-5-celled, in the latter case with a loculicidal dehiscence. *Placenta* central, in the 1-celled capsules distinct, in the 2-5-celled capsules adhering to the edge of the dissepiments.

Seeds indefinite in number, rarely definite; *albumen* mealy; *embryo* curved round the albumen, or straight; *radicle* pointing to the hilum.

Herbaceous plants, occasionally becoming *suffrutescent*. *Stems* tumid at the articulations. *Leaves* always opposite, and often connate at the base.

ANALYSIS OF THE GENERA.

Sepals united in a cylindrical tube (*Sileneæ*)

Stigmata 2

Calyx with bractæ at the base - - - - - 1. DIANTHUS.

Calyx naked at the base - - - - - 2. SAPONARIA.

Stigmata 3 - - - - - 3. SILENE.

Stigmata 5

Calyx-teeth simple - - - - - 4. LYCHNIS.

Calyx-teeth foliaceous - - - - - 5. AGROSTEMMA.

Sepals distinct, or cohering only at the base (*Alsineæ*)

Capsule dehiscing with distinct valves

Valves 2 - - - - - 6. BUFFONIA.

Valves 3 - - - - - 7. CHERLERIA.

Valves 6 - - - - - 8. SPERGULA.

Valves 4 or 5

Capsule with 4 cells - - - - - 9. ELATINE.

Capsule with one cell - - - - - 10. SAGINA.

Capsule dehiscing at the apex with teeth

Petals entire

Sepals and *petals* 4 - - - - - 11. MÆNCHIA.

Sepals and *petals* 5 - - - - - 12. ARENARIA.

Petals toothed	-	-	-	-	-	-	-	13. HOLOSTEUM.
Petals bifid								
Stigmata 5	-	-	-	-	-	-	-	14. CERASTIUM.
Stigmata 3								
Stamens perigynous	-	-	-	-	-	-	-	15. LARBBREA.
Stamens hypogynous	-	-	-	-	-	-	-	16. STELLARIA.

Tribe 1. *Sileneæ* Dec.

Sepals united into a cylindrical 4 or 5-toothed tube.

1. DIANTHUS Linn.

Calyx tubular, 5-toothed, with from 2 to 4 opposite imbricated scales at the base. *Petals* 5, with long claws. *Stamens* 10. *Stigmata* 2. *Capsule* 1-celled. *Seeds* compressed, convex on one side, concave on the other, peltate. *Embryo* nearly straight. *Dec.*

* *Flowers aggregate.*

1. *D. Armeria* Linn. Deptford Pink. E. B. 5. 317.
Flowers aggregate, tufted. Bracteæ lanceolate, downy, as long as the calyx. Petals serrated.
In pastures, and about hedges, on a gravelly soil. — Annual. *July, August.*
2. *D. prolifer* Linn. E. B. 14. 956.
Flowers aggregate, capitate. Bracteæ ovate, obtuse, pointless, membranous, overtopping the calyx.
β. Flowers nearly solitary.
D. diminutus W.
In gravelly pastures, rare. — Annual. *July.*

** *Flowers solitary, several on the same stem.*

3. *D. Caryophyllus* Linn. Clove Pink, or Carnation. E. B. 3. 214.
Flowers solitary. Bracteæ almost rhomboid, very short. Petals notched, beardless.
β. Limb of petals slightly hairy near the throat.
D. arenarius Hudson; not of others.
On ruinous walls of old towns. — Perennial. *July.*
4. *D. deltoides* Linn. E. B. 1. 61.
Flowers solitary. Bracteæ ovate-lanceolate, acute, seldom more than two. Leaves bluntish, somewhat downy. Petals notched, smooth.
β. Leaves very glaucous; bracteæ generally 4; petals white, with a violet purple circle. *Smith.*
D. glaucus Linn.
In pastures, and the grassy borders of fields, on a gravelly or sandy soil. β. In the King's Park, Edinburgh, according to Lightfoot. — Perennial. *July—October.*
- *** *Stems single-flowered, herbaceous.*
5. *D. cæsius* Smith. E. B. 1. 62.
Stems single-flowered. Bracteæ short, roundish. Leaves rough-edged. Petals unequally notched, hairy.
D. glaucus Hudson.
On dry limestone rocks, very rare. — Perennial. *June, July.*

2. SAPONARIA Linn. SOAPWORT.

Calyx tubular, 5-toothed, naked at the base. *Petals* with claws the length of the calyx. *Stamens* 10. *Stigmas* 2. *Capsule* 1-celled. *Dec.*

1. *S. officinalis* Linn. E. B. 15. 1060.

Calyx cylindrical. Leaves elliptic-lanceolate. *Smith.*

Bootia vulgaris Neck.

β. Upper leaves connate sheathing; corolla monopetalous.

In meadows, by river sides, and under hedges. β. On sandy hills 7 miles to the north of Liverpool. — Perennial. *August, September.*

3. SILENE Linn.

Calyx tubular, 5-toothed, naked. *Petals* 5, unguiculate, generally having scales at the throat, with a bifid limb. *Stamens* 10. *Stigmas* 3. *Capsules* 3-celled at the base, dehiscent at the apex with 6 teeth. *Dec.*

* *Stem* racemose, occasionally somewhat forked.

1. *S. anglica* Linn. E. B. 17. 1178.

Hairy and viscid. *Petals* slightly cloven. *Flowers* lateral, alternate, erect. Lower capsules spreading or reflexed. *Smith.*

In cultivated fields, on a gravelly or sandy soil. — Annual. *June, July.*

2. *S. quinquevulnera* Linn. E. B. 2. 86.

Hairy. *Petals* roundish, entire. *Flowers* lateral, alternate, erect, as well as the capsules. *Calyx* somewhat shaggy. *Smith.*

Near Wrotham, Kent. *Hudson.* — Annual. *June, July.*

** *Stem* forked; branches paniced.

3. *S. inflata* Smith. E. B. 3. 164.

Flowers copiously paniced, drooping. *Petals* cloven half way down, mostly without scales. *Calyx* smooth, inflated, reticulated.

Stem erect. Leaves ovate, acute. *Smith.*

Cucubulus Behen Linn.

Lychnis Behen Scop.

β. *maritima* Dec. Leaves ovate, lanceolate, pubescent, or hairy.

In fields, pastures, and by way sides, common. β. Near Cromer, Norfolk. — Perennial. *July.*

4. *S. maritima* With. E. B. 14. 957.

Flowers slightly paniced, or solitary, terminal. *Petals* cloven, each with a cloven acute scale. *Calyx* smooth, inflated, reticulated.

Stem recumbent. Leaves lanceolate. *Smith.*

S. amoena Huds.

S. uniflora Roth.

S. inflata β. *Hooker.*

S. inflata uniflora Otth.

On the sandy or stony sea-coast, as well as in the beds of alpine torrents. — Perennial. *August, September.*

*** *Stem, and branches if any, forked, leafy.*

5. *S. conica* Linn. E. B. 13. 922.

Pubescent. Leaves linear, soft. *Flowers* solitary or paniced. *Calyx* short, conical, with 30 furrows. *Petals* cloven. *Capsule* ovate. *Dec.*

In sandy fields, rare. — Annual. *July.*

6. *S. conoides* Linn.

Stems pubescent. Leaves lanceolate linear, nearly smooth. Flowers solitary or paniced. Calyx long, conoid, with thirty furrows. Petals entire, obovate. Capsule lageniform. *Dec.*

In sandy fields. — Annual. *July.*

Introduced upon the authority of Hudson and Sir James Smith, in the Appendix to the English Flora, vol. iv. p. 267.

7. *S. noctiflora* Linn.

E. B. 5. 291.

Stem forked. Petals cloven, each with a cloven abrupt scale. Calyx with ten hairy ribs; its teeth linear, almost as long as the tube. *Smith.*

In fields, on a sandy or gravelly soil. — Annual. *July.*

**** *Panicle forked, corymbose, leafless.*

8. *S. Armeria* Linn.

E. B. 20. 1398.

Panicles forked, level-topped, many-flowered. Petals cloven, each with a double awl-shaped scale. Calyx and leaves smooth. Capsule not longer than its stalk. *Smith.*

In fields or on old walls, a doubtful native. — Annual. *July, August.*

***** *Stem paniced, imperfectly forked.*

9. *S. nutans* Linn. Nottingham Catchfly.

E. B. 7. 465.

Panicle with drooping, unilateral, partly forked branches. Petals deeply cloven, with linear segments, and acute cloven scale. Leaves elliptic-lanceolate, downy. *Smith.*

β. Leaves broader.

S. paradoxa *Smith.*

Cucubalus viscosus *Huds.*

On limestone rocks, or chalky cliffs. β. On Dover cliffs. — Perennial. *June, July.*

S.

10. *S. Otites* *Smith.* Spanish Catchfly.

E. B. 2. 85.

Panicle with tufted, somewhat umbellate, upright branches. Flowers diœcious. Petals linear, undivided, naked. Leaves spatulate, roughish. *Smith.*

Cucubalus Otites *Linn.*

In dry sandy, or gravelly, open grassy fields, chiefly in Norfolk, Suffolk, or Cambridgeshire. — Perennial. *July, August.*

***** *Stems single-flowered.*

11. *S. acaulis* Linn. Moss Champion.

E. B. 16. 1081.

Stems tufted, much branched. Leaves linear, acute, fringed at the base. Stalks terminal, solitary, single-flowered. Calyx smooth. *Smith.*

Cucubalus acaulis *Linn.*

On the summits of the loftiest mountains. — Perennial. *June, July.*

4. *LYCHNIS* Linn.

Calyx tubular, 5-toothed, naked. *Petals* 5, unguiculate, usually with scales at the throat. *Stamens* 10. *Stigmas* 5. *Capsule* 1-5-celled. *Dec.*

1. *L. Flos Cuculi* Linn. Ragged Robin. E. B. 8. 573.
Petals in four linear segments. Capsule roundish, of one cell.
Stem rough with deflexed bristles. *Smith.*
In moist meadows, frequent. — Perennial. *June.*
2. *L. Viscaria* Linn. Red German Catchfly. E. B. 11. 788.
Viscid. Petals slightly cloven. Capsule stalked, of five cells.
Leaves fringed at the base. *Smith.*
In dry fissures of rocks, but rare. — Perennial. *May, June.*
3. *L. alpina* Linn. E. B. 32. 2254.
Smooth. Petals cloven. Flowers densely corymbose. Capsule stalked, of five cells. Leaves linear-lanceolate, naked at the base. *Smith.*
Near the summits of the Clova mountains, Angusshire. — Perennial. *June, July.*
4. *L. sylvestris* Hoppe. E. B. 22. 1579.
Flowers red, usually diœcious, in dichotomous panicles. Petals half cloven, with narrow diverging lobes. Capsules roundish, with recurved valves. Leaves ovate or lanceolate. *Dec.*
L. diurna *Sibth.*
L. dioica rubra *Smith.*
Common in hedges. — Perennial. *May, June.*
5. *L. dioica* Linn. E. B. 22. 1580.
Flowers white, diœcious, in dichotomous panicles. Petals half cloven, with broad converging lobes. Capsules conical, with erect valves. Leaves ovate. *Dec.*
L. vespertina *Sibth.*
L. dioica alba *Smith.*
Common in hedges. — Perennial. *June—September.*

5. AGROSTEMMA Linn.

Calyx somewhat campanulate, coriaceous, with five foliaceous segments.
Stamens 10. *Stigmas* 5. *Capsule* 1-celled.

1. *A. Githago* Linn. Corn Cockle. E. B. 11. 741.
Hairy. *Calyx*-teeth rising above the corolla. Petals undivided, without teeth. *Smith.*
Lychnis Githago *Dec.*
Githago segetum *Desf.*
In corn fields, a common weed. — Annual. *June, July.*

Tribe 2. *Alsineæ* Dec.

Sepals 4-5, distinct, or cohering only at the base.

6. BUFFONIA Linn.

Sepals 4. *Petals* 4, entire. *Stamens* 4. *Stigmas* 2. *Capsule* compressed, 1-celled, 2-valved, 2-seeded. *Dec.*

1. *B. annua* Dec. E. B. 19. 1313.
Stem loosely panicled at the base, with short straggling firm branches. Furrows of the calyx straight parallel. Capsule

scarcely so long as the calyx. Leaves subulate, dilated at the base. *Dec.*

B. tenuifolia Linn.

Found by Plukenet about Boston, Lincolnshire; and on Hounslow Heath, by Mr. Doody. — Annual. *June.*

7. CHERLERIA Linn.

Sepals 5. *Petals* 5, minute, emarginate. *Stamens* 10. *Stigmas* 3. Capsule of 3 cells (?) and 3 valves; each cell with two seeds. — Smooth herbaceous plants, growing in tufts. Leaves small, clustered. Flowers on short stalks, pale, greenish white. *Dec.*

1. *C. sedoides* Linn. Cyphel. E. B. 17. 1212.

On the loftiest mountains of Scotland, in moist spots near their summits not unfrequent. — Perennial. *July.*

8. SPERGULA Linn. SPURREY.

Calyx 5-parted. *Petals* 5, entire. *Stamens* 5-10. *Stigmas* 5. Capsule of one cell, 6 valves, and many seeds. *Dec.*

1. *S. arvensis* Linn. E. B. 22. 1535.

Leaves whorled. Stalks when in fruit reflexed. *Smith.*

β. Flowers usually pentandrous. Seeds bordered. E. B. 22. 1536.

S. pentandra Linn.

In sandy corn fields. — Annual. *June, July.*

2. *S. nodosa* Linn. E. B. 10. 694.

Leaves opposite, awl-shaped, smooth; upper ones clustered. Calyx without ribs. *Smith.*

In moist sandy or turfy ground. — Perennial. *July, August*

3. *S. saginoides* Linn. E. B. 30. 2105.

Leaves opposite, awl-shaped, almost pointless, naked. Flower-stalks solitary, smooth, much longer than the leaves. *Smith.*

On the highland mountains of Scotland. — Perennial. *June.*

S. subulata Swartz. E. B. 16. 1082.

Leaves opposite, awl-shaped, bristle-pointed, fringed. Flower-stalks solitary, much longer than the leaves, slightly hairy. *Smith.*

S. laricina Huds.

S. saginoides Curtis.

On barren sandy heaths. — Perennial. *July, August.*

S.

9. ELATINE Linn. WATERWORT.

Calyx 3- or 4-parted. *Petals* 3 or 4, sessile. *Stamens* equal in number to the petals, or twice as many. *Stigmas* 4, capitate. Capsule with 4 cells, 4 valves, and many seeds. Seeds cylindrical. *Dec.*

1. *E. tripetala* Smith. E. B. 14. 955.

Leaves opposite, rough with minute points. Flowers mostly three-cleft. *Smith.*

E. Hydropiper E. B. not of Linn.

? *E. triandra* Hoffm.

On the margins of ponds or ditches, in a sandy soil. About the eastern shore of Bomere pool, near Conover, Shropshire. Near Binfield, Berks. — Annual. *July, August.*

10. SAGINA Linn. PEARL-WORT.

Calyx 4-5-parted. *Petals* 4-5, or none. *Stamens* 4-5. *Capsule* with 4 or 5 valves, 1-celled, many-seeded. *Dec.*

1. *S. procumbens* Linn. E. B. 13. 880.
Stems procumbent, smooth. Leaves minutely pointed. Petals half as long as the calyx. *Smith.*
Very common. — Perennial. *May—August.*
2. *S. maritima* Don. E. B. 31. 2195.
Stems nearly upright, divaricated, smooth. Leaves obtuse, without bristles. Petals none. *Smith.*
On the sea-coast of Scotland, as well as of England and Ireland; also on the Highland mountains. *Smith.* — Annual. *May—August.*
3. *S. apetala* Linn. E. B. 13. 881.
Stems nearly upright, hairy. Leaves bristle-pointed, fringed. Petals obsolete, or wanting. *Smith.*
In dry, sandy, barren ground; on walls and waste places; very common. — Annual. *May, June.*

11. MCENCHIA Ehr.

Sepals 4. *Petals* 4, entire. *Stamens* 4. *Stigmas* 4. *Capsule* cylindrical, 1-celled, many-seeded, with 8 or 10 teeth at the apex.

1. *M. glauca* Pers. E. B. 9. 609.
M. erecta *Smith.*
Sagina erecta Linn.
In pastures and heathy ground, on a barren gravelly soil. — Annual. *May.*

12. ARENARIA Linn.

Sepals 5. *Petals* 5, entire. *Stamens* 10, some of which are occasionally abortive. *Stigmas* 3. *Capsule* 1-celled, with 3 or 6 teeth at the apex, and many seeds. *Dec.*

* *Stipules* none.

1. *A. peploides* Linn. Sea Chickweed. E. B. 3. 189.
Leaves ovate, acute, fleshy. Calyx obtuse, without ribs. *Smith.*
On the sandy sea-coast frequent. — Perennial. *June, July.*
2. *A. trinervis* Linn. E. B. 21. 1483.
Leaves ovate, acute, stalked, ribbed. Calyx obscurely 3-ribbed, with a rough keel. *Smith.*
In shady bushy places, where the soil is rather moist. — Annual. *May, June.*
3. *A. serpyllifolia* Linn. E. B. 13. 923.
Leaves ovate, nearly sessile, rough. Sepals hairy; three outermost 5-ribbed.
On walls and dry sandy ground, common. — Annual. *July.*
4. *A. tenuifolia* Linn. E. B. 4. 219.
Leaves awl-shaped, pointed. Stem panicled. Capsules erect, of three valves. Petals lanceolate, shorter than the calyx. *Smith.*
In dry, barren sandy fields, and on walls, but not very frequent. — Annual. *June.*
5. *A. rubella* Smith. E. B. Supp. 2638.
Leaves awl-shaped, bluntish, downy. Stems 1-3 flowered, hairy.

Sepals acute, with 3 ribs, shorter than the capsule. Petals oblong, rather shorter than the calyx.

Alsine rubella Wahl.

Arenaria rubella Smith.

On the mountains of Breadalbane. — Perennial. June.

6. *A. verna* Linn.

E. B. 8. 512.

Leaves awl-shaped, bluntish. Stem paniced. Sepals with three remote equal ribs; longer than the petals. Smith.

A. saxatilis Huds.

A. juniperina and *laricifolia* With.

A. cæspitosa Ehr.

In mountainous pastures in the north, among fragments of quartz and spar. — Perennial. May—August.

7. *A. fasciculata* Jacq.

E. B. 25. 1744.

Leaves awl-shaped. Stem erect, straight, densely corymbose. Petals very short. Lateral ribs of the calyx dilated. Smith.

A. fastigiata Smith.

On rocks on the mountains of Angusshire and Fifeshire. — Annual. June.

8. *A. ciliata* Linn.

E. B. 25. 1745.

Leaves spatulate, roughish; fringed at the base. Stems numerous, branched, procumbent, downy. Flowers terminal, solitary. Sepals with five or seven ribs.

A. multicaulis Linn.

Upon the limestone cliffs of a high mountain adjoining to Ben Bulbin, in the S. county of Sligo. — Perennial. August, September.

** *Stipules membranous.*

9. *A. rubra* Linn.

E. B. 12. 852.

Leaves linear, bristle-pointed. Stipules membranous, sheathing. Seeds compressed, angular, roughish. Smith.

A. campestris L.

In sandy fields abundantly. — Annual. July, August.

10. *A. media* Linn.

E. B. 14. 958.

Leaves semicylindrical, fleshy, pointless. Stipules membranous, sheathing. Seeds compressed, bordered, smooth. Smith.

A. marina Fl. Dan.

On the sandy sea-coast, and in pastures adjacent. — Annual. June, July.

13. *HOLOSTEUM* Linn.

Sepals 5. *Petals* 5, toothed. *Stamens* 5, some of which are occasionally abortive. *Stigmas* 3. *Capsule* 1-celled, dehiscing at the apex in 6 teeth. *Embryo* doubled back in the albumen. Dec.

1. *H. umbellatum* Linn.

E. B. 1. 27.

Flower stalks umbellate. Leaves ovate, acute. Smith.

On several walls and roofs about Norwich, especially in the northern part of the town; and about Bury. — Annual. April.

14. *CERASTIUM* Linn, MOUSE-EAR CHICKWEED.

Calyx 5-parted. *Petals* 5, bifid. *Stamens* 10. *Stigmas* 5. *Capsule* 1-celled, cylindrical or globose, dehiscing at the point; teeth 10, circinate or ascending. Dec.

1. *C. aquaticum* Linn. E. B. 8. 538.
Leaves cordate, the upper sessile. Flowers in loose dichotomous panicles. Petals bifid, scarcely longer than the calyx. Capsules deflexed, ovate, longer than the calyx. *Bentham*.
In watery places. — Perennial. *July*.
 2. *C. vulgatum* Linn. E. B. 11. 789.
Hairy, pale green. Leaves roundish-ovate, very blunt. Flowers in dense dichotomous panicles. Petals linear, with 2 teeth, scarcely longer than the calyx. Capsules ascending, oblong, about twice as long as the calyx : with subulate teeth. *Bentham*.
Very common in waste places. — Annual. *April, May*.
 3. *C. viscosum* Linn. E. B. 11. 790.
Hairy, deep green. Leaves oblong lanceolate. Flowers in loose dichotomous panicles. Petals oblong, bifid, shorter or scarcely longer than the calyx. Capsules deflexed, incurved, about twice as long as the calyx : with lanceolate teeth. *Bentham*.
Very common in waste places — Perennial. *May—September*.
 4. *C. semidecandrum* Linn. E. B. 23. 1630.
Hoary and hairy. Stems erect, much branched. Flowers dichotomous, in corymbose panicles. Petals emarginate, shorter than the calyx. Capsules erect, oblong, straight, scarcely longer than the calyx. *Bentham*.
β. tetrandrum. E. B. 3. 166.
Stamens 4. Flowers 4-cleft. Petals inversely heart-shaped.
C. tetrandrum *Smith*.
Sagina cerastoides *Smith*.
γ. pumilum. Dwarf. Petals half divided.
C. pumilum *Curt*.
In waste places, and on old walls ; *γ* at Croydon. — Annual. *March—June*.
 5. *C. alpinum* Linn. E. B. 7. 472.
Pilose. Stems ascending. Leaves ovate or oval-oblong, obtuse. Flowers few, in loose dichotomous panicles. Peduncles smooth or pilose. Petals about twice as long as the calyx. Capsule oblong, cylindrical ; when ripe about twice as long as the calyx. *Bentham*.
β. piloso-pubescens *Bentham*. E. B. 7. 473.
Hairs of the stem and leaves less woolly and thinner. Leaves rather longer.
C. latifolium *Smith*, not of *Linn*., according to Mr. *Bentham*.
On the mountains of Scotland and Wales. — Perennial. *June, July*.
 6. *C. arvense* Linn. E. B. 2. 93.
Stems ascending. Leaves lanceolate or linear, acute, or rather blunt. Flowers in dichotomous panicles. Peduncles pubescent with glands intermixed. Petals twice as long as the calyx. Capsule oblong, longer than the calyx. *Bentham*.
In fields and on banks — Perennial. *May—August*.
- S.** 15. LARBREA *Aug. St. Hilaire*.
Calyx 5-cleft, shortly urceolate at the base. *Petals* 5, 2-parted, inserted on the calyx. *Stamens* 10, perigynous. *Stigmas* 3. *Ovarium*

1-celled, many-seeded. *Ovules* attached to a central axis. *Capsule* with 6 teeth at the end. — *A smooth herb, with the habit of Alsine media.* *Dec.*

1. *L. aquatica* St. Hilaire. E. B. 15. 1074.

Stellaria uliginosa Smith.

S. aquatica Pollich.

S. hypericifolia Wiggers.

S. Dilleniana Leers.

S. lateriflora Krock.

S. fontana Jacq.

S. Alsine W.

} according to Smith.

In wet places. — Annual. *June.*

16. STELLARIA Linn. STITCHWORT.

Calyx 5-parted. *Petals* 5, bifid. *Stamens* 10, or by abortion 3-8. *Stigmas* 3. *Capsule* of one cell, 6 teeth at the apex, and many seeds. *Dec.*

1. *S. nemorum* Linn. E. B. 2. 92.

Lower leaves heart-shaped, stalked; upper ovate, sessile. Panicle repeatedly forked. *Smith.*

In moist woods, and the neighbourhood of shady springs, in the north of England, and lowlands of Scotland. — Perennial. *May, June.*

2. *S. media* Withering. Common Chickweed. E. B. 8. 537.

Leaves ovate. Stems procumbent, with a hairy alternate line on one side. *Stamens* from 5 to 10. *Smith.*

Alsine media Linn.

Common every where in waste and cultivated ground. — Annual. *March—November.*

3. *S. Holostea* Linn. E. B. 8. 511.

Leaves lanceolate, finely serrated. *Petals* inversely heart-shaped. *Calyx* without ribs. *Smith.*

In groves, thickets, and dry hedge bottoms, common. — Perennial. *May.*

4. *S. graminea* Linn. E. B. 12. 803.

Leaves linear-lanceolate, entire. Panicle terminal, spreading.

Calyx 3-ribbed, nearly as long as the petals. *Smith.*

In heathy pastures, or bushy places, on a gravelly or sandy soil. — Perennial. *May.*

5. *S. glauca* Withering E. B. 12. 825.

Leaves linear-lanceolate, entire, glaucous. Flower-stalks partly scattered, erect. *Calyx* 3-ribbed, half as long as the petals. *Smith.*

S. palustris Retz.

S. media Sibth.

In moist meadows, bogs, and the margins of ditches and ponds. — Perennial. *June, July.*

6. *S. scapigera* Willd. E. B. 18. 1269.

Leaves linear-lanceolate, rough-edged. Stem shorter than the flower-stalks. *Calyx* 3-ribbed, as long as the petals. *Smith.*

By the sides of rivulets on the Scottish mountains. — Perennial. *June.*

7. *S. cerastoides* Linn.

E. B. 13. 911.

Leaves elliptic-oblong, bluntish, smooth. Stems with a hairy lateral line, about 2-flowered. Flower-stalks downy all over.

Calyx with a single downy rib. *Smith*.

In the Highlands of Scotland. — Perennial. *June*.

Order 15. LINEÆ *Dec.*

Sepals 3-4-5, with an imbricated æstivation, continuous with the peduncle, persistent.

Petals equal in number to the sepals, hypogynous, unguiculate, with a twisted æstivation.

Stamens equal in number to the petals, and alternate with them, united at the base in an hypogynous ring, from which proceed little teeth opposite to the petals, and indicating abortive stamens; *anthers* ovate, innate.

Ovarium with about as many cells as sepals, seldom fewer. *Styles* equal in number to the cells. *Stigmas* capitate.

Capsule generally pointed with the indurated base of the styles, many-celled; each cell partially divided in two by an imperfect spurious dissepiment, and dehiscing with two valves at the apex.

Seeds in each cell single, compressed, inverted; *albumen* usually absent; inner lining of the *testa* tumid. *Embryo* straight, with the radicle pointing towards the hilum; *cotyledons* flat.

Herbaceous plants, or *small shrubs*. *Leaves* entire, without stipulæ.

Petals very fugitive.

1. LINUM Linn.

Parts of the flower quinary. *Sepals* entire. *Styles* very seldom 3.

* *Leaves* alternate.

1. *L. usitatissimum* Linn. Common Flax. E. B. 19. 1357.

Sepals ovate, acute, with 3 ribs. *Petals* crenate. *Leaves* lanceolate, alternate. Stem mostly solitary.

In cultivated fields, frequent. — Annual. *July*.

2. *L. perenne* Linn.

E. B. 1. 40.

Sepals obovate, obtuse, obscurely 5-ribbed, naked. *Leaves* linear-lanceolate. *Stems* numerous, ascending.

On chalky hills. — Perennial. *June, July*.

3. *L. angustifolium* Huds.

E. B. 6. 381.

Sepals elliptical, 3-ribbed, naked, pointed as well as the capsule.

Leaves linear-lanceolate, with 3 ribs. *Stems* numerous.

L. tenuifolium *Withering*.

In sandy or chalky pastures, especially towards the sea. — Perennial. *July*.

* *Leaves opposite.*

4. *L. catharticum* Linn. Mill-mountain. E. B. 6. 382.
 Leaves opposite, obovate-lanceolate. Panicle forked; partly drooping. Petals acute. *Smith.*
 In dry pastures. — Annual. *June—August.*

2. *RADIOLA* Gmelin.

Parts of the flower quaternary. *Sepals* cohering half way, trifold at the points. *Dec.*

1. *R. linoides* Gmel. *Dec.* E. B. 13. 893.
R. Millegrana *Smith.*
Linum Radiola Linn.
 In wet sandy ground. — Annual. *July, August.*

Order 16. TILIACEÆ *Juss.*

Sepals 4-5, with a valvular æstivation.

Petals 4-5, entire, with a little pit at their base.

Stamens generally indefinite, hypogynous, distinct; *anthers* 2-celled, dehiscing longitudinally.

Disk formed of glands equal in number to the petals at the foot of which they are placed, adhering to the stalk of the ovarium.

Ovarium single, composed of from 4 to 10 carpella; *style* one; *stigmata* as many as the carpella of the ovarium.

Fruit dry, of several cells.

Seeds numerous. *Embryo* erect in the axis of fleshy albumen, with flat foliaceous cotyledons.

Trees or *shrubs*; seldom *herbaceous* plants. *Leaves* simple, stipulate, toothed.

1. *TILIA* Linn. LIME-TREE.

Calyx 5-parted, deciduous. *Petals* 5, with or without a scale on the inside. *Stamens* numerous, with distinct or somewhat polyadelphous filaments. *Ovarium* with 1 style, and 5 2-seeded cells. *Fruit* coriaceous, 1-celled, with 1 or 2 seeds. *Cotyledons* sinuate.—*Trees* with a bark separating into distinct layers; and light wood.

1. *T. intermedia* *Dec.* E. B. 9. 610.
 Leaves twice the length of the footstalks, quite smooth, except a woolly tuft at the origin of each vein beneath. Cymes many-flowered. *Fruit* coriaceous, downy.
T. europæa Linn.
 In woods and hedges. — Tree. *July.*
2. *T. grandifolia* Ehr. E. B. Supp. 2720.
 Leaves downy, especially beneath; origin of their veins woolly. Branches hairy. Umbels 3-flowered. *Fruit* woody, downy, turbinate, with 5 prominent angles.

T. platyphylla Dec.

T. cordifolia Besser.

In woods and hedges. — Tree. *June, July.*

3. *T. rubra* Dec.

Leaves cordate and unequal at the base, with hairs beneath and on the young shoots; the origin of the veins woolly. Fruit globose, smooth. *Dec.*

T. corallina Smith.

In woods and hedges. — Tree. *June, July.*

4. *T. parvifolia* Ehr.

E. B. 24. 1705.

Leaves smooth above; glaucous beneath, with scattered, as well as axillary, hairy blotches. Umbels compound, many-flowered. Fruit roundish, brittle, nearly smooth.

T. microphylla Vent.

In woods. — Tree. *August.*

Order 17. ACERINEÆ Juss.

Calyx divided into 5, or occasionally from 4 to 9 parts.

Petals equal in number to the lobes of the calyx, inserted round an hypogynous disk.

Stamens inserted upon an hypogynous disk, generally 8, not often any other number; always definite.

Ovary 2-lobed; *style* 1; *stigmas* 2.

Fruit formed of two parts, which are indehiscent and winged; each 1-celled with 1 or 2 seeds.

Seeds erect with a thickened lining to the testa. *Albumen* none.

Embryo curved, with foliaceous wrinkled cotyledons, and an inferior radicle.

Trees. *Leaves* opposite, simple, without stipulæ. *Flowers* often polygamous, sometimes apetalous, in axillary corymbs or racemes.

ACER Linn.

Flowers polygamous. *Calyx* of 5 lobes or parts. *Stamens* seldom 5, generally 7 or 9. *Leaves* simple. *Dec.*

1. *A. Pseudo-platanus* Linn. Sycamore. E. B. 5. 303.

Leaves 5-lobed, unequally serrated. Clusters pendulous. *Smith.*

In hedges, and about houses, common, but not truly wild. — Tree. *May.*

2. *A. campestre* Linn. Common Maple. E. B. 5. 304.

Leaves 5-lobed, obtuse, somewhat cut. Clusters corymbose, erect. *Smith.*

In hedges and thickets, common; rare in Scotland, and the north of England. *Smith.* — Tree. *May, June.*

Obs. This species requires careful examination. Several curious varieties, some of which have been even considered species, are described by the botanists of Germany, and probably exist in this country.

Order 18. GERANIACEÆ. *Juss.*

Sepals 5, persistent, more or less unequal, with an imbricated æstivation; 1 sometimes saccate or spurred at the base.

Petals 5, seldom 4 in consequence of 1 being abortive, unguiculatè, equal or unequal, either hypogynous or perigynous.

Stamens usually monadelphous, hypogynous, or perigynous, twice or thrice as many as the petals; some occasionally abortive.

Ovary composed of 5 pieces placed round an elevated axis, each 1-celled, 1-seeded; *ovula* pendulous; *styles* 5, cohering round the elongated axis.

Fruit formed of 5 pieces, cohering round a lengthened indurated axis; each piece consisting of 1 cell, containing 1 seed, having a membranous pericarpium, and terminated by an indurated style, which finally curls back from the base upwards, carrying the pericarpium along with it.

Seeds solitary, pendulous, without albumen. *Embryo* curved; *radicle* pointing to the base of the cell; *cotyledons* foliaceous, convolute and plaited.

Herbaceous plants or *shrubs*. *Stems* tumid at the joints. *Leaves* either opposite or alternate; in the latter case opposite the peduncles. *Stipules* membranous.

1. GERANIUM *Linn.* CRANE'S-BILL.

Sepals 5, equal. *Petals* 5, equal. *Stamens* 10, fertile, alternately larger. *Nectariferous glands* at the base of the larger stamens. *Indurated styles* glabrous internally, curling back from the axis, from the base to the point. — *Herbaceous plants* with *palmate lobed leaves*, and 1 or 2-flowered peduncles.

1. *G. phæum* *Linn.*

E. B. 5. 322.

Stalks 2-flowered, paniced, erect. Calyx slightly pointed. Fruit keeled; hairy below; wrinkled at the summit. Stamens hairy. *Smith.*

In mountainous thickets, rare. — Perennial. *May, June.*

2. *G. nodosum* *Linn.*

E. B. 16. 1091.

Stalks 2-flowered. Leaves opposite, 5- or 3-lobed, pointed, serrated. Fruit even, downy all over. *Smith.*

In mountainous thickets, very rare. — Perennial. *May—August.*

3. *G. sylvaticum* *Linn.*

E. B. 2. 121.

Stalks 2-flowered, somewhat corymbose. Leaves about 7-lobed, cut and serrated. Fruit hairy all over. Stamens awl-shaped, fringed. *Smith.*

In woods, thickets, and pastures. — Perennial. *June, July.*

4. *G. pratense* *Linn.*

E. B. 6. 404.

Stalks 2-flowered. Leaves in about 7 deep segments, sharply pinatifid and serrated. Fruit hairy all over. Stamens smooth much dilated at the base. *Smith.*

In pastures and thickets. — Perennial. *June, July.*

5. *G. Robertianum* Linn. Herb Robert. E. B. 21. 1486.
 Stalks 2-flowered. Leaves somewhat pedate, pinnatifid, 5-angled.
 Calyx with 10 angles. Fruit wrinkled, simply keeled. *Smith*.
 In waste ground, on walls, banks, and under hedges, common. — Annual. *May*
—October.
6. *G. Raii*.
 Stalks 2-flowered, shaggy. Leaves roundish, succulent, lucid,
 5-angled, lobed. Calyx with 10 angles, shaggy. Fruit wrinkled,
 simply keeled.
Geranium lucidum saxatile, foliis Geranii Robertiani Raii Syn. 358.
 On the sea-coast in the south of England. — Annual. *June, July.*
7. *G. lucidum* Linn. E. B. 2. 75.
 Stalks 2-flowered. Leaves 5-lobed, rounded. Calyx pyramidal,
 transversely wrinkled. Fruit wrinkled, triply keeled. *Smith*.
 On walls, cottage roofs, and moist rocks. — Annual. *May—August.*
1. *G. molle* Linn. E. B. 11. 778.
 Stalks 2-flowered, alternate, opposite to the leaves, which are
 rounded, many-lobed, notched, and downy. Fruit much wrinkled,
 smooth. Seeds without dots. *Smith*.
 Very common. — Annual. *April—August.*
9. *G. pusillum* Linn. E. B. 6. 385.
 Stalks 2-flowered. Leaves kidney-shaped, palmate, cut, downy.
 Fruit keeled, even, clothed with erect hairs. Seeds without dots.
 Anthers only 5. *Smith*.
G. parviflorum Curtis.
G. malvæfolium Scopoli.
β. humile Dec.
 Leaves more finely cut. Stem dwarf.
G. humile Cavan.
 In gravelly fields and waste ground, very common. — Annual. *June—Sep-*
tember.
10. *G. pyrenaicum* Linn. E. B. 6. 405.
 Stalks 2-flowered. Petals twice the length of the calyx. Leaves
 kidney-shaped, lobed. Fruit keeled, even, somewhat downy.
 Seeds without dots. *Smith*.
 In meadows and pastures. — Perennial. *June, July.*
11. *G. rotundifolium* Linn. E. B. 3. 157.
 Stalks 2-flowered. Petals entire. Leaves kidney-shaped, cut,
 downy. Fruit even, hairy. Seeds reticulated. *Smith*.
 In waste places, not very common. — Annual. *June, July.*
12. *G. dissectum* Linn. E. B. 11. 753.
 Stalks 2-flowered. Petals cloven. Leaves in 5 deep lacinated
 segments. Fruit hairy. Seeds reticulated. *Smith*.
 In barren gravelly waste ground, hedges, and fallow-fields, frequent. — Annual.
May, June.

13. *G. columbinum* Linn. E. B. 4. 259.
Stalks 2-flowered, thrice as long as the leaves, which are in 5 very deep, lacinated segments. Fruit quite even and smooth. Seeds reticulated. *Smith*.
In fields, or on dry banks, on a gravelly or limestone soil, sparingly. — Annual. *June, July*.
14. *G. sanguineum* Linn. E. B. 4. 272.
Stems branched, ascending. Stalks single-flowered. Leaves roundish, in 5 or 7 deeply separated, falcate, 3-cleft lobes. Fruit even; bristly at the summit. Seeds minutely wrinkled. *Smith*.
In bushy, stony, rather hilly situations, or upon limestone rocks. — Perennial. *July—September*.
15. *G. prostratum* Cavanilles.
Stems dwarf, tufted, nearly simple, shaggy. Stalks single-flowered. Leaves roundish, in 3 or 5 2- or 3-lobed ovate divisions. Fruit even, bristly at the summit. Seeds minutely wrinkled.
G. Lancastriense *Withering*.
On the sandy coast of the isle of Walney, in Lancashire. — Perennial. *July—September*.

2. ERODIUM *L'Herit.* STORK'S-BILL.

Sepals 5, equal, not extended into a nectariferous tube. *Petals* 5, regular, or irregular. *Stamens* 10, monadelphous, of which 5 are sterile. *Glands* at the base of the sterile stamens. *Indurated styles* bearded internally, twisted spirally when ripe. — Herbaceous plants or under-shrubs, with lobed leaves, and peduncles usually bearing several flowers.

1. *E. cicutarium* *Smith*. E. B. 25. 1768.
Stems procumbent, hairy. Stalks many-flowered. Leaves pinnate; leaflets sessile, pinnatifid, cut. Stamens simple. *Smith*.
In waste ground, frequent. — Annual. *June—September*.
2. *E. moschatum* *Smith*. E. B. 13. 902.
Stems depressed, hairy. Stalks many-flowered. Leaves pinnate; leaflets nearly sessile, elliptical, unequally cut. Perfect stamens toothed at the base. *Smith*.
In mountainous pastures. — Annual. *June, July*.
3. *E. maritimum* *Smith*. E. B. 9. 646.
Stems depressed, hairy. Stalks barely 3-flowered. Leaves simple, heart-shaped, cut, crenate, rough. *Smith*.
On the sandy or gravelly sea-coasts of Cornwall, Wales, Sussex, &c. — Perennial. *May—September*
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Order 19. OXALIDEÆ *Dec.*

Sepals 5, sometimes slightly cohering at the base, persistent, equal.

Petals 5, hypogynous, equal, unguiculate, with a spirally twisted æstivation.

Stamens 10, usually more or less monadelphous, those opposite the petals forming an inner series, and longer than the others; *anthers* 2-celled, innate.

Ovary with 5 angles and 5 cells; *styles* 5, filiform; *stigmata* capitate or somewhat bifid.

Fruit capsular, membranous, with 5 cells, and from 5 to 10 valves.

Seeds few, fixed to the axis, enclosed within a fleshy arillus, which curls back at the maturity of the fruit, and expels the seeds with elasticity. *Albumen* between cartilaginous and fleshy. *Embryo* inverted, the length of the albumen, with a long radicle, and foliaceous cotyledons.

Herbaceous plants, or under-shrubs. *Leaves* alternate, compound, sometimes simple by abortion.

1. OXALIS *Linn.* WOOD-SORREL.

Sepals 5, distinct, or united at the base. *Petals* 5. *Stamens* 10; *filaments* slightly monadelphous; the 5 exterior alternately shorter. *Styles* 5. *Stigmata* pencilled, or capitate. *Capsule* 5-cornered, oblong or cylindrical.

1. *O. Acetosella* *Linn.*

E. B. 11. 762.

Stalks radical, single-flowered. Leaves ternate, inversely heart-shaped, hairy. Root of many scaly joints. Stamens all simple. *Smith.*

In groves and shady places, abundantly. — Perennial. *April, May.*

2. *O. corniculata* *Linn.*

E. B. 24. 1726.

Stem branched, procumbent. Flower-stalks in small umbels. Stipules united to the base of the footstalks.

In shady, rather moist, waste ground. — Annual. *May—October.*

Order 20. BALSAMINEÆ *A. Richard.*

Sepals 2, deciduous, with an imbricate æstivation.

Petals 4, hypogynous, cruciate, unequal; the lower elongated at the base into a spur.

Stamens 5, hypogynous; the 3 lower standing opposite the petals, and bearing anthers with two perfect cells; the 2 upper placed in front of the upper petal, bearing anthers with either 2 cells or only 1; *filaments* thickened at the apex; *anthers* partly connate, bursting lengthwise.

Ovary single; *style* none; *stigmas* 5, either distinct or connate.

Fruit capsular, with 5 elastic valves, and 5 cells formed by membranous projections of the placenta, which occupies the axis of the fruit, and is connected with the apex by 5 slender threads.

Seeds numerous, suspended; *albumen* none; *embryo* straight, with a superior radicle, and plano-convex cotyledons.

Succulent herbaceous plants. *Leaves* simple, opposite, or alternate, without stipulæ. *Peduncles* axillary.

1. IMPATIENS Linn.

Anthers 5, of which 3 are 2-celled, and 2 1-celled. *Stigmas* 5, united. *Capsule* long, taper, the valves rolling back from the base to the apex.

1. *I. Noli-me-tangere* Linn. Touch me not. E. B. 14. 937.

Peduncles with 3 or 4 flowers shorter than the leaves, and spreading beneath them. *Flowers* pendulous, their spur recurved at the apex. *Leaves* ovate, coarsely toothed. *Joints* of the stem tumid. *Dec.*

In watery shady places in the north, but rarely. — Annual. *July, August.*

Order 21. ILLECEBREÆ R. Brown.

Sepals 5, seldom 3 or 4, sometimes distinct, sometimes cohering more or less.

Petals minute, inserted upon the calyx between the lobes.

Stamens exactly opposite the sepals, if equal to them in number; sometimes fewer by abortion; *filaments* distinct; *anthers* 2-celled.

Ovary superior; *styles* 2 or 3, either distinct or partially combined.

Fruit small, dry, 1-celled, either indehiscent, or opening with 3 valves.

Seeds either numerous, upon a free central placenta, or solitary and pendulous from the apex of the cavity of the fruit; *albumen* farinaceous; *embryo* lying on one side of the albumen, curved more or less, with the radicle always pointing to the hilum.

Herbaceous or *half-shrubby* branching plants, with opposite or alternate leaves, and scarious stipulæ. *Flowers* minute, with scarious bractææ.

1. CORRIGIOLA Linn. STRAPWORT.

Sepals 5, slightly cohering at the base. *Petals* 5, equal to the calyx, into which they are inserted alternately with its lobes. *Stamens* 5, opposite the sepals. *Style* short. *Stigmas* 3. *Fruit* 1-seeded, indehiscent, covered by the calyx. *Seed* single, suspended by its cord, which arises from the bottom of the cavity. — *Procumbent* herbs. *Leaves* alternate, glaucous. *Flowers* minute, in terminal corymbose racemes.

1. *C. littoralis* Linn.

E. B. 10. 668.

Stems bearing leaves on the part which bears the flowers. *Dec.*

On the southern coast of England. — Annual. *July, August.*

2. *HERNIARIA* Linn. RUPTURE-WORT.

Sepals 5, slightly cohering at the base, somewhat coloured inside.

Petals 5, filiform, entire, alternate with the sepals, sometimes wanting.

Stamens 5, or by abortion 2 or 3, opposite the sepals. *Styles* 2, short, distinct, or cohering at the base. *Fruit* 1-seeded, indehiscent, covered by the calyx. — *Little, prostrate, densely branching herbaceous plants. Leaves opposite, minute. Flowers in axillary clusters.*

1. *H. glabra* Linn.

E. B. 3. 206.

Hairs curved downwards. Leaves oval, oblong, glabrous.

In gravelly or sandy ground. — Perennial. *July, August.*

2. *H. hirsuta* Linn.

E. B. 20. 1379.

Hairs spreading. Leaves oval, oblong, hairy.

In sandy ground, rare. — Perennial. *July, August.*

S.

3. *ILLECEBRUM* Linn.

Sepals but little cohering at the base, hooded, thickened; their back elongated into a horn-like process. *Petals* either wanting, or in the form of 5 subulate scales, alternate with the sepals. *Stamens* from 2 to 5, opposite the sepals, and inserted into their base. *Stigmas* 2, capitate. *Fruit* included in the calyx, with 5 valves, or separable along 5 streaks. *Seed* solitary, inserted into one side of the cavity. *Embryo* nearly straight, on one side of the farinaceous albumen. — *Small herbs. Leaves opposite, with scarious stipulæ. Flowers axillary, or in cymes, with scarious bractææ.*

1. *I. verticillatum* Linn. Knot-grass.

E. B. 13. 895.

Flowers whorled, without bractææ. Stems procumbent. *Smith.*

In marshy boggy ground, in Cornwall and Devonshire. — Perennial. *July.*

4. *POLYCARPON* Linn.

Sepals slightly cohering at the base, concave, connate, mucronate, with membranous margins. *Petals* 5, emarginate. *Stamens* from 3 to 5. *Styles* 3, very short. *Capsule* of 1 cell, and 3 valves, many-seeded. — *Annuals. Leaves opposite, whorled. Flowers in corymbose cymes. Stipulæ and bractææ scarious.*

1. *P. tetraphyllum* Linn. All-seed.

E. B. 15. 1031.

Triandrous. *Petals* emarginate. Leaves of the stem whorled in ours, of the branches opposite. *Dec.*

On various parts of the coasts of Devonshire, Dorsetshire, and Portland island. — Annual. *May—August, or later.*

Order 22. TAMARISCINEÆ Desv.

Calyx 4- or 5-parted, persistent, with an imbricated æstivation.

Petals inserted into the base of the calyx, withering, with an imbricated æstivation.

Stamens either equal to the petals in number, or twice as many, either distinct or monadelphous.

Ovarium superior; *style* very short; *stigmata* 3.

Capsule 3-valved, 1-celled, many seeded; *placentæ* 3, either at the base of the cavity, or along the middle of the valves.

Seeds erect, or ascending, comose; *albumen* none; *embryo* straight with an inferior radicle.

Shrubs or *herbs* with rod-like branches. *Leaves* alternate, resembling scales, entire. *Flowers* in close spikes or racemes.

1. TAMARIX Linn. TAMARISK.

Calyx 4-5 parted. *Petals* 4 or 5. *Stamens* 4 or 5, alternate with the petals, and almost entirely distinct. *Ovarium* tapering much to the point. *Stigmas* 3, long, straggling, glandular and oblique at the apex. *Seeds* inserted into the base of the valves, or almost in the centre of the capsule. *Coma* of the seeds consisting of numerous simple hairs.

1. *T. gallica* Linn.

E. B. 19. 1318.

Lateral clusters numerous. *Leaves* lanceolate, spurred, acute. Branches smooth. *Smith*.

On rocks and cliffs on the south coast of England. — Shrub. *July*.

Order 23. PORTULACEÆ Juss.

Sepals 2, seldom 3 or 5, cohering by the base.

Petals generally 5, occasionally 3, 4, or 6, either distinct or cohering in a short tube.

Stamens inserted along with the petals into the base of the calyx, variable in number, all fertile; but opposite to the petals if equal to them in number. *Filaments* distinct; *anthers* versatile, with 2 cells, opening lengthwise.

Ovarium superior, 1-celled; *style* single or none; *stigmata* several, much divided.

Capsule 1-celled, dehiscing either transversely or by 3 valves; occasionally 1-seeded and indehiscent.

Seeds numerous, if the fruit is dehiscent, attached to a central placenta, which is connected with the style by conducting cords; *albumen* farinaceous; *embryo* curved round the circumference of the albumen, with a long radicle.

Succulent *shrubs* or *herbs*. *Leaves* alternate, entire, without stipulæ, sometimes sheathing at the base. *Flowers* axillary or terminal, fugitive.

1. MONTIA Linn.

Sepals 2 or 3. *Petals* 5, cohering at the base, 3 rather smaller than

the others. *Stamens* inserted into the claws of the petals, generally 3, before the smaller petals, seldom 4 or 5. *Ovarium* sessile. *Style* very short, in 3 parts; with spreading reflexed branches. *Capsule* of 1 cell, with 3 valves and 3 seeds. — *An annual, destitute of hairs. Leaves opposite. Flowers small, axillary.*

1. *M. fontana* Linn. Water Blinks. E. B. 17. 1206.
In watery places, especially on a gravelly soil. — Annual. April, May.

Order 24. CRASSULACEÆ Dec.

Sepals from 3 to 20, more or less united at the base.

Petals inserted in the bottom of the calyx, either distinct or cohering in a monopetalous corolla.

Stamens inserted with the petals, either equal to them in number, and alternate with them, or twice as many, those opposite the petals being shortest, and arriving at perfection after the others; *filaments* distinct, subulate; *anthers* of 2 cells, bursting lengthwise.

Hypogynous scales several, 1 at the base of each ovary, sometimes obsolete.

Ovaria of the same number as the petals, opposite to which they are placed around an imaginary axis; 1-celled, tapering into stigmata.

Fruit consisting of several follicles, opening by the suture in their face.

Seeds attached to the margins of the suture, variable in number; *embryo* straight in the axis of the albumen, with the radicle pointing to the hilum.

Succulent herbs or shrubs. Flowers usually in cymes, sessile, arranged unilaterally along the divisions of the cymes.

1. TILLÆA Linn.

Sepals 3 or 4, cohering at the base. *Petals* 3 or 4, oblong, taper-pointed. *Stamens* 3 or 4. *Hypogynous scales* obsolete. *Fruit* of 3 or 4 parts, each of which is contracted in the middle and 2-seeded. — *Small annual plants, growing in damp exposed places. Leaves opposite. Flowers minute, axillary.*

1. *T. muscosa* Linn. E. B. 2. 116.
Stems procumbent. *Flowers* sessile, mostly 3-cleft. *Smith.*
On the most barren sandy heaths. — Annual. May, June.

2. UMBILICUS Dec. NAVELWORT.

Sepals 5, cohering at the base. *Petals* cohering in a campanulate, 5-cleft corolla. *Stamens* 10, inserted upon the corolla. *Hypogynous scales* 5, obtuse. *Fruit* in 5 parts, which taper to the point, and are tipped each with a subulate style. — *Herbaceous plants. Leaves fleshy, alternate, or growing in clusters. Flowers whitish or yellow.*

1. *U. pendulinus* Dec. E. B. 5. 325.
Leaves peltate, notched. Flowers clustered, drooping. Bractæas entire. Root tuberous. *Smith*.
Cotyledon umbilicus *Hudson*.
On moist dripping rocks, and old walls, in mountainous countries. — Perennial. *June, July*.
2. *U. erectus* Dec. E. B. 22. 1522.
Leaves deeply toothed; the lowermost slightly peltate. Flowers erect. Root creeping. *Smith*.
Cotyledon lutea *Hudson*.
On moist rocks and old walls, very rare. — Perennial. *July*.

3. *SEDUM* Linn.

Sepals 5, cohering at the base, turgid, and often foliaceous. *Petals* 5, spreading. *Stamens* 10. *Hypogynous* scales entire. *Fruit* in 5 parts. — Herbs with fleshy leaves, many branches, and cymose flowers.

* *Leaves flat.*

1. *S. Telephium* Linn. Orpine. E. B. 19. 1319.
Leaves flattish, serrated. Corymb leafy. Stem erect. *Smith*.
In the borders of fields, hedges, and bushy places, on a gravelly or chalky soil. — Perennial. *August*.
2. *S. Rhodiola* Dec. E. B. 8. 508.
Leaves oblong, serrated at the tip, smooth. Root fleshy. Stem simple. Flowers usually with 4 petals and divisions. *Dec*.
Rhodiola rosea Linn.
Rhodiola odorata Lam.
In alpine rocks or cliffs, near the sea. — Perennial. *May, June*.

** *Leaves tumid, or somewhat cylindrical.*

3. *S. dasyphyllum* Linn. E. B. 10. 656.
Leaves ovate, obtuse, fleshy, sessile; the lower ones opposite. Stems flaccid. Panicles glutinous. *Smith*.
On walls and rocks. — Perennial. *June*.
4. *S. anglicum* Hudson. E. B. 3. 171.
Leaves ovate, thick, mostly alternate; spurred at the base. Cyme of two smooth branches. *Smith*.
Sedum annuum *Hudson*.
S. rubens *Lightf*.
On the sandy or rocky sea-coast, as well as on mountains. — Annual. *July*.
5. *S. acre* Linn. E. B. 12. 839.
Leaves alternate, nearly ovate, thick, tumid; spurred at the base. Cyme of three smooth branches, leafy. *Smith*.
On walls, roofs, and dry sandy ground, common. — Perennial. *June*.
6. *S. sexangulare* Linn. E. B. 28. 1946.
Leaves in six or seven rows, nearly cylindrical, obtuse, fleshy,

spreading; spurred at the base. Cyne of three smooth branches, leafy. *Smith*.

On dry sandy ground, and old walls, not common. — Perennial. *July*.

7. *S. villosum* Linn. E. B. 6. 394.

Leaves alternate, linear, flattened, slightly hairy as well as the flower-stalks. Stem erect. *Smith*.

In wet mountainous pastures, and the clefts of moist rocks, in the North. — Perennial. *June, July*.

8. *S. album* Linn. E. B. 22. 1578.

Leaves oblong, cylindrical, obtuse, spreading, smooth. Panicle much branched. *Smith*.

On rocks, walls, and roofs, not common. — Perennial. *July*.

9. *S. reflexum* Linn. E. B. 10. 695.

Leaves awl-shaped, scattered, spurred at the base; the lowermost recurved. Flowers cymose. Segments of the calyx ovate. *Smith*.

On walls and thatched roofs, abundantly. — Perennial. *July*.

10. *S. albescens* Haworth. E. B. 35. 2477.

Leaves glaucous, awl-shaped, scattered; spurred at the base; those of the branches thread-shaped. Flowers cymose. Segments of the calyx lanceolate. *Smith*.

S. glaucum Smith, not of others.

On barren sandy ground, or on walls. — Perennial. *July, August*.

11. *S. rupestre* Linn. E. B. 3. 170.

Leaves glaucous, spurred at the base; those of the branches awl-shaped, erect, in 5 close rows. Flowers imperfectly cymose. Segments of the calyx elliptical, obtuse. *Smith*.

On rocks, but rare. — Perennial. *July*.

12. *S. Forsterianum* Smith. E. B. 26. 1802.

Leaves spurred at the base, those of the branches semicylindrical, bluntish, pointed, spreading, in many rows. Flowers cymose. Segments of the calyx elliptical, obtuse. *Smith*.

At the fall of the Rhydoll, near the Devil's bridge, Cardiganshire, and on the rocks of Hisvæ, overhanging the little valley of Nant-phrancon. *Smith*. — Perennial. *July*.

4. SEMPERVIVUM Linn.

Sepals from 6 to 20, slightly cohering at the base. *Petals* the same number, acuminate. *Stamens* twice as numerous as the petals. *Hypogynous scales* lacerated. *Fruit* of as many parts as there are petals. — *Herbaceous* perennial plants, or shrubs; propagated by offsets arising from the axillæ of the leaves. Leaves thick, fleshy. Flowers in cymes, corymbs, or panicles, white, yellow, or purple.

1. *S. tectorum* Linn. Common Houseleek. E. B. 19. 1320.

Leaves fringed. Offsets spreading. Edges of the petals hairy, entire. *Smith*.

On walls and cottage roofs, frequent. — Perennial. *July*.

Order 25. SAXIFRAGEÆ *Juss.*

Calyx either superior or inferior, of 4 or 5 sepals, which cohere more or less at their base.

Petals 5, or none, inserted between the lobes of the calyx.

Stamens 5-10, inserted either into the calyx (perigynous), or beneath the ovarium (hypogynous); *anthers* 2-celled, bursting longitudinally.

Disk either hypogynous or perigynous, sometimes nearly obsolete, sometimes annular and notched, rarely consisting of 5 scales.

Ovary adhering to the calyx or distinct from it, usually consisting of 2 parts, cohering more or less by their face, but distinct at the apex; sometimes 2-celled with a central placenta; sometimes 1-celled with parietal placentæ; rarely 4- or 5-celled. *Styles* none. *Stigmata* sessile on the tips of the lobes of the ovary.

Fruit generally a membranous 1- or 2-celled capsule with 2 bractæ; rarely a 4-celled 4-valved capsule; sometimes a 4-celled berry.

Seeds numerous, very minute; usually with long hexagonal reticulations on the sides of a transparent testa. *Embryo* taper, in the axis of fleshy albumen, with the radicle next the hilum.

Herbaceous plants, often growing in patches. *Leaves* simple, either divided or entire, alternate, without stipulæ. *Flower stems* simple, often naked.

ANALYSIS OF THE GENERA.

Petals none	Fruit a capsule	-	-	-	-	-	-	1. CHRYSOSPLENIUM.
	Fruit a berry	-	-	-	-	-	-	2. ADOXA.
Petals 5	Stamens 5	-	-	-	-	-	-	3. PARNASSIA.
	Stamens 10	-	-	-	-	-	-	
	Calyx spreading or erect	-	-	-	-	-	-	
	Petals with a nectariferous furrow at the base	-	-	-	-	-	-	4. HIRCULUS.
	Petals not nectariferous	-	-	-	-	-	-	
	Capsule superior	-	-	-	-	-	-	5. LEOGYNE.
	Capsule half inferior	-	-	-	-	-	-	6. SAXIFRAGA.
	Calyx reflexed	-	-	-	-	-	-	7. ROBERTSONIA.

1. CHRYSOSPLENIUM *Linn.* GOLDEN SAXIFRAGE.

Calyx 4- or 5-parted, coloured inside. *Petals* none. *Stamens* 8 or 10, short, perigynous. *Disk* annular. *Styles* 2, spreading. *Capsule* inferior, of 1 cell, and 2 valves at the apex. — *Small succulent herbs, with reniform notched leaves, and green inconspicuous flowers.*

1. *Ch. alternifolium* *Linn.*

E. B. 1. 54.

Leaves alternate.

On Poringland heath, Norfolk; and in many parts of the north of England, and lowlands of Scotland. — Perennial. *May*.

2. *Ch. oppositifolium* Linn.

E. B. 7. 490.

Leaves opposite.

In watery shady places. — Perennial. *May*.

S.

2. *ADOXA* Linn.

Sepals 4 or 5, united at the base. *Petals* none. *Stamens* 8 or 10, perigynous. *Disk* obsolete. *Styles* 4 or 5. *Berry* half inferior, of 1 cell, with 4 bordered seeds. — Leaves compound. Flowers terminal, capitate green.

1. *A. Moschatellina* Linn.In groves, thickets, and under shady hedges. — Perennial. *April, May*.3. *PARNASSIA* Linn.

Calyx 5-parted, spreading. *Petals* 5, ribbed, sometimes glandular. *Stamens* 5. *Disk* consisting of 5 fleshy scales, opposite the petals, and often fringed with glands. *Ovary* superior, 1-celled, with 4 parietal placentæ. *Stigmas* 4, obtuse, opposite the placentæ! *Capsule* superior, or nearly so, of 1 cell and 4 valves. *Seeds* numerous, bordered. — Herbaceous plants, natives of boggy places. Roots fibrous. Leaves radical, entire. Stems simple, with 1 leaf, and one white flower.

1. *P. palustris* Linn.

E. B. 2. 82.

Leaves heart-shaped. Glands of each scale numerous.

On spongy bogs and commons. — Perennial. *September, October*.4. *HIRCULUS* Haworth.

Calyx 5-leaved, erect. *Petals* equal, with a 2-valved nectariferous furrow at their base. *Stamens* 10, hypogynous. *Disk* obsolete. *Stigmas* subsessile, capitate. *Capsule* superior, with 2 beaks and 2 cells. — Stems simple. Leaves entire. Flowers yellow.

1. *H. ranunculoides* Haworth.

E. B. 15. 1009.

Leaves lanceolate, blunt, naked. Sepals lanceolate, obtuse. Runners none.

Saxifraga hirculus Linn.On turf bogs, very rare. — Perennial. *August*.5. *LEIOGYNE* Don.

Calyx 5-parted, erect. *Petals* equal. *Stamens* 10, perigynous. *Disk* obsolete. *Capsule* superior, with 2 cells. *Seeds* roundish. — Herbaceous plants, with simple stems, producing few branches. Leaves either reniform or linear, never with a cartilaginous border. Flowers white, rarely yellow.

§ 1. *Capsule* long.1. *L. aizoides*.

E. B. 1. 39.

Stem decumbent at the base. Leaves alternate, linear, with fringe-like teeth.

Saxifraga aizoides Linn.*S. autumnalis* W.On Ingleborough hill, Yorkshire, and on most of the Westmoreland and Scottish mountains. — Perennial. *June—September*.

2. *L. granulata*. E. B. 7. 500.
 Leaves kidney-shaped, lobed. Stem panicled, leafy. Root granulated.
Saxifraga granulata Linn.
 In meadows and pastures. — Perennial. May.
3. *L. cernua*. E. B. 10. 664.
 Leaves somewhat palmate, stalked. Stem with aggregate, axillary bulbs. Petals obovate.
Saxifraga cernua Linn.
 About alpine rills, on the loftiest mountains of Scotland. — Perennial. July.
4. *L. rivularis*. E. B. 32. 2275.
 Leaves palmate, stalked; the uppermost spatulate. Stem with few flowers. Root fibrous.
Saxifraga rivularis Linn.
 About alpine rivulets, and in wet fissures of rocks, on the mountains of Scotland. — Annual. June, July.

§ 2. *Capsule depressed* (*Micranthes* Don.)

5. *L. nivalis*. E. B. 7. 440.
 Leaves roundish-obovate, serrated; tapering and entire at the base. Cluster dense, capitate, of few flowers.
Saxifraga nivalis Linn.
 On the loftiest mountains of Wales and Scotland, in the moist fissures of rocks. — Perennial. July.

6. *SAXIFRAGA* Linn.

Calyx 5-lobed, erect. *Petals* equal. *Stamens* 10, perigynous. *Disk* obsolete. *Capsule* half inferior, with 2 cells. — Stems generally branching and forming tufts, sometimes simple. Leaves usually divided more or less. Flowers white or purple, seldom yellow.

1. *S. oppositifolia* Linn. E. B. 1. 9.
 Branches single-flowered, clothed with opposite, imbricated, fringed leaves. Petals ovate. Smith.
 On alpine rocks and precipices. — Perennial. April.
2. *S. tridactylites* Linn. E. B. 7. 501.
 Leaves wedge-shaped, with 3 or 5 segments; the uppermost undivided. Stem panicled, leafy. Stalks single-flowered, alternate. Smith.
 On walls, roofs, and dry barren ground, common. — Annual. April, May.
3. *S. muscoides* Wulfen.
 Leaves linear, obtuse, smooth, triple-ribbed, undivided, or with 2 small lateral lobes. Flowers few, corymbose. Petals nearly linear. Calyx almost naked. Smith.
S. cæspitosa Hudson.
S. moschata Withering.
 On rocky mountains, very rare. — Perennial. May.
4. *S. pygmæa* Haworth. E. B. 33. 2314.
 Leaves linear, abrupt, smooth, undivided. Flowers corymbose. Petals obovate, scarcely longer than the very obtuse glandular calyx. Smith.

S. muscoides Hooker.

S. moschata E. Bot.

In the Highlands of Scotland. — Perennial. May.

5. *S. cæspitosa* Linn.

E. B. 12. 794.

Radical leaves crowded, 3- or 5-cleft, obtuse, veiny, fringed; lowermost undivided. Flowers from 1 to 5, or more. Fruit hairy. Calyx smoother, obtuse. Petals rounded, triple-ribbed.

S. grönlandica Linn.

β. decipiens

E. B. 7. 455.

S. petræa Withering.

S. palmata Smith.

S. decipiens Ehr.

On the loftiest mountains of Wales and Ireland. — Perennial. May, June.

6. *S. hirta* Donn.

E. B. 32. 2291.

Radical leaves rather crowded, 5- or 3-cleft, pointed, veiny, fringed. Flowers few, corymbose. Calyx acute. Petals obovate, triple-ribbed.

On alpine rocks in Ireland, Scotland, and Wales. — Perennial. June, July.

7. *S. affinis* Don.

Radical leaves 5-cleft; those of the trailing shoots mostly 3-cleft; lobes linear, pointed. Segments of the calyx awl-shaped, channelled, pointed, recurved. Petals oblong, inflexed at the edges. Smith.

S. lævis Donn.

On the top of Brandon mountain, county of Kerry. — Perennial. May, June.

8. *S. platypetala* Smith.

E. B. 32. 2276.

Radical leaves 5-cleft; those of the trailing shoots 3-cleft; lobes bristle-pointed. Segments of the calyx ovate, pointed, erect. Petals nearly orbicular, flat, with many lateral veins. Smith.

On the mountains of Scotland and Wales. — Perennial. June.

9. *S. incurvifolia* Don.

Radical leaves 5-cleft; those of the upright shoots 3-cleft; segments lanceolate, obtuse, incurved. Segments of the calyx ovate, acute. Petals roundish, slightly cloven. Don.

On alpine rocks in Ireland. — Perennial.

10. *S. denudata* Don.

Radical leaves 5-cleft; those of the upright shoots 3-cleft; segments linear-awl-shaped, acute, bristle-pointed, smooth. Segments of the calyx lanceolate, minutely pointed. Petals obovate, cloven. Don.

On the Grampian hills, in Angus-shire. — Perennial.

11. *S. hypnoides* Linn.

E. B. 7. 454.

Radical leaves 3- or 5-cleft; those of the long, procumbent shoots undivided; all bristle-pointed and fringed. Segments of the calyx ovate, pointed. Petals obovate. Stigmas nearly smooth. Smith.

β. condensata.

Radical leaves 5-parted; those of the short procumbent shoots trifid; all linear, bristle-pointed, and smooth. Segments of the calyx triangular, ovate, acute, not bristle-pointed. Petals oval. *Don.*

S. condensata Gmelin.

γ. elongella.

E. B. 32. 2277

Radical leaves 3- or 5-cleft; those of the upright short shoots undivided or three-cleft; all bristle-pointed, slightly fringed. Primary flower-stalks very long, simple and naked. Calyx pointed. Petals obovate. *Smith.*

S. elongella Smith.

On moist rocks. γ. On a rock, by the river near Lintrathen, in Angus-shire. — Perennial. *June.*

12. S. leptophylla Persoon.

Radical leaves deeply 5-cleft; those of the very long procumbent shoots deeply 3-cleft or undivided; segments linear-lanceolate, very sharp, widely spreading. Calyx oblong-ovate. Petals spatulate, undivided. *Don.*

On mountains in Wales. — Perennial. *May.*

13. S. lætevirens Don.

Leaves deeply 5- or 3-cleft, with linear acute segments. Shoots long and trailing. Calyx lanceolate, pointed. Petals spatulate, slightly cloven. *Don.*

In very elevated situations, upon moist rocks, on the mountains of Angus-shire and Aberdeenshire, and on hills to the north of Loch Lomond. — Perennial. *May.*

14. S. pedatifida Ehr.

E. B. 32. 2278.

Radical leaves kidney-shaped, divided in a pedate manner into 7 lobes. Panicle cymose, level-topped, many-flowered. Calyx with linear-lanceolate segments, as long as the capsule. *Smith.*

S. quinquefida Donn.

In the Highlands of Scotland. — Perennial. *May.*

7. ROBERTSONIA Haworth.

(*Gymnopera Don.*)

Calyx 5-leaved, reflexed. *Petals* equal, or nearly so. *Stamens* 10, subhypogynous. *Disk* obsolete. *Capsule* superior, with 2 cells. *Seeds* globose. — Stems branching and forming dense tufts. Leaves broad, notched, often cartilaginous at the edge. Flowers white or pink, rarely pale yellow.

Obs. I distinguish *LIGULARIA* of Haworth by the following character: — *Calyx* 5-leaved, spreading. *Petals* very unequal, the 2 lower long and hanging down. *Stamens* 10, perigynous. *Disk* cyathiform, notched. *Capsule* nearly superior.

1. R. Geum.

E. B. 22. 1561.

Leaves roundish, kidney-shaped, notched, somewhat hairy. Foot-stalks linear, channelled, much longer than the leaves. Flower-stalk paniced. *Smith.*

Saxifraga Geum Linn.

β. elegans.

Leaves roundish, cordate, smooth on both sides. *Don.*

S. Geum β . *Don.*

γ . *guttata.*

Thrice the usual size. Leaves smooth on both sides. Panicle more spreading. Petals large, elegantly spotted. *Don.*

S. Geum γ . *Don.*

On the mountains of Ireland. — Perennial. *June.*

2. *R. hirsuta.*

E. B. 33. 2922.

Leaves oval, with acute serratures, roundish or cordate at the base, hairy on each side, when full-grown erect. Peduncles very long, taper, villous. Pedicels long, 1-flowered. *Don.*

Saxifraga hirsuta *Linn.*

β . *depilata.*

Leaves roundish, cordate, smooth on each side. *Don.*

On the mountains of Ireland. — Perennial. *June.*

3. *R. umbrosa.*

E. B. 10. 663.

Leaves obovate, retuse, quite smooth, with cartilaginous crenatures, when full-grown spreading. Petioles short, dilated. Pedicels few-flowered. *Don.*

Saxifraga umbrosa *Linn.*

β . *punctata.*

Leaves roundish, with 5 sharp serratures, when full-grown erect. Petioles long. *Don.*

S. umbrosa punctata *Don.*

γ . *serratifolia.*

Leaves oblong, ovate, with deep serratures, when full-grown erect. Petioles long. *Don.*

S. umbrosa serratifolia *Don.*

On the mountains of Ireland and Yorkshire. — Perennial. *June.*

4. *R. stellaris.*

E. B. 3. 167.

Leaves elliptic, wedge-shaped, coarsely serrated, tapering and entire at the base. Panicle corymbose, of few flowers. *Smith.*

Saxifraga stellaris *Linn.*

On mountains, in moist places. — Perennial. *June, July.*

Order 26. SALICARIÆ *Juss.*

Calyx monosepalous; the lobes with a valvate or separate æstivation; their sinuses sometimes lengthened into other lobes.

Petals inserted between the lobes of the calyx, very deciduous.

Stamens inserted into the tube of the calyx below the petals, to which they are sometimes equal in number; sometimes they are twice, or even thrice, and four times as numerous; they are seldom four; *anthers* versatile, 2-celled, opening longitudinally.

Ovarium superior, 2- or 4-celled; *style* filiform; *stigma* usually capitate.

Capsule membranous, covered by the calyx, 1-celled, dehiscing either longitudinally or in an irregular manner.

Seeds numerous, small, without *albumen*, adhering to a central *placenta*; *embryo* straight; *radicle* turned towards the hilum; *cotyledons* flat and leafy.

Herbs, rarely *shrubs*. *Branches* frequently 4-cornered. *Leaves* opposite, seldom alternate, entire, without either *stipulæ* or glands. *Flowers* axillary, or in spikes or racemes.

1. PEPLIS Linn.

Calyx campanulate, with 12 lobes, of which 6 are broader than the rest and erect, the others subulate, spreading. *Petals* 6, minute, fugacious. *Stamens* 6, opposite the broader lobes of the calyx. *Capsule* 2-celled, many-seeded. — Herbaceous, with opposite or alternate leaves. *Flowers* axillary.

1. *P. Portula* Linn.

E. B. 17. 1211.

Petals wanting, or scarcely visible. *Leaves* opposite, obovate, stalked. *Smith*.

In watery places, on a gravelly, sandy, or heathy soil, frequent. — Annual. *July, August*.

2. LYTHRUM Linn.

Calyx cylindrical, striated, with 8 to 12 teeth, of which from 4 to 6 are broader than the rest and erect, the others smaller and spreading. *Petals* 4 or 6, inserted in the orifice of the calyx, opposite the smaller lobes of the calyx. *Stamens* situated in the middle or at the base of the calyx, twice as numerous as the petals, or occasionally fewer. *Capsule* oblong, 2-celled, many-seeded, included in the calyx. — Erect herbaceous plants. *Leaves* opposite. *Stems* square. *Flowers* purple, axillary.

1. *L. Salicaria* Linn.

E. B. 15. 1061.

Leaves opposite, lanceolate; heart-shaped at the base. *Flowers* in whorled leafy spikes. *Stamens* twelve. *Smith*.

In ditches and watery places, especially about the margins of ponds and rivers, abundantly. — Perennial. *July, August*.

2. *L. hyssopifolium* Sibth.

E. B. 5. 292.

Leaves alternate, linear-lanceolate. *Flowers* axillary, solitary. *Stamens* 6. *Smith*.

In partially dried pits or ditches; or places where water has stagnated during winter. — Annual. *August*.

Order 27. RHAMNEÆ. Juss.

Calyx monophyllous, 4-5 cleft, with a valvate æstivation.

Petals distinct, cucullate, or convolute, inserted into the orifice of the calyx, occasionally wanting.

Stamens opposite the petals.

Disk fleshy.

Ovarium superior, or half superior, 2, 3, or 4-celled; *ovula* solitary, erect.

Fruit fleshy, indehiscent, or dry, separating in 3 divisions.

Seeds erect; *albumen* fleshy, seldom wanting; *embryo* about as long as the seed, with large flat *cotyledons*, and a short inferior *radicle*.

Trees or *shrubs*, often spiny. *Leaves* simple, alternate, very seldom opposite, with minute stipulæ. *Flowers* axillary or terminal.

1. RHAMNUS Linn.

Calyx urceolate, 4-5 cleft. *Petals* 0, or emarginate. *Anthers* ovate, 2-celled. *Disk* thin, overspreading the tube of the calyx. *Ovarium* superior, 3- or 4-celled. *Styles* 3 or 4, distinct or united. *Fruit* fleshy, with 3 or 4, or in consequence of abortion 2, fibrous indehiscent stones. *Brongniart*.

1. *R. catharticus* Linn. Common Buckthorn. E. B. 23. 1629.

Thorns terminal. Flowers four-cleft, diœcious. Leaves ovate, serrated. Stem erect. Berry with four seeds. *Smith*.

In hedges, groves, and thickets. — Shrub. May. Fruit in September.

2. *R. Frangula* Linn. Berry-bearing Alder. E. B. 4. 250.

Thorns none. Flowers all perfect. Style simple. Leaves entire, smooth. Berry with two seeds. *Smith*.

In woods and thickets. — Shrub. May. Fruit in July.

Order 28. ILICINEÆ *Brongniart*.

Sepals 4 to 6, imbricated in æstivation.

Petals cohering at the base, hypogynous, imbricated in æstivation.

Stamens alternate with the petals, inserted into the corolla; *filaments* erect; *anthers* adnate.

Disk none.

Ovarium fleshy, somewhat truncate, with from 2 to 6 cells; *ovula* solitary, pendulous, from a cup-shaped funiculus; *stigma* subsessile, lobed.

Fruit fleshy, indehiscent, with from 2 to 6 stones.

Seed suspended, nearly sessile; *albumen* large, fleshy; *embryo* small, 2 lobed, lying next the hilum, with minute *cotyledons*, and a superior *radicle*.

Trees or *shrubs*. *Leaves* alternate or opposite, coriaceous. *Flowers* small, axillary, solitary or fascicled.

1. ILEX Linn.

Calyx 4- or 5-toothed, persistent. *Petals* 4 or 5, either distinct, or cohering at the base. *Stamens* 4 or 5, alternate with the petals. *Ovarium* 4-celled. *Stigmas* nearly sessile, 4 or 5, either distinct or united in one. *Fruit* fleshy, containing 4 or 5 hard stones, each umbilicate

at the apex, and containing 1 seed. *Seed* inverted; *albumen* fleshy; *embryo* in the apex. — *Evergreen* trees or shrubs. *Leaves* coriaceous. *Flowers* sometimes polygamous.

1. *I. Aquifolium* Linn. Common Holly. E. B. 7. 496.
Leaves ovate, acute, spinous, and wavy. *Flowers* axillary, somewhat cymose. *Smith*.
In hedges and bushy places, upon dry hills. — Tree. *May*.

Order 29. CELASTRINEÆ *R. Brown*.

Sepals 4 or 5, imbricated, inserted into the margin of an expanded torus.

Petals inserted by a broad base, under the margin of the disk, with an imbricate æstivation.

Stamens alternate with the petals, inserted into the disk, either at the margin or within it; *anthers* innate.

Disk large, expanded, flat, closely surrounding the ovarium, covering the flat expanded torus.

Ovary superior, immersed in the disk and adhering to it, with 3 or 4 cells; *cells* 1- or many-seeded; *ovules* ascending from the axis, attached to a short funiculus.

Fruit superior; either a 3- or 4-celled capsule, with 3 or 4 septiferous valves; or a dry drupe with a 1- or 2-celled nut, the cells of which are 1 or many-seeded.

Seeds ascending, seldom inverted by resupination, either provided with an arillus or without one; *albumen* fleshy; *embryo* straight; *cotyledons* flat and thick, with a short inferior radicle.

Shrubs. *Leaves* simple, alternate or opposite. *Flowers* in axillary cymes.

1. EUONYMUS *Linn*.

Calyx 4-6 lobed, flat, with a peltate disk in the bottom. *Petals* 4-6, spreading, inserted in the disk. *Stamens* 4-6, inserted into glands projecting from the disk, alternate with the petals. *Style* one. *Capsule* 3- or 5-celled, with 3 or 5 angles; dehiscence loculicidal. *Seeds* from 1 to 4, with a fleshy arillus. *Embryo* green, straight, in the axis of a fleshy albumen. — Shrubs with square branches. *Leaves* generally opposite. *Peduncles* axillary.

1. *E. europæus* Linn. Common Spindle-tree, or Prickwood. E. B. 6. 362.

Flowers mostly 4-cleft. *Petals* acute. *Branches* smooth and even. *Smith*.

In hedges and thickets. — Shrub, or small tree. *May*.

Order 30. STAPHYLEACEÆ.

(Celastrineæ Sect. 1. *Dec.*)*Sepals* 5, connected at the base, coloured, with an imbricated æstivation.*Petals* 5, alternate, with an imbricated æstivation.*Stamens* 5, alternate with the petals, perigynous.*Disk* large, urceolate.*Ovarium* 2- or 3-celled, superior; *ovula* erect; *styles* 2 or 3, cohering at the base.*Fruit* membranous or fleshy, indehiscent or opening internally, often deformed by the abortion of some of the parts.*Seeds* ascending, roundish, with a bony testa; *hilum* large, truncate; *albumen* none; *cotyledons* thick.*Shrubs.* *Leaves* opposite, pinnate, with both common and partial stipulæ. *Flowers* in terminal, stalked racemes.

1. STAPHYLEA Linn.

Calyx 5-parted, with an urceolate disk. *Petals* 5. *Ovarium* 2- or 3-lobed. *Styles* 2 or 3, sometimes combined. *Fruit* membranous, of 2 or 3 cells, dehiscing internally. *Seeds* bony, roundish, truncate at the hilum. — *Flowers* large, white, in racemose panicles.

1. *S. pinnata* Linn. Common Bladder-nut. E. B. 22. 1560.
Leaves pinnate. *Styles* and capsules but 2. *Smith.*
 In hedges and thickets, rare. — *Shrub.* *June.*

Order 31. LEGUMINOSÆ Juss.

Calyx 5-parted, toothed, or cleft, inferior, with the odd segment anterior; the segments often unequal, and variously combined.*Petals* 5, or by abortion 4, 3, 2, 1, or none, inserted into the base of the calyx, either papilionaceous or regularly spreading; the odd petal posterior.*Stamens* definite or indefinite, perigynous, either distinct or monadelphous, or diadelphous; very seldom triadelphous; *anthers* versatile.*Ovarium* simple, superior, 1-celled, 1 or many-seeded; *style* simple, proceeding from the upper margin; *stigma* simple.*Fruit* either a legume or a drupa.*Seeds* attached to the upper suture, solitary or several; occasionally with an arillus; *embryo* destitute of *albumen*, either straight or with the radicle bent upon the cotyledons; *cotyledons* either remaining under ground in germination, or elevated above the ground and becoming green like leaves.

Shrubs, trees, or herbaceous plants. Leaves compound, with stipulæ at the base of the petiole and of each leaflet. Petiole usually tumid at the base. Flowers axillary, either solitary, or in racemes or panicles.

ANALYSIS OF THE GENERA.

Pod continuous		
Cotyledons in germination rising above the ground, and be- coming green leaves	}	§ <i>Loteæ</i> .
Stamens monadelphous		
Calyx 2-lipped		
upper lip 3-toothed, lower 2-toothed	- - -	1. ULEX.
upper lip 2-parted, lower 3-toothed	- - -	2. GENISTA.
upper lip entire, lower 3-toothed, slightly	- - -	3. CYTISUS.
Calyx equal		
5-toothed, inflated	- - -	4. ANTHYLLIS.
5-cleft	- - -	5. ONONIS.
Stamens diadelphous		
Pod 2-celled, or partially so		
Keel blunt	- - -	6. ASTRAGALUS.
Keel rostrate	- - -	7. OXYTROPIS.
Pod 1-celled		
few-seeded, scarcely longer than the calyx		
Calyx 5-toothed. Flowers racemose	- - -	8. MELILOTUS.
Calyx 5-cleft. Flowers capitate or spiked	- - -	9. TRIFOLIUM.
many-seeded, much longer than the calyx		
straight		
Keel as long as the wings	- - -	10. LOTUS.
Keel very short	- - -	11. TRIGONELLA.
falcate or spiral	- - -	12. MEDICAGO.
Cotyledons in germination remaining under ground, and not changing to green leaves	}	§ <i>Viciæ</i> .
Pod 2- or 4-seeded	- - -	13. ERVUM.
Pod many-seeded		
Calyx with 5 foliaceous segments	- - -	14. PISUM.
Calyx with 5 teeth		
Style at right angles with the ovary, villous	}	15. VICIA.
on both sides	- - -	
Style curved, dilated at the end, villous in front	- - -	16. LATHYRUS.
Style curved, slender, villous at the end	- - -	17. OROBUS.
Pod, divided internally by transverse articulations	- - -	§ <i>Hedysarææ</i> .
Pod with several joints		
Joints with parallel margins	- - -	18. ORNITHOPUS.
Joints with 1 margin plane, and the other concave	- - -	19. HIPPOCREPIS.
Pod with 1 joint only	- - -	20. ONOBRYCHIS.

§ *Loteæ* Dec.

Corolla papilionaceous. Stamens either monadelphous or diadelphous. Pod continuous, 1-celled, or occasionally 2-celled, in consequence of the bending inwards of one of the sutures. Cotyledons, in germination, rising above the ground, and acquiring a green colour.

1. ULEX Linn.

Calyx with 2 bractæ, 2-lipped; the upper lip with 3, the lower with 2 teeth. *Stamens* monadelphous. *Pod* oval-oblong, turgid, scarcely longer than the calyx, few-seeded. — *Branching spiny shrubs. Flowers solitary, yellow. Pods villous.*

1. *U. europæus* Linn. Common Furze, Whin or Gorse. E. B. 11. 742.
Teeth of the calyx obsolete, converging. Bractæas ovate, lax.
Branches erect. *Smith*.
On sandy or gravelly heaths and commons abundantly. — Shrub. *May*; and occasionally at all seasons.
- S.** 2. *U. nanus* Forster. Dwarf Furze. E. B. 11. 743.
Teeth of the calyx lanceolate, spreading. Bractæas minute, close-pressed. Branches reclining. *Smith*.
On dry elevated heaths, less common than the preceding. — Shrub. *August—October*.

2. GENISTA Linn.

Calyx 2-lipped; the upper lip 2-parted, the lower 3-toothed. *Vexillum* oblong. *Keel* oblong, straight, not entirely restraining the stamens. *Stamens* monadelphous. *Pod* flat, compressed, or rather turgid, many-seeded, seldom few-seeded, not glandular. — Shrubs with yellow flowers. *Dec*.

1. *G. tinctoria* Linn. E. B. 1. 44.
Leaves lanceolate, smooth. Branches round, striated, erect, without thorns. *Smith*.
In pastures, thickets, and the dry borders of fields. — Shrub. *July, August*.
2. *G. pilosa* Linn. E. B. 3. 208.
Leaves obovate-lanceolate, obtuse; hairy beneath. Stem tuberculated, prostrate, without thorns. *Calyx* and flower-stalks silky. *Smith*.
On dry elevated sandy tracts and rocks. — Shrub. *May*, and again in *September*.
3. *G. anglica*. Linn. Petty Whin. E. B. 2. 132.
Thorns nearly simple. Flowering branches unarmed. Leaves ovate-lanceolate. *Smith*.
On moist boggy heaths, frequent. — Shrub. *May, June*.

3. CYTISUS Linn.

Calyx 2-lipped; the upper lip generally entire, the lower slightly 3-toothed. *Vexillum* ovate, large. *Keel* very blunt, enclosing the stamens. *Stamens* monadelphous. *Pod* compressed, flat, many-seeded, without glands. — Shrubs with yellow flowers, and ternate leaves. *Dec*.

1. *C. scoparius* Link. Common Broom. E. B. 19. 1339.
Leaves ternate, or solitary. Branches angular, without thorns.
Legume fringed.
Spartium scoparium Linn.
In dry gravelly thickets and fields, abundantly. — Shrub. *May, June*.

4. ANTHYLLIS Linn.

Calyx tubular, 5-toothed, persistent, more or less inflated. *Wings*, *keel*, and *vexillum* nearly equal. *Stamens* monadelphous. *Pod* ovate, 1- or 2-seeded, very seldom many-seeded, always covered by the calyx. — Herbaceous plants or under shrubs, of various habits.

1. *A. vulneraria* Linn. Common Kidney-vetch, or Ladies' finger.
E. B. 2. 104.

Herbaceous. Leaves pinnate, unequal. Heads of flowers in pairs.
Smith.

β. *A. Dillenii* Schultes.

Flowers red or scarlet. Leaves and stems slightly villous or nearly smooth. *Dec.*

A. vulneraria rubriflora *Dec.*

In chalky or limestone countries, where the soil is dry and rather barren. β. In Pembrokeshire. — Perennial. *June—August.*

5. ONONIS Linn. REST-HARROW.

Calyx campanulate, 5-cleft, with linear segments. *Vexillum* large, streaked. *Stamens* monadelphous. *Pod* turgid, sessile, few-seeded. — Herbaceous plants or under-shrubs. Leaves ternate, occasionally simple. Flowers axillary, yellow or purple. Pedicels often bearing a bristle indicating an abortive floral leaf.

1. *O. procurrens* Wallroth. E. B. 10. 682.

Stem rooting, procumbent, spreading, spinous or unarmed. Flowering branches ascending, downy all over. Leaves simple or ternate, roundish-ovate, glandular on each side, slightly serrated. Lobes of the calyx longer than the pods.

O. arvensis Linn., *Smith*, &c.

O. repens Linn.

In fields, common in many places. — Half-shrubby. *June—August.*

S.

2. *O. spinosa* Linn.

Stem nearly erect, spinous, with 1 or 2 separate rows of hairs.

Leaves ternate, oblong, wedge-shaped and entire towards the base.

Flowers solitary. Lobes of the calyx shorter than the pods.

O. arvensis β. *Smith.*

In fields and neglected pastures. — Half-shrubby. *June—August.*

6. ASTRAGALUS Linn.

Calyx 5-toothed. *Corolla* with an obtuse keel. *Stamens* diadelphous.

Pod 2-celled, or half 2-celled, the lower suture being turned inwards.

— Herbaceous plants or small shrubs, with pinnate leaves. *Dec.*

1. *A. glycyphyllos* Linn. E. B. 3. 203.

Stem prostrate. Legumes obscurely triangular, incurved. Leaves longer than the flower-stalks; leaflets oval. *Smith.*

In woods, thickets, the borders of fields, or at the sides of hills, on a chalky or gravelly soil. — Perennial. *June.*

2. *A. hypoglottis* Linn. E. B. 4. 274.

Stem prostrate. Flowers in round heads. Legumes ovate, deeply channelled along the back, compressed, hairy; hooked at the point. Leaflets blunt. *Smith.*

A. arenarius *Huds.*

A. danicus *Retz.*

A. epiglottis *Dicks.*

On open mountainous heaths, in a chalky or sandy soil; also on the sea-coast. — Perennial. *June, July.*

S.

7. OXYTROPIS Dec.

Calyx 5-toothed. *Keel* ending in an exserted point. *Stamens* diadelphous. *Pod* 2-celled, or half 2-celled, the upper suture being turned inwards. — Herbaceous plants, with pinnated leaves. Peduncles axillary or radical. Flowers in spikes. Dec.

1. *O. uralensis* Dec. E. B. 7. 466.

Stem none. Stalk upright, taller than the leaves. Legumes oblong, tumid, pointed, shaggy, erect. Leaflets ovate, acute, all over silky like the calyx. *Smith*.

A. uralensis Linn.

Phaca uralensis Wahl.

On the Scottish mountains, in a sandy soil. — Perennial. July.

2. *O. campestris* Dec. E. B. 36. 2522.

Stem none. Stalk ascending. Legumes ovate, inflated, hairy, erect. Leaflets lanceolate, acute, somewhat hairy. *Smith*.

A. campestris Linn.

A. sordidus Willd.

Phaca campestris Wahl.

Upon a high rock, on one of the mountains at the head of Clova, Angusshire, near the White Water, in great abundance. *Mr. G. Don*. — Perennial. July.

8. MELILOTUS Tournef. MELILOT.

Calyx tubular, 5-toothed. *Keel* simple; wings shorter than the vexillum. *Pod* longer than the calyx, coriaceous, 1 or few-seeded, indehiscent, of various form. — Herbaceous plants. Stipules adnate to the petiole. Leaves 3-leaved; leaflets often toothed. Flowers in loose racemes, either yellow or white. Dec.

1. *M. officinalis* Willd. E. B. 19. 1340.

Clusters unilateral. Legume prominent, acute, transversely wrinkled, hairy, with two seeds. Stem erect. Stipulas awl-shaped. *Smith*. *Trifolium officinale* *Smith*.

In thickets, hedges, and the borders of fields; sometimes among corn. — Annual. June, July.

S.

9. TRIFOLIUM Linn.

Calyx tubular, persistent, 5-cleft, not glandular; with subulate segments. *Keel* shorter than both wings and vexillum. *Stamens* diadelphous. *Pod* small, indehiscent, often ovate with 1 or 2 seeds, shorter than the calyx by which it is covered, seldom oblong, with 3 or 4 seeds, and a little longer than the calyx. — Herbaceous plants. Stipules adhering to the petiole. Leaves 3- or 5-leaved. Flowers in heads or dense spikes, bracteate, purple, white, or pale yellow. Petals in some cohering. Dec.

* Seeds several.

1. *T. repens* Linn. Dutch Clover. E. B. 25. 1769.

Heads globose. Flowers somewhat stalked. Legume within the calyx, 4-seeded. Stems creeping, solid. *Smith*.

In meadows and pastures, very common. — Perennial. May—September.

2. *T. suffocatum* Linn. E. B. 15. 1049.

Heads sessile, lateral, roundish. Legume concealed, 2-seeded.

Calyx nearly smooth, with lanceolate, acute, recurved teeth, longer than the corolla. *Smith.*

On the sandy sea-coast. — Annual. *June, July.*

* *Seeds single. Calyx generally hairy.*

3. *T. subterraneum* Linn. E. B. 15. 1048.
 Heads hairy, of about 4 flowers. Involucrum central, reflexed, rigid, starry, embracing the fruit. *Smith.*
 In dry gravelly pastures, and barren heathy situations. — Annual. *May.*
4. *T. ochroleucum* Linn. E. B. 17. 1224.
 Flowers in a solitary, terminal, hairy head. Stem erect, downy. Lower leaflets inversely heart-shaped. Lowest calyx-tooth thrice as long as the rest. *Smith.*
T. squarrosum Linn.
 In pastures, fields, and thickets, on a dry gravelly, or chalky, soil. — Perennial. *June, July.*
5. *T. pratense* Linn. Common Purple Clover. E. B. 25. 1770.
 Spikes dense. Stems ascending. Petals unequal. Calyx hairy; 4 of its teeth equal. Stipulas ovate, bristle-pointed. *Smith.*
 In meadows and pastures, especially on limestone or gravelly hills. — Perennial. *May—September.*
6. *T. medium* Linn. E. B. 3. 190.
 Spikes lax. Stems zigzag and branching. Petals nearly equal. Stipulas tapering, converging. Two upper calyx-teeth rather the shortest. *Smith.*
T. flexuosum Jacq.
T. alpestre Huds.
 In elevated dry chalky pastures, or in gravelly ones with a clay bottom. — Perennial. *July.*
7. *T. maritimum* Hudson. E. B. 4. 220.
 Spikes ovate, somewhat hairy. Stipulas lanceolate, erect. Calyx-teeth after flowering dilated, leafy, and spreading. Leaflets obovate-oblong. *Smith.*
T. stellatum Hudson.
 In muddy salt-marshes, on the east and south coasts of England, from Norfolk to Somersetshire, in various places. — Annual. *June, July.*
8. *T. stellatum* Linn. E. B. 22. 1545.
 Spikes hairy, roundish. Stipulas elliptical. Calyx-teeth longer than the corolla; after flowering dilated, leafy, reticulated and spreading; tube closed. Leaflets inversely heart-shaped. *Smith.*
 Between Shoreham harbour, Sussex, and the sea, in great plenty. — Annual. *July, August.*
9. *T. arvense* Linn. E. B. 14. 944.
 Spikes cylindrical, very hairy. Stipulas lanceolate, bristle-pointed. Calyx-teeth longer than the corolla, permanently bristle-shaped. Leaflets linear-obovate. *Smith.*
 In sandy barren fields, very common. — Annual. *July, August.*
10. *T. scabrum* Linn. E. B. 13. 903.
 Heads sessile, axillary, ovate. Calyx-teeth unequal, lanceolate, rigid; finally recurved. Stems procumbent. *Smith.*
 In chalky, or dry sandy, fields. — Annual. *May, June.*

11. *T. glomeratum* Linn. E. B. 15. 1063.
 Heads sessile, axillary, hemispherical, smooth. Calyx-teeth heart-shaped, reflexed, veiny. Stems prostrate. *Smith*.
 In gravelly fields and pastures, chiefly in the east and south of England. — Annual. *June*.
12. *T. striatum* Linn. E. B. 26. 1843.
 Heads sessile, axillary and terminal, ovate. Calyx elliptical, furrowed, hairy; with straight bristle-shaped teeth. Stems procumbent. *Smith*.
 In dry, barren, sandy fields and pastures. — Annual. *June*.

** *Calyx of the fruit inflated, bladdery.*

13. *T. fragiferum* Linn. E. B. 15. 1050.
 Heads roundish. Calyx finally inflated, deflexed, with 2 terminal teeth. Stems creeping. *Smith*.
 In moist meadows, pastures, and osier holts, in a black boggy soil. — Perennial. *July, August*.

S. *** *Standards deflexed, dry and membranous.*

14. *T. procumbens* Linn. E. B. 14. 945.
 Heads oval, many-flowered. Standard finally deflexed, furrowed. Stems spreading or procumbent. Common footstalk longest at the base. *Smith*.
T. agrarium *Hudson*.
 In dry gravelly fields and pastures. — Annual. *June, July*.
15. *T. minus* *Relhan*. E. B. 18. 1256.
 Heads hemispherical. Flower-stalks straight, rigid. Standard nearly even. Stems prostrate. Common footstalk very short. *Smith*.
T. procumbens *Hudson*.
T. dubium *Sibth*.
 In dry gravelly fields and pastures, with the last. — Annual. *June, July*.
16. *T. filiforme* Linn. E. B. 18. 1257.
 Clusters lax, of few flowers. Common-stalks capillary, wavy. Standard even. Stems prostrate. Leaflets all nearly sessile. *Smith*.
 In sandy or gravelly grassy pastures, whether dry or moist. — Annual. *June, July*.

10. LOTUS Linn. BIRD'S-FOOT-TREFOIL.

Calyx tubular, 5-cleft; wings about as long as the vexillum; keel beaked. *Pod* cylindrical or compressed, apterous; *style* straight, subulate. — Herbaceous plants. Leaves ternate. Stipules leafy. Peduncles axillary, from 1- to 6-flowered, supported by a floral leaf. Flowers yellow, rarely white or pink.

1. *L. corniculatus* Linn. E. B. 30. 2090.
 Heads depressed, of few flowers. Stems recumbent, pithy. Legumes spreading, nearly cylindrical. Claw of the standard obovate. Filaments all dilated. *Smith*.
 In open grassy pastures, common. — Perennial. *June—September*.

2. *L. major* Scopoli. E. B. 30. 2091.
 Heads depressed, many-flowered. Stems erect, tubular. Legumes drooping, cylindrical. Claw of the standard linear. Shorter filaments not dilated. *Smith*.
 In wet bushy places, osier-holts, and hedges. — Perennial. *July, August*.
3. *L. tenuis* W. & K. E. B. Suppl. 2615.
 Heads of few flowers. Stems recumbent, nearly solid. Legumes somewhat spreading, cylindrical, 2-edged. Calyx hairy; its teeth shorter than the tube. *Smith*. — *L. decumbens* Forst.
 At Hastings, Sussex, near Bulverhithe; also in meadows near Tonbridge. In fields near Forfar, North Britain. — Perennial. *July*.
4. *L. angustissimus* Linn. E. B. 13. 925.
 Flowers solitary, or in pairs. Stems much branched, prostrate, fistular. Legumes 2-edged, very slender, somewhat compressed. Calyx loosely hairy; teeth fringed, twice the length of the tube. *Smith*.
L. diffusus *Smith*.
 In meadows towards the sea, on the south and western coasts of England. — Annual. *May, June*.

11. TRIGONELLA Linn.

- Calyx* campanulate, 5-cleft. *Keel* very small; the wings and vexillum together imitating a tripetalous corolla. *Pod* oblong, compressed, or cylindrical, acuminate, nearly erect, many-seeded. — *Strong-scented herbaceous plants. Leaflets 3, the terminal one stalked. Dec.*
1. *T. ornithopodioides* Dec. E. B. 15. 1047.
 Stems prostrate. Leaflets obcordate, denticulate. Stipules lanceolate, entire, rather membranous, very acute. Flowers from 2 to 4 in number. Legumes rather falcate, compressed, twice as long as the calyx. *Dec.*
Trifolium ornithopodioides Linn.
 In barren gravelly places. — Annual. *June, July*.

12. MEDICAGO Linn.

- Calyx* somewhat cylindrical, 5-cleft. *Keel* rather distant from the vexillum. *Stamens* diadelphous. *Pod* many-seeded, variable in form, always falcate or spirally twisted. — *Herbaceous plants or shrubs. Stipulæ usually cut. Leaves stalked, trifoliate; leaflets toothed. Peduncles axillary, with 1, 2, or many flowers. Flowers yellow or purple.*
1. *M. sativa* Linn. Lucerne. E. B. 25. 1749.
 Clusters upright. Legumes spiral. Stem erect, smooth. *Smith*.
 In hedges, pastures, and the borders of fields, in dry calcareous soils, but scarcely a native. — Perennial. *June, July*.
2. *M. falcata* Linn. E. B. 15. 1016.
 Clusters upright. Legumes sickle-shaped. Stem procumbent. *Smith*.
 On dry gravelly banks and old walls. — Perennial. *June, July*.

3. *M. lupulina* Linn. Black Nonesuch. E. B. 14. 971.
 Spikes ovate, erect. Legumes kidney-shaped, rugged and veiny.
 single-seeded. Stem procumbent. *Smith*.
 In meadows, pastures, and cultivated fields, very common. — Annual. *May—August*.
4. *M. maculata* Sibthorp. E. B. 23. 1616.
 Stalks 2- or 3-flowered. Leaflets inversely heart-shaped, spotted.
 Stipulas dilated, sharply toothed. Legumes spiral, depressed,
 fringed with long spreading bristles. *Smith*.
M. polymorpha Linn.
M. arabica Withering.
M. hispida Gærtn.
 On a gravelly soil in the southern parts of England. — Annual. *May, June*.
5. *M. muricata* Willd.
 Stalks barely 3-flowered. Stipulas deeply toothed, hairy as well as
 the obovate, somewhat rhomboid, leaflets. Legumes even, with
 short, depressed, radiating teeth, in a single row. *Smith*.
 On the sea-coast. — Annual. *June, July*.
6. *M. minima* Willd.
 Stalks many-flowered. Stipulas half-ovate, nearly entire. Leaflets
 obovate, hairy. Legumes orbicular, with a double row of hooked
 spines.
 At Narburgh, Norfolk, and near Newmarket. — Annual. *June, July*.

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§ *Vicieæ*. Dec.

Corolla papilionaceous. Stamens always diadelphous. Pod continuous, 1-celled.
 Cotyledons thick, farinaceous, in germination remaining under ground, and
 never acquiring a green colour.

13. *ERVUM* Linn. TARE.

Calyx 5-cleft, with linear acute segments as long as the corolla. *Style*
 smooth. *Pod* oblong, 2 or 4-seeded. *Dec*.

1. *E. tetraspermum* Linn. E. B. 17. 1223.
 Flowers mostly in pairs. Legume smooth, with 4 seeds. Leaflets
 oblong, bluntish. *Smith*.
 In corn-fields, hedges, and thickets, particularly such as are rather moist. —
 Annual. *June, July*.
2. *E. hirsutum* Linn. E. B. 14. 970.
 Clusters many-flowered. Legumes hairy, with 2 seeds. Leaflets
 abrupt. *Smith*.
 In corn-fields, and other cultivated ground, as well as in hedges: a very trouble-
 some weed, especially in wet seasons. — Annual. *June—August*.

14. *PISUM* Linn. PEA.

Calyx with foliaceous segments, the 2 upper shortest. *Vexillum* large,
 reflexed. *Style* compressed, keeled, villous on the upper side. *Pod*
 oblong, compressed, not winged, many-seeded. *Seeds* roundish,
 with a roundish hilum. — Annuals. Leaves abruptly pinnate, of
 3 pair, with a tendril in place of a terminal leaflet. *Stipules* large.
Dec.

1. *P. maritimum* Linn. E. B. 15. 1046.
Footstalks flattish on the upper side. Stem angular. Stipulas arrow-shaped. Stalks many-flowered. *Smith*.
On the stony sea-shore, in several parts of the east and south of England. — Perennial. *July*.

15. *VICIA* Linn.

Calyx tubular, 5-cleft or 5-toothed, the 2 upper teeth shorter than the others. *Stamens* diadelphous. *Style* filiform, at nearly right angles with the ovary, villous on the upper side, and below the apex on the under. *Pod* oblong, 1-celled, many-seeded. *Seeds* with an oval or linear lateral hilum. — *Climbing herbaceous plants*. Leaves abruptly pinnate, with a tendril in place of an odd leaflet. Stipulæ generally sagittate. Peduncles axillary, either long and many-flowered, or short and 1-flowered. Dec.

* *Stalks elongated, many-flowered.*

1. *V. sylvatica* Linn. E. B. 2. 79.
Stalks many-flowered. Leaflets elliptical. Stipulas crescent-shaped, deeply toothed. *Smith*.
In woods and hedges, chiefly in the more mountainous parts of Britain. — Perennial. *July, August*.

2. *V. Cracca* Linn. E. B. 17. 1168.
Stalks many-flowered. Flowers imbricated. Leaflets lanceolate, downy. Stipulas half-arrow-shaped, mostly entire. *Smith*.
In hedges, thickets, osier-grounds, and bushy low meadows, common. — Perennial. *July, August*.

** *Flowers axillary, nearly sessile.*

3. *V. sativa* Linn. Common Vetch. E. B. 5. 334.
Flowers nearly sessile, mostly in pairs. Leaflets elliptic-oblong; lower ones abrupt. Stipulas with a blackish depression beneath. Seeds orbicular, smooth. *Smith*.
β. V. angustifolia Willd.
Leaflets lanceolate and more acute. Flowers paler.
In corn-fields, and other cultivated ground. *β.* Among grass or bushes, on more barren or sandy ground. — Annual. *May, June*.

4. *V. Bobartii* Forst. E. B. Supp. 2708.
Flowers solitary, nearly sessile. Leaflets linear; lower ones inversely heart-shaped. Stipulas with a pale depression beneath. Seeds orbicular, smooth. *Smith*.
V. lathyroides Hudson.
In grassy pastures, on a chalky or gravelly soil. — Annual? *June*.

- S.
5. *V. lathyroides* Linn. E. B. 1. 30.
Flowers solitary, nearly sessile. Leaflets elliptic-oblong; lower ones inversely heart-shaped. Tendrils simple, shorter than the leaflets. Seeds cubic, warty. *Smith*.
Ervum soloniense L.
In fallow fields on a gravelly soil, in chalky pastures, on dry banks. — Annual. *April, May*.

6. *V. lutea* Linn. E. B. 7. 481.
 Flowers solitary, very nearly sessile. Standard smooth. Legumes reflexed, hairy. Stems diffuse. Stipulas ovate, pointed, coloured. *Smith*.
 On stony ground, chiefly near the sea. — Perennial. *August*.
7. *V. hybrida* Linn. E. B. 7. 482.
 Flowers solitary, almost sessile. Standard hairy. Legumes reflexed, hairy. Stems ascending. Leaflets abrupt. Stipulas ovate, unstained. *Smith*.
 On Glastonbury Tor-hill. — Perennial. *June, July*.
8. *V. lævigata* Smith. E. B. 7. 483.
 Flowers solitary, nearly sessile. Legumes reflexed, smooth. Stems ascending. Stipulas cloven, unstained. Leaflets bluntish, very smooth. *Smith*.
V. hybrida *Hudson*.
 At Weymouth, Dorsetshire. — Perennial. *July, August*.
9. *V. sepium* Linn. E. B. 22. 1515.
 Flowers about 4 together, in short axillary clusters. Legumes upright, smooth. Leaflets ovate, obtuse; the upper ones gradually smaller. *Smith*.
 In thickets and under hedges, common. — Perennial. *May, June*.
10. *V. bithynica* Linn. E. B. 26. 1842.
 Flowers stalked, mostly solitary. Legumes upright, rough. Leaflets 2 pair, lanceolate. Stipulas with lateral teeth. *Smith*.
 In bushy places, on a gravelly soil, often near the sea. — Perennial. *July, August*.

16. LATHYRUS Linn.

Calyx campanulate, 5-cleft, the 2 upper lobes the shortest. *Stamens* diadelphous. *Style* flat, dilated at the end, villous or pubescent in front. *Pod* oblong, many-seeded, 2-valved, 1-celled. *Seeds* round, or angular. — *Climbing* herbaceous plants. *Stipules* half sagittate. *Leaves* abruptly pinnate, of from 1 to 3 pairs, with a tendril in place of the terminal leaflet. *Peduncles* axillary. *Dec*.

* Perennials. *Peduncles* many-flowered.

† *Leaves* conjugate.

1. *L. sylvestris* Linn. E. B. 12. 805.
 Quite smooth. Stems prostrate, winged. Leaflets linear-lanceolate, acuminate, coriaceous. Stipules half-sagittate, shorter than the leaf. Peduncles 3 to 6-flowered, the length of the leaf. Pods reticulated longitudinally. Seeds roundish, scabrous.
 In groves, thickets, and moist hedges. — Perennial. *July, August*.
2. *L. latifolius* Linn. E. B. 16. 1108.
 Quite smooth. Stems prostrate, winged. Leaflets elliptical, somewhat glaucous, obtuse and mucronate, with 3 or 5 prominent veins. Stipules broad, half-sagittate. Peduncles many-flowered, longer than the leaves. Pods reticulated longitudinally.
 In woods; rare. — Perennial. *July, August*.

3. *L. pratensis* Linn. E. B. 10. 670.
 Nearly smooth. Stems rather erect, 4-cornered. Leaflets oblong or linear-lanceolate, with 3 prominent veins. Stipules sagittate, ovate, shorter than the leaflets. Peduncles many-flowered, twice as long as the leaves. Calyx ribbed, with nearly equal teeth, the length of the tube. Pods obliquely reticulated. Seeds round, polished.

In meadows, pastures, and thickets, common. — Perennial. *July, August.*

†† *Leaves of several pair.*

4. *L. palustris* Linn. E. B. 3. 169.
 Quite smooth. Stems winged, rather erect. Leaves of 3 pairs; petiole subulate; leaflets oblong, mucronulate. Stipules half-sagittate, acute, small. Peduncles with 3 to 5 flowers, scarcely longer than the leaves. Segments of the calyx unequal, somewhat linear, the length of the tube.

In meadows and thickets. — Perennial. *July, August.*

** Annuals. Peduncles from 1 to 3-flowered.

† *Leafless.*

5. *L. Aphaca* Linn. E. B. 17. 1167.
 Stem erect. Petioles cylindrical, filiform, usually leafless, occasionally with 2 leaflets. Stipules very large, sagittate. Peduncles 1-flowered, with a minute bractea at the apex. Segments of the calyx twice as long as the tube. Pods few-seeded, broad. Seeds compressed.

In the borders of sandy or gravelly fields, rare. — Annual. *June—August.*

6. *L. Nissolia* Linn. E. B. 2. 112.
 Stem erect. Petioles dilated, with from 3 to 5 prominent veins. Stipules minute, subulate. Flowers solitary, on long stalks. Peduncles without a bractea at the apex. Pods narrow, with projecting veins, reflexed.

In bushy places, and the grassy borders of fields. — Annual. *May.*

†† *Leaves conjugate.*

7. *L. hirsutus* Linn. E. B. 18. 1255.
 Stems diffuse, winged. Leaflets linear, oblong. Stipules linear, half-sagittate, about as long as the petiole. Peduncles with from 1 to 3 flowers, scarcely longer than the leaves. Segments of the calyx ovate, the length of the tube. Pods oblong, hairy. Seeds round, scabrous.

In fields, rare. — Annual. *July.*

17. *OROBUS* Linn.

Calyx campanulate, 5-cleft, the 2 upper lobes the shortest. *Stamens* diadelphous. *Style* slender, linear, villous at the end. *Pod* cylindrical, oblong, 1-celled, 2-valved, many-seeded. *Seeds* with a linear hilum. — *Erect herbaceous plants.* Stipules half-sagittate. Leaves abruptly pinnate, with a short simple seta in place of the terminal leaflet. Racemes axillary, stalked. *Dec.*

1. *O. sylvaticus* Linn. E. B. 8. 518.
Stem branching, decumbent, hairy. Leaves hairy, of many pairs : leaflets ovate-lanceolate, acuminate. Stipules half-sagittate. Peduncles many-flowered, scarcely so long as the leaves. Teeth of the calyx unequal, short. Pods ovate, stalked.
In mountainous woods and thickets. — Perennial. *May, June.*
2. *O. tuberosus* Linn. E. B. 17. 1153.
Quite smooth. Roots tuberous. Stems prostrate. Leaves of 2 or 4 pairs : leaflets elliptical, mucronate, dotted, with nearly parallel veins. Stipules half-sagittate. Peduncles bearing few flowers, and scarcely longer than the leaves. Teeth of the calyx unequal, ovate, obtuse, shorter than the tube. Pods compressed, with obsoletely-reticulated veins. Seeds spherical.
β. *O. tenuifolius* Roth.
Leaflets linear-lanceolate.
In mountainous pastures, thickets, and woods. — Perennial. *May, June.*
3. *O. niger* Linn.
Leaves pinnate, of from 4 to 6 pair of elliptic-lanceolate leaflets. Stipulas linear-awl-shaped, simple, entire. Stem branched, angular, erect. *Smith.*
In the den of Airly, 12 miles west of Forfar, sparingly. — Perennial. *June, July.*

§ *Hedysaræ* Dec.

Corolla papilionaceous. Stamens usually monadelphous ; sometimes diadelphous, 1 and 9, or 5 and 5. Legume divided transversely into 1-seeded joints. Cotyledons thin, in germination rising above the ground, and acquiring a green colour.

18. ORNITHOPUS Linn.

Calyx with bractæ, tubular, nearly equally 5-toothed. *Keel* very small and compressed. *Stamens* diadelphous. *Pod* compressed, consisting of numerous 1-seeded, indehiscent joints, truncate equally on each side, with parallel margins. — *Hairy* annuals. Leaves *pinnate*. Stipules *small, adhering to the petiole*. Peduncles *axillary, few-flowered*. Flowers *small, white or rose-colour*. A leafy pinnated bractea under each head. Dec.

1. *O. perpusillus* Linn. Bird's-foot. E. B. 6. 369.
Leaves pinnate. Flowers capitate, accompanied by a leaf. Legumes incurved, beaded. *Smith.*
In sandy or gravelly pastures. — Annual. *May.*

S.

19. HIPPOCREPIS Linn.

Calyx 5-cleft, with equal, acute lobes. *Keel* 2-lobed. *Stamens* diadelphous. *Style* filiform, acute. *Pod* of several joints, each containing 1 seed, and curved like a horse-shoe ; whence the upper edge of the pod appears as if cut into several rounded recesses. Seeds cylindrical or compressed, oblong, attached to the middle part of each curvature. — Herbaceous plants or shrubs. Leaves *pinnated*. Flowers *yellow, either axillary, solitary, and sessile, or in umbels at the end of an axillary peduncle*. Dec.

1. *H. comosa* Linn.

E. B. 1. 31.

Legumes umbellate, rough; their joints neither dilated nor bordered. *Smith*.

On dry chalky banks; sometimes on limestone. — Perennial. *May—August*.

20. *ONOBRYCHIS* *Tournef.*

Calyx 5-cleft, with subulate equal divisions. *Keel* truncate obliquely; *wings* short. *Stamens* diadelphous. *Pod* sessile, of 1 joint, compressed, indehiscent, coriaceous, prickly, crested or winged; the upper side thick and straight; the lower convex and thinner. — Herbaceous plants. Leaves pinnated. Peduncles long, bearing spikes of flowers at the end. Flowers red or white.

1. *O. sativa* Lam. Saintfoin.

E. B. 2. 96.

Leaves pinnate, nearly smooth. Legumes single-seeded, toothed at the margin and ribs. Wings of the corolla not longer than the calyx. Stem elongated. *Smith*.

Hedysarum Onobrychis Linn.

On dry chalky hills and open downs, in various parts of England. — Perennial *June, July*.

Order 32. ROSACEÆ *Juss.*

Calyx 4- or 5-lobed, with a disk either lining the tube or surrounding the orifice; the fifth lobe uppermost.

Petals 5, perigynous, equal.

Stamens either definite or indefinite, inserted on the calyx, just within the petals, in æstivation curved inwards; *anthers* innate, 2-celled, bursting longitudinally.

Ovaries superior, either solitary or several, 1-celled; *ovula* 2 or more, suspended, very rarely erect; *styles* lateral; *stigmata* usually simple, and emarginate on one side.

Fruit either 1-seeded nuts or small drupes, or follicles containing several seeds.

Seeds suspended, rarely ascending. *Embryo* straight, with a taper short radicle pointing to the hilum, and flat cotyledons. *Albumen* in small quantity, fleshy, usually almost obliterated when the seeds are ripe.

Herbaceous plants or *trees*. Leaves simple or compound, alternate, with 2 stipulæ at their base.

ANALYSIS OF THE GENERA.

Petals 4 or 5

Fruit consisting of 1 or more follicles surrounded by a dry } 1. SPIRÆA.
calyx - - - - -

Fruit a naked drupe

Vernation convolute. Drupe covered with bloom - 2. PRUNUS.

Vernation conduplicate. Drupe glabrous - - - 3. CERASUS.

Fruit consisting of numerous small nuts or drupes invested with a dry calyx	
Fruit succulent, receptacle dry	4. RUBUS.
Fruit dry, receptacle succulent	5. FRAGARIA.
Fruit and receptacle both dry	
Calyx with external bractæ	
Styles withering	
Stamens indefinite	6. POTENTILLA.
Stamens definite	7. SIBBALDIA.
Styles persistent, indurated	8. GEUM.
Calyx without external bractæ	
8 or 9 parted, naked	9. DRYAS.
5-cleft, lappaceous	10. AGRIMONIA.
Fruit consisting of numerous nuts enclosed in a fleshy calyx, contracted at the orifice of its tube	11. ROSA.
Petals none.	
Stamens 1 to 4	
Calyx 8-parted	12. ALCHEMILLA.
Calyx 4-parted	13. SANGUISORBA.
Stamens 20 to 30	14. POTERIUM.

§ 1. *Spiræaceæ* Dec.

Follicles several, invested by the calyx. *Seeds* from 1 to 6, suspended from the inner edges of the follicle. — Shrubs, or herbaceous plants.

1. *SPIRÆA* Linn.

Calyx 5-cleft, persistent. *Stamens* from 10 to 50, inserted along with the petals upon a disk adhering to the calyx. *Follicles* 1 or several, distinct, or occasionally cohering by the base. *Seeds* from 2 to 6.

1. *S. salicifolia* Linn. E. B. 21. 1468.
Leaves elliptic-lanceolate, unequally serrated, smooth. Clusters terminal, compound. *Smith*.
In swampy, shady, mountainous situations. — Shrub. *July*.
2. *S. Filipendula* Linn. Common Dropwort. E. B. 4. 284.
Leaves interruptedly pinnate; leaflets uniform, serrated, smooth. Stem herbaceous. Flowers cymose, with many styles. *Smith*.
In open elevated pastures, on a chalky or gravelly soil. — Perennial. *July*.
3. *S. Ulmaria* Linn. Meadow-sweet. Queen of the Meadows. E. B. 14. 960.
Leaves interruptedly pinnate; downy beneath; the terminal leaflet largest and lobed. Stem herbaceous. Flowers cymose, with many styles. *Smith*.
In moist meadows, and about the banks of rivers and ditches. — Perennial. *June, July*.

§ 2. *Drupaceæ* Dec. (*Amygdaleæ* Juss. & Dec.)

Fruit a solitary drupe, containing 1 or 2 seeds, hanging from the top of their cell. *Calyx* deciduous. — Trees or shrubs, with simple stalked leaves, glandular petioles, and distinct stipules. All the parts abound in prussic acid.

2. PRUNUS *Tournefort.*

Vernation convolute. *Drupe* covered with bloom, with a smooth stone deeply furrowed at its inner edge.

1. *P. domestica* Linn. Wild Plum. E. B. 25. 1783.
Flower-stalks solitary or in pairs. Leaves lanceolate-ovate. Branches without thorns.
In woods and hedges, probably escaped from gardens. — Tree. May.
2. *P. spinosa* Linn. Sloe, or Blackthorn. E. B. 12. 842.
Flower-stalks solitary. Leaves lanceolate, smooth. Branches thorny at the end.
3. *P. insititia* Linn. Bullace. E. B. 12. 841.
Flower-stalks in pairs. Leaves lanceolate-ovate; downy beneath. Branches thorny at the end.
In hedges and groves. — Tree. April.

3. CERASUS *Tournefort.*

Vernation conduplicate. *Drupe* not covered with bloom, with a smooth stone not furrowed at its inner edge.

1. *C. avium* Mœnch. Wild Cherry. E. B. 10. 706.
Flowers in nearly sessile umbels. Leaves ovate-lanceolate, or obovate with a point, with 2 glands at the base.
Prunus avium Linn.
In woods and hedges. — Tree. May.
2. *C. Padus* Dec. Bird Cherry. E. B. 20. 1383.
Racemes long, pendulous. Leaves ovate-lanceolate, acuminate, thin; smooth beneath, with spreading serratures. Fruit round, bitter.
Prunus Padus Linn.
In woods and hedges. — Tree. May.

S.

§ 3. *Fragariaceæ* Richard. (*Dryadeæ* Vent.)

Fruit consisting either of small dry nuts or succulent drupeolæ, inserted upon a common receptacle, and invested with a dry permanent calyx. *Calyx* either 4- or 5-cleft, sometimes bearing bracteolæ on its tube, equal in number to the segments, and alternate with them. *Petals* 5. *Seed* solitary, erect, or inverted. — *Mostly* herbaceous plants, very seldom shrubs; leaves usually compound; stipulæ adhering to the petiole.

* 4. RUBUS Linn. BRAMBLE.

Calyx somewhat campanulate, 5-lobed, without external bracteolæ. *Petals* 5. *Stamens* indefinite. *Fruit* consisting of numerous succulent drupeolæ, placed upon an elevated dry receptacle. *Seed* inverted. — Shrubs or herbaceous plants. Stems usually long and procumbent, sterile the first year, bearing flowers and fruit the second, and then perishing. Leaves either simple, ternate, 5-nate, pedate, or pinnate, always more or less divided at the margin.

Note. In describing the stem, the barren root shoot is always referred to; the leaves described are those of the root shoot, and in speaking of the form of the leaflets, that of the middle leaflet of the stem-leaves is to be understood. It is important to bear this in mind.

When the first edition of this work was published, in 1829, the subject of the species of British Brambles had attracted but little attention: the only account of them of any value was in Smith's *English Flora*, where eleven were separately described; but as two of these (*R. plicatus* and *nitidus*) have since been ascertained to be other species misunderstood, the real number was only nine. When I first began to attend to this very difficult subject, I could not avoid remarking that the same distinctions and peculiarities which had led to the establishment of many of these, would also separate many other forms of the genus; and it appeared to me that, to be consistent, we ought either to reduce the whole to *R. suberectus*, *fruticosus*, *corylifolius*, and *cæsius*, or to distinguish a considerable additional number of such species as Smith, by the advice of those of his correspondents who had specially occupied themselves with the subject of British plants, had been induced to admit. For this reason, I determined to take the elaborate Monograph of Weihe and Nees von Esenbeck for my guide, and to indicate all the British forms that I was acquainted with, which, upon their principles, and, I may add, the principles of the contributors to Smith's *English Flora*, were to be considered species. I accordingly advanced the number to 23; certainly not from any expectation that such species were either genuine, or likely to prove permanent, but with a view of following out the recognised principles of distinction, and showing whither they must inevitably lead. To my surprise, however, this proceeding has not found favour in the eyes of those from whom I most expected applause; but the very Botanists who seduced Sir James Smith into the commission of the original sin, have by no means been willing to allow me to be a participator, but have determined to keep the game in their own hands. It must be confessed that this has been but a cold return for my adhesion to their party: it has had one good effect, however, which will probably console me for having been regarded as a poacher in their preserves, rather than a fair sportsman; it has led me to reconsider the subject very carefully, and to examine with more attention the nature of the principles upon which the modern and recognised species of *Rubus* have been established; I have also had six years of additional experience; and I am bound to declare, that, I can come to no other conclusion than that with which I first started,—namely, that we have to choose between considering the four first named plants the only genuine British species, or adopting, in a great measure, the characters of the learned German Botanists, who have so much distinguished themselves in the elaboration of the genus. So clear is my opinion upon this point, that, if it had been possible to prove the four species to which I have alluded to be themselves physiologically distinct, I should at once have reduced all the others to their original places; but as it is in the highest degree uncertain whether *R. fruticosus*, *corylifolius*, and *cæsius* are not as much varieties of each other, as those which it would be necessary to reject, I have

thought it better to steer a middle course, until some *proof* shall have been obtained either one way or the other. Accordingly, as will be seen by what follows, I have taken *R. fruticosus*, *corylifolius*, *cæsius*, and *suberectus* as heads of sections, and I have assigned them characters which may be considered either as sectional or specific, according as the evidence may ultimately preponderate; and I have arranged as species under them those forms which are the best marked and the most certainly distinguishable. This will bring the genus *Rubus* somewhat into the situation of *Rosa*; in which, I fear, we must be satisfied with leaving it for the present. For the long characters formerly employed, I have substituted very short ones, it having been found that the former are more perplexing by their vagueness than the latter by their brevity; and I have trusted to foot remarks for helping the student to understand them.

§ Shrubby.

I. IDÆUS. *Leaves pinnate.*

1. *R. idæus* Linn. Raspberry. E. B. 34. 2442.
Stem erect. Leaves pinnate.
In mountainous woods and thickets. — Shrub. May, June.

II. SUBERECTI. *Leaves digitate; stems and leafstalks either perfectly smooth, or only slightly protected by weak straggling hairs.*

2. *R. suberectus* Anderson. E. B. 36. 2572.
Stem erect. Leaves never more than 5-nate, occasionally pinnate, thin, shining and plaited. Racemes simple, corymbose. Prickles weak.
R. nessensis Hall.
R. plicatus W. & N.
R. corylifolius Wahlenb.
In moist woods and sides of rivulets, chiefly in the north. — Shrub. July, August.
Obs. There is no doubt that *R. plicatus* of N. & W. is identical with our *R. suberectus*. I admitted the former name into the 1st edit. upon the authority of Smith. The *R. plicatus* of E. B. Supp. is nothing but a small form of *R. affinis*.
3. *R. fissus*.
Stem arched. Leaves frequently 7-nate, shining. Racemes simple. Prickles strong.
R. fastigiatus Ed. pr. not W. & N.
In hedges in Scotland. — Shrub. July, August.
Obs. Differs from the last in its arched mode of growth, and strong numerous prickles, as also in its leaves being much less membranous. From *R. affinis* it is known by its small racemes, and by the floral leaves never being large and orbicular, as in that plant. The only specimen with which I am acquainted is one sent to the garden of the Horticultural Society from Ayrshire.
4. *R. affinis* Weihe & Nees. E. B. Supp. 2714.
Stem arched. Leaves quinate, shining, somewhat plaited; floral ones always simple and very large. Panicle straggling, large and loose.

R. collinus DC.

R. nitidus Smith and Ed. pr.

R. plicatus Borrer in E. B.

In woods in boggy places. — Shrub. July, August.

Obs. *R. nitidus* was formerly admitted by me upon the authority of Smith; it is now ascertained that what he meant in the English Flora was this species.

III. *CORYLIFOLII*. Leaves digitate. Stems or leafstalks distinctly downy or hairy, especially near the flowers. Stem-leaves never white on the under surface. Calyx of the fruit reflexed.

* Stems destitute of glandular bristles.

5. *R. vulgaris* Weihe & Nees.

Leaflets roundish, cuspidate. Panicles very short.

R. corylifolius Smith.

Common in hedges and thickets. — Shrub. July, August.

Obs. Extremely variable in the roundness of its leaflets and in their degree of hairiness; sometimes they are shaggy on both sides.

6. *R. macrophyllus* Weihe and Nees. E. B. Supp. 2625.

Leaflets roundish, cuspidate. Panicles long, contracted, naked at the end.

In hedges and thickets, not common. — Shrub. July, August.

Obs. This is *R. vulgaris* advancing towards the characters of *R. rhamnifolius*, or, in other words, is a transition from *R. corylifolius* to *R. fruticosus*.

7. *R. carpinifolius* Weihe and Nees. E. B. Supp. 2664.

Leaflets acuminate, inciso-serrate. Panicle narrow, naked.

In hedges, not common. — Shrub. July, August.

Obs. This has nearly the same relation to *R. vulgaris*, as *R. leucostachys* to *R. fruticosus*. It is the *leucostachys* form of *corylifolius*.

** Stems having many glandular bristles mixed with the hairs. *R. glandulosus* Smith.

8. *R. fusco-ater* Weihe and Nees.

Leaflets cuspidate. Panicles very short, loose, and straggling.

Woods and hedges. — Shrub. July, August.

Obs. This form of *R. glandulosus* = the *vulgaris* form of *R. corylifolius*.

9. *R. Köhleri* Weihe and Nees. E. B. Supp. 2605.

Leaflets cuspidate. Panicles long, rigid, naked at the end.

R. pallidus Weihe & Nees. Ed. pr.

Woods and hedges. — Shrub. July.

Obs. This form of *R. glandulosus* = the *macrophyllus* form of *R. corylifolius*.

10. *R. rudis* Weihe & Nees.

Leaflets acuminate, inciso-serrate. Panicle long, straggling and leafy.

R. echinatus Ed. pr.

Woods and hedges. — Shrub. July, August.

Obs. This form of *R. glandulosus* = the *carpinifolius* form of *R. corylifolius*.

11. *R. diversifolius* Ed. pr.

Leaflets very thick, orbicular, shaggy beneath, the upper single, very large, and heart-shaped. Panicle long, straggling, leafy.

In hedges and thickets. — Shrub. July, August.

Obs. Mr. Borrer combines this with *R. leucostachys*, from which it is surely a hundred times more different than *leucostachys* from *fruticosus*, the distinctness of which he admits.

IV. *CÆSII*. *Leaves digitate. Stems or leafstalks distinctly downy or hairy, especially near the flowers. Stem-leaves never white on the under surface. Calyx of the fruit erect.*12. *R. hirtus* Waldst. & Kitaib.

Branches covered with long hairs and glandular bristles.

Woods and hedges. — Shrub. July, August.

Obs. A strong glandular state of *cæsius*, approaching *R. Köhleri*.

13. *R. dumetorum* Weihe & Nees.

Branches with scarcely any bristles. Stem-leaves quinate. Panicle leafy, straggling.

In hedges and dry ditches. — Shrub. July, August.

Obs. This is nearly halfway between iv. and iii.

14. *R. cæsius* L. Dewberry.

E. B. 12. 826.

Branches with scarcely any bristles. Stem-leaves all ternate.

Racemes corymbose. Fruit always glaucous.

In hedges, woods, and dry ditches. — Shrub. June, July, August.

V. *FRUTICOSI*. *Leaves digitate. Stems or leafstalks distinctly downy or hairy, especially near the flowers. Stem-leaves always white, with a short nap, on the under surface. Calyx of the fruit reflexed.*

Obs. All the plants in this division agree in having the lower surface of their stem-leaves of a peculiar white colour, which is generally distinguishable from the soft hoary surface of some of those in div. iii. The leaves of the branches are sometimes not white, so that care must be taken to examine those of the stem, in all cases of doubt.

15. *R. Radula* Weihe & Nees.

Leaflets opaque, rugose, soft and white beneath. Panicles very short, leafy, hairy, and glandular.

In Windsor Forest. — Shrub. July, August.

Obs. This is to *R. fruticosus* what *R. vulgaris* is to *R. corylifolius*.

16. *R. rhamnifolius* Weihe & Nees,

E. B. Supp. 2604.

Leaflets rugose, opaque, soft beneath, and hoary. Panicles long narrow, downy.

R. cordifolius Ed. pr.

In woods and hedges, common. — Shrub. July, August.

Obs. This is an intermediate form between *R. fruticosus* and *corylifolius*.

17. *R. fruticosus* Linn. E. B. 11. 715.
 Leaflets shining, even, hard and white beneath. Panicles long,
 narrow, downy.
R. discolor Ed. pr.
R. abruptus Ed. pr.

In hedges and woods, every where. — Shrub. *July, August.*

18. *R. leucostachys* Smith. E. B. Supp. 2631.
 Leaflets shining, inciso-serrate, acuminate, and somewhat rhom-
 boidal, soft and white beneath. Panicle very long, leafy, hairy.

In hedges and thickets. — Shrub. *July, August.*

Obs. The jagged-leaved form of *R. fruticosus*. It will be remarked that each division of the true Brambles has a tendency to vary in the same way, as will be apparent from the following comparative view :—

	Short Inflorescence.	Long Inflorescence.	Jagged Leaves.
CORYLIFOLII *	Vulgaris	Macrophyllus	Carpinifolius
CORYLIFOLII **	Fusco-ater	Köhleri	Rudis
FRUTICOSI	Radule	Fruticosus	Leucostachys

The Dewberry division, iv., varies in the same way ; but I have not seen any British instances of it.

S.

§§ Herbaceous.

19. *R. saxatilis* Linn. E. B. 32. 2233.
 Stem nearly herbaceous, veiny, prostrate, unarmed, hairy. Leaves
 ternate, obovate, coarsely cut and serrate, pubescent. Flowers
 in contracted umbels. Petals oblong. *W. & N.*

On stony mountainous places in the North. — Perennial. *June.*

20. *R. arcticus* Linn. E. B. 23. 1585.
 Leaflets 3, bluntly serrated. Stem without prickles, bearing 1 or 2
 solitary flowers. Petals roundish. *Smith.*

On stony mountainous moors, rare. — Perennial. *May, June.*

21. *R. Chamæmorus* Linn. Cloudberry. E. B. 10. 716.
 Leaves simple, plaited, lobed. Stem without prickles, simple, single-
 flowered. Segments of the calyx ovate. *Smith.*

In turfy alpine bogs. — Perennial. *June.*

5. FRAGARIA Linn.

Calyx concave, 5-cleft, with 5 external bracteolæ. *Petals* 5. *Stamens*
 indefinite. *Fruit* consisting of numerous small nuts, placed upon a
 succulent receptacle. *Seed* inverted. — Herbaceous plants, propa-
 gating themselves by runners. Leaves ternate or simple.

1. *F. vesca* Linn. Wood Strawberry. E. B. 22. 1524.
 Calyx of the fruit reflexed. Hairs of the footstalks widely spread-
 ing ; those of the partial flower-stalks close-pressed, silky. *Smith.*

In groves and thickets, common. — Perennial. *May, June.*

β. atrovirens.

E. B. Supp. 2742.

Leaflets sessile, hairy, roundish, wedge-shaped, coarsely toothed.

Peduncles longer than the scapes. Calyx as large as the corolla.

In Northumberland. — Perennial. *June — September.*

2. *F. moschata* Duchesne. Hautboy Strawberry. E. B. 31. 2197.

Leaflets oblong, plaited, coarsely toothed, hairy, as well as the flower-stalks. Calyx smaller than the corolla. Flowers polygamous.

Fruit perfumed.

F. elatior Smith, not of *Ehrhart*, which is what the gardeners call the Green Pine Strawberry.

In groves in the south of England. — Perennial. *June — September.* A doubtful native.

6. POTENTILLA Linn. CINQUEFOIL.

Calyx concave, 4 or 5-cleft, with 4 or 5 external bracteolæ. *Petals* 5. *Stamens* indefinite. *Fruit* consisting of numerous small nuts, placed upon a dry elevated receptacle. *Seed* inverted. — Herbaceous plants, or shrubs. *Leaves* compound. *Stipules* adhering to the petiole. *Flowers* white, yellow, or purple.

§ *Petals* 5, obtuse.

* *Leaves* pinnate.

1. *P. fruticosa* Linn.

E. B. 2. 88.

Leaves pinnate, entire, hairy. *Stem* shrubby. *Smith.*

In mountainous thickets. — Shrub. *June.*

2. *P. anserina* Linn.

E. B. 12. 861.

Leaves interruptedly pinnate, serrated, silky. *Stem* creeping. *Stalks* axillary, solitary, single-flowered. *Smith.*

In osier holts and spongy meadows. — Perennial. *June, July.*

3. *P. rupestris* Linn.

E. B. 29. 2058.

Leaves lyrate-pinnate; leaflets 7, 5, or 3, ovate, serrated, hairy. *Stem* erect. *Smith.*

On shady alpine rocks in Wales. — Perennial. *June.*

** *Leaves* digitate.

4. *P. argentea* Linn.

E. B. 2. 89.

Leaflets 5, wedge-shaped, jagged; downy beneath. *Stem* ascending. *Smith.*

In pastures on a gravelly soil. — Perennial. *June, July.*

5. *P. alpestris* Haller.

E. B. 8. 561.

Radical leaves of 5 wedge-shaped, somewhat hairy leaflets; deeply cut in their upper half. Upper stipulas ovate. *Petals* heart-shaped. *Stems* ascending. *Smith.*

P. salisburgensis Hænke.

P. aurea Smith.

P. verna β. *Wahlenb.*

P. verna γ. *Nestler.*

On mountains in Scotland, the north of England, and Wales. — Perennial. *July.*

6. *P. verna* Linn. E. B. 1. 37.
 Radical leaves of 5 or 7, obovate-wedge-shaped, partly serrated, furrowed leaflets; bristly at the margins and ribs beneath. Upper stipulas dilated. Calyx-segments partly 3-ribbed. Stems procumbent. *Smith.*
 In elevated pastures, and barren hilly ground. — Perennial. *April, May.*
7. *P. opaca* Linn. E. B. 35. 2449.
 Radical leaves of 7, hairy, linear-wedge-shaped leaflets, deeply serrated throughout; stem-leaves ternate, mostly opposite. Stems recumbent. *Smith.*
 On the mountains of Scotland. — Perennial. *June.*
8. *P. alba* Linn. E. B. 20. 1384.
 Radical leaves of 5, elliptic-oblong leaflets; silky beneath; tipped with converging serratures. Stems thread-shaped, procumbent. Receptacle very hairy. *Smith.*
 In mountainous woods. — Perennial. *June, July.*
9. *P. reptans* Linn. E. B. 12. 862.
 Leaflets 5, obovate, serrated. Stem creeping. Stalks axillary, single-flowered. *Smith.*
 In meadows, pastures, and by way sides, common. — Perennial. *June—August.*

*** *Leaves ternate.*
10. *P. tridentata* Solander. E. B. 34. 2389.
 Leaflets 3, wedge-shaped; smooth above; hairy beneath; with about 3 terminal teeth. Stem panicled, erect. Fruit even. *Smith.*
 On a mountain called Werron, and some other hills in Angus-shire, to the westward. — Perennial. *May, June.*
11. *P. Fragaria* Dec. E. B. 25. 1785.
 Leaflets 3, roundish-obovate, serrated, hairy. Stems prostrate. Fruit corrugated, hairy at the scar. *Smith.*
P. Fragariastrum Ehrhart.
P. Fragarioides Villars.
Fragaria sterilis Linn.
 In dry gravelly pastures, common. — Perennial. *March, April.*

§ 2. Petals 5, acuminate.
12. *P. Comarum* Scopoli. E. B. 3. 172.
 Leaves with close lobes. Stipules broad, coriaceous. Petals less than the calyx. Fruit ovate, compressed, smooth. *Dec.*
Comarum palustre Smith.
Potentilla palustris Lehmann.
Potentilla rubra Haller.
 In bogs and ditches. — Perennial. *June, July,*

§ 3. Petals 4.
13. *P. Tormentilla* Sibth. E. B. 12. 863.
 Stem ascending, branched. Leaves almost sessile. Stipulas cut. *Smith.*
Tormentilla erecta Linn.

T. officinalis Smith.

P. tetrapetala Haller.

In barren pastures, heaths, and bushy places. — Perennial. *June, July.*

14. *P. nemoralis* Nestl. E. B. 12. 864.
 Stem prostrate, scarcely branched. Leaves stalked. Stipulas undivided. *Smith.*
Tormentilla reptans Linn.
Potentilla procumbens Sibth.
 About hedges and borders of fields. — Perennial. *June, July.*
 Probably the same as *P. reptans*.

7. SIBBALDIA Linn.

Calyx concave, 5-cleft, with 5 external bracteolæ. *Petals* 5. *Stamens* 5. *Fruit* consisting of 5 small nuts, placed upon a dry receptacle. *Seed* inverted. — Herbaceous plants with compound leaves and yellow flowers.

1. *S. procumbens* Linn. E. B. 13. 897.
 Leaflets wedge-shaped, with 3 terminal teeth. *Smith.*
 On the summits of the Highland mountains of Scotland. — Perennial. *July.*

8. GEUM Linn.

Calyx concave, 5-cleft, with 5 external bracteolæ. *Petals* 5. *Stamens* indefinite. *Fruit* consisting of numerous small nuts, tipped with the indurated persistent naked styles, and placed upon a dry receptacle. *Seed* ascending. — Herbaceous plants with compound leaves. Flowers white or yellow.

1. *G. urbanum* Linn. Common Avens. Herb Bennet.
 E. B. 20. 1400.
 Leaves ternate; radical ones somewhat lyrate. Stipulas rounded, cut. Flowers nearly upright. Styles naked. *Smith.*
 In woods, shady dry hedges, and thickets. — Perennial. *May—August.*
2. *G. rivale* Linn. E. B. 2. 106.
 Radical leaves interruptedly pinnate, somewhat lyrate. Stipulas ovate, acute, cut. Flowers drooping. Styles hairy above the curvature. *Smith.*
- β. *intermedium* Seringe.
 Leaves hairy. Lobes of the upper leaves narrower. Peduncles more slender. *Ser.*
G. intermedium Ehrh.
- γ. *luxurians* Trattennich.
 Flowers semi-double. Sepals distinct, transformed into leaves. *Ser.*
G. hybridum Wulfen.
 In moist meadows and woods. — Perennial. *June, July.*

9. DRYAS Linn.

Calyx 8- or 9-parted, without external bracteolæ. *Petals* 8 or 9. *Stamens* indefinite. *Fruit* consisting of numerous small nuts, tipped with the persistent feathery styles, and placed on a dry receptacle.

Seed ascending. — Herbaceous plants, with simple leaves, hoary beneath, and white flowers.

1. *D. octopetala* Linn. E. B. 7. 451.
 Petals 8. Leaves oblong, notched, downy beneath.
 On stony alpine heaths. — Perennial. *July, August.*

10. *AGRIMONIA* Linn.

Calyx turbinate, 5-cleft, without external bracteolæ, covered with rigid hooked bristles. *Petals* 5. *Stamens* 15. *Fruit* consisting of 2 membranous small nuts inclosed in the indurated tube of the calyx. *Seed* suspended. — Herbaceous plants, with compound leaves. *Flowers* in spikes, yellow. *Bracteæ* trifid.

1. *A. Eupatoria* Linn. *Agrimony.* E. B. 19. 1335.
 Stem-leaves pinnate; leaflets elliptic-oblong; terminal one-stalked.
Calyx encompassed with bristles. *Spikes* elongated. *Smith.*
 In bushy places, by road sides, and about the borders of fields. — Perennial.
June, July.

§ 4. *Roseæ* Dec.

Nuts numerous, hairy, terminated by the persistent style, and enclosed within the fleshy tube of the calyx, which is contracted at the orifice, where it is surrounded by a fleshy disk. *Seed* suspended. *Sepals* 5. *Petals* 5. *Stamens* indefinite. — Shrubs with prickly or naked stems. *Leaves* pinnate. *Flowers* red, white, or yellow, usually fragrant.

11. *ROSA* Linn. *ROSE.*

The characters the same as those of the section, no other genus being included in it.

- i. *Cinnamomeæ.* *Branches* setigerous, sometimes unarmed. *Flowers* with bracteæ. *Leaflets* lanceolate or oblong, without glands. *Disk* thin.
1. *R. Dicksoniana* Lindley. E. B. Supp. 2707.
Branches flexuose, armed with a few slender scattered prickles.
Leaflets folded together, unequal, with coarse double serratures.
Stipules, *petioles*, and *sepals* glandular; the latter equal. *Fruit* naked.
 In Ireland. — Shrub. *May, June.*
Obs. *R. cinnamomea* must be excluded from the British Flora, there being no good evidence of its having been found wild in this country.
- ii. *Pimpinellifoliæ.* *Branches* setigerous, their prickles being all of nearly the same figure; sometimes unarmed. *Flowers* without bracteæ. *Leaflets* usually ovate. *Sepals* converging, not separating from the fruit. *Disk* very thin.
2. *R. rubella* Smith. E. B. 36. 2521.
Branches covered with equal-sized prickles and setæ. *Fruit* long, pendulous.
 On the sea-coast in the north. — Shrub. *July.*

3. *R. spinosissima* Linn. E. B. 3. 187.
Prickles very unequal. Leaflets flat, smooth, simply serrated. Fruit globose, erect.
β. pilosa Lindley.
Very dwarf. Leaves acute, hairy on the under surface.
On sandy heaths, and hedges near the sea, and upon mountains. *β.* in Ireland. — Shrub. May, June.
4. *R. hibernica* Smith. E. B. 31. 2196.
Prickles unequal; the setæ very few. Leaflets ovate, acute, simply serrated, hairy beneath. Sepals compound, reflexed. Flowers with bractææ.
Ireland, near Belfast. — Shrub. May, June.
5. *R. involuta* Smith. E. B. 29. 2068.
Prickles very unequal and dense. Leaflets doubly serrated, downy. Petals rolled up. Sepals simple. Fruit aculeate.
R. nivalis Donn.
In the western part of Scotland. — Shrub. June.
6. *R. Sabini* Woods. E. B. Supp. 2594.
Setæ scarce. Prickles unequal, scattered. Leaflets doubly serrate, tomentose. Sepals compound.
R. involuta Winch.
R. gracilis Woods.
β. Doniana Lindley. E. B. Supp. 2601.
Setæ almost wholly wanting. Prickles nearly straight.
R. Doniana Woods.
In woods and thickets in several parts of England, chiefly in the north. — Shrub. June.
- iii. *Villosæ*. Prickles nearly straight, and equal. Setæ none. Leaflets with diverging serratures, and turpentine glands. Sepals remaining upon the fruit. Disk thick, closing up the orifice of the tube.
7. *R. tomentosa* Smith. E. B. 14. 990.
Root-shoots arched. Sepals compound, diverging. Leaflets oblong, downy on both sides. Fruit hispid, or naked.
β. fœtida.
Leaflets nearly smooth on the upper side.
R. fœtida Batard.
R. scabriuscula E. Bot.
R. subglobosa Smith.
In hedges and thickets. — Shrub. June, July.
8. *R. mollis* Smith. E. B. 35. 2459.
Root-shoots erect, coloured. Sepals nearly simple, converging. Leaflets ovate, downy on both sides. Fruit hispid or naked.
R. villosa Smith, not of Linnæus.
R. pulchella Woods.
R. heterophylla Woods.
β. resinosa.
More dwarf. Leaflets narrower, with very numerous glands. Flowers deep red.

R. tomentosa γ. *Lindl.*

In hedges and thickets, especially in the north. — Shrub. *June, July.*

8. *R. sylvestris.*

Shoots erect, coloured, flexuose. Prickles hooked. Leaflets oblong, acute, hoary on each side. Sepals diverging, deciduous before the fruit is ripe. Fruit elliptical, setose.

R. tomentosa sylvestris *Woods.*

In Oxfordshire, in hedges. — Shrub. *June, July.*

iv. *Rubiginosæ.* *Prickles very unequal, sometimes tipped with glands, very rarely absent. Leaflets ovate or oblong, usually fragrant and glandular, with diverging serratures. Sepals persistent. Disk thick, closing up the orifice of the tube.*

10. *R. rubiginosa* *Linn.* E. B. 14. 991.

Prickles much hooked. Leaflets rugose, not lucid, roundish-ovate, with fragrant brown glands at their margin, and on the under-side. Calyxes and peduncles hispid.

R. eglanteria *Hudson.*

β. *micrantha* *Lindley.* E. B. 35. 2490.

Prickles more equal, and less numerous. Sepals deciduous before the fruit is quite ripe. Fruit oblong or obovate.

R. micrantha *Smith.*

γ. *umbellata* *Lindley.*

Branches of the inflorescence extremely prickly. Fruit taper.

R. umbellata *Leers.*

δ. *inodora* *Lindley.* E. B. 36. 2579.

Prickles very much hooked, and nearly equal. Leaflets less glandular. Sepals deciduous before the fruit is quite ripe, and very compound.

R. inodora *Agardh.*

R. Borreri *Woods.*

R. dumetorum *E. Bot.*

Subvar. parvifolia. *Leaflets very small and acute. Fl. Lond. t. 117.*

In hedges and thickets. — Shrub. *June, July.*

11. *R. sepium* *Thuill.* E. B. Supp. 2653.

Prickles slender. Branches flexuose. Leaflets shining, acute at each end. Flowers nearly solitary. Fruit polished. Segments of the sepals very narrow.

R. rubiginosa η. *Lindley.*

Near Bridford, in Warwickshire (Rev. Mr. Bree). — Shrub. *June, July.*

v. *Caninæ.* *Prickles equal, hooked. Leaflets ovate, without glands, with converging serratures. Sepals deciduous before the fruit is ripe. Disk thick, closing up the orifice of the tube.*

12. *R. canina* *Linn.* E. B. 14. 992.

Leaflets ovate, acute, smooth on both sides. Prickles falcate.

R. surculosa *Woods.*

- β. sarmentacea.* E. B. Supp. 2595.
 Leaflets doubly serrate.
R. glaucophylla *Winch.*
R. sarmentacea *Woods.*
 Hedges and thickets. — Shrub. *June, July.*
13. *R. collina* *Jacquin.* E. B. Supp. 2611.
 Leaflets ovate, simply serrated, smooth above, or very slightly hairy ;
 more or less downy beneath. Prickles falcate.
R. Forsteri *Smith.*
 Hedges and thickets, — Shrub. *June, July.*
14. *R. dumetorum* *Thuill.* E. B. Supp. 2610.
 Leaflets ovate, simply serrated, hairy on both sides, and not shining
 on the upper. Prickles falcate.
R. bractescens *Woods.*
 In hedges and thickets, chiefly in the north. — Shrub. *June, July.*
15. *R. cæsia* *Smith.* E. B. 33. 2367.
 Leaflets ovate, hoary on both sides. Prickles very numerous,
 strongly uncinat. Fruit elliptical, smooth.
 In the highlands. — Shrub. *July.*
- vi. *Systyla.* *Styles cohering in the form of a column, protruded beyond
 the orifice of the tube of the calyx.*
16. *R. systyla* *Batard.* E. B. 27. 1895.
 Root-shoots nearly erect, arched. Prickles strong, hooked.
a. ovata *Lindley.*
 Leaflets ovate. Fruit oblong.
R. collina *Smith.*
R. stylosa *Desveaux.*
β. lanceolata *Lindley.*
 Leaflets ovate-lanceolate. Fruit spherical.
 In hedges and thickets. *β* In the south of Ireland. — Shrub. *June, July.*
Obs. I omit the *R. systyla* *Monsoniæ* of my monograph of Roses, because it
 and some other similar things are perhaps accidental productions owing
 their origin to garden plants, rather than really native species.
17. *R. arvensis* *Hudson.* E. B. 3. 188.
 Root-shoots long, trailing. Prickles unequal, falcate. Leaves de-
 ciduous, glaucous beneath.
R. repens *Ehrh.*
 In hedges in the south. — Shrub. *July.*

§ 5. *Sanguisorbeæ* *Juss.*

Nuts 1 or 2, inclosed within the dry tube of the calyx, which is contracted at the
 orifice. *Calyx* 3- or 5-cleft, the divisions with a valvular æstivation. *Petals* 0.
Seeds suspended, very rarely erect. — Herbs or shrubs. *Leaves often compound,*
Flowers minute.

12. *ALCHEMILLA* Linn. LADIES MANTLE.

Calyx 4-toothed, with 4 external bracteolæ. *Petals* 0. *Stamens* 1 to 4. *Nuts* 1 or 2. *Stigmas* capitate. *Seed* suspended. — Herbaceous plants. Leaves palmate, lobed, or cut. Flowers corymbose, herbaceous.

1. *A. vulgaris* Linn. E. B. 9. 597.
Leaves lobed, plaited. *Smith*.
β *A. minor* Hudson.
In dry, rather mountainous, pastures. — Perennial. *June—August*.
2. *A. alpina* Linn. E. B. 4. 244.
Leaves fingered, serrated, silky at the back. *Smith*.
On alpine rocks. — Perennial. *July*.
3. *A. arvensis* Smith. Parsley Piert. E. B. 15. 1011.
Leaves flat, 3-lobed, cut. *Smith*.
A. aphanes Leers.
Aphanes arvensis Linn.
In sandy or gravelly fields. — Annual. *May—October*.

13. *SANGUISORBA* Linn.

Flowers hermaphrodite. *Calyx* 4-cleft, with 2 external scales at the base. *Petals* 0. *Stamens* 4. *Nuts* 2. *Stigma* pencil-formed. *Seed* suspended. — Herbaceous plants. Leaves unequally pinnate. Flowers in dense spikes.

1. *S. officinalis* Linn. Great Burnet. E. B. 19. 1312.
Spikes ovate.
In meadows and pastures, on a calcareous soil, that are rather moist; chiefly in the north of England; more sparingly in the lowlands of Scotland. — Perennial. *June, July*.
2. *S. media* Linn.
Spikes cylindrical.
In pastures, in the west of Scotland. — Perennial. *July*.

14. *POTERIUM* Linn.

Flowers monœcious or polygamous. *Calyx* 4-toothed, with 3 scales on the outside at the base. *Petals* 0. *Stamens* 20 to 30. *Nuts* 2. *Stigma* pencil-shaped. *Seed* suspended. — Herbaceous plants. Leaves unequally pinnate. Flowers in dense spikes.

1. *P. Sanguisorba* Linn. E. B. 12. 860
Thorns none. Stem somewhat angular. *Smith*.
On chalky hills, or about limestone rocks, abundantly. — Perennial. *July*.

Order 33. *POMACEÆ* Lindl.

Calyx superior, 5-toothed; the odd segment posterior.

Petals 5, unguiculate, inserted in the throat of the calyx; the odd one anterior.

Stamens indefinite, inserted in a ring in the throat of the calyx.

Disk thin, clothing the sides of the limb of the calyx.

Ovary from 1 to 5-celled, seldom spuriously 10-celled; *ovules* usually 2, collateral, ascending, very rarely solitary; *styles* from 1 to 5; *stigmata* simple.

Fruit a pome, 1- to 5-celled, seldom spuriously 10-celled; the endocarpium either cartilaginous, spongy, or bony.

Seeds ascending, solitary. *Albumen* none; *embryo* erect, with flat cotyledons, and a short conical radicle.

Trees or *shrubs*. *Leaves* alternate, stipulate, simple, or compound.

Flowers in terminal cymes, white or pink.

1. MESPILUS Linn.

Segments of the *calyx* foliaceous. *Petals* roundish. *Disk* large, secreting much honey. *Styles* 2 to 5, smooth. *Fruit* turbinate, with the upper ends of the carpella exposed. *Endocarpium* bony. — *Trees* with serrated undivided leaves. *Flowers* solitary.

1. *M. germanica* Linn. Common Medlar. E. B. 22. 1523.
Leaves lanceolate, a little downy. *Flowers* solitary, nearly sessile, terminal. *Styles* 5. *Smith*.
In hedges, rare. — Tree. *May*.

2. CRATÆGUS Linn.

Segments of the *calyx* acute. *Petals* roundish. *Styles* 2 to 5. *Fruit* oval or round, concealing the upper ends of the carpella. *Endocarpium* bony. — *Trees* with lobed leaves. *Flowers* cymose.

1. *C. oxyacantha* Linn. Hawthorn, or Whitethorn. E. B. 35. 2504.
Leaves obovate, wedge-shaped, either entire, trifid, or cut, quite smooth and rather lucid. *Flowers* in corymbs, with from 1 to 3 styles. *Calyx* destitute of glands.
Mespilus oxyacantha *Smith*.

β. *eriocarpa*.

Leaves oblong, 3- or 5-cleft, slightly serrated. Tube of the calyx densely hoary.

In woods and hedges. — Small tree. *May, June*.

3. COTONEASTER Lindley.

Flowers polygamous. *Calyx* turbinate, with 5 short teeth. *Petals* 5 small, erect. *Stamens* erect, the length of the teeth of the calyx. *Fruit* turbinate, with its nuts adhering to the side of the calyx, but not cohering in the centre. — Bushes, with entire leaves, and cymose flowers.

1. *C. vulgaris* Lindley. E. B. Supp. 2713.
Leaves ovate, rounded at the base. *Calyxes* and peduncles smooth.
Dec.
Mespilus Cotoneaster Linn.
On the cliffs of the Great Ormshead, in Carnarvonshire. — Shrub. *July*.

4. PYRUS Linn.

Calyx 5-toothed. *Petals* roundish, spreading. *Styles* 2, 3, or 5. *Fruit* fleshy, with 5 distinct cells. *Endocarpium* cartilaginous. *Seeds* 2 in each cell. *Testa* cartilaginous. — Trees, with serrated, undivided, or pinnated leaves, and cymose flowers. *Bractæa* deciduous.

* *Leaves simple.*

1. *P. communis* Linn. Wild Pear-tree. E. B. 25. 1784.
Leaves simple, ovate, serrated. Flower-stalks corymbose. Fruit turbinate.

In woods and hedges. — Tree. *April, May.*

2. *P. Malus* Linn. Crab-tree. E. B. 3. 179.
Leaves simple serrated, rugose. Flowers in a simple sessile umbel.
Fruit round.

S. In woods, hedges, and parks. — Tree. *May.*

3. *P. torminalis* Smith. E. B. 5. 298.
Leaves simple, somewhat heart-shaped, serrated, 7-lobed; the lower lobes spreading. Flower-stalks corymbose, branched. *Smith.*

In woods and hedges, chiefly in the midland and southern counties. — Tree. *April, May.*

4. *P. Aria* Smith. Beam Tree.
Leaves ovate, doubly serrated, hoary beneath. Flowers in dense flat corymbs. Fruit pisiform.
Cratægus Aria Linn.

In mountainous woods. — Tree. *May.*

5. *P. intermedia* Ehrhart. E. B. 26. 1858.
Leaves ovate, doubly-serrated, lobed, hoary beneath. Flowers in dense flat corymbs. Fruit pisiform.

Sorbus hybrida Hudson.

Cratægus scandica Wahlenberg.

Pyrus aria β. *Smith.*

Sorbus scandica Fries.

On the walls of Castle Dinas y Brân, in Denbighshire. *Sm.* — Tree. *May.*

6. *P. pinnatifida* Ehr. E. B. 33. 2331.
Leaves deeply pinnatifid, or half pinnate; downy beneath. Flowers corymbose. Styles about 3. *Smith.*
Sorbus hybrida Linn.

On mountains in the western isles of Scotland. — Tree. *May.*

** *Leaves pinnate.*

7. *P. domestica* Smith. True Service-tree. E. B. 5. 350.
Leaves pinnate; leaflets uniform, downy beneath, serrated towards the point. Flowers paniced. Fruit obovate. *Smith.*
Sorbus domestica Linn.

In mountainous woods, very rare. — Tree. *May.*

8. *P. aucuparia* Gærtner. Quicken-tree, or Mountain Ash. Roan-tree. E. B. 5. 337.

Leaves pinnate; leaflets uniform, serrated, smooth. Flowers corymbose. Styles about 3. Fruit globular. *Smith*.

Sorbus aucuparia Linn.

In mountainous woods, and hedges. — Tree. *May*.

Order 34. GROSSULACEÆ.

(Grossulariæ *Dec.*)

Calyx superior, 4- or 5-parted, regular, coloured.

Petals 5, inserted in the throat of the calyx.

Stamens 5, inserted alternately with the petals.

Ovarium 1-celled, with 2 opposite parietal placentæ; *ovules* numerous; *style* 2-3-4-cleft.

Berry crowned with the remains of the flower, 1-celled; the cell filled with pulp.

Seeds numerous, suspended among the pulp by long filiform funiculi; *testa* externally gelatinous, adhering firmly to the *albumen*, which is horny; *embryo* minute, excentric, with the *radicula* next the hilum.

Shrubs, either unarmed or spiny. *Leaves* alternate, lobed, with a plaited veneration. *Flowers* in axillary racemes, with bractæ at their base.

1. RIBES Linn.

The character the same as that of the order, there being no other genus.

* *Without prickles.* Currants.

1. *R. rubrum* Linn. Common Currant. E. B. 18. 1289.

No prickles. Clusters smooth, pendulous. Flowers but slightly concave. Petals inversely heart-shaped. *Smith*.

In mountainous woods, especially about the banks of rivers, in the north of England, and in Scotland. — Shrub. *May*.

2. *R. petræum* Wulfen. E. B. 10. 705.

No prickles. Clusters somewhat hairy; in flower upright; in fruit pendulous. Flowers slightly concave. Petals bluntish. Bractæas shorter than the flower-stalks. Stem erect. *Smith*.

In the mountainous woods of Durham and Scotland. — Shrub. *May, June*.

3. *R. spicatum* Robson. E. B. 18. 1290.

No prickles. Spikes upright. Flowers nearly sessile. Petals oblong. Bractæas shorter than the flowers. *Smith*.

In woods in the north of England. — Shrub. *May*.

4. *R. alpinum* Linn. E. B. 10. 704.
No prickles. Clusters upright, both in flower and fruit. Bracteas longer than the flowers. Leaves polished at the back. Stem erect. Berries smooth. *Smith*.
In woods in the north. — Shrub. *May*.
5. *R. nigrum* Linn. E. B. 18. 1291.
No prickles. Clusters hairy, pendulous, with a separate flower-stalk at the base of each. Flowers oblong. *Smith*.
In sandy swamps and thickets, about the banks of rivers. — Shrub. *May*.
- ** *Branches prickly.* Gooseberries.
6. *R. Grossularia* Linn. Common Gooseberry. E. B. 18. 1292.
Prickles 1, 2, or 3 under each bud. Branches otherwise smooth, spreading. Stalks single-flowered. Bracteas close together. Segments of the calyx reflexed, shorter than the tube. *Smith*.
R. Uva crispa Linn.
- β. *reclinatum*. Lancashire Gooseberry.
Branches arched, recurved.
R. reclinatum Linn.
In hedges, thickets, waste ground. — Shrub. *April*.

Order 35. ONAGRARIÆ *Juss.*

Calyx superior, tubular, with the limb either 4- or 5-lobed; the lobes cohering in various degrees, with a valvate æstivation.
Petals generally equal in number to the lobes of the calyx, into the throat of which they are inserted, regular, with a twisted æstivation.
Stamens definite, inserted into the calyx; *filaments* distinct; pollen triangular, usually cohering by filaments.
Ovarium of several cells, generally crowned by a disk; *style* filiform; *stigma* either capitate or 4-lobed.
Fruit baccate or capsular, many-seeded, with from 2 to 4-cells.
Seeds numerous, without *albumen*; *embryo* straight; *radicle* long and taper; *cotyledons* very short.
Herbaceous plants or *shrubs*. *Leaves* alternate or opposite, simple, entire, or toothed. *Flowers* red, purple, white, blue, or yellow, axillary, or in terminal spikes.

1. EPILOBIUM *Linn.*

Calyx tubular, with a 4-parted limb, which falls off after flowering.
Petals 4. *Stamens* 8. *Capsule* linear, bluntly 4-cornered, with 4 cells, 4 valves, and many seeds. *Seeds* pappose. — *Herbaceous plants*. *Leaves* opposite or alternate. *Flowers* axillary and solitary, or terminal in spikes, purple or rose colour.

* *Flowers irregular.*

1. *E. angustifolium* Linn. Persian, or French Willow. E. B. 28. 1947.
Leaves scattered, linear-lanceolate, veiny, smooth. Petals unequal.
Stamens declining. *Smith.*
In meadows and moist shady places, chiefly in the north of England. — Perennial. *July, August.*

** *Flowers regular. Stigma deeply 4-cleft.*

2. *E. hirsutum* Linn. Codlings and Cream. E. B. 12. 838.
Leaves half clasping the stem, ovate, lanceolate, hairy. Stem copiously branched. Root creeping. *Smith.*
E. ramosum Hudson.
In watery places, ditches, and margins of rivers, common. — Perennial. *July.*
3. *E. parviflorum* Schreb. E. B. 12. 795.
Leaves sessile, lanceolate, downy. Stem nearly simple, woolly.
Root fibrous. *Smith.*
E. pubescens Willd.
E. hirsutum Hudson.
E. villosum Curtis.
Frequent in watery places and about the banks of rivers. — Perennial. *July.*
4. *E. montanum* Linn. E. B. 17. 1177.
Leaves stalked, ovate, toothed. Stem round. Stigma in 4 deep segments. *Smith.*
In dry, shady, hilly, or stony places. — Perennial. *July.*

*** *Fl. regular. Stigma undivided.*

5. *E. roseum* Schreber. E. B. 10. 693.
Leaves stalked, ovate, toothed. Stem erect, with 4 obsolete angles.
Stigma undivided. *Smith.*
In waste boggy ground, or watery places. — Perennial. *July.*
6. *E. tetragonum* Linn. E. B. 28. 1948.
Leaves lanceolate, sessile, minutely toothed. Stem erect, unequally quadrangular. Stigma undivided. *Smith.*
In ditches, and watery marshy places. — Perennial. *July.*
7. *E. palustre* Linn. E. B. 5. 346.
Leaves sessile, linear-lanceolate, slightly toothed. Stem round.
Stigma undivided. *Smith.*
In boggy turfy ground. — Perennial. *July.*
8. *E. alsinifolium* Villars. E. B. 28. 2000.
Leaves stalked, ovate, acute, toothed. Stigma undivided. Root creeping. Stem decumbent, obtusely quadrangular. *Smith.*
On the margins of mountain rivulets. — Perennial. *July.*
9. *E. alpinum* Linn. E. B. 28. 2001.
Leaves slightly stalked, elliptic-lanceolate, obtuse, mostly entire.
Stem decumbent 2- or 3-flowered.
By the sides of alpine rivulets. — Perennial. *June, July.*

2. CENOTHERA Linn.

Calyx tubular, deciduous, with a reflexed 4-parted limb; the segments of which cohere irregularly. *Petals* 4. *Stamens* 8. *Pollen* cohering by threads. *Stigma* 4-lobed. *Capsule* linear or winged, with 4 cells, 4 valves, and many seeds. *Seeds* naked. — Herbaceous plants. *Leaves* alternate, toothed, or pinnatifid. *Flowers* sessile, axillary, solitary, or in terminal spikes, blue, red, yellow, or white.

1. *C. biennis* Linn. Evening-primrose. E. B. 22. 1534.
Leaves ovate-lanceolate, flat. *Stem* rough, somewhat hairy. *Stamens* equal. *Petals* undivided. *Smith*.
 On sandy banks, on the west coast of England. — Biennial. *July*—*September*.

3. ISNARDIA Linn.

Calyx with a 4-parted limb. *Petals* 4, or none. *Stamens* 4, alternate with the petals. *Style* deciduous. *Stigma* capitate. *Capsule* 4-cornered, 4-celled, with 4 valves, and a loculicidal dehiscence. *Seeds* many. — Aquatic or marsh plants. *Leaves* entire, alternate, or opposite. *Flowers* axillary, sessile. *Dec*.

1. *I. palustris* Linn. E. B. Supp. 2593.
Stem procumbent, rooting, smooth. *Leaves* opposite, tapering into the petiole, ovate, acute. *Flowers* apetalous.
 Found in a pool at Buxted, Sussex, in 1827, by Mr. W. Borrer. — Annual. *July*.

Order 36. CIRCÆACEÆ.

Calyx superior, deciduous, tubular, with a 2-parted limb.
Petals 2, alternate with the lobes of the calyx.
Stamens 2, alternate with the petals, inserted into the calyx.
Disk large, cup-shaped, filling up the whole of the tube of the calyx, and projecting beyond it.
Ovary 2-celled, with an erect ovulum in each cell; *style* simple, arising out of the disk; *stigma* emarginate.
Fruit 2-celled, 2-valved, 2-seeded.
Seeds solitary, erect; *albumen* none; *embryo* erect; *radicle* short, inferior.
 Herbaceous plants. *Leaves* opposite, toothed, stalked. *Flowers* in terminal and lateral racemes, covered with uncinat hairs.

Obs. This order differs from Onagraræ in its large fleshy disk which fills up the tube of the calyx, in its solitary erect ovula, and in the binary division of the flower: it is connected with that order through *Lopezia*, with which it cannot however be absolutely associated, and bears about the same relation to Onagraræ as is borne by *Haloragæ*.

1. CIRCÆA Linn. ENCHANTER'S NIGHTSHADE.

There being no other genus, the character is the same as that of the order.

1. *C. lutetiana* Linn. E. B. 15. 1056.
Stem erect. Leaves ovate, slightly toothed, opaque and downy.
Smith.
In moist shady places. — Perennial. *June, July.*
2. *C. alpina* Linn. E. B. 15. 1057.
Stem ascending. Leaves heart-shaped, serrated, shining. Calyx
membranous. *Smith.*
In moist, shady, stony places. — Perennial. *July, August.*

Order 37. HALORAGÆ *R. Brown.*

Calyx superior, with a minute limb.

Petals minute, inserted into the summit of the calyx, or wanting.

Stamens inserted in the same place, equal in number to the petals, or occasionally fewer.

Ovarium adhering inseparably to the calyx, with 1 or more cells. *Style* none; *stigmata* equal in number to the cells, papulose, or pencil-formed; *ovula* pendulous.

Fruit dry, indehiscent, membranous, or bony, with 1 or more cells.

Seeds solitary, pendulous; *albumen* fleshy; *embryo* straight, in the axis; *radicle* superior, long and taper; *cotyledons* minute.

Herbaceous plants or *under-shrubs*, often growing in wet places. *Leaves* either alternate, opposite, or whorled. *Flowers* axillary, sessile, occasionally monœcious or diœcious.

1. MYRIOPHYLLUM Linn. WATER-MILFOIL.

Flower generally bisexual. — Male. *Calyx* 4-parted. *Petals* 4, fugitive.

Stamens 4, 6, or 8. — Female. *Calyx* with a 4-lobed limb. *Petals* 0.

Fruit separable into 4 hard nuts. — *Aquatic* floating plants, rising to flower. *Leaves* finely cut. *Flowers* minute, in whorls.

1. *M. spicatum* Linn. E. B. 2. 83.

Flowers in whorled, interrupted, leafless spikes. *Smith.*

In ditches and pools frequent. — Perennial. *July, August.*

2. *M. verticillatum* Linn. E. B. 4. 218

Flowers all axillary. *Smith.*

In ponds and ditches. — Perennial. *July.*

2. HIPPURIS Linn.

Calyx with an entire limb. *Petals* none. *Stamens* 1. *Style* filiform, lying in a channel of the anther. *Ovarium* 1-celled, with a single pendulous ovulum. *Fruit* nucamentaceous, 1-celled, 1-seeded. — *Aquatic* or *mud* herbaceous plants. *Leaves* linear, whorled. *Flowers* sessile, axillary, minute, sometimes polygamous.

1. *H. vulgaris* Linn. Common Mare's-tail. E. B. 11. 763.

Leaves linear, many in each whorl. *Smith.*

In ditches. — Perennial. *May, June.*

S.

Order 38. UMBELLIFERÆ *Juss.*

Calyx superior, either entire, or 5-toothed.

Petals 5, inserted on the outside of a fleshy disk; usually inflexed at the point; æstivation imbricate, or valvate.

Stamens 5, alternate with the petals, incurved in æstivation.

Ovarium inferior, 2-celled, with solitary pendulous ovula; crowned by a double fleshy disk; *styles* 2, distinct; *stigmata* simple.

Fruit consisting of 2 carpella, separable from a common axis, to which they adhere by their face (*the commissure*); each carpellum traversed by elevated *ridges*, of which 5 are primary, and 4, alternating with them, secondary; the ridges are separated by *channels*, below which are often placed, in the substance of the testa, certain linear receptacles of coloured oily matter, called *vittæ*.

Seed pendulous, usually adhering inseparably to the pericarpium, rarely loose; *embryo* minute, at the base of abundant horny *albumen*; *radicle* pointing to the hilum.

Herbaceous plants, with fistular furrowed stems. *Leaves* usually compound, sometimes simple, sheathing at the base. *Flowers* in umbels, white, pink, yellow, or blue, generally surrounded by an involucre.

ANALYSIS OF THE TRIBES AND GENERA.

TRIBES.

<i>Albumen involute, or deeply channelled next the axis</i>	
<i>The primary lateral ridges placed on the plane of the commissure</i>	} ii. CAUCALINEÆ.
<i>The primary lateral ridges forming a margin</i>	
<i>Fruit turgid</i>	- - - - - x. SMYRNIEÆ.
<i>Fruit long</i>	- - - - - ix. SCANDICINEÆ.
<i>Albumen solid</i>	
<i>Fruit with both primary and secondary ridges</i>	
<i>The lateral primary ridges on the plane of the commissure</i>	} i. DAUCINEÆ.
<i>The lateral primary ridges placed within an accessory border</i>	
	} iii. CORIANDREÆ.
<i>Fruit with primary ridges only, or with scarcely any, compressed at the back</i>	
<i>with two wings on each side</i>	- - - - - vi. ANGELICEÆ.
<i>with one wing on each side</i>	
<i>Border knotty, or plaited and thickened</i>	iv. TORDYLINEÆ.
<i>Border smooth, flattened</i>	- - - - - v. SELINEÆ.
<i>taper</i>	
<i>Umbels compound</i>	- - - - - vii. SESELINEÆ.
<i>Umbels simple</i>	- - - - - xi. SANICULEÆ.
<i>compressed at the sides</i>	
<i>Umbels compound</i>	- - - - - viii. AMMINEÆ.
<i>Umbels simple</i>	- - - - - xii. HYDROCOTYLINEÆ.

GENERA.

i. DAUCINÆ	- - - - -	1. DAUCUS.
ii. CAUCALINÆ		
Secondary ridges prickly	- - - - -	2. CAUCALIS.
Secondary ridges obscure	- - - - -	3. TORILIS.
iii. CORIANDRÆ	- - - - -	4. CORIANDRUM.
iv. TORDYLINÆ		
Vittæ triple	- - - - -	5. CONDYLOCARPUS.
Vittæ single	- - - - -	6. TORDYLIUM.
v. SELINÆ		
Vittæ single		
filiform	- - - - -	7. PASTINACA.
clavate	- - - - -	8. HERACLEUM.
Vittæ 1 to 3	- - - - -	9. PEUCEDANUM.
vi. ANGELICÆ		
Seed covered all over with vittæ	- - - - -	10. ARCHANGELICA.
Vittæ single in each channel	- - - - -	11. ANGELICA.
vii. SESELINÆ		
Seed loose in the pericarpium when dry	- - - - -	12. CRITHMUM.
Seed adhering closely to the pericarpium		
Vittæ numerous		
Petals unguiculate	- - - - -	13. LIGUSTICUM.
Petals sessile		
acute at each end	- - - - -	14. MEUM.
obovate	- - - - -	15. SILAUS.
Vittæ single		
Carpella adhering to an axis		
Petals roundish, entire	- - - - -	16. FENICULUM.
Petals obovate, emarginate		
Fruit roundish, ovate	- - - - -	17. ÆTHUSA.
Fruit oval, crowned by the re- flexed styles	- - - - -	18. SESELI.
Carpella with no real axis	- - - - -	19. CENANTHE.
viii. AMMINÆ		
Leaves simple	- - - - -	20. BUPLEURUM.
Leaves compound		
Vittæ numerous		
Fruit crowned with a conical disk and straight styles	- - - - -	21. CONOPODIUM.
Fruit crowned by a flattened disk and re- flexed styles		
ovate	- - - - -	22. PIMPINELLA.
nearly double	- - - - -	23. SIUM.
Vittæ single		
Fruit apparently single		
Petals ovate, entire, acute, or bluntish	- - - - -	24. HELOSICIADIUM.
Petals obovate, emarginate	- - - - -	25. CARUM.
Petals roundish, deeply emarginate	- - - - -	26. SISON.
Fruit apparently double		
Petals roundish, entire		
All the vittæ single	- - - - -	27. PETROSELINUM.
Outer vittæ triple	- - - - -	28. APIUM.
Petals obovate, emarginate	- - - - -	29. CICUTA.
Vittæ wanting		
Flowers hermaphrodite	- - - - -	30. ÆGOPODIUM.
Flowers polygamous	- - - - -	31. TRINIA.
ix. SCANDICINÆ		
Fruit beaked		
Carpella without ridges	- - - - -	32. ANTHRISCUS.
Carpella with 5 ridges	- - - - -	33. SCANDIX.
Fruit not beaked		
Pericarpium solid	- - - - -	34. CHEROPHYLLUM.
Pericarpium hollow	- - - - -	35. MYRRHIS.

x. SMYRNIÆ									
Vittæ single									
Flowers hermaphrodite	-	-	-	-	-	-	-	-	36. PHYSOSPERMUM.
Flowers monœcious	-	-	-	-	-	-	-	-	37. ECHINOPHORA.
Vittæ numerous	-	-	-	-	-	-	-	-	38. SMYRNIUM.
Vittæ none	-	-	-	-	-	-	-	-	39. CONIUM.
xi. SANICULÆ									
Fruit covered with scales	-	-	-	-	-	-	-	-	40. ERYNGIUM.
Fruit covered with prickles	-	-	-	-	-	-	-	-	41. SANICULA.
xii. HYDROCOTYLINÆ									
	-	-	-	-	-	-	-	-	42. HYDROCOTYLE.

Tribe i. *Daucineæ* Koch.

Fruit compressed at the back, or somewhat taper. Carpella with the 5 primary ridges filiform and bristly, the lateral being placed on the plane of the commissure, and with 4 secondary ridges which are more prominent and prickly; the prickles sometimes running together into a sort of wing. Seed flat or half taper flattish in front.

1. DAUCUS Linn.

Calyx 5-toothed. *Petals* obovate, emarginate, inflexed; the outer often radiant and deeply bifid. *Fruit* compressed from the back. *Carpella* with the 5 primary ridges filiform and bristly, of which the 3 intermediate ones occupy the back, and the 2 lateral ones the plane of the commissure; the 4 secondary ridges equal, more prominent, with the prickles in a single row. *Channels* under the secondary ridges with single vittæ. *Seed* flat in front. — *Involucrum universal and partial, many-leaved. Flowers white or pink.*

1. *D. Carota* Linn. Wild Carrot. E. B. 17. 1174.
Bristles of the fruit slender. Leaflets pinnatifid, with linear-lanceolate acute segments. Umbels with a solitary, coloured, abortive flower; when in fruit concave.
In pastures, and the borders of fields, common. — Biennial. *June, July.*
2. *D. maritimus* Withering. E. B. 36. 2560.
Bristles of the fruit flattened. Leaflets dilated, fleshy, pinnatifid, with rounded segments. Umbels convex when in fruit.
On the sea-coast of the south of England. — Biennial. *July, August.*

Tribe ii. *Caucalineæ* Koch.

Fruit contracted at the side or nearly taper. Carpella with the 5 primary ridges filiform, bristly or prickly, the lateral being placed on the plane of the commissure, and with 4 secondary ridges, which are more prominent and prickly, or obliterated by the multitude of their prickles, which fill up the channels. Seed involute or inflexed at the margin.

2. CAUCALIS Linn.

Calyx 5-toothed. *Petals* obovate, emarginate, inflexed; the outer radiant and deeply bifid. *Fruit* laterally compressed. *Carpella* with the 5 primary ridges filiform, bristly, or with little prickles; of these the 3 middle are dorsal, the 2 lateral on the plane of the commissure;

the 4 secondary ridges more prominent, armed with prickles, in one or two rows. *Channels* under the secondary ridges with single vittæ. *Seed* involute, or inflexed at the edge. — *Involucrum* both universal and partial, of many leaflets. *Flowers* white or pink.

1. *C. daucoides* Linn. E. B. 3. 197.
Umbels 3-cleft, without general involucre; partial involucre 3-leaved, and ripening about 3 fruits. Leaves repeatedly subdivided.

Caucalis leptophylla Huds.

In corn fields, on a chalky soil. — Annual. *June*.

2. *C. latifolia* Linn. E. B. 3. 198.
Umbels 3-cleft, with membranous involucre; partial ones ripening about 5 fruits. Leaves pinnate, serrated.

Tordylium latifolium Linn.

In fields on a chalky soil. — Annual. *July*.

3. TORILIS Adanson.

Calyx 5-toothed. *Petals* obovate, emarginate, inflexed; the outer larger than the others and bifid. *Fruit* contracted at the side. *Carpella* with the 5 primary ridges bristly, of which the 3 middle are dorsal, and the 2 lateral ones in the plane of the commissure; the secondary ridges obliterated by the multitude of prickles which cover the channels. *Channels* under the prickles with single vittæ. *Seed* inflexed at the edge. — *Involucrum* variable; the partial many-leaved. *Flowers* white or pink.

1. *T. Anthriscus* Gærtn. E. B. 14. 987.
Umbels of many close rays. General involucre many-leaved. Leaflets pinnatifid. Branches nearly upright.

Caucalis Anthriscus Hudson.

In hedges, and the borders of fields. — Annual. *July*.

2. *T. infesta* Spreng. E. B. 19. 1314.
Umbels of many close rays. General involucre scarcely any. Leaflets pinnatifid. Branches spreading.

Caucalis infesta Curtis.

C. arvensis Hudson.

C. helvetica Jacq.

Scandix infesta Linn.

In fields and by waysides. — Annual. *July*.

3. *T. nodosa* Gærtn. E. B. 3. 199.
Umbels lateral, simple, nearly sessile. Stem prostrate. Fruit partly granulated. *Smith*.

Caucalis nodosa Hudson.

On banks, and about the borders of fields. — Annual. *May, June*.

Tribe iii. *Coriandreæ* Koch.

Fruit globose, or double, being formed of two globose carpella. *Carpella* with 5 primary ridges which are depressed and wavy, or in the form only of obscure furrows, the lateral being placed within an accessory margin; and with 4 secondary ridges, which are more prominent, but not winged. *Seed* rolled inwards from the base to the apex, or curved and hollowed out in front.

4. CORIANDRUM Linn.

Calyx 5-toothed. *Petals* obovate, emarginate, inflexed; the outer radiant and bifid. *Fruit* globose. *Carpella* with the 5 primary ridges depressed, and wavy; the lateral ones placed next an accessory margin; the 4 secondary more prominent and carinate. *Channels* without vittæ; the commissure with 2 vittæ. *Seed* hollowed in front, covered by a loose membrane. — Universal involucrum wanting; partial halved. Flowers white.

1. *C. sativum* Linn. Common Coriander. E. B. 1. 67.
The 2 hemispherical carpella making 1 uniform globe. Leaflets of the lower leaves wedge-shaped.
In fields and on dunghills; not really wild. — Annual. June.

Tribe iv. *Tordylieæ* Koch.

Fruit pressed flat at the back, surrounded by a thick dilated knotty or plaited border. *Carpella* with 5 primary, very fine or almost obsolete ridges, of which the lateral are contiguous to the dilated border, or make part with it; and without secondary ridges. *Seed* flattened.

5. CONDYLOCARPUS Hoffmann.

Calyx 5-toothed. *Petals* obovate, emarginate, inflexed; the outer radiant and bifid. *Fruit* flattened at the back, surrounded by an accessory thick knotted margin. *Carpella* with very fine ridges; the 3 dorsal equidistant, the 2 lateral contiguous to the thickened margin. *Channels* with 3 vittæ, each of which is separated by a furrow. *Seed* flat. — Involucrum both universal and partial, of many leaves. Flowers white.

- C. officinalis* Koch. E. B. 34. 2440.
Partial involucrum about as long as the flowers. Leaflets ovate, cut, crenate. Radiant petals in pairs, with very unequal lobes.
Tordylium officinale Linn.
Said to be British; but a very doubtful native. — Annual. June, July.

6. TORDYLIUM Linn.

Calyx 5-toothed. *Petals* obovate, emarginate, inflexed; the exterior radiant and bifid. *Fruit* compressed from the back, surrounded by an accessory thickened warted margin. *Carpella* with extremely obscure ridges; the 3 dorsal equidistant, the 2 lateral contiguous to the thickened margin, or even covered over by it. *Channels* with single filiform vittæ. *Seed* flat. — Involucrum both universal and partial, of many leaves. Flowers white.

1. *T. maximum* Linn. E. B. 17. 1173.
Leaflets lanceolate, deeply serrated and notched. Flowers somewhat radiant; the outermost petal of 2 equal lobes. Stem rough, with close deflexed bristles. *Smith*.
On banks and waste ground, but rare. — Annual. June, July.

Tribe v. *Selineæ* Koch.

Fruit pressed flat at the back, with a smooth, dilated, winged, flat or convex border. Carpella with 5 primary, filiform, occasionally very fine ridges, of which the lateral are contiguous to the border or make part of it; secondary ridges wanting. Seed flattened or rather convex at the back.

7. PASTINACA Linn.

Calyx almost obsolete. *Petals* roundish, entire, involute, with a broad, inflexed, blunt middle segment. *Fruit* flattened at the back, surrounded by a dilated flat margin. *Carpella* with very fine ridges; the 3 dorsal equidistant, the 2 lateral contiguous to the dilated margin. *Channels* with single vittæ. *Seed* flattened. — *Involucrum* neither universal nor partial, or with very few leaves. *Flowers* yellow.

1. *P. sativa* Linn. Common Parsnep. E. B. 8. 556.

Leaves simply pinnate; downy beneath. *Smith*.

About the borders of fields in a chalky soil. — Biennial. *July*.

8. HERACLEUM Linn.

Calyx 5-toothed. *Petals* obovate, emarginate, inflexed; the outer often radiant and bifid. *Fruit* flattened at the back, surrounded by a flat dilated margin. *Carpella* with very minute ridges; the 3 dorsal equidistant, the 2 lateral contiguous to the dilated margin. *Channels* with single clavate vittæ. *Seed* flattened. — *Universal involucrum* deciduous; partial many-leaved. *Flowers* large, white.

1. *H. Sphondylium* Linn. Common Cow-Parsnep. Hogweed. E. B. 14. 939.

Leaves pinnate; leaflets pinnatifid, cut and serrated. *Smith*.

β. angustifolium.

H. angustifolium *Smith*.

In hedges and meadows, very common. — Biennial. *July*.

9. PEUCEDANUM Linn.

Calyx slightly 5-toothed, sometimes obsolete. *Petals* obovate, emarginate, or nearly entire, contracted into an inflexed segment. *Fruit* flattened at the back, surrounded by a flat dilated margin. *Carpella* with equidistant ridges; the 3 middle filiform, the 2 lateral more obsolete, contiguous to the dilated margin, or confounded with it. *Seed* flat in front. *Channels* with from 1 to 3 vittæ. — *Universal involucrum* various; partial many-leaved. *Flowers* small, yellow or white.

1. *P. Ostruthium* Koch. Great Masterwort. E. B. 20. 1380.

Leaves twice ternate, undivided or 3-lobed, rough-edged. Flower-stalks alternate. *Smith*.

Imperatoria Ostruthium Linn.

In rather moist meadows in Scotland. — Perennial. *June*.

2. *P. palustre* Mœench.

E. B. 4. 229.

Milky. Root generally single. Leaves triply pinnate; leaflets

pinnatifid, with elliptic-lanceolate segments. Rays of the umbel rough. Ridges of the fruit broad and obtuse. *Smith.*

Thysselinum palustre Tourn.

Th. Plinii Spreng.

Selinum palustre Linn.

In marshes and meadows. — Perennial. *July.*

3. *P. officinale* Linn. Sea Sulphur-wort. E. B. 25. 1767.

Leaves five times deeply 3-cleft; leaflets linear, undivided, flat.

Bractees linear, almost capillary. *Smith.*

In salt marshes; very rare. — Perennial. *July—September.*

Tribe vi. *Angeliceæ* Koch.

Fruit compressed at the back, with a winged dilated margin, which, on account of the commissure being almost central, is double, so that the fruit has two wings on each side. Carpella with 5 primary ridges, of which the 3 dorsal are filiform or winged, and the lateral always winged and much wider than the dorsal ridges; secondary ridges wanting. Seed plano-convex.

10. *ARCHANGELICA Hoffmann.*

Calyx 5-toothed. *Petals* elliptical, entire, acuminate, with the point curved inwards. *Fruit* somewhat compressed from the back, with 2 wings on each side. *Carpella* with thick carinate ridges; the 3 dorsal elevated, the 2 lateral dilated into a wing twice as broad as the rest. *Seed* a loose kernel covered all over with numerous vittæ. — Universal involucre scarcely any; partial halved, many-leaved. Flowers white.

1. *A. officinalis* Hoffm. Garden Angelica. E. B. 36. 2561.

Angelica archangelica Linn.

In watery places, rare, apparently a naturalized plant. — Biennial. *June—September.*

11. *ANGELICA Linn.*

Calyx an obsolete margin. *Petals* lanceolate, entire, acuminate, either incurved or not. *Fruit* compressed at the back, with 2 wings on each side. *Carpella* with 3 dorsal filiform raised ridges; the 2 lateral dilated into a wing twice as broad as the rest. *Channels* with single vittæ. *Seed* rather taper. — Universal involucre few-leaved or none; partial many-leaved. Flowers white.

1. *A. sylvestris* Linn. E. B. 16. 1128.

Leaflets equal, ovate, serrated. *Smith.*

In watery places in thickets. — Perennial. *July.*

Tribe vii. *Seselineæ* Koch.

Fruit taper, or but little compressed either way. Carpella with 5 primary filiform or winged ridges, of which the lateral form a border; all equal, or the lateral a little the widest; secondary ridges wanting. Seed plano-convex. Commissure occupying the whole face of the seed.

12. CRITHMUM Linn.

Calyx an obsolete margin. *Petals* roundish, entire, involute, with an obovate end. *Fruit* taper. *Carpella* with 5, raised, sharp, somewhat winged ridges, of which the lateral are rather larger than the rest, and form a margin. *Seed* half-taper, forming a loose kernel, covered with numerous vittæ. — Universal and partial involucra *many-leaved*. Pericarpium *spongy, cellular*. Flowers *greenish-white*.

1. *C. maritimum* Linn. Samphire. E. B. 12. 819.
 Leaflets lanceolate, fleshy. Bractees ovate. *Smith*.
 On rocky sea shores and cliffs. — Perennial. *August*.

13. LIGUSTICUM Linn.

Calyx 5-toothed or obsolete. *Petals* obovate, acutely emarginate, inflexed, with a very short unguis. *Fruit* taper, or a little compressed at the sides. *Carpella* with 5 sharp, winged, equal ridges; the lateral of which form a margin. *Channels* with many vittæ. *Seed* nearly half-taper. — Universal involucrum *various*; partial *many-leaved*. Flowers *white*.

1. *L. scoticum* Linn. E. B. 17. 1207.
 Leaves twice ternate.
 On the sea coasts of Scotland, and the north of England. — Perennial. *July*.

14. MEUM Tournefort.

Calyx an obsolete margin. *Petals* entire, elliptical, acute at each end. *Fruit* nearly taper. *Carpella* with 5, projecting, acutely carinate, equal ridges, of which the lateral form the margin. *Channels* with many vittæ. *Seed* nearly half-taper. — Universal involucrum *few-leaved or none*; partial *many-leaved*.

1. *M. athamanticum* Jacq. Spignel, Meu, or Bald-money. E. B. 32. 2249.
 Leaflets all in numerous, deep, bristle-like segments. Involucra both general and partial.
Athamanta Meum Linn.
Æthusa Meum Linn.
Ligusticum Meum Crantz.
 In mountainous pastures in the north. — Perennial. *May, June*.

15. SILAUS Besser.

Calyx an obsolete margin. *Petals* obovate-oblong, contracted into an inflexed lobe; entire or somewhat emarginate, either sessile, or with an appendage at the base. *Fruit* nearly taper. *Carpella* with 5 sharp, winged, equal ridges, of which the lateral form a margin. *Channels* with many vittæ. *Seed* nearly taper. — Universal involucrum *few-leaved or none*; partial *many-leaved*.

1. *S. pratensis* Besser. E. B. 30. 2142.
 Leaflets deeply pinnatifid; their segments opposite, decurrent.
Peucedanum Silaus Linn.
Cnidium Silaus Spreng.
 In rather moist meadows and pastures. — Perennial. *August, September*.

16. *FCENICULUM* Hoffmann.

Calyx obsolete. *Petals* roundish, entire, with a nearly square, retuse, involute segment. *Fruit* nearly taper. *Carpella* with 5, prominent, obtusely-keeled ridges, of which the lateral form a margin, and are rather broader than the others. *Channels* with 1 vitta. *Seed* nearly half-taper. — *Involucra* none. *Flowers* yellow.

1. *F. vulgare* Hoffmann. Fennel. E. B. 17. 1208.
Anethum Fœniculum Linn.
Meum Fœniculum Spreng.
 On chalky cliffs and old banks. — Biennial. *July, August.*

17. *ÆTHUSA* Linn.

Calyx obsolete. *Petals* obovate, emarginate, inflexed. *Fruit* roundish-ovate. *Carpella* with 5 elevated, thick, acutely-keeled ridges, of which the lateral form a margin, and are rather wider than the others, surrounded by a somewhat winged keel. *Channels* with 1 vitta. *Seed* half globose. — *Universal involucre* wanting; partial 3-leaved, pendulous. *Flowers* white.

1. *Æ. Cynapium* Linn. Fool's-parsley. E. B. 17. 1192.
 Leaves uniform; leaflets wedge-shaped, decurrent, with lanceolate segments. *Smith.*
 In gardens and cultivated fields, a common weed. — Annual. *July, August.*

18. *SESELI* Linn.

Calyx 5-toothed. *Petals* obovate, contracted into an inflexed segment, emarginate or almost entire. *Fruit* oval or oblong, nearly taper, crowned by the reflexed styles. *Carpella* with 5 prominent, filiform, or thick ridges; the lateral of which form a margin, and are usually rather broader than the others. *Channels* with 1 vitta. *Seed* almost half round. — *Universal involucre* various; partial many-leaved. *Flowers* white.

- S. Libanotis* Koch. E. B. 2. 138.
 Leaves doubly pinnate, cut. Umbels hemispherical. *Smith.*
Athamanta Libanotis Linn.
 In elevated chalky pastures. — Perennial. *August.*

19. *CENANTHE* Linn.

Calyx 5-toothed. *Petals* obovate, emarginate, inflexed. *Fruit* nearly taper, crowned by the erect styles. *Carpels* with 5, rather convex, obtuse ridges, of which the lateral form a margin, and are rather broader than the others. *Channels* with single vittæ. *Seed* taper, convex. *Axis* wanting. — *Universal involucre* sometimes wanting; partial many-leaved. *Flowers* white.

1. *C. fistulosa* Linn. Water-dropwort. E. B. 6. 363.
 Root sending forth runners. Stem-leaves pinnate, cylindrical, tubular. *Universal involucre* mostly wanting.
 In ditches, and other watery places. — Perennial. *July, August.*
2. *C. pimpinelloides* Linn. E. B. 5. 347.
 Leaflets of the radical leaves wedge-shaped, cloven; of the

rest entire, flat, linear, elongated. Universal involucre many-leaved.

In salt marshes. — Perennial. *July*.

3. *Œ. peucedanifolia* Pollich. E. B. 5. 348.
 Leaflets all linear. Universal involucre none. Knobs of the root sessile, elliptical.
 In fresh-water ditches and bogs. — Perennial. *June*.

4. *Œ. crocata* Linn. E. B. 33. 2313.
 Leaflets all wedge-shaped, many-cleft, nearly uniform. Fruit linear-oblong, with slender ridges.
 In rivers and ditches. — Biennial. *June, July*.

5. *Œ. Phellandrium* Spreng. E. B. 10. 684.
 Leaflets all uniform, with narrow, wedge-shaped, cut, divaricated segments. Fruit ovate, with 5 broad ridges, and narrow channels.

Œ. aquatica Lam.

Phellandrium aquaticum Linn.

In watery places. — Perennial. *July*.

S.

Tribe viii. *Ammineæ* Koch.

Fruit evidently compressed at the sides, and generally double. Carpella with 5 primary, filiform, sometimes winged ridges, of which the lateral forming the edge are of the same size as the others. Seed taper or prominent on one side. *Koch*.

20. BUPLEURUM Linn.

Calyx an obsolete margin. *Petals* roundish, entire, closely involute, with a broad retuse segment. *Fruit* compressed at the side, crowned by the depressed disk. *Carpella* with 5 equal winged ridges, either sharp and filiform, or very slight and obsolete; the lateral ones forming a margin. *Channels* with or without vittæ. *Seed* taper, convex, flattish in front. — *Involucre* various. *Flowers* greenish-yellow. *Leaves* entire.

1. *B. rotundifolium* Linn. Common Hare's-ear. Thorow-wax.
 E. B. 2. 99.

Universal involucre wanting. Leaves perfoliate.

In corn-fields. — Annual. *July*.

2. *B. Odontites* Linn. E. B. 35. 2468.
 Leaves of the partial involucre 5, ovate, acute, 3-ribbed; of the general 3 or 4. Branches widely spreading. Umbels all stalked. Leaves lanceolate.

Odontites lutea Sprengel.

On rocks in Devonshire. — Annual. *July*.

- S.** 3. *B. tenuissimum* Linn. E. B. 7. 478.

Umbels simple, alternate. of about 3 flowers, with 5 awl-shaped bractæas. *Smith*.

Odontites tenuissima Spreng.

In muddy salt-marshes. — Annual. *August, September*.

21. CONOPODIUM Koch.

Calyx an obsolete margin. *Petals* obovate, emarginate, or nearly so, inflexed. *Fruit* contracted at the side, linear-oblong, crowned by a conical unedged disk and straight styles. *Carpella* with 5, equal, filiform, obtuse ridges, and many vittæ. *Seed* taper, convex, flat in front. — Universal involucre *none*, partial *with few leaves*. Flowers *white*.

1. *C. flexuosum*. Common Earth-nut. Kipper- or Pig-nut.

E. B. 14. 988.

Root a little tuber the size of a nut. Stem slender zigzag, with a very few leaves divided into capillary segments. Styles very conical and straight.

Bunium flexuosum *Withering*.

In grassy pastures, common. — Perennial. *May, June*.

22. PIMPINELLA Linn.

Calyx an obsolete margin. *Petals* obovate, emarginate, inflexed. *Fruit* contracted at the side, ovate, crowned by a convex disk and reflexed styles. *Carpella* with 5, equal, filiform ridges, of which the lateral form a margin. *Channels* with many vittæ. *Seed* convex, flattish in front. — Involucre *none*. Flowers *white*.

1. *P. saxifraga* Linn. Common Burnet-saxifrage. E. B. 6. 407.

Leaves pinnate; leaflets of the radical ones roundish; of the uppermost in various linear segments. *Smith*.

P. dissecta *Retz*.

In dry gravelly or chalky pastures. — Perennial. *July, August*.

2. *P. magna* Linn. E. B. 6. 408.

Leaves pinnate; leaflets all ovate, serrated, somewhat cut; the terminal one 3-lobed. *Smith*.

P. major *Hudson*.

In shady places and under hedges. — Perennial. *July, August*.

23. SIUM Linn. WATER-PARSNIP.

Calyx 5-toothed or obsolete. *Petals* obovate, emarginate, with an inflexed segment. *Fruit* compressed at the sides, or contracted and nearly double, crowned by the disk and reflexed styles. *Carpella* with 5, equal, filiform, bluntish ridges and numerous vittæ. *Seed* nearly taper. — Universal involucre *various*; partial *many-leaved*.

1. *S. latifolium* Linn. E. B. 3. 204.

Leaves pinnate; leaflets oblong-lanceolate, equally serrated. *Smith*.

In rivers, ditches, and fens. — Perennial. *July, August*.

2. *S. angustifolium* Linn. E. B. 2. 139.

Leaves pinnate; leaflets unequally lobed and serrated. Umbels stalked, opposite to the leaves. Stem erect. *Smith*.

S. erectum *Hudson*.

In ditches and rivulets. — Perennial. *July, August*.

24. HELOSCIADIUM Koch.

Calyx a 5-toothed margin, occasionally obsolete. *Petals* ovate, entire, acute, or bluntish, with a point; the point either straight or inflexed.

Fruit compressed at the side, ovate, or oblong. *Carpella* with 5, filiform, prominent, equal ridges, of which the lateral form a margin. *Channels* with single vittæ. *Seed* more or less convex, flattish in front. — *Involucra* various. *Flowers* white.

1. *H. nodiflorum* Koch. E. B. 9. 689.
Leaves pinnate; leaflets ovate, equally serrated. Umbels nearly sessile, opposite the leaves. Stem procumbent. *Smith*.
Sium nodiflorum Linn.
In ditches, common. — Perennial. *July, August*.
2. *H. repens* Koch. E. B. 20. 1431.
Leaves pinnate; leaflets roundish, deeply toothed. Umbels stalked, opposite the leaves. Stem creeping. *Smith*.
Sium repens Linn.
In wet places. — Perennial. *August*.
3. *H. inundatum* Koch. E. B. 3. 227.
Leaves pinnate, cut; the lowermost in many compound capillary segments. Umbels 5-flowered, in pairs. *Smith*.
Sium inundatum Wiggers.
Sison inundatum Linn.
Meum inundatum Spreng.
Hydrocotyle inundata Smith.
In ditches and wet places. — Perennial. *May*.

25. CARUM Linn.

Calyx an obsolete margin. *Petals* obovate, emarginate, regular, inflexed. *Fruit* compressed at the sides, oblong. *Carpella* with 5, filiform, equal ridges, of which the lateral form a margin; commissure flat. *Channels* with single vittæ. *Seed* taper, convex, flattish in front. — *Involucra* various. *Flowers* white.

1. *C. Carui* Linn. Common Caraway. E. B. 21. 1503.
Stem branched. Partial involucre none.
In meadows and pastures; a naturalized plant. — Biennial. *June*.
2. *C. verticillatum* Koch. E. B. 6. 395.
Leaflets in numerous, linear, capillary, almost whorled segments. *Involucra* many-leaved.
Sison verticillatum Linn.
Sium verticillatum Lam.
In salt marshes, rare. — Perennial. *July, August*.

26. SISON Linn.

Calyx an obsolete margin. *Petals* roundish, curved, deeply emarginate, inflexed. *Fruit* compressed at the sides, ovate. *Carpella* with 5, equal, filiform ridges, of which the lateral form a margin. *Channels* with single, short, clavate vittæ. *Seed* very convex, flattish in front. — *Involucra* few-leaved. *Flowers* white.

1. *S. Amomum* Linn. Honewort. E. B. 14. 954.
Leaves pinnate; the upper ones ternate. Umbels erect, of about 4 general rays. Disk globose.
In marly or chalky, rather moist, ground, under hedges. — Annual or Biennial. *August*.

27. PETROSELINUM Hoffm.

Calyx an obsolete margin. *Petals* roundish, incurved, entire, scarcely emarginate, contracted into an inflexed lobe. *Fruit* ovate, contracted at the side, nearly double. *Carpella* with 5, equal, filiform ridges, of which the lateral form a margin. *Channels* with single vittæ. *Seed* gibbous, convex, flattish in front. — Universal involucrum *few-leaved*; partial *many-leaved*. Flowers *white*.

1. *P. segetum* Koch.

E. B. 4. 228.

Leaves pinnate; leaflets roundish-ovate, numerous. Umbels drooping, irregularly aggregate. Disks subulate, depressed.

Sison segetum Linn.

In moist fields. — Annual or Biennial. *August*.

28. APIUM Linn.

Calyx an obsolete margin. *Petals* roundish, entire, with an involute point. *Fruit* roundish, contracted at the sides, double. *Carpella* with 5, filiform, equal ridges, of which the lateral form a margin. *Channels* with single vittæ, except the outermost, which have sometimes 2 or 3. *Seed* very convex, flattish in front. — Involucra *none*. Flowers *white*.

1. *A. graveolens* Linn. Celery.

E. B. 17. 1210.

Leaflets of the stem-leaves wedge-shaped. Stem furrowed.

In ditches and marshy ground. — Biennial. *August, September*.

29. CICUTA Linn.

Calyx a 5-toothed, somewhat leafy margin. *Petals* obovate, emarginate, inflexed. *Fruit* roundish, contracted at the sides, double. *Carpella* with 5, flattish, equal ridges, of which the lateral form a margin. *Channels* with single vittæ, which in the ripe fruit are more elevated than the ridges. *Seed* taper. — Universal involucrum *few-leaved or wanting*; partial *many-leaved*. Flowers *white*.

1. *C. virosa* Linn. Water Hemlock.

E. B. 7. 479.

Leaves twice ternate; leaflets linear-lanceolate, decurrent. *Smith*.

In ditches, and about the margins of rivers. — Perennial. *August*.

30. ÆGOPODIUM Linn.

Calyx an obsolete margin. *Petals* obovate, emarginate, inflexed. *Fruit* compressed at the side, oblong. *Carpella* with 5, filiform ridges, of which the lateral form a margin. *Channels* without vittæ. *Seed* taper, convex, flattish in front. — Involucra *none*. Flowers *white*.

1. *Æ. Podagraria* Linn. Common Gout-weed. Herb Gerarde.

E. B. 14. 940.

Sison Podagraria Spreng.

In shady waste places, and under hedges. — Perennial. *May, June*.

31. TRINIA Hoffm.

Calyx an obsolete margin. *Petals* of the male plant lanceolate, contracted into a lanceolate segment, somewhat emarginate; of the

female or hermaphrodite plant ovate, with a short inflexed point. *Fruit* compressed at the side, ovate. *Carpella* with 5, prominent, equal, filiform ridges, of which the lateral form a margin. *Channels* without vittæ, or with scarcely any appearance of them, but a distinct channel under each ridge. *Seed* convex, flattish in front. — *Involucra* various. *Flowers* white.

1. *T. glaberrima* Hoffm. E. B. 17. 1209.
 Root fusiform. Stems weak, nearly smooth. Leaflets multifid, with linear segments. Umbels numerous, simple, and compound. Involucrum none, or 1-leaved. *Dec.*
Pimpinella dioica Linn.
P. pumila Jacq.
 On limestone rocks, in warm situations. — Perennial. *May, June.*

Tribe ix. *Scandicineæ* Koch.

Fruit evidently compressed at the side, linear, and usually beaked. *Carpella* with 5, primary, filiform, sometimes winged ridges, of which the lateral, forming a margin, are the same size as the others; secondary ridges wanting; or sometimes the ridges are altogether obliterated except in the beak. *Seed* taper, with a deep cleft in front, or with an involute margin.

32. ANTHRISCUS *Sprengel.*

Calyx an obsolete margin. *Petals* obovate, truncate, or emarginate, inflexed, often very short. *Fruit* contracted at the side, beaked. *Carpella* almost taper, without ridges, the beak only having 5. *Seed* taper, deeply furrowed in front. — Universal involucrum none; partial many-leaved. *Flowers* white.

1. *A. vulgaris* Spreng. E. B. 12. 818.
 Fruit ovate, twice the length of its beak. Leaves triply pinnate, pinnatifid. *Smith.*
Scandix Anthriscus Linn.
Caucalis scandicina Wiggers.
 In banks and waste ground, chiefly near large towns. — Annual. *May.*
2. *A. Cerefolium* Hoffm. E. B. 18. 1268.
 Umbels sessile, lateral. Leaflets of the involucra lanceolate. Leaves doubly pinnate, cut.
Scandix Cerefolium Linn.
Chærophylloides sativum Spreng.
 In waste ground. — Annual. *June.*
3. *A. sylvestris* Hoffm. E. B. 11. 752.
 Umbels terminal, stalked. Leaflets of the involucra ovate, membranous. Leaves triply pinnate; leaflets ovate, pinnatifid, rough-edged.
Chærophylloides sylvestre Linn.
 In hedges, very common. — Perennial. *April, May.*

33. SCANDIX *Linn.*

Calyx an obsolete margin. *Petals* obovate, truncate, inflexed. *Fruit* compressed at the side, with a very long beak. *Carpella* with 5,

obtuse, equal ridges, of which the lateral form a margin. *Channels* without vittæ, or with scarcely any. *Seed* taper, with a deep furrow in front. — Universal involucre none, or few-leaved; partial 5- or 7-leaved. Flowers white.

1. *S. Pecten-Veneris* Linn. Shepherd's-needle. Venus's Comb.
E. B. 20. 1397.

Fruit nearly smooth, with a bristly-edged beak. Umbels simple; solitary or in pairs. Leaflets of the involucre jagged. Petals inflexed at the point.

In waste fields, common. — Annual. June—September.

34. CHÆROPHYLLUM Linn.

Calyx an obsolete margin. *Petals* obovate, emarginate, inflexed. *Fruit* compressed or contracted at the sides. *Carpella* with 5, obtuse, equal ridges, of which the lateral form a margin; the commissure with a deep furrow. *Channels* with a single vitta. *Seed* taper, its transverse section lunate. — Universal involucre wanting, or few-leaved; partial of several leaflets. Flowers white.

1. *C. aromaticum* Linn. E. B. Supp. 2636.

Fruit smooth. Styles long. Leaflets ovate, acute, serrated, undivided.

Myrrhis aromatica Spreng.

Near Guthrie, by the road leading from Forfar to Arbroath. — Perennial. June.

2. *C. aureum* Linn. E. B. 30. 2103.

Fruit nearly smooth, coloured. Stem slightly swelling, angular, hairy. Leaflets pointed, sharply pinnatifid, or cut. Universal involucre few-leaved; partial deflexed.

Myrrhis aurea Spreng.

Borders of fields in Scotland. — Perennial. June.

3. *C. temulum* Linn. E. B. 22. 1521

Fruit nearly smooth. Stem rough, swollen under each joint.

Myrrhis temula Spreng.

In bushy places. — Biennial. June, July.

35. MYRRHIS Scopoli.

Calyx an obsolete margin. *Petals* obovate, emarginate, inflexed. *Fruit* compressed at the side. *Pericarpium* hollow, externally with 5 elevated, sharp, keeled ridges, internally adhering closely to the seed. *Seed* involute. *Vittæ* wanting. — Universal involucre none; partial many-leaved. Flowers white.

1. *M. odorata* Scopoli. Sweet Cicely. E. B. 10. 697

Scandix odorata Linn.

Chærophyllum odoratum Hooker.

In mountainous pastures. — Perennial. May.

Tribe x. *Smyrniæ* Koch.

Fruit compressed or contracted at the sides, turgid. *Carpella* with 5 primary ridges, of which the lateral either occupy the margin, or are placed within the margin; secondary ridges wanting; sometimes the ridges are almost obliterated when the fruit is polished. *Seed* involute, or with a deep incision in front.

36. *PHYSOSPERMUM* *Cusson.*

Calyx a 5-toothed margin. *Petals* obovate, somewhat emarginate, inflexed. *Fruit* contracted at the side, double. *Carpella* roundish, uniform, with 5 fine equal ridges, of which the lateral are placed within the margin. *Channels* with single vittæ. *Seed* involute, lunate. — Universal and partial involucre many-leaved. Flowers white.

1. *P. commutatum* Sprengel. E. B. 10. 683.
 Radical leaves twice or thrice pinnate, rough-edged, cut ; stem-leaves ternate, lanceolate, entire. Ridges of the fruit bluntish.
Ligusticum cornubiense Linn.
 In fields about Bodmin, in Cornwall. — Perennial. July.
Obs. Good ripe fruit of this plant requires to be examined.

37. *ECHINOPHORA* *Linn.*

Calyx a 5-toothed margin. *Petals* obovate, emarginate, inflexed, or the external larger than the rest and bifid. *Flowers* of the ray male with long stalks, of the centre a solitary female. *Fruit* ovate, nearly taper, included in a hollow receptacle, with a short projecting beak. *Carpella* with 5, equal, depressed, wavy, streaked ridges. *Channels* with single vittæ, which are covered by an arachnoid membrane. — Involucre both of many leaves.

1. *E. spinosa* Linn. Prickly Samphire. E. B. 34. 2413.
 Leaves with spinous, awl-shaped, entire segments. *Smith.*
 On the sea-coast — a doubtful native. — Perennial. July.

38. *SMYRNIUM* *Linn.*

Calyx an obsolete margin. *Petals* lanceolate, or elliptical, entire, with a long inflexed point. *Fruit* contracted at the sides, double. *Carpella* roundish, reniform, with the 3 dorsal ridges prominent and sharp ; the 2 lateral forming an obscure margin. *Channels* with many vittæ. *Seed* involute. — Involucre various.

1. *S. Olusatrum* Linn. Common Alexanders. E. B. 4. 230.
 Stem-leaves ternate, stalked, serrated. *Smith.*
 In waste ground ; often on rocks and cliffs near the sea. — Biennial. May.

39. *CONIUM* *Linn.*

Calyx an obsolete margin. *Petals* obovate, emarginate, inflexed. *Fruit* compressed at the side, ovate. *Carpella* with 5, prominent, wavy, crenated, equal ridges, of which the lateral form a margin. *Channels* with many streaks, but no vittæ. *Seed* with a deep narrow incision in the face. — Universal involucre few-leaved ; partial 3-leaved, halved.

1. *C. maculatum* Linn. Common Hemlock. E. B. 17. 1191.
 Stem polished and spotted, much branched. *Smith.*
 In hedges and waste ground, frequent. — Biennial. June, July.

Tribe xi. *Saniculeæ* Koch.

Fruit nearly taper. Carpella with 5, primary, equal ridges, and no secondary ones; or without ridges, in place of which the fruit is covered with scales or prickles. Seed half-taper, flat in front. Umbels fascicled or capitate. Petals erect, broken inwards in the middle.

40. *ERYNGIUM* Linn.

Calyx a 5-toothed leafy margin. *Petals* erect, converging, oblong-obovate, emarginate, with an abruptly incurved segment the length of the petal. *Fruit* nearly taper, obovate. *Carpella* covered with scales, with neither ridges nor vittæ. *Seed* about half-taper. — Umbels simple. *Involucrum* many-leaved. *Flowers* usually blue. *Leaves* simple.

1. *E. maritimum* Linn. Sea Holly. E. B. 10. 718.
Radical leaves roundish, plaited, spinous. Heads stalked. Bractææ 3-cleft.

On the sandy sea-shore. — Perennial. *July, August.*

2. *E. campestre* Linn. E. B. 1. 57.
Leaves clasping the stem; radical ones twice or thrice pinnatifid. Bractææ undivided.

In waste ground, especially near the sea, but rare. — Perennial. *July, August.*

41. *SANICULA* Linn.

Calyx a 5-toothed leafy margin. *Petals* erect, converging, obovate, emarginate, with an abruptly inflexed segment, the length of the petal. *Fruit* taper, nearly round. *Carpella* densely covered with hooked prickles, no ridges, but many vittæ. *Seed* half round. — Universal and partial involucre of several leaves.

1. *S. europæa* Linn. Wood Sanicle. E. B. 2. 98.
Radical leaves simple, deeply lobed. Flowers all nearly sessile. *Smith.*

In woods and groves abundantly. — Perennial. *May.*

Tribe xii. *Hydrocotyleæ* Koch.

Fruit very much flattened laterally. Carpella with 5 primary ridges, of which the lateral either occupy the margin, or the place of the commissure; secondary ridges wanting. Seed flattish in front. Umbels simple or imperfect, the flowers being capitate or whorled. Petals spreading, entire, acute, with a straight or inflexed end.

42. *HYDROCOTYLE* Linn.

Calyx an obsolete margin. *Petals* ovate, entire, acute, with a straight point. *Fruit* compressed at the side, so as to form 2 little shields. *Carpella* with 5 filiform ridges, those of the keel and sides nearly obsolete, the intermediate arched, without vittæ. *Seed* carinate, compressed. — Creeping herbs, with simple leaves, and green obscure flowers.

1. *H. vulgaris* Linn. Common White-rot. Marsh Pennywort.
E. B. 11. 751.
Leaves orbicular, peltate, smooth; cloven at the base. Umbels
somewhat aggregate. Flowers nearly sessile. *Smith*.
On boggy commons, and the margins of little clear rivulets, very frequent. —
Perennial. *May, June*.

Order 39. STELLATÆ.

Calyx superior, 4- 5- or 6-lobed.
Corolla monopetalous, rotate or tubular, regular, inserted into the
calyx; the number of its divisions equal to those of the calyx.
Stamens equal in number to the lobes of the corolla, and alternate with
them.
Ovarium simple, 2-celled; *ovules* solitary, erect; *style* simple; *stig-
mata* 2.
Fruit a dry indehiscent pericarpium, with 2 cells, and 2 seeds.
Seeds erect, solitary; *embryo* straight in the axis of horny albumen;
radicle inferior; *cotyledons* leafy.
Herbaceous plants; with whorled *leaves*, destitute of *stipulæ*; square
stems; *roots* staining red; *flowers* minute.

1. GALIUM Linn.

Corolla rotate, or campanulate, 5-cleft. *Fruit* dry, not crowned by
the calyx.

* *Fruit smooth.*

1. *G. cruciatum*. Linn. Mug-weed. E. B. 2. 143.
Leaves ovate, hoary, 4 in a whorl. Stem hairy, simple above.
Flower-stalks axillary, corymbose, with 2 leaves. *Smith*.
In thickets and hedges, common. — Perennial. *May*.
2. *G. palustre* Linn. E. B. 26. 1857.
Leaves obovate, obtuse; the upper ones 4 in a whorl, unequal in
size. Stem weak; branched in the upper part. *Smith*.
In moist meadows, and ditches. — Perennial. *July*.
3. *G. Witheringii* Smith. E. B. 31. 2206.
Leaves about 5 in a whorl, widely spreading, lanceolate, fringed
with bristles. Stem upright, slightly branched, rough with re-
versed hooks. *Smith*.
G. montanum *Withering*.
In moist, heathy spots. — Perennial. *July*.
4. *G. saxatile* Linn. E. B. 12. 815.
Leaves 6 in a whorl, obovate, obtuse, with a small point. Stem
much branched, prostrate, smooth. *Fruit* granulated. *Smith*.
G. montanum *Hudson*.

G. procumbens Withering.

G. hercynicum Weig.

On heaths and hilly ground. — Perennial. *June—August.*

5. *G. uliginosum* Linn.

E. B. 28. 1972.

Leaves 6 in a whorl, obovate-lanceolate, rigid, bristle-pointed; their edges rough, like the stem, with recurved prickles. Fruit smooth, smaller than the corolla. *Smith.*

In watery places. — Perennial. *August.*

6. *G. erectum* Hudson.

E. B. 29. 2067.

Leaves about 8 in a whorl, lanceolate, bristle-pointed, with marginal prickles all pointing forward. Stem weak, slightly hairy under each joint. Fruit smooth and even. Corolla taper-pointed. *Smith.*

In hedges and pastures — Perennial. *June, July.*

7. *G. cinereum* Allioni.

Leaves 6 or 8 in a whorl, linear, bristle-pointed, with marginal prickles all pointing forward. Stem weak, much-branched, smooth. Fruit smooth. Corolla taper-pointed. *Smith.*

G. diffusum Hooker.

In the lowlands of Scotland. — Perennial. *August.*

8. *G. aristatum* Linn.

Leaves 6 in a whorl, stalked, lanceolate, flat, reticulated with veins, bristle-pointed, with minute marginal prickles pointing forward. Stem much-branched, spreading, smooth. Fruit smooth, reniform; its lobes distinct. Corolla taper-pointed.

In Angusshire. — Perennial. *July, August.*

9. *G. saccharatum* All.

E. B. 31. 2173.

Leaves 6 in a whorl, lanceolate, with marginal prickles all pointing forward. Stalks axillary, 3-flowered. Fruit warty, drooping. *Smith.*

G. tricornis G. Don, *verrucosum* *Smith.*

Valantia Aparine Linn.

In corn fields, rare. — Annual. *June—August.*

10. *G. tricornis* Withering.

E. B. 23. 1641.

Leaves about 8 in a whorl, lanceolate, with reflexed marginal prickles, like those on the stem. Stalks axillary, 3-flowered. Fruit sharply granulated, drooping. *Smith.*

G. spurium Hudson.

In dry chalky fields. — Annual. *July.*

11. *G. spurium* Linn.

E. B. 26. 1871.

Leaves about 8 in a whorl, lanceolate, with reflexed marginal prickles, like those on the stem. Stalks axillary, many-flowered, cymose. Fruit smooth, erect. *Smith.*

About Forfar, sparingly. — Annual. *June, July.*

12. *G. pusillum* Linn.

E. B. 2. 74.

Leaves 8 in a whorl, linear-lanceolate, hair-pointed, entire, somewhat hairy. Panicles terminal, forked. Fruit very smooth. *Smith.*

G. scabrum Jacq.

G. obliquum Villars.

On limestone hills. — Perennial. *July, August.*

13. *G. verum* Linn. E. B. 10. 660.
 Leaves 8 in a whorl, linear, channelled, entire, rough. Flowers in dense panicles. Fruit smooth. *Smith.*
 In hilly, bushy places. — Perennial. *July, August.*
14. *G. Mollugo* Linn. Hedge Bed-straw. Whip-tongue. E. B. 24. 1673.
 Leaves 8 in a whorl, elliptical, bluntish, bristle-pointed, rough-edged. Flowers in loose spreading panicles. Corolla thick-tipped. Fruit smooth, globular. *Smith.*
 In hedges and thickets. — Perennial. *July, August.*
15. *G. parisiense* Linn. E. B. 6. 384.
 Leaves about 6 in a whorl, lanceolate, pointed, fringed with prickles. Stems straggling, rough. Flower-stalks cloven. Fruit granulated, without hairs. *Smith.* — *G. anglicum* Hudson.
 On walls, and dry sandy ground. — Annual. *June, July.*

** *Fruit bristly.*

16. *G. boreale* Linn. E. B. 2. 105
 Leaves 4 in a whorl, ovate-lanceolate, 3-ribbed, smooth, with rough edges. Stem erect. Fruit rough with hooked bristles. *Smith.*
 In rocky shady places. — Perennial. *July.*
17. *G. Aparine* Linn. Goose-grass, or Cleavers. E. B. 12. 816.
 Leaves 8 in a whorl, lanceolate, keeled, rough, fringed with reflexed prickles. Stem weak. Fruit bristly. *Smith.*
 In hedges, every where. — Annual. *May—August.*

2. ASPERULA Linn.

Corolla funnel-shaped, with 3 or 4 segments. *Fruit* dry, not crowned by the calyx.

1. *A. odorata* Linn. Sweet Woodruff. E. B. 11. 755
 Leaves 8 in a whorl, lanceolate. Panicles stalked, of few flowers. *Smith.*
 In dry mountainous woods. — Perennial. *May.*
2. *A. cynanchica* Linn. Squinancy-wort. E. B. 1. 33.
 Leaves linear, 4 in a whorl; the upper ones very unequal. Flowers all 4-cleft. Fruit smooth. *Smith.*
 On dry chalky sunny banks. — Perennial. *June, July.*

3. SHERARDIA. Linn.

Corolla funnel-shaped, 4-cleft. *Fruit* dry, crowned with the persistent teeth of the calyx.

1. *S. arvensis* Linn. E. B. 13. 891.
 All the leaves whorled. Flowers terminal. *Smith.*
 In fields, on a light soil — Annual. *June—August.*

4. RUBIA Linn.

Corolla campanulate, spreading, 4- or 5-lobed. *Stamens* 4 or 5. *Fruit* succulent, double, smooth.

1. *R. peregrina* Linn. Wild Madder. E. B. 12. 851.

Leaves 4, or more, in a whorl, elliptical, shining and smooth on the upper side. Flowers 5-cleft. *Smith*.

In thickets, and on stony or sandy ground, in the west of Britain. — Perennial. *June—August*.

Order 40. CAPRIFOLIACEÆ Juss.

Calyx superior, usually with 2 or more bractæ at its base; entire or lobed.

Corolla superior, monopetalous or polypetalous, rotate or tubular, regular or irregular.

Stamens equal in number to the lobes of the corolla, and alternate with them.

Ovarium with from 1 to 5 cells, one of which is often monospermous, the others polyspermous; in the former the ovulum is pendulous; *style* 1; *stigmas* 1 or 3.

Fruit indehiscent; 1 or more celled, either dry, fleshy, or succulent, crowned by the persistent lobes of the calyx.

Seeds either solitary and pendulous, or numerous and attached to the axis; *testa* often bony; *embryo* straight, at the base of the fleshy albumen; *radicle* superior.

Shrubs or *herbaceous* plants; with opposite *leaves*, destitute of *stipulæ*. *Flowers* usually corymbose and often sweet-scented.

§ *Lonicereæ*.

Corolla monopetalous.

1. CAPRIFOLIUM Tourn.

Calyx 5-toothed, persistent. *Corolla* tubular, 2-lipped, usually saccate at the base. *Stamens* 5. *Ovarium* 3-celled, with the cells equally many-seeded. *Berry* 1-celled, 1-seeded. — *Twining* shrubs, with simple leaves, and capitate fragrant flowers.

1. *C. perfoliatum*. E. B. 12. 799.

Flowers ringent, whorled, terminal. Leaves deciduous; the uppermost confluent and perfoliate. *Smith*.

Lonicera Caprifolium Linn.

In woods and thickets. — Shrub. *May, June*.

2. *C. Periclymenum*. Common Honeysuckle, or Woodbine.

E. B. 12. 800.

Heads of flowers ovate, imbricated, terminal. Leaves all separate, deciduous. Flowers ringent. *Smith*.

Lonicera Periclymenum Linn.

In hedges, groves, and thickets. — Shrub. *June, July, to October*.

2. LONICERA Linn.

Calyx 5-toothed, deciduous. *Corolla* funnel-shaped, saccate at the base, with an erect 2-lipped limb. *Stamens* 5. *Ovarium*, 3-celled, with the cells equally many-seeded. *Berry* 2-celled, 2-seeded. — *Upright deciduous shrubs, with simple leaves, and twin inodorous flowers.*

1. *L. Xylosteum* Linn. Fly Honeysuckle. E. B. 13. 916.
Stalks 2-flowered. Berries distinct. Leaves entire, downy. *Smith.*
In thickets and rocky places. — Shrub. *July.*

3. LINNÆA Gronovius.

Calyx 5-cleft, with 2 connate bractæ at the base. *Corolla* campanulate, 5-lobed. *Stamens*, 5, of which 2 are shorter than the others. *Ovarium* 3-celled; 2 of the cells many-seeded, 1 one-seeded. *Fruit* dry, 3-celled, with one cell fertile. — *A creeping plant, with cernuous twin pink flowers.*

1. *L. borealis* Gronovius. E. B. 7. 433.
In dry stony shady fir woods in the north. — Perennial. *May, June.*

4. VIBURNUM Linn.

Calyx 5-cleft. *Corolla* campanulate, 5-lobed. *Stamens*, 5. *Fruit* succulent, 3-seeded. — *Upright deciduous shrubs, with cymose flowers and simple leaves.*

1. *V. Lantana* Linn. Way-faring Tree. E. B. 5. 331.
Leaves heart-shaped, serrated, veiny; downy beneath. *Smith.*
In woods and hedges. — Shrub. *May.*
2. *V. Opulus* Linn. Common Guelder-rose. E. B. 5. 332.
Leaves lobed. Foot-stalks beset with glands. *Smith.*
In watery hedges and thickets. — Shrub. *June.*

5. SAMBUCUS Linn.

Calyx 5-cleft. *Corolla* rotate, 5-lobed. *Stamens* 5. *Berry* 3-seeded. — *Upright deciduous shrubs, with pinnated leaves, and cymose flowers.*

1. *S. Ebulus* Linn. Dwarf Elder. Danewort. E. B. 7. 475.
Cymes with 3 main branches. Stipulas leafy. Stem herbaceous. *Smith.*
In waste ground, and about hedges. — Perennial. *July.*
2. *S. nigra* Linn. Common Elder. E. B. 7. 476.
Cymes with 5 main branches. Stipulas obsolete. Leaflets ovate. Stem arboreous. *Smith.*
In hedges, coppices, and woods. — A small tree. *June.*

§ *Corneæ* Kunth.

Corolla polypetalous.

6. CORNUS Linn.

Calyx 4-toothed, deciduous. *Petals* 4. *Stamens* 4. *Drupe* with a

2-celled nut. — *Erect deciduous shrubs or herbaceous plants, with simple leaves, and cymose or umbellate flowers.*

§. *Flowers naked.*

1. *C. sanguinea* Linn. Dog-wood. E. B. 4. 249.
Branches straight. Leaves green on both sides. Cymes naked, flat.
Smith.
In hedges and thickets. — Shrub. *June.*

§§. *Flowers in an involucre.* Thæmatia.

2. *C. suecica* Linn. E. B. 5. 310.
Herbaceous. Umbel between 2 branches, stalked, with an involucre. Ribs of the leaves but slightly combined. *Smith.*
In moist alpine pastures. — Perennial. *June, July.*

7. HEDERA Linn.

- Calyx* 5-toothed. *Petals* 5. *Stamens* 5. *Anthers* forked at the base. *Berry* succulent, 5-celled, 5-seeded. — *Climbing evergreen shrubs, with umbellate flowers and simple leaves.*
1. *H. Helix* Linn. Common Ivy. E. B. 18. 1267.
Leaves some ovate, some lobed. *Smith.*
In woods, and on old buildings. — Shrub. *October.*

Order 41. LORANTHÆ *Rich. & Juss.*

Calyx superior, with 2 bractæ at the base.

Corolla with 4 or 8 petals, more or less united at the base.

Stamens equal in number to the petals, and opposite to them.

Ovarium 1-celled; *ovulum* pendulous; *style* 1 or none; *stigma* simple.

Fruit succulent, 1-celled.

Seed solitary, pendulous; *testa* membranous; *embryo* cylindrical, longer than the fleshy *albumen*; *radicle* naked, clavate, superior.

Parasitical herbaceous plants. *Leaves* opposite, veinless, fleshy, without stipulæ. *Flowers* often monœcious, axillary or terminal, solitary, corymbose, or spiked.

1. VISCUM. Linn. MISSELTOE.

Diœcious. *Calyx* an entire margin. *Corolla* deeply 4-cleft, fleshy. Male. *Anthers* sessile, in the middle of the petals. Female. *Style* very small. *Stigma* capitate. *Berry* 1-seeded, crowned with the calyx.

1. *V. album* Linn. E. B. 21. 1470.
Leaves obovate-lanceolate, obtuse. Stem forked, with sessile intermediate heads, of about 5 flowers. *Smith.*
Parasitical on trees. — Shrub. *May.*

Order 42. VACCINIEÆ *Dec.*

Calyx superior, entire, or with from 4 to 6 lobes.

Corolla monopetalous, lobed as often as the calyx

Stamens distinct, double the number of the lobes of the corolla, inserted into an epigynous disk; *anthers* with 2 horns and 2 cells.

Ovarium inferior, 4- or 5-celled, many-seeded; *style* simple; *stigma* simple.

Berry crowned by the persistent limb of the calyx, succulent, 4- or 5-celled, many-seeded.

Seeds minute; *embryo* straight, in the axis of a fleshy albumen; *cotyledons* very short; *radicle* long, inferior.

Shrubs with alternate coriaceous leaves.

1. VACCINIUM *Linn.*

Calyx entire or toothed. *Corolla* 4-cleft, with erect segments. *Stamens* 8. *Berry* crowned with the persistent calyx, many-seeded. — *Evergreen* or *deciduous* shrubs. *Leaves* simple. *Flowers* axillary or racemose.

* *Leaves* deciduous.

1. *V. Myrtillus* *Linn.* Bilberry. E. B. 7. 456.
Stalks solitary, single-flowered. *Leaves* ovate, serrated, membranous, smooth, deciduous. *Stem* acutely angular. *Calyx* wavy, nearly entire. *Smith.*

On stony heaths, and in woods where the soil is turfy. — Shrub. *May.*

2. *V. uliginosum* *Linn.* Great Bilberry. E. B. 9. 581.
Stalks somewhat aggregate, single-flowered. *Leaves* obovate, entire, smooth, deciduous. *Branches* round. *Smith.*

On boggy mountainous heaths. — Shrub. *May.*

** *Leaves* evergreen.

3. *V. Vitis Idæa*. *Linn.* Cow-berry. E. B. 9. 598.
Clusters terminal, drooping, with ovate concave bractæas, longer than the flower-stalks. *Leaves* obovate, revolute, minutely toothed; dotted beneath. *Corolla* bell-shaped. *Smith.*

On dry, stony, turfy heaths in Scotland, Wales, and the north of England. — Shrub. *June.*

2. OXYCOCCUS. *Rich.*

Calyx toothed. *Corolla* 4-cleft, with reflexed segments. *Berry* crowned with the persistent calyx, many-seeded. — *Evergreen* trailing shrubs.

1. *O. palustris* *Rich.* Cranberry. E. B. 5. 319.
Leaves ovate, entire, smooth, revolute, acute. *Flowers* terminal.
Vaccinium oxycoccus *Linn.*

In turfy bogs, among running waters. — Shrub. *June*

Order 43. CAMPANULACEÆ Juss.

Calyx superior, 5-lobed.

Corolla monopetalous, inserted into the top of the calyx, 5-lobed, withering on the fruit; regular.

Stamens 5, inserted into the calyx, alternately with the lobes of the corolla. *Anthers* distinct. *Pollen* spherical.

Ovary inferior, with 2 or more polyspermous cells. *Style* simple; *stigma* with from 2 to 5 lobes.

Fruit dry, crowned by the withered calyx and corolla, with from 3 to 5 cells, dehiscing by lateral irregular apertures by valves.

Seeds numerous, attached to a placenta in the axis; *embryo* straight in fleshy albumen; *radicle* inferior.

Herbaceous plants or *under shrubs*. *Leaves* alternate. *Flowers* single, or in heads; usually purple.

1. PHYTEUMA Linn.

Calyx 5-cleft. *Corolla* rotate, with a very short tube, and 5 long linear segments. *Stamens* 5. *Stigma* 3-parted. *Capsule* 3-celled, opening by lateral perforations. — *Flowers* in spikes or heads.

1. *Ph. orbiculare* Linn.

E. B. 2. 142.

Flowers in a roundish head. *Leaves* crenate; radical ones heart-shaped, or elliptic-lanceolate. *Smith*.

In pastures, and by road sides, on a chalky soil. — Perennial. *August*.

2. *P. spicatum* Linn.

E. B. Supp. 2598.

Radical leaves blunt, cordate-ovate, doubly toothed, with a winged foot-stalk; cauline, linear-lanceolate, toothed, sessile. *Bractææ* few, linear-lanceolate, acuminate, 4 times as short as the long spike. *Dec*.

In hedges, very rare. — Perennial. *August*.

2. PRISMATOCARPUS L'Heritier.

Corolla rotate, with a flat limb. *Capsule* prismatical, 2- or 3-celled, dehiscing towards the top. *Dec*.

1. *P. hybridus* L'Heritier.

E. B. 6. 375.

Stem upright, a little branched at the base. *Leaves* oblong, somewhat crenated. *Flowers* solitary. *Segments* of the calyx shorter than the corolla. *Dec*.

Campanula hybrida Linn.

In corn-fields. — Annual. *August*.

3. CAMPANULA Linn.

Calyx 5-cleft, sometimes with the recesses reflexed. *Corolla* campanulate, 5-cleft. *Stamens* 5, with the filaments broadest at the base. *Stigma* 4- or 5-parted. *Capsule* 3- or 5-celled, opening by perforations towards the base.

1. *C. rotundifolia* Linn. E. B. 13. 866.
 Radical leaves heart or kidney-shaped, serrated; stem-leaves linear, entire. *Smith.*
 On heaths, walls, banks, and about the borders of fields, common. — Perennial. *July, August.*
2. *C. patula* Linn. E. B. 1. 42.
 Radical leaves obovate, or elliptic-lanceolate; the rest linear-lanceolate; all even, crenate, and roughish. Stem with several fringed angles. Panicle spreading. Calyx minutely toothed. *Smith.*
 In pastures and hedges. — Biennial. *July, August.*
3. *C. Rapunculus* Linn. E. B. 4. 283.
 Rampion.
 Leaves wavy, crenate, roughish; radical ones elliptic-lanceolate. Stem angular; hairy below. Panicle compact. Calyx entire. *Smith.*
 On banks, and about the borders of fields. — Biennial. *July, August.*
4. *C. persicifolia* Linn. E. B. Supp. 2773.
 Leaves smooth, slightly serrated; radical ones obovate; those of the stem linear-lanceolate, sessile, remote. Stem round, very smooth, with few flowers. *Smith.*
 Near Cullen, in Scotland. — Perennial. *July.*
5. *C. latifolia* Linn. E. B. 5. 302.
 Leaves roughish, ovate-lanceolate. Stem unbranched, round. Stalks single-flowered. Fruit drooping. *Smith.*
 In moist woods and thickets. — Perennial. *July, August.*
6. *C. rapunculoides* Linn. E. B. 20. 1369.
 Leaves roughish; radical ones heart-shaped, crenate, stalked; uppermost sessile, lanceolate. Flowers drooping, unilateral, in a terminal, bracteated, upright cluster. Calyx reflexed. *Smith.*
 In woods and fields. — Perennial. *July, August.*
7. *C. Trachelium* Linn. E. B. 1. 12.
 Stem angular. Leaves lanceolate, partly heart-shaped, sharply serrated, bristly as well as the calyx. Stalks axillary, with few flowers. *Smith.*
 In groves, thickets, and hedges. — Perennial. *July.*
8. *C. glomerata* Linn. E. B. 2. 90.
 Stem angular, simple. Flowers sessile, most of them in a terminal head. Leaves ovate, crenate. *Smith.*
 In dry open chalky pastures. — Perennial. *July, August.*
9. *C. hederacea* Linn. E. B. 2. 73.
 Stem flaccid, much branched, procumbent. Leaves stalked, smooth heart-shaped, with angular lobes. *Smith.*
 In watery shady places. — Perennial. *June—August.*

Order 44. LOBELIACEÆ *Juss.*

Calyx superior, 5-lobed, or entire.

Corolla monopetalous, irregular, inserted in the calyx, 5-lobed, or deeply 5-cleft.

Stamens 5, inserted into the calyx alternately with the lobes of the corolla; *anthers* cohering; *pollen* oval.

Ovary inferior, with from 1 to 3 cells; *ovula* very numerous, attached either to the axis or the lining; *style* simple; *stigma* surrounded by a cup-like fringe.

Fruit capsular, 1- or more-celled, many seeded, dehiscing at the apex.

Seeds attached either to the lining or the axis of the pericarpium; *embryo* straight in the axis of fleshy albumen; *radicle* pointing to the hilum.

Herbaceous plants or *shrubs*. *Leaves* alternate, without stipulæ. *Flowers* axillary or terminal.

1. JASIONE *Linn.*

Calyx 5-cleft. *Corolla* rotate, with a very short tube, and 5 long linear segments. *Stamens* 5. *Stigma* 2-fid. *Capsule* 2-celled. — Flowers collected within a many-leaved involucre.

1. *J. montana* *Linn.* Common Sheep's-bit. Sheep's Scabious.
E. B. 13. 882.

In dry sandy fields, and heathy ground, plentiful. — Annual. *June, July.*

2. LOBELIA *Linn.*

Calyx 5-toothed. *Corolla* 2-lipped. *Stigma* blunt, usually 2-lobed. *Capsule* 2- or 3-celled. — Flowers axillary, or in terminal spikes.

1. *L. Dortmanna* *Linn.* E. B. 2. 140.
Leaves linear, entire, of 2 longitudinal cells. Stem nearly naked.
Smith.

In the lakes of Wales, Scotland, Ireland, and the north of England. — Perennial.
July.

2. *L. urens* *Linn.* E. B. 14. 953.
Stem nearly upright. Lower leaves obovate, slightly toothed; upper lanceolate, serrated. Clusters terminal. *Smith.*
On bushy heaths in Devonshire. — Perennial. *August, September.*

Order 45. VALERIANEÆ *Dec.*

Calyx superior; the limb either membranous or resembling pappus.

Corolla monopetalous, tubular, inserted into the top of the ovary, with

from 3 to 5 lobes, either regular or irregular ; sometimes calcarate at the base.

Stamens from 1 to 5, inserted into the tube of the corolla, and alternate with its lobes.

Ovarium inferior, with 1 cell, and sometimes 2 other abortive ones ; *ovulum* solitary, pendulous ; *style* simple ; *stigmas* from 1 to 3.

Fruit dry, indehiscent, with 1 fertile cell, and 2 empty ones.

Seed solitary, pendulous ; *embryo* straight, destitute of albumen ; *radicle* superior.

Herbs. *Leaves* opposite, without stipulæ. *Flowers* corymbose, panicled, or in heads.

1. VALERIANELLA Tournef.

Corolla regular, 5-lobed, without a spur. *Stamens* 3. *Fruit* membranous, with 3 cells, crowned with the erect, not involute limb of the calyx. *Dec.*

1. *V. olitoria* Mönch. Corn-salad or Lamb's Lettuce.

E. B. 12, 811.

Stem weak. *Leaves* lanceolate, entire. *Fruit* naked, roundish, compressed. *Dec.*

Valeriana olitoria Linn.

Fedia olitoria Vahl.

In corn-fields. — Annual. *April, June.*

2. *V. dentata* Dec.

E. B. 20, 1370.

Stem smooth. *Lower leaves* lanceolate, entire ; upper irregularly toothed at the base. *Bracteæ* smooth. *Fruit* smooth, ovate, crowned with from 3 to 5 unequal teeth, of which 1 is longer than the rest. *Dec.*

Fedia dentata Vahl.

Valeriana dentata Willd.

In corn-fields. — Annual. *June, July.*

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2. VALERIANA Linn.

Corolla regular, 5-lobed, without a spur. *Stamens* 3, otherwise as *Centranthus*. *Dec.*

1. *V. dioica* Linn.

E. B. 9, 628.

Flowers diœcious. *Stem-leaves* pinnatifid ; radical ones ovate.

In moist boggy meadows. — Perennial. *June.*

2. *V. officinalis* Linn.

E. B. 10, 698.

Leaves all pinnate ; leaflets lanceolate, nearly uniform.

In marshes, and about the banks of rivers. — Perennial. *June.*

3. *V. pyrenaica* Linn.

E. B. 23, 1591.

Stem-leaves heart-shaped, serrated, stalked ; the uppermost pinnate.

In woods in Scotland. — Perennial. *July.*

3. CENTRANTHUS Dec.

Corolla 5-lobed, regular, with a spur. *Stamen* 1. *Fruit* 1-celled, crowned with the limb of the calyx, which changes into a feathery pappus. *Dec.*

1. *C. latifolius* Dufresne. Red Valerian. E. B. 22. 1531.
 Leaves ovate-lanceolate.
Valeriana rubra Linn.
 On chalk cliffs, and old walls. — Perennial. June—September.

Order 46. DIPSACEÆ Juss.

Calyx superior, membranous, resembling pappus; surrounded by a scarious involucrellum.

Corolla monopetalous, tubular, inserted on the calyx; limb oblique, 4 or 5-lobed, with an imbricated æstivation.

Stamens usually 4 or 5, alternate with the lobes of the corolla; *anthers* distinct.

Ovarium inferior, 1-celled, with a single, pendulous ovulum; *style* 1; *stigma* simple.

Fruit dry, various, indehiscent, 1-celled, crowned by the pappus-like calyx; *embryo* straight in the axis of fleshy albumen; *radicle* superior.

Herbaceous plants or *under-shrubs*. *Leaves* opposite or whorled. *Flowers* collected upon a common receptacle, and surrounded by a many-leaved *involucrum*.

1. DIPSACUS. Linn.

Involucrellum with 4 sides, and 8 little excavations. *Calyx* with a somewhat cyathiform limb. *Stigma* longitudinal. Leaflets of the *involucrum* longer than the bractæ. *Receptacle* with spiny paleæ.

1. *D. fullonum* Linn. Fuller's Teasel. E. B. 29. 2080.
 Leaves combined, serrated. Scales of the receptacle hooked backwards. *Involucrum* reflexed.
 About hedges, but scarcely wild. — Biennial. July.
2. *D. sylvestris* Linn. E. B. 15. 1032.
 Leaves opposite, serrated. Scales of the receptacle straight. *Involucrum* inflexed, longer than the head.
 About moist hedges, and by road sides. — Biennial. July.
3. *D. pilosus* Linn. Shepherd's Staff. E. B. 13. 877.
 Leaves stalked, with lateral leaflets. *Involucrum* deflexed, about the length of the head.
 In moist shady places. — Biennial. August, September.

2. SCABIOSA Linn.

Involucrellum nearly cylindrical, with 8 little excavations. *Calyx* with a limb consisting of 5 setæ, occasionally partially abortive. *Coulter*.

1. *S. succisa* Linn. Devil's-bit. E. B. 13. 878.
 Corolla in 4 equal segments. Heads nearly globular. Stem-leaves distantly toothed. *Smüh*.
 In grassy, rather moist pastures. — Perennial. August—October.

2. *S. columbaria* Linn. E. B. 19. 1311.
 Corolla in 5 unequal segments. Radical leaves ovate, or lyrate,
 notched; the rest pinnatifid, linear. *Smith*.
 In pastures and waste ground. — Perennial. *June—August*.
3. *KNAUTIA* Linn.
Involucellum compressed, with 4 little excavations, closely surrounding
 the fruit, placed on a short stalk. *Calyx* with a somewhat cup-
 shaped limb.
1. *K. arvensis* Coulter. E. B. 10. 659.
 Heads many-flowered. Teeth of the crown very small. *Ciliæ* of
 the calyx 8 or 16, somewhat awned. *Coulter*.
Scabiosa arvensis Linn.
 In corn-fields and pastures. — Perennial. *July*.

Order 47. COMPOSITÆ Juss.

Calyx superior, closely adhering to the ovarium, and undistinguishable from it; its limb either wanting, or membranous, divided into bristles, paleæ, hairs or feathers, and called *pappus*.
Corolla monopetalous, superior, usually deciduous, either ligulate or funnel-shaped; in the latter case, 4 or 5-toothed, with a valvate æstivation.
Stamens equal in number to the teeth of the corolla, and alternate with them; the anthers cohering into a cylinder.
Ovarium inferior, 1-celled, with a single erect ovulum; *style* simple; *stigmas* 2, either distinct or united.
Fruit a small, indehiscent, dry pericarpium, crowned with the limb of the calyx.
Seed solitary, erect; *embryo* with a taper, inferior radicle; *albumen* none.
Herbaceous plants or *shrubs*. *Leaves* alternate or opposite, without stipulæ; usually simple. *Flowers* (called *florets*) collected in dense heads upon a common *receptacle*, surrounded by an *involucrum*. *Bractææ* either present or absent; when present, stationed at the base of the florets, and called *paleæ* of the receptacle.

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ANALYSIS OF THE TRIBES AND GENERA.

TRIBES.

<i>Ray</i> ligulate. <i>Involucre</i> hemispherical or cylindrical	i. CORYMBIFERÆ.
<i>Ray</i> 0. <i>Inv.</i> conical and rigid	ii. CYNAROCEPHALÆ.
<i>Both ray and disk</i> ligulate	iii. CICHORACEÆ.

GENERA.

i. CORYMBIFERÆ

Pappus hairy, abundant

Involucrum imbricated

Scales herbaceous

Flowers floscular

Heads cylindrical - - - - 1. EUPATORIUM.

Heads hemispherical or roundish

Florets all hermaphrodite - - 2. CHRYSOCOMA.

Florets of the centre hermaphro-
dite; of the circumference fe-
male, imperfect - - - - } 3. CONYZA.

Flowers radiant

Anthers with 2 bristles at the base

Pappus simple

Scales of involucrum leafy - - 4. INULA.

Scales of involucrum simple - - 5. LIMBARDA.

Pappus double - - - - 6. PUBLICARIA.

Anthers naked at the base

Rays white or purple

oblong or lanceolate - - 7. ASTER.

linear, in 2 rows - - 8. ERIGERON.

Rays yellow, about 5 - - 9. SOLIDAGO.

Scales scarious, dry

Flowers dioecious - - - - 10. ANTENNARIA.

Flowers hermaphrodite

Scales of the involucrum unequal - - 11. GNAPHALIUM.

Scales of the involucrum equal - - 12. FILAGO.

Involucrum with external bracteolæ - - 13. SENECIO.

Involucrum double - - - - 14. DORONICUM.

Involucrum simple

Scales membranous at the margin - - 15. TUSSILAGO.

Scales not membranous at the margin

Receptacle flat - - - - 16. CINERARIA.

Receptacle conical - - - - 17. BELLIS.

Pappus wanting, or a membranous margin

Sexes in the same head

Receptacle naked or hairy

Flowers radiant

Scales of involucrum scarious at margin 18. CHRYSANTHEMUM.

Scales of involucrum not scarious - - 19. MATRICARIA.

Flowers flosculous

Pappus wholly wanting - - - 20. ARTEMISIA.

Pappus membranous, entire - - 21. TANACETUM.

Receptacle paleaceous

Corolla with 2 sacs at the base - - 22. DIOTIS.

Corolla not saccate at the base

Involucrum hemispherical, many-flowered

Pappus none - - - - 23. MARUTA.

Pappus a membrane - - - - 24. ANTHEMIS.

Involucrum ovate, few-flowered - - 25. ACHILLEA.

Sexes in different heads - - - - 26. XANTHIUM.

Pappus aristate - - - - 27. BIDENS.

ii. CYNAROCEPHALÆ

Receptacle excavated like a honey-comb - - - 28. ONOPORDUM.

Receptacle paleaceous

Pappus double - - - - 29. SAUSSUREA.

Pappus single

feathery

Scales of the involucrum all spiny - - 30. CNICUS.

Inner scales of the involucrum scarious - - 31. CARLINA.

hairy

rigid, unequal - - - - 32. LAPPAS.

soft, equal

between paleaceous and bristly - - 33. SILYBUM.

bristly

Scales of involucrum acute - - 34. SERRATULA.

Scales of involucrum spiny or torn

Paleæ jagged - - - - 35. CENTAUREA.

Paleæ bristly - - - - 36. CARDUUS.

III. CICHORACEÆ

Pappus 0	-	-	-	-	-	39. LAPSANA.
Pappus sessile,						
scaly in the ray, setaceous in disk	-	-	-	-	-	49. THRINCIA.
alike in both ray and disk ;						
in two rows,						
scaly	-	-	-	-	-	52. CICHORIUM.
rather feathery						
Fruit wrinkled	-	-	-	-	-	44. PICRIS.
Fruit smooth	-	-	-	-	-	50. APARGIA.
in one row,						
feathery with a dilated base	-	-	-	-	-	51. QPORINA.
hair-like	-	-	-	-	-	45. HIERACIUM.
in many rows,						
Fruit truncate at point	-	-	-	-	-	37. SONCHUS.
Fruit sharp-pointed	-	-	-	-	-	42. CREPIS.
Pappus stalked,						
in two rows,						
that of the ray nearly sessile,	-	-	-	-	-	46. HYPOCHÆRIS.
alike in both ray and disk ;						
Fruit smooth	-	-	-	-	-	47. ACHYROPHORUS.
Fruit wrinkled	-	-	-	-	-	40. LEONTODON.
in many rows,						
feathery,						
all alike,	-	-	-	-	-	43. HELMINTHIA.
in part naked	-	-	-	-	-	48. TRAGOPOGON.
hair-like						
Fruit smooth, thin	-	-	-	-	-	38. LACTUCA.
Fruit wrinkled and taper	-	-	-	-	-	41. BARKHAUSIA.

Tribe 1. *Corymbiferae* Juss.

1. EUPATORIUM Linn.

Involucrum cylindrical ; scales imbricated, oval-oblong. *Florets* few, all tubular, hermaphrodite. *Receptacle* naked. *Pappus* pilose. *Dec.*

1. *E. cannabinum* Linn. Hemp-agrimony. E. B. 6. 428.
Leaves in 3, or 5, deep, lanceolate segments ; the middle one longest. *Smith.*

In watery boggy places. — Perennial. *July, August.*

2. CHRYSOCOMA Linn.

Involucrum imbricated, hemispherical, or ovate ; scales linear. *Florets* all hermaphrodite, tubular. *Pappus* hairy, ciliated. *Receptacle* excavated. *Dec.*

1. *Ch. Linosyris* Linn. Goldylocks. E. B. 35. 2505.
Herbaceous. Leaves linear, smooth. *Involucrum* loosely spreading. On rocky cliffs, on the southern sea-coast. — Perennial. *August, September.*

3. CONYZA. Linn.

Involucrum roundish, imbricated. *Florets* all tubular ; in the centre 5-toothed, hermaphrodite, in the ray barren, slender, 3-toothed. *Receptacle* naked. *Pappus* hairy, ciliated. *Dec.*

1. *C. squarrosa* Linn. Plowman's Spikenard. E. B. 17. 1195.
Leaves ovate-lanceolate, downy, crenate. Stem herbaceous, corymbose. Scales of *involucrum* leafy, recurved. In chalky or limestone countries. — Biennial. *July, August.*

4. *INULA* Linn.

Involucrum imbricated ; outer scales terminated by a leafy appendage. *Flowers* radiant, with the ray yellow. *Receptacle* naked. *Pappus* hairy, simple.

1. *I. Helenium* Linn. Elecampane. E. B. 22. 1546.

Leaves ovate, rugged, clasping the stem ; downy beneath.

Corvisartia Helenium Mérat.

In moist meadows and pastures. — Perennial. *July, August.*

5. *LIMBARDA* Cassini.

Involucrum imbricated ; scales without any appendage. *Flowers* radiant, with the ray yellow. *Receptacle* naked. *Pappus* hairy, simple.

1. *L. tricuspis* Cassini. Golden Samphire. E. B. 1. 68.

Leaves linear, fleshy, partly 3-pointed. *Involucrum* smooth.

Inula crithmoides Linn.

I. crithmifolia Linn.

On the sea-coast in the south. — Perennial. *August.*

6. *PULICARIA* Cassini.

Involucrum imbricated. *Flowers* radiant, with the ray yellow. *Receptacle* naked. *Pappus* double ; the outer membranous.

1. *P. dysenterica* Cassini. E. B. 16. 1115.

Leaves oblong, downy, clasping the stem with their heart-shaped base. Stem woolly, paniced. Scales of *involucrum* bristle-shaped, hairy.

Inula dysenterica Linn.

In ditches. — Perennial. *August.*

2. *P. vulgaris* Cassini. E. B. 17. 1196.

Leaves clasping the stem, wavy. Stem much branched, hairy.

Heads hemispherical ; radius scarcely longer than the disk.

Inula pulicaria Linn.

I. uliginosa Sibth.

I. cylindrica Withering.

On damp commons. — Annual. *September*

7. *ASTER* Linn.

Involucrum imbricated ; scales linear, acute. *Flowers* radiant ; of the ray female, in a single row, oblong, not yellow. *Pappus* hairy. *Receptacle* naked.

1. *A. Tripolium* Linn. Sea Star-wort. E. B. 2. 87.

Herbaceous, corymbose. Leaves lanceolate, entire, fleshy, smooth, obscurely 3-ribbed. Scales of *involucrum* obtuse, somewhat membranous.

On the muddy sea-coast. — Perennial. *August, September.*

8. *ERIGERON* Linn.

Involucrum oblong, imbricated ; scales linear, acute, very numerous.

Flowers radiant ; of the ray female, very narrow and numerous, in a double row, not yellow. *Pappus* hairy. *Receptacle* naked.

1. *E. canadense* Linn. E. B. 29. 2019.
Stem hairy, paniced, many-headed. Leaves lanceolate; lower ones toothed. *Smith*.
In cultivated, as well as waste ground. — Annual. *August, September*.
2. *E. acre* Linn. E. B. 17. 1158.
Stem racemose. Stalks mostly single-headed. Leaves lanceolate or tongue-shaped, sessile. Radius erect, scarcely taller than the pappus.
In dry gravelly or chalky pastures. — Biennial. *July, August*; sometimes early in the spring.
3. *E. alpinum* Linn. E. B. 7. 464.
Stem mostly single-headed. Involucrum hairy. Radius spreading, twice the length of the pappus.
- β. *uniflorum*. E. B. 34. 2416.
Stem single-headed. Involucrum woolly. Radius erect, twice the length of the pappus.
E. uniflorum Linn.
On the mountains of Scotland. — Perennial. *July*.

9. SOLIDAGO Linn.

Involucrum imbricated. *Flowers* radiant; of the ray yellow, about 5. *Receptacle* naked. *Pappus* hairy. *Dec*.

1. *S. Virgaurea* Linn. Golden-rod. E. B. 5. 301.
Stem slightly zigzag, angular. Clusters downy, paniced, crowded, erect. Leaves partly serrated. *Smith*.
In groves and mountains. — Perennial. *July—September*.
2. *S. cambrica* Hudson.
Stem simple, downy. Leaves wedge-shaped, lanceolate, serrated, slightly hairy. Racemes erect. Rays long. *Hort. Kew*.
On mountains. — Perennial. *July—September*.

10. ANTENNARIA Gærtn.

Involucrum imbricated, hemispherical; *scales* scarious, coloured. *Flowers* diœcious. *Florets* all tubular. *Males*: *Anthers* with 2 bristles at the base. *Stigmata* truncate. *Pappus* filiform or clavate. *Females*: *Florets* filiform, with a minute limb. *Pappus* capillary.

1. *A. margaritacea* Gærtn. E. B. 29. 2018.
Leaves linear-lanceolate, acute, loosely cottony on the upper side; densely underneath. Stem branched in the upper part. Panicles corymbose, level-topped.
Gnaphalium margaritaceum Linn.
In moist meadows. — Perennial. *August*.
2. *A. dioica* Gærtn. E. B. 4. 267.
Shoots procumbent. Stem unbranched. Corymb simple, terminal.
Gnaphalium dioicum Linn.
In dry mountainous pastures. — Perennial. *June, July*.

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11. GNAPHALIUM Linn.

Involucrum imbricated; *scales* scarious, unequal, blunt, coloured, con-

nivent at top, and of equal height with the truncate head. *Florets* filiform, tubular; female in the circumference, hermaphrodite in the disk. *Receptacle* flat, naked. *Pappus* capillary, deciduous.

1. *G. luteo-album* Linn. E. B. 14. 1002.
Leaves half stem-clasping, linear, oblong, wavy, woolly on both sides; lower ones blunt. Heads densely tufted.
In dry sandy ground in the south. — Annual. *July, August.*
2. *G. sylvaticum* Linn. E. B. 13. 913.
Stem simple, erect. Spike leafy, somewhat compound. Leaves lanceolate, tapering at the base, cottony on both sides. *Smith.*
On the Highland mountains of Scotland. — Perennial. *August.*
3. *G. rectum* Smith. E. B. 2. 124.
Stem erect, paniced, many-headed, leafy. Leaves linear-lanceolate, naked on the upper side, silky beneath.
In groves, thickets, and pastures. — Perennial. *August.*
4. *G. supinum* Linn. E. B. 17. 1193.
Stem recumbent, quite simple, with a simple cluster of very few heads. Leaves linear-lanceolate, somewhat cottony on both sides.
G. fuscum Scopoli.
G. alpinum Lightfoot.
On the summits of Highland mountains. — Perennial. *July*
5. *G. uliginosum* Linn. E. B. 17. 1194.
Stem much branched, spreading. Leaves linear-lanceolate, cottony on both sides. Heads in dense terminal tufts.
In sandy watery places. — Annual. *August.*

12. FILAGO Linn.

Involucrum imbricated; scales equal, acuminate, scarious, discoloured, longer than the few-flowered head. *Florets* filiform, tubular; female in the circumference, hermaphrodite in the disk. *Receptacle* conical, toothed, tuberculated, or paleaceous.

1. *F. gallica* Linn. E. B. 33. 2369.
Stem erect, branched. Leaves linear, revolute, acute. Heads awl-shaped, axillary, tufted.
Gnaphalium gallicum Hudson.
Logfia subulata Cassini.
In gravelly corn-fields, but very rare. Annual. *July, August.*
2. *F. minima* E. B. 17. 1157.
Stem erect, branched. Leaves lanceolate, acute, flat. Heads conical, in lateral and terminal tufts.
Gnaphalium minimum Smith.
G. montanum Hudson.
Logfia brevifolia Cassini.
In barren, sandy, and gravelly ground. — Annual. *July.*
3. *F. germanica* Linn. Cudweed. E. B. 14. 946.
Stem erect, proliferous. Leaves lanceolate. Heads globose, many-flowered, lateral as well as terminal. Scales of *involucrum* bristle-pointed.

Gnaphalium germanicum Hudson.

Gifola vulgaris Cassini.

In fields and waste ground. — Annual. *July, August.*

13. *SENECIO* Linn.

Involucrum with bracteolæ at the base ; the scales scorched at the apex. *Flowers* either flosculous or radiant. *Receptacle* naked. *Pappus* soft, hairy. *Dec.*

1. *S. vulgaris* Linn. Groundsel, or Simpson. E. B. 11. 747.
Heads dispersed, without rays. Leaves pinnatifid, toothed, obtuse, smoothish ; clasping at the base.
Everywhere. — Annual. *At all seasons.*
2. *S. viscosus* Linn. E. B. 1. 32.
Rays revolute. Leaves pinnatifid, viscid. Bracteolæ lax, almost as long as the involucrum. Stem with many spreading branches.
In waste ground, on a chalky or sandy soil. — Annual. *July—October.*
3. *S. lividus* Linn. E. B. 35. 2515.
Rays revolute. Leaves clasping the stem, lanceolate, pinnatifid and toothed. Bracteolæ short, with sharp, not discoloured points.
On barren heaths, and newly-enclosed moorland. — Annual. *September, October.*
4. *S. sylvaticus* Linn. E. B. 11. 748.
Rays revolute. Leaves sessile, pinnatifid, lobed and toothed. Bracteolæ short, with bluntish discoloured tips.
In bushy heathy places. — Annual. *July.*
5. *S. squalidus* Linn. E. B. 9. 600.
Rays spreading, elliptical, entire. Leaves smooth, pinnatifid, with distant, and somewhat linear, segments. *Smith.*
S. chrysanthemifolius Bivona.
On walls at Oxford ; a doubtful native. — Annual. *June—October.*
6. *S. tenuifolius* Jacq. E. B. 8. 574.
Rays spreading, oblong. Leaves pinnatifid, somewhat revolute ; paler and shaggy beneath. Stem erect, loosely cottony. *Smith.*
S. erucifolius Hudson.
In woods, hedges, and by road sides. — Perennial. *July, August.*
7. *S. Jacobæa* Linn. Ragwort. E. B. 16. 1130.
Rays spreading, oblong, toothed. Leaves doubly pinnatifid, somewhat lyrate, with spreading, toothed, smooth segments. Stem erect. Fruit of the disk silky.
By road sides, very common. — Perennial. *July, August.*
8. *S. aquaticus* Hudson. E. B. 16. 1131.
Rays spreading, elliptic-oblong. Leaves lyrate, serrated ; the lowermost obovate and undivided. Fruit all smooth.
In marshes and watery places. — Perennial. *July, August.*
9. *S. paludosus* Linn. Bird's-tongue. E. B. 10. 650.
Rays spreading, toothed. Heads corymbose. Leaves lanceolate,

tapering, sharply serrated, somewhat cottony beneath. Stem perfectly straight, hollow.

In the ditches and fens of the east part of England. — Perennial. *June, July.*

10. *S. saracenicus* Linn.

E. B. 31. 2211.

Rays spreading, nearly entire. Heads corymbose. Leaves lanceolate, serrated, minutely downy. Stem solid.

In moist meadows and pastures, rare. — Perennial. *July, August.*

14. *DORONICUM* Linn.

Involucrum equal, with the scales in a double row. *Flowers* radiant; those of the ray female. *Pappus* of the flosculous florets simple, of the radiant florets none. *Receptacle* naked. *Dec.*

1. *D. Pardalianches* Linn. Leopard's-bane.

E. B. 9. 630.

Leaves heart-shaped, toothed; radical ones stalked; the rest clasping the stem. *Smith.*

In mountainous pastures or meadows. — Perennial. *May.*

S.

15. *TUSSILAGO* Linn.

Involucrum simple; the scales membranous at the margin. *Florets* either flosculous or radiant; either all hermaphrodite, or hermaphrodite in the centre, female in the ray. *Receptacle* naked. *Pappus* hairy. *Dec.*

1. *T. Farfara* Linn. Colt's-foot.

E. B. 6. 429.

Stalks single-headed, clothed with scaly bractæas. *Flowers* radiant. Leaves heart-shaped, angular and toothed.

In moist shady situations. — Perennial. *March, April.*

2. *T. Pelasites* Linn. Butter-bur.

E. B. 6. 431.

Panicle dense, ovate-oblong. *Flowers* flosculous. Leaves heart-shaped, unequally toothed, 3-ribbed at the base. *Smith.*

β. fœmina Willd.

E. B. 6. 430.

Stamens abortive.

Tussilago hybrida Linn.

In moist boggy meadows. — Perennial. *April.*

16. *CINERARIA* Linn.

Involucrum simple, many-leaved, equal. *Flowers* radiant. *Receptacle* naked. *Pappus* hairy. *Dec.*

1. *C. palustris* Linn. Marsh Flea-wort.

E. B. 3. 151.

Heads corymbose. Leaves broadly lanceolate, toothed or sinuated. Stem shaggy, leafy, hollow.

Othonna palustris Linn.

In ditches and pools. — Perennial. *June, July.*

2. *C. campestris* Retz.

E. B. 3. 152.

Heads simply and imperfectly umbellate, with several lanceolate bractæas. Radical leaves elliptical, obscurely toothed; the rest lanceolate; all shaggy. Stem unbranched.

C. integrifolia Jacq.

C. alpina Hudson.

On chalky downs. — Perennial. May, June.

17. *BELLIS* Linn.

Involucrum hemispherical, many-leaved, simple; scales lanceolate.
Flowers radiant. *Receptacle* naked, conical. *Pappus* 0.

1. *B. perennis* Linn. Daisy. E. B. 6. 424.

Root creeping. Scapes radical, naked.

In pastures and meadows everywhere. — Perennial. March—November.

18. *CHRYSANTHEMUM* Linn.

Involucrum hemispherical, imbricated; scales scarious at the margin.
Flowers radiant. *Receptacle* naked. *Pappus* none, or a short membrane.

* *Rays* white.

1. *Ch. Leucanthemum* Linn. Great White Ox-eye. Moon Daisy.

E. B. 9. 601.

Leaves clasping the stem, oblong, obtuse, cut; pinnatifid at the base; radical ones obovate, stalked. *Smith*.

In fields and by way sides. — Perennial. June, July.

2. *C. Parthenium* Smith. Feverfew. E. B. 18. 1231.

Leaves stalked, compound, flat; leaflets ovate, cut; the uppermost confluent. Flower-stalks corymbose. Stem erect. Rays shorter than the diameter of the disk. *Smith*.

Pyrethrum Parthenium *Smith*.

Matricaria Parthenium Linn.

In waste ground. — Biennial. June, July.

8. *C. inodorum* Linn. Mayweed. E. B. 10. 676.

Leaves sessile, pinnate, in numerous, capillary, pointed segments.

Stem branched, spreading. *Pappus* entire.

Pyrethrum inodorum *Smith*.

Matricaria inodora Linn.

In fields and by way sides. — Annual. August, September.

4. *C. maritimum* Smith. E. B. 14. 979.

Leaves sessile, doubly pinnate, fleshy, pointless; convex above; keeled beneath. *Pappus* lobed. Stems diffuse.

Pyrethrum maritimum *Smith*.

On the sea-coast. — Perennial. July, August.

** *Rays* yellow.

5. *Ch. segetum* Linn. Yellow Ox-eye. Corn Marigold.

E. B. 8. 540.

Leaves clasping the stem, glaucous; jagged upwards; toothed at the base. *Smith*.

In fields. — Annual. June—August.

19. *MATRICARIA* Linn.

Involucrum hemispherical, imbricated; scales obtuse. *Flowers* radiant.
Receptacle naked, conical. *Pappus* 0.

1. *M. Chamomilla* Linn. E. B. 18. 1232.
 Leaves smooth, pinnate; leaflets linear, simple, or divided. Rays spreading. Scales of involucre dilated, bluntish.
 In cultivated and waste ground. — Annual. *May—July*.

20. ARTEMISIA Linn.

Involucre ovate or round, imbricated. *Florets* all tubular; of the disk hermaphrodite, 5-toothed; of the ray slender, less numerous, entire, female. *Receptacle* naked or hairy. *Pappus* 0.

1. *A. campestris* Linn. E. B. 5. 338.
 Leaves in many linear segments. Stems procumbent before flowering, wand-like. *Smith*.
Oligosporus campestris Cassini.
 On dry open sandy heaths, rare. — Perennial. *August*.
2. *A. maritima* Linn.
 Leaves downy, pinnatifid; uppermost undivided. Heads drooping, oblong, downy, sessile. *Receptacle* naked.
 On the sea-shore. — Perennial. *August*.
3. *A. gallica* Willd. E. B. 24. 1706. and 14. 1001.
 Leaves downy, pinnatifid; radical ones capillary; uppermost undivided. Heads erect, oblong, downy, partly stalked, of few florets. *Receptacle* naked.
 About the banks of rivers. — Perennial. *August*.
4. *A. Absinthium* Linn. Wormwood. E. B. 18. 1230.
 Leaves in many deep segments, clothed with close silky down. Heads drooping, hemispherical. *Receptacle* hairy.
 In waste ground. — Perennial. *August*.
5. *A. vulgaris* Linn. Mugwort. E. B. 14. 978.
 Leaves pinnatifid, flat, cut; downy beneath. Clusters simple. Heads ovate. *Receptacle* naked.
 About hedges, and in the borders of fields. — Perennial. *August*.
6. *A. cærulescens* Linn. E. B. 34. 2426.
 Leaves hoary; most of them lanceolate, undivided, tapering at the base; lower ones variously divided. Heads erect, cylindrical. *Receptacle* naked.
 On the sea-coast; a very doubtful native. — Perennial. *August, September*.

21. TANACETUM Linn.

Involucre hemispherical, imbricated. *Florets* all tubular; of the disk hermaphrodite, 5-lobed; of the ray female, 3-lobed. *Receptacle* naked. *Pappus* membranous, entire.

1. *T. vulgare* Linn. Tansy. E. B. 18. 1229.
 Leaves doubly pinnatifid, deeply serrated, naked. *Smith*.
 In hedges, and by road sides. — Perennial. *July, August*.

22. DIOTIS Desfontaines.

Involucre hemispherical, imbricated. *Florets* all tubular, hermaphrodite, 5-toothed, contracted in the middle, auricled or saccate on

each side at the base. *Receptacle* convex, paleaceous. *Pappus* none ; in its place the fruit is crowned by the persistent lower 2-eared half of the corolla.

1. *D. maritima* Desf. Cotton-weed. E. B. 2. 141.
Santolina maritima Linn.
Athanasia maritima Linn.
 On the sandy sea-coast. — Perennial. *August, September.*

23. MARUTA Cassini.

Involucrum hemispherical ; scales nearly equal, scarious at the margin, imbricated. *Flowers* radiant ; of the disk neuter ; of the ray female. *Receptacle* paleaceous in the disk, naked towards the edges. *Pappus* none.

1. *M. fœtida* Cassini. E. B. 25. 1772.
 Leaves doubly pinnatifid, slightly hairy, fetid, covered with resinous dots.
Anthemis cotula Linn.
 In waste ground. — Annual. *June, July*

24. ANTHEMIS Linn.

Involucrum hemispherical ; scales nearly equal, scarious at the margin, imbricated. *Flowers* radiant ; of the disk hermaphrodite ; of the ray lanceolate, female. *Receptacle* conical, paleaceous. *Pappus* a membrane.

* *Rays white.*

1. *A. maritima* Linn. E. B. 33. 2370.
 Leaves doubly pinnatifid, acute, fleshy, dotted, somewhat hairy.
 Stem prostrate. Paleæ prominent, sharp-pointed.
 On the sea-coast. — Annual. *July.*
2. *A. nobilis* Linn. E. B. 14. 980.
 Leaves doubly pinnate, semicylindrical, acute, a little downy. Stem procumbent. Paleæ membranous, obtuse, shorter than the florets.
 On open pastures or commons. — Perennial. *August, September.*
3. *A. arvensis* Linn. E. B. 9. 602.
Receptacle conical ; paleæ lanceolate, acute, keeled, prominent.
 Leaves doubly pinnatifid, hairy ; segments parallel. *Pappus* a quadrangular border.
 In cultivated fields. — Annual or biennial. *June, July.*

** *Rays yellow like the disk.*

4. *A. tinctoria* Linn. E. B. 21. 1472.
 Leaves doubly pinnatifid, serrated ; downy beneath. Stem corymbose, erect. *Pappus* membranous, undivided.
 In stony mountainous places. — Biennial ? *July, August.*

25. ACHILLEA Linn.

Involucrum ovate, imbricated. *Flowers* radiant ; of the disk hermaphrodite, of the ray short, female, and few. *Receptacle* narrow, flat, paleaceous. *Pappus* 0.

* *Flowers white.*

1. *A. Ptarmica* Linn. Sneezewort. Goose-tongue. E. B. 11. 757.
Leaves linear, pointed, equally and sharply serrated, smooth. *Smith*.
In wet hedges and thickets, or about the banks of rivers. — Perennial. *July, August*.
2. *A. serrata* Retz. E. B. 36. 2531.
Leaves linear-lanceolate, sessile, downy, deeply serrated; lacinated at the base. Heads almost simply corymbose.
In mountainous limestone countries. — Perennial. *August*.
3. *A. Millefolium* Linn. Yarrow, or Milfoil. E. B. 11. 758.
Leaves doubly pinnatifid, hairy; segments linear, toothed, pointed. Stem furrowed. *Smith*.
In meadows and pastures. — Perennial. *June—August*.

** *Flowers yellow.*

4. *A. tomentosa* Linn. E. B. 36. 2532.
Leaves doubly pinnatifid, woolly; segments crowded, linear, acute. Corymbs repeatedly compound. *Smith*.
In dry hilly pastures in Scotland and Ireland. — Perennial. *July, August*.

26. *XANTHIUM* Linn.

Monœcious. — Male. *Involucrum* many-leaved, many-flowered. *Florets* all tubular. *Receptacle* paleaceous. — Female. *Involucrum* 1-leaved, prickly, containing 2 florets. *Fruit* enclosed in the hard indurated *involucrum*.

1. *X. strumarium* Linn. Bur-weed. E. B. 36. 2544.
Prickles none. Leaves heart-shaped; 3-ribbed at the base. *Smith*.
In rich moist ground in the south of England. — Annual. *August, September*.

27. *BIDENS* Linn.

Involucrum with bracteolæ at the base; outer scales longer than the rest, and spreading. *Flowers* mostly floscular; florets all hermaphrodite, or if ligulate in the ray, then female, or hermaphrodite. *Receptacle* flat, paleaceous. *Pappus* from 2 to 5 persistent awns.

1. *B. tripartita* Linn. Bur-marigold. E. B. 16. 1113.
Leaves in 3 segments. Bracteas unequal. Bristles of the pappus 2 or 3, erect.
In watery places. — Annual. *August, September*.
2. *B. cernua* Linn. E. B. 16. 1114.
Leaves lanceolate, serrated. Heads drooping. Bracteas nearly equal, entire. Bristles of the pappus about 4, erect.
β. *radiata*
Flowers radiant.
Coreopsis *Bidens* Linn.
γ. *minima*
Bidens minima Linn.
In ditches and ponds. γ. in dry places. — Annual. *September*.

Tribe ii. *Cynarocephalæ* Juss.

28. ONOPORDUM Linn.

Involucrum imbricated; scales pungent. *Receptacle* excavated like honey-comb. *Fruit* compressed, 4-cornered, furrowed transversely. *Pappus* hairy, deciduous; its hairs connected in a ring at the base.

1. *O. Acanthium* Linn. Cotton-thistle. E. B. 14. 977.
Scales of *involucrum* awl-shaped, spreading in every direction.
Leaves ovate-oblong, sinuated, woolly on both sides.
On banks, and by road sides. — Biennial. July, August.

29. SAUSSUREA Dec.

Involucrum imbricated; scales unarmed. *Florets* all hermaphrodite. *Receptacle* paleaceous. *Pappus* in 2 rows, hairy; the outer hairs short, with minute notches; the inner long and feathery. Dec.

1. *S. alpina* Dec. E. B. 9. 599.
Leaves undivided, distantly toothed; cottony beneath. *Involucrum* ovate, finely downy.
Serratula alpina Linn.
In the fissures of alpine rocks. — Perennial. July, August.

30. CNICUS Linn.

Involucrum ovate, imbricated; scales spiny at the points. *Florets* all hermaphrodite. *Style* equal, simple. *Receptacle* paleaceous; paleæ split into bristle-shaped segments. *Pappus* feathery; hairs collected into a ring at the base.

* *Leaves decurrent. Stem winged.*

1. *C. lanceolatus* Willd. E. B. 2. 107.
Leaves decurrent, pinnatifid, hispid, with variously-spreading spinous lobes. *Involucrum* ovate, shaggy. Stem furrowed, hairy.
Cirsium lanceolatum Scopoli.
Eriolepis lanceolata Cassini.
Carduus lanceolatus Linn.
In waste ground. — Biennial. June—September.
2. *C. palustris* Willd. E. B. 14. 974.
Leaves decurrent, pinnatifid, toothed, spinous, rough. Heads aggregate. *Involucrum* ovate, minutely spinous, nearly smooth.
Cirsium palustre Scopoli.
Onotrophe palustris Cassini.
Carduus palustris Linn.
In meadows. — Biennial. July, August.

** *Leaves sessile, or partially decurrent. Stem not winged.*

3. *C. arvensis* Smith. E. B. 14. 975.
Leaves sessile, pinnatifid, spinous, nearly smooth. Stem panicled, solid. Involucrum ovate; outer scales spinous. Root creeping, tuberous.
Cirsium arvense Lam.
Carduus arvensis Curtis.
 In fields and by way sides. — Perennial. *July.*
4. *C. Forsteri* Smith.
Leaves slightly decurrent, pinnatifid, spinous; downy beneath. Stem panicled, hollow. Involucrum ovate, rather cottony; outer scales spinous.
 Near Frant, Sussex, two miles from Tonbridge Wells. — Perennial. *July, August.*
5. *C. eriophorus* Willd. E. B. 6. 386.
Leaves sessile, pinnatifid, with 2-ranked spinous segments; bristly above. Involucrum globular, densely woolly, leafy at the base.
Cirsium eriophorum Scopoli.
Eriolepis lanigera Cassini.
Carduus eriophorus Linn.
 In waste mountainous ground. — Biennial. *August.*
6. *C. tuberosus* Willd. E. B. 36. 2562.
Leaves deeply pinnatifid, lobed, fringed with prickles; lower ones on long stalks. Stem almost single-headed, without wings or prickles. Scales of involucrum minutely spinous, nearly smooth. Root creeping, tuberous.
Cirsium bulbosum Dec.
Carduus tuberosus Linn.
 In thickets on the downs of Wiltshire. — Perennial. *August.*
7. *C. heterophyllum* Willd. E. B. 10. 675.
Leaves clasping the stem, fringed; undivided or pinnatifid; very smooth above; densely cottony beneath. Stem downy, almost single-headed.
Cirsium heterophyllum Dec.
Carduus heterophyllum Linn.
C. helenioides Hudson.
 In moist mountain pastures. — Perennial. *July, August.*
8. *C. pratensis* Willd. E. B. 3. 177.
Leaves lanceolate, wavy or lobed, fringed with prickles; loosely cottony beneath. Stem downy, slightly leafy, single-headed. Involucrum cottony, with tapering sharp scales.
Cirsium pratense Dec.
Carduus pratensis Hudson.
C. dissectus Villars.
 In wet pastures and meadows. — Perennial. *June.*
9. *C. acaulis* Willd. E. B. 3. 161.
Stalks radical, single-headed, shorter than the smooth involucrum.
Cirsium acaule Allioni.
Onotrophe acaulis Cassini.

Carduus acaulis Linn.

In pastures and meadows. — Perennial. *July, August.*

31. *CARLINA* Linn.

Involucrum imbricated; the outer scales sinuated, spiny, spreading at the points; the inner generally simple and acute; the innermost much longer, scarious, ligulate, coloured, and resembling radiant florets. *Receptacle* paleaceous; paleæ split into bristle-like segments. *Pappus* feathery. *Dec.*

1. *C. vulgaris* Linn.

Stem corymbose, many-headed. Heads terminal. Outer scales of *involucrum* pinnatifid; inner whitish.

In dry sandy heathy pastures. — Biennial. *June.*

32. *LAPPA* Tournef.

Involucrum imbricated; scales ending in a soft spine hooked at the end. *Receptacle* paleaceous. *Pappus* short, persistent, with rigid, unequal hairs. *Dec.*

1. *L. glabra* Lam.

E. B. 18. 1228.

Involucrum in fruit smooth. Leaves wavy.

Arctium Lappa Linn.

In waste ground. — Biennial. *July, August.*

2. *L. tomentosa* Allioni.

E. B. 35. 2478.

Involucrum in fruit cottony. Leaves even.

Arctium Bardana Willd.

In waste ground. — Biennial. *July, August.*

33. *SILYBUM* Vaillant.

Involucrum imbricated; scales leafy at the base, closely pressing upon each other, spreading and spiny at the points. *Receptacle* paleaceous. *Pappus* between hairy and paleaceous, deciduous; the hairs connected in a ring at the base.

1. *S. marianum* Gærtn. Milk Thistle.

E. B. 14. 976.

Leaves wavy, spinous, clasping the stem; radical ones pinnatifid.

Scales of *involucrum* leafy, recurved, channelled.

Carduus marianus Linn.

On ditches, common. — Annual. *June, July.*

34. *SERRATULA* Linn.

Diœcious. *Involucrum* imbricated; scales unarmed, acute. *Receptacle* paleaceous; the paleæ split into numerous linear bristles. *Pappus* persistent, with rigid unequal hairs.

1. *S. tinctoria* Linn. Saw-wort.

E. B. 1. 38.

Leaves with copious bristly serratures, pinnatifid, somewhat lyrate; terminal lobe largest.

In groves and pastures. — Perennial. *July, August.*

35. *CENTAUREA* Linn.

Involucrum imbricated; scales leafy, scarious, or spiny in various ways. *Florets* of the disk hermaphrodite; of the ray neuter and larger than the others. *Receptacle* paleaceous; paleæ jagged. *Fruit* inserted obliquely at the base. *Pappus* hairy.

* *Scales of involucre jagged or fringed.* (Cyanus).

1. *C. Jacea* Linn. E. B. 24. 1678.
Scales of involucre membranous, torn; lower ones pinnatifid.
Leaves linear-lanceolate; radical ones elliptic-lanceolate, toothed.
Flowers radiant.
In meadows and groves. — Perennial. *August, September.*
2. *C. nigra* Linn. Knapweed. E. B. 4. 278.
Scales of involucre oval, fringed with upright capillary teeth.
Lower leaves somewhat lyrate, with angular lobes; upper ones ovate. Flowers discoid.
In pastures, and by road sides. — Perennial. *June—August.*
3. *C. Cyanus* Linn. Blue-bottle. E. B. 4. 277.
Scales of involucre serrated. Leaves linear-lanceolate, entire; lower ones toothed towards their base.
In corn-fields. — Annual. *July, August.*
4. *C. Scabiosa* Linn. E. B. 1. 56.
Scales of involucre ovate, fringed, somewhat downy. Leaves pinnatifid; segments lanceolate, roughish, partly toothed.
In corn-fields, and by way sides. — Perennial. *July, August.*
- ** *Scales of involucre palmate or pinnate, and spinous.* (Calcitrapa).
5. *C. Isnardi* Linn. E. B. 32. 2256.
Scales of involucre with palmate spines. Leaves toothed, somewhat lyrate, roughish, slightly clasping the stem. Heads terminal, solitary; leafy at the base.
In pastures in the isle of Jersey. — Perennial. *July, August.*
6. *C. Calcitrapa* Linn. Star-thistle. E. B. 2. 125.
Heads lateral, sessile. Scales of involucre doubly spinous. Leaves pinnatifid, toothed. Stem hairy, widely spreading.
In waste ground near the sea. — Annual. *July, August.*
7. *C. solstitialis* Linn. St. Barnaby's Thistle. E. B. 4. 243.
Heads terminal, solitary. Scales of involucre doubly spinous.
Stem winged, from the decurrent, lanceolate, unarmed leaves; radical leaves lyrate.
In cultivated fields, and about hedges. — Annual. *July—September.*

36. CARDUUS Linn.

Involucre imbricated; scales simple, spiny at the points. *Receptacle* paleaceous; the paleæ split into numerous linear bristles. *Pappus* deciduous, hairy; the hairs collected into a ring at the base. *Dec.*

1. *C. nutans* Linn. Musk Thistle. E. B. 16. 1112.
Leaves interruptedly decurrent, spinous. Heads solitary, drooping.
Scales of involucre lanceolate; their upper part spreading.
In waste ground and dry pastures. — Annual. *July, August.*
2. *C. acanthoides* Linn. E. B. 14. 973.
Leaves decurrent, sinuated, very spinous. Heads aggregate, somewhat stalked. Involucre globose; scales linear, partly recurved.

Carduus crispus Hudson.

C. polyacanthos Curtis.

About hedges and in waste ground. — Annual. *June, July.*

3. *C. tenuiflorus* Curtis.

E. B. 6. 412.

Leaves decurrent, sinuated, spinous. Heads aggregate, sessile.
Involucrum nearly cylindrical; scales ovate at the base, somewhat recurved at the point.

Carduus acanthoides Hudson.

In dry sandy ground. — Annual. *June, July.*

Tribe iii. *Cichoraceæ* Juss.

Florets all ligulate and hermaphrodite. Receptacle scarcely fleshy. — Sap generally milky.

37. *SONCHUS* Linn.

Involucrum oblong, imbricated, ovate at the base. *Receptacle* naked.

Fruit striated longitudinally. *Pappus* short, sessile, hairy. *Dec.*

1. *S. alpinus* Willd.

E. B. 34. 2425.

Peduncles and involucrum bristly, racemose. Leaves somewhat lyrate; their terminal lobe triangular and very large.

S. cæruleus Smith.

S. canadensis Linn.

On Loch-na-gore, Aberdeenshire, and on the Clova mountains. — Perennial *July, August.*

2. *S. palustris* Linn.

E. B. 13. 935.

Peduncles and involucrum bristly, somewhat umbellate. Leaves runcinate, rough-edged; arrow-shaped at the base.

In marshes near the banks of rivers. — Perennial. *July, August.*

3. *S. arvensis* Linn.

E. B. 10. 674.

Peduncles and involucrum bristly, somewhat umbellate. Leaves runcinate, finely toothed, heart-shaped at the base. Root creeping.

In corn-fields and hedges, on a clayey soil. — Perennial. *August.*

4. *S. oleraceus* Linn. Sow-thistle.

E. B. 12. 843.

Peduncles cottony. Involucrum smooth. Leaves runcinate, toothed. Everywhere. — Annual. *July—September.*

5.

38. *LACTUCA* Linn.

Involucrum oblong, imbricated; scales membranous at the margin.

Receptacle naked. *Pappus* stipitate, hairy, soft, fugacious. *Dec.*

1. *L. virosa* Linn.

E. B. 28. 1957.

Leaves horizontal, finely toothed; the keel prickly. *Smith.*

About hedges, old walls, and the borders of fields. — Biennial. *August, September.*

2. *L. Scariola* Linn.

E. B. 4. 268.

Leaves perpendicular, sinuated, finely toothed; the keel prickly. *Smith.*

L. sylvestris Lam.

In waste ground, and dry stony borders of fields. — Biennial. *August.*

3. *L. saligna* Linn. E. B. 10. 707.
 Leaves linear, hastate or pinnatifid, entire, sessile; the keel prickly.
Smith.
 In chalky waste ground, or about salt marshes. — Biennial. *August.*
1. *L. muralis* Lam. E. B. 7. 457.
 Leaves lyrate, pinnatifid, toothed; their terminal lobe with 5 angles.
 Scales 5 or 6. *Stipes* of the pappus shorter than the seed. *Dec.*
Prenanthes muralis Linn.
Mycelis angulosa Cassini.
Chondrilla muralis Lam.
 On old walls. — Perennial. *July.*

39. LAPSANA Linn.

- Involucrum* with external bracteolæ; scales linear-lanceolate. *Receptacle* naked. *Fruit* quickly deciduous, not enveloped in the scales of the involucre. *Pappus* 0.
1. *L. communis* Linn. Nipple-wort. E. B. 12. 844.
Involucrum of the fruit angular. Stem branched, paniced, leafy.
 Leaves ovate, stalked, toothed. Peduncles cylindrical, even.
 In waste ground. — Annual. *June, July.*
2. *L. pusilla* Willd. Swine's succory. E. B. 2. 95.
 Peduncles radical, leafless, subdivided; swelling and tubular at the summit. Leaves obovate, rough-edged, toothed.
L. minima Lam.
Arnoseris pusilla Gærtn.
Hyoseris minima Linn.
 In gravelly fields. — Annual. *June.*

40. LEONTODON Linn.

- Involucrum* with short external spreading bracteolæ; not ribbed when in fruit. *Receptacle* naked. *Pappus* stipitate, hairy. — Scapes always single-flowered.
1. *L. Taraxacum* Linn. Dandelion. E. B. 8. 510.
 Outer involucre reflexed, leaves runcinate, smooth: their segments lanceolate, toothed; fruit testaceous, with squarrose scaly points near the beak. *Rchb.*
Taraxacum Dens Leonis Desf.
T. officinale Sibth.
Leontodon officinalis Withering.
 In meadows, pastures, waste and cultivated ground, everywhere. — Perennial. *April—July.*
2. *L. palustre* Smith. E. B. 8. 553.
 Outer involucre erect and close-pressed; scales ovate-acuminate, scarious at the edge; leaves linear-lanceolate, sinuate-toothed, nearly smooth; fruit testaceous, obovate, with squarrose scales near the beak. *Rchb.*
Taraxacum palustre Dec.
Hedypnois paludosa Scopoli.
L. taraxacum var. *Bentham.*
 In low boggy meadows. — Perennial. *June, July.*

41. BARKHAUSIA *Mæench.*

Involucrum with external bracteolæ; when in fruit ribbed and furrowed; outer scales lax. *Receptacle* naked. *Pappus* hairy, stipitate. *Dec.*

1. *B. fœtida* *Dec.*

E. B. 6. 406.

Leaves hairy, pinnatifid, with reversed teeth; on toothed footstalks.

Stem hairy. *Involucrum* downy.

Crepis fœtida *Linn.*

On dry chalky ground. — Biennial. *June, July.*

42. CREPIS *Linn.*

Involucrum lax, with external bracteolæ; when in fruit usually ribbed. *Receptacle* naked. *Pappus* hairy, sessile, snowy white. *Dec.*

1. *C. virens* *Linn.*

E. B. 16. 1111.

Radical leaves runcinate; the rest clasping, lanceolate, and toothed.

Stem smooth. *Involucrum* rough. *Pappus* sessile.

Hedypnois tectorum *Hudson.* *C. tectorum* *Smith.*

In dry pasture and waste grounds, on cottage roofs, old walls, and banks. — Annual. *June—September.*

2. *C. biennis* *Linn.*

E. B. 3. 149.

Leaves pinnatifid, runcinate, rough; their lobes toothed in front.

Involucrum somewhat bristly and downy.

Hedypnois biennis *Hudson.*

In chalky pastures. — Biennial. *June, July.*

3. *C. pulchra* *Linn.*

E. B. 33. 2325.

Leaves downy, toothed, radical ones oblong-obovate, the rest arrow-headed; panicle corymbose spreading.

Prenanthes hieracifolia *Willd.*

Lapsana chondrilloides *Linn.*

Crepis pulchra *Linn.*

Prenanthes pulchra *Dec.*

Phæcasium lampsanoides *Cassini.*

Amongst crumbling rocks on the hill of Turin, near Forfar. — Annual. *June—September.*

S.

43. HELMINTHIA *Juss.*

Involucrum of 8 equal scales, surrounded by 5 leafy lax bracteæ. *Fruit* transversely striated. *Pappus* feathery, stipitate.

1. *H. echioides* *Gærtn.*

E. B. 14. 972.

Bracteolæ broad, ovate-cordate, somewhat spiny.

Picris echioides *Linn.*

About hedges and the borders of fields. — Annual. *June, July.*

44. PICRIS *Linn.*

Involucrum with small, linear-lanceolate, external bracteolæ. *Fruit* transversely striated. *Pappus* feathery, sessile, or nearly so.

1. *P. hieracioides* *Linn.*

E. B. 3. 196.

Leaves lanceolate, wavy; radical ones toothed. Stem rough.

Hedypnois hieracioides *Hudson.*

On dry banks, or in the borders of fields. — Biennial. *July, August.*

45. *HIERACIUM* Linn.

Involucrum imbricated. *Receptacle* naked, or with a few short hairs.
Pappus hairy, sessile, generally dirty brown. *Dec.*

• *Stalk radical, naked, single-headed.*

1. *H. alpinum* Linn. E. B. 16. 1110.
 Leaves oblong, undivided, somewhat toothed. Stalk almost leafless, single-headed. *Involucrum* shaggy.
 On dry rocky mountains, in Wales and Scotland. — Perennial. *July.*
2. *H. Pilosella* Linn. Mouse-ear Hawkweed. E. B. 16. 1093.
 Leaves elliptical, entire; cottony beneath. Runners creeping. Stalks single-headed, naked.
 In dry open pastures, and on banks, park walls, cottage roofs, &c., common. — Perennial. *May — July.*
 ** *Stalk radical, naked, many-headed.*
3. *H. dubium* Linn. E. B. 33. 2332.
 Leaves elliptic-lanceolate, obtuse, nearly entire, besprinkled with coarse hairs; rather glaucous beneath. Runners creeping, elongated. Stalk nearly smooth, loosely corymbose. *Involucrum* bristly.
 On mountains, in rather moist situations. — Perennial. *July.*
4. *H. Auricula* Linn. E. B. 33. 2368.
 Leaves lanceolate, acute, nearly entire, coarsely hairy; green on both sides. Runners scarcely so long as the leaves. Stalk downy and hairy, corymbose. *Involucrum* shaggy.
 On Dalehead, not far from Grass-mere, Westmoreland, but sparingly. *Hudson* — Perennial. *July.*
5. *H. aurantiacum* Linn. E. B. 21. 1469.
 Leaves elliptical, acute, entire. Stalk almost leafless, hairy, densely corymbose, many-headed. *Involucrum* shaggy.
 In rather mountainous woods. — Perennial. *June, July.*
 *** *Stem leafy.*
6. *H. murorum* Linn. E. B. 29. 2082.
 Stem corymbose, with a solitary leaf. Leaves ovate-heart-shaped, wavy, with radiating teeth chiefly at the base. *Smith.*
 On rocks and old walls. — Perennial. *July.*
7. *H. maculatum* Smith. E. B. 20. 2121.
 Stem cymose, many-leaved, tubular. Leaves ovate-lanceolate, strongly toothed; teeth pointing forward. *Smith.*
 On the mountains of Wales, Westmoreland, and Scotland. — Perennial. *June — September.*
8. *H. sylvaticum* Smith. E. B. 29. 2031.
 Stem simply racemose, many-leaved, solid. Leaves ovate-lanceolate, toothed chiefly about the base; teeth pointing forward. *Smith.*
 In dry chalky woods, and on dry banks, or especially old park walls, frequent. — Perennial. *June, July.*
9. *H. pulmonarium* Smith. E. B. 33. 2307.
 Stem somewhat corymbose, solid, slightly leafy. Leaves lanceolate,

deeply and unequally toothed throughout ; teeth pointing forward.
Smith.

H. pulmonarioides Villars.

On rocks about rivers in Scotland. — Perennial. *July.*

10. *H. Lawsoni Villars.* E. B. 29. 2083.

Stem remotely and simply branched, solid, slightly leafy. Radical leaves stalked, elliptic-lanceolate, decurrent, glaucous, fringed, nearly entire. *Smith.*

On the mountains of Westmoreland, Craven, and Scotland. — Perennial. *July.*

11. *H. paludosum Linn.* E. B. 16. 1094.

Stem angular, tubular, leafy, smooth, corymbose. Leaves smooth, toothed, clasping the stem with their heart-shaped base. Calyx hairy.

In watery shady places in Wales, the north of England, and lowlands of Scotland. — Perennial. *July.*

- S.** 12. *H. molle Jacq.* E. B. 31. 2210.

Stem angular, tubular, leafy, downy, corymbose. Leaves lanceolate, slightly toothed, hairy, clasping the stem; lower ones stalked, elliptical and obtuse. *Smith.*

In woods in the south of Scotland. — Perennial. *July, August.*

13. *H. cerinthoides Linn.* E. B. 34. 2378.

Stem solid, leafy, corymbose, somewhat angular. Leaves hairy, slightly toothed; the uppermost ovate, pointed, clasping; radical ones elliptic-oblong, with shaggy fringed footstalks. *Smith.*

On rocks in the Highlands of Scotland. — Perennial. *August.*

14. *H. amplexicaule Linn.* E. B. Supp. 2690.

Covered all over with glandular hairs. Stem terminating in a corymb. Leaves toothed; radical ones oblong-ovate, stalked; of the stem heart-shaped, clasping at the base.

Walls in the north of Scotland. — Perennial. *August.*

15. *H. Halleri Villars.* E. B. 34. 2379.

Stem erect, with 1 or 2 heads, slightly leafy, very shaggy. Involucre with long loose black hairs. Leaves spatulate, finely toothed, obtuse, with long straggling hairs.

H. pumilum Willd.

H. villosum Sm.

H. hybridum Vill.

On the Clova mountains. — Perennial. *July, August.*

16. *H. sabaudum Linn.* E. B. 6. 349.

Stem erect, copiously leafy, many-headed. Leaves ovate-lanceolate, sharply toothed, rough-edged, somewhat clasping; hairy beneath.

In coppices, groves, and thickets, frequent. — Perennial. *August, September.*

17. *H. denticulatum Smith.* E. B. 30. 2122.

Stem erect, leafy, solid, many-headed, cymose, with downy glandular stalks. Leaves sessile, elliptic-lanceolate, finely toothed, smoothish; glaucous beneath.

H. prenanthoides Fl. Brit.

In woods in the south of Scotland — Perennial. *July, August.*

18. *H. prenanthoides* Villars.

E. B. 32. 2235.

Stem erect, leafy, solid, many-headed, corymbose, with downy glandular stalks. Leaves somewhat toothed, clasping, rough near the edge; glaucous beneath; upper ones heart-shaped.

H. spicatum Allioni.

In woods and thickets in the south of Scotland. *J. Mackay*. — Perennial August.

19. *H. umbellatum* Linn.

E. B. 25. 1771.

Stem erect, leafy, almost solid, imperfectly umbellate. Leaves scattered, linear, slightly toothed, nearly smooth, as well as involucre.

In groves, gravelly thickets, and shady rocky situations. — Perennial. August, September.

46. *HYPOCHÆRIS* Linn. CAT'S-EAR.

Involucrum oblong, imbricated. *Receptacle* paleaceous. *Pappus* stipitate, nearly sessile in the disk, in two rows, of which the outer is setaceous and short, the inner feathery.

H. glabra Linn.

E. B. 8. 575.

Nearly smooth. *Involucrum* oblong, regularly imbricated. Stems branched, somewhat leafy. Leaves toothed or sinuated.

On heaths and gravelly ground. — Annual. June—August.

47. *ACHYROPHORUS* Scop.

Involucre oblong, imbricated. *Receptacle* paleaceous. *Pappus* stipitate, both in ray and disk; the outer row setaceous and short, the inner feathery.

1. *A. maculatus* Scop.

E. B. 4. 225.

Stem solitary, nearly naked, mostly simple. Leaves ovate-oblong, undivided, toothed. *Smith*.

Hypochæris maculata Linn.

In open high chalky pastures. — Perennial. July.

2. *A. radicans* Scop.

E. B. 12. 831.

Leaves runcinate, bluntish, rough. Stems branched, naked, smooth.

Peduncles scaly. *Pappus* of all the seeds stalked.

Hypochæris radicata Linn.

In pastures and waste ground, everywhere. — Perennial. July, August.

48. *TRAGOPOGON* Linn. GOAT'S-BEARD.

Involucrum simple, of 8 or 10 connected scales. *Receptacle* naked. *Fruit* striated longitudinally. *Pappus* feathery, with a slender stipes. *Dec*.

1. *T. pratensis* Linn.

E. B. 7. 434.

Involucrum about equal to the florets. Leaves keeled, tapering; dilated and somewhat undulated at the base. Peduncle cylindrical.

In grassy pastures and meadows. — Biennial. June.

T. porrifolius Linn.

E. B. 9. 638.

Involucrum half as long again as the florets. Leaves tapering, straight. Peduncle swelling upwards.

In moist meadows. — Biennial. May, June.

49. THRINCIA Roth.

Involucrum imbricated. *Receptacle* excavated like honeycomb. *Pappus* of the disk sessile, feathery, and unequal; of the ray almost abortive.

1. *T. hirta* Roth. E. B. 8. 554.
 Leaves toothed, rough. *Involucrum* nearly smooth.
Hedypnois hirta Fl. Brit.
Apargia hirta Hoffm.
Leontodon hirtum Linn.
 On gravelly heaths and commons. — Perennial. July, August.

50. APARGIA Schreb.

Involucrum imbricated. *Receptacle* excavated like honeycomb. *Pappus* feathery, sessile in two rows, rather feathery, thread-shaped. *Fruit* smooth.

1. *A. hispida* Willd. E. B. 8. 554.
 Stalks naked, single-headed. Leaves runcinate, rough. Florets hairy at their orifice; glandular at the tip. Fruit scarcely beaked.
Leontodon hispidum Linn.
Hedypnois hispida Smith.
 In pastures. — Perennial. July.
2. *A. Taraxaci* Willd. E. B. 16. 1109.
 Stalks mostly single-headed; tumid and hairy at the summit. Leaves smooth, runcinate. *Involucrum* shaggy.
Leontodon montanum Lam.
Hieracium Taraxaci Linn.
Hedypnois Taraxaci Vill.
Picris Taraxaci Allion.
 On the Highland mountains of Scotland and Wales. — Perennial. August.

51. OPORINA Don.

Involucrum imbricated. *Receptacle* naked. *Fruit* taper, wrinkled transversely, narrowed into a short beak. *Pappus* in one row, feathery, manifestly dilated at the base.

1. *O. autumnalis* Don. E. B. 12. 830.
 Common stalk branched; partial ones scaly. Leaves lanceolate, toothed, or pinnatifid, nearly smooth. Smith.
Leontodon autumnale Linn.
Hedypnois autumnalis Hudson.
Apargia autumnalis Willd.
 In meadows and pastures. — Perennial. August.

52. CICHORIUM Linn.

Involucrum of 8 scales, united at the base, and surrounded by 5 external bractæ. *Receptacle* naked, or rather hairy. *Pappus* sessile, scaly, shorter than the fruit. Dec.

1. *C. Intybus* Linn. Wild Succory. E. B. 8. 539.
 Heads in pairs, each nearly sessile. Leaves runcinate.
 About the borders and ridges of fields. — Perennial. July, August.

1. *P. officinalis* Linn. Lungwort. E. B. 2. 118.
Leaves ovate. *Smith*.
In woods and thickets. — Perennial. *May*.

2. *P. angustifolia* Linn. E. B. 23. 1628.
Leaves lanceolate. *Smith*.
In woods and thickets, rare. — Perennial. *May, June*.

3. LITHOSPERMUM Linn.

Calyx 5-parted. *Corolla* small, 5-lobed, funnel-shaped. *Anthers* oblong, included in the throat of the corolla. *Stigma* obtuse, bifid. *Nuts* shining, even, or wrinkled. *Dec*.

1. *L. officinale* Linn. Common Gromwell. Grey Mill. E. B. 2. 134.
Nuts even. *Corolla* not much longer than the calyx. *Leaves* lanceolate, rather acute, with lateral transverse ribs.
In dry situations, amongst rubbish. — Perennial. *May*.

2. *L. arvense* Linn. Bastard Alkanet. E. B. 2. 123.
Nuts wrinkled. *Corolla* not much longer than the calyx. *Leaves* obtuse, without lateral ribs.
In corn-fields and waste ground. — Annual. *May, June*.

3. *L. purpureo-cæruleum* Linn. E. B. 2. 117.
Nuts even. *Corolla* much longer than the calyx. *Leaves* lanceolate, acute, without lateral ribs. *Barren* stems prostrate.
In dry situations, amongst rubbish. — Perennial. *May*.

4. *L. maritimum* Lehm. E. B. 6. 368.
Nuts keeled, even. *Leaves* ovate, glaucous, besprinkled with callos points. *Stems* all procumbent.
Pulmonaria maritima Linn.
On the sea-shore. — Perennial. *July, August*.

4. SYMPHYTUM Linn.

Calyx 5-cleft. *Corolla* cylindrical, campanulate; tube very short; limb ventricose, with 5 short lobes. *Scales* of the orifice subulate, converging.

1. *S. officinale* Linn. Comfrey. E. B. 12. 817.
Leaves ovate-lanceolate, decurrent, finely hairy. *Smith*.

β. patens. Flowers purple.

S. patens Sibth.

In watery meadows. — Perennial. *May, June*.

2. *S. tuberosum* Linn. E. B. 21. 1502.
Leaves ovate, slightly decurrent, rather harsh; upper ones opposite. *Smith*.
In moist shady places in the north. — Perennial. *July*.

5. BORAGO Linn.

Calyx 5-parted. *Corolla* rotate, 5-cleft, usually spreading. *Scales* of the orifice obtuse, emarginate. *Nuts* wrinkled.

1. *B. officinalis* Linn. Borage. E. B. 1. 36.
Limb of the corolla flat, much longer than the tube; mouth with

double row of valves; the innermost awl-shaped, bearing the stamens. *Smith.*

In waste ground by road sides. — Biennial. *June, July.*

6. LYCOPSISIS *Linn.*

Calyx 5-cleft. *Corolla* funnel-shaped, 5-lobed; limb nearly erect; tube incurved. *Scales* of the orifice ovate, prominent, converging. *Stigma* emarginate. *Nuts* sculptured at the base. *Dec.*

1. *L. arvensis* *Linn.* Bugloss. E. B. 14. 938.

Leaves lanceolate, wavy, somewhat toothed, very bristly. Stalks of the flowers and fruit erect. Limb of the corolla slightly unequal. *Smith.*

Anchusa arvensis *Lehm.*

In fields, waste ground, and on dry banks. — Annual. *June.*

ANCHUSA *Linn.*

Calyx 5-cleft. *Corolla* funnel-shaped, 5-lobed; the limb erect; the lobes entire. The other characters of *Lycopsis*. *Dec.*

1. *A. officinalis* *Linn.* Alkanet. E. B. 10. 662.

Spikes imbricated, unilateral. Bractees ovate, as long as the calyx. Leaves lanceolate. *Smith.*

In waste ground near the sea. — Perennial. *June, July.*

2. *A. sempervirens* *Linn.* E. B. 1. 45.

Flower-stalks axillary, each bearing 2 dense spikes, with an intermediate flower, and 2 principal ovate bractees. Leaves ovate. *Smith.*

In waste ground. — Perennial. *May, June.*

S.

8. ASPERUGO *Linn.*

Calyx 5-cleft, unequal, with intermediate teeth. *Corolla* with a short tube, and a 5-lobed limb. *Scales* of the orifice convex, converging. *Nuts* covered by the doubled, compressed calyx.

1. *A. procumbens* *Linn.* German Madwort. E. B. 80. 661.

In rich waste ground. — Annual. *June, July.*

9. MYOSOTIS *Linn.*

Calyx 5-cleft, or 5-toothed. *Corolla* hypocrateriform, with a short tube; limb flat, with 5 emarginate lobes. *Scales* of the orifice convex, converging. *Nuts* smooth.

1. *M. palustris* *Roth.* E. B. 28. 1973.

Nuts smooth. Leaves and calyx roughish, with close bristles. Clusters leafless. *Calyx* funnel-shaped, with short broad spreading teeth. Limb of the corolla horizontal, longer than the tube. Root creeping. *Smith.*

M. scorpioides *Willd.*

In rivulets and ditches. — Perennial. *June—August.*

2. *M. cæspitosa* *Schulz.* E. B. Supp. 2661.

Nuts smooth. Leaves and calyx besprinkled with erect bristles. Clusters leafy at the base. *Calyx* funnel-shaped, with broad

spreading teeth. Limb of the corolla the length of the tube.
Root fibrous. *Smith.*

In watery places. — Perennial, or biennial. *May, June.*

3. *M. intermedia* Link. — *arvensis* Hoffm. E. B. Supp. 2629.

Nuts smooth. Leaves hairy. Clusters leafless. Tube of the calyx clothed with hooked bristles; segments with straight upright hairs. Root creeping. Stems decumbent. *Smith.*

In dry shady places. — Perennial. *April, May.*

4. *M. sylvatica* Lehm. E. B. Supp. 2630.

Nuts smooth. Leaves hairy. Clusters with a leaf at the base. Tube of the calyx clothed with hooked bristles; segments with straight upright hairs. Root fibrous. Stems erect. *Smith.*

In woods and dry shady places. — Perennial. *June, July.*

5. *M. alpestris* Lehm. E. B. 36. 2559.

Nuts smooth. Leaves hairy, radical ones but half the length of their footstalks. Clusters forked at the base, leafless. Calyx deeply 5-cleft, clothed with upright hairs; the lowermost incurved. Root fibrous, tufted.

M. alpina Don.

M. rupicola *Smith.*

On the mountains of Scotland. — Perennial. *July, August.*

6. *M. arvensis* Roth. — *collina* Hoffm. E. B. 36. 2558.

Nuts smooth. Leaves hairy. Clusters stalked, with 1 remote axillary flower. Calyx half-5-cleft, clothed with spreading hairs; those of the tube hooked. Root fibrous. *Smith.*

M. annua *Mœnch.*

In dry shady places. — Annual. *June—August.*

7. *M. versicolor* Lehm. E. B. 36. 2558.

Nuts smooth. Leaves hairy. Clusters on long, naked stalks. Calyx longer than the partial stalks; hairs of its tube hooked. Root fibrous. *Smith.*

In dry sandy fields, as well as in moist meadows. — Annual. *April—June.*

S.

10. CYNOGLOSSUM Linn.

Calyx 5-parted. *Corolla* short, funnel-shaped, 5-lobed. *Scales* of the orifice convex, converging. *Stigma* emarginate. *Nuts* depressed.

1. *C. officinale* Linn. Hound's-tongue. E. B. 13. 921.

Stamens shorter than the corolla. Stem-leaves broadly lanceolate, downy, sessile. Flowers without bracteas. *Smith.*

In waste ground, and by road sides. — Biennial. *June, July.*

2. *C. sylvaticum* Hænke. E. B. 23. 1642.

Stamens shorter than the corolla. Leaves lanceolate, somewhat spatulate; the upper ones clasping the stem; all smooth and shining above; hairy and warty beneath. Flowers without bracteas. *Smith.*

In shady situations, rare. — Biennial. *June.*

Order 49. CONVOLVULACEÆ *Juss.*

Calyx persistent, in 5 divisions.

Corolla monopetalous, hypogynous, regular, deciduous; the limb 5-lobed, generally plaited.

Stamens 5, inserted into the base of the corolla, and alternate with its segments.

Ovarium simple, with 2 or 4 cells, seldom with 1; sometimes in 2 or 4 divisions, few-seeded; the ovules definite and erect; *style* 1, usually divided at the top, sometimes down to the base; *stigmas* obtuse or acute.

Disk annular, hypogynous.

Capsule with from 1 to 4 cells; the valves fitting to the angles of a loose dissepiment, bearing the seeds at its base; sometimes valveless or dehiscing transversely.

Seeds with a small quantity of mucilaginous albumen; *embryo* curved; *cotyledons* shrivelled; *radicle* inferior.

Herbaceous plants or *shrubs*, usually twining and milky, smooth, or with a simple pubescence. *Leaves* alternate, undivided, or lobed, seldom pinnatifid, with no stipulæ. *Inflorescence* axillary or terminal; peduncles 1- or many-flowered; the partial ones generally with 2 bractæ. *R. Br.*

1. CONVOLVULUS *Linn.* BINDWEED.

Calyx 5-parted, naked, or with 2 small bractæ at the base. *Corolla* campanulate, with 5 plaits. *Stamens* shorter than the limb. *Ovarium* 2-celled, rarely 3-celled; cells 2-seeded. *Style* undivided. *Stigmas* 2, filiform. *Capsule* valvular. *R. Br.*

1. *C. arvensis* *Linn.*

E. B. 5. 312.

Leaves arrow-shaped, acute at each end. Stalks mostly single-flowered.

In hedges, fields, and gardens, very common; an almost unconquerable weed, especially on a gravelly soil. — Perennial. *June, July.*

2. CALYSTEGIA *R. Br.*

Calyx 5-parted, inclosed in 2 foliaceous bractæ. *Corolla* campanulate, with 5 plaits. *Stamens* nearly equal, shorter than the limb. *Ovarium* half 2-celled, 4-seeded. *Style* undivided. *Stigmata* 2, obtuse (taper or round). *Capsule* 1-celled. *R. Br.*

1. *C. sepium*

E. B. 5. 313.

Leaves arrow-shaped, abrupt at the posterior lobes. Stalks square, single-flowered.

Convolvulus sepium *Linn.*

In moist hedges. — Perennial. *July, August.*

2. *C. Soldanella.*

E. B. 5. 314.

Leaves kidney-shaped, somewhat angular. Stalks single-flowered, their angles membranous. Stems procumbent. *Smith.*

Convolvulus Soldanella Linn.

On the sandy sea-shore. — Perennial. *June, July.*

3. *CUSCUTA* Linn. DODDER.

Calyx 4- or 5-cleft. *Corolla* roundish, urceolate; limb 4- or 5-cleft, with as many scales at the base. *Stamens* 4 or 5. *Ovarium* 2 cells, each with 2 seeds. *Stigmata* 2. *Capsule* dehiscent transversely. *Embryo* without cotyledons. — Parasitical twining leafless plants, with thread-like stems.

1. *C. europæa* Linn.

E. B. 6. 378.

Flowers nearly sessile. *Corolla* with reflexed segments.

C. major Dec.

On thistles, and other annual or biennial herbs. — Annual. *August, September.*

2. *C. Epithymum* Linn.

E. B. 6. 378. b.

Flowers sessile. *Corolla* with erect segments.

C. minor Dec.

On common, and other small shrubby plants. — Perennial? *August.*

S.

Order 50. POLEMONIACEÆ Juss.

Calyx inferior, monosepalous, 5-parted, persistent, sometimes irregular. *Corolla* regular, 5-lobed.

Stamens 5, inserted into the middle of the tube of the corolla, and alternate with its segments.

Ovarium superior, 3-celled, with a few ovula; *style* simple; *stigma* trifid.

Capsule 3-celled, 3-valved, few-seeded, with a loculicidal dehiscence; the valves separating from the axis.

Seeds angular or oval, often enveloped in mucus; *embryo* straight in the axis of horny albumen; *radicle* inferior; *cotyledons* elliptical, foliaceous.

Herbaceous plants, with opposite, or occasionally alternate, compound, or simple leaves.

1. *POLEMONIUM* Linn.

Calyx 5-cleft. *Corolla* rotate, with a short tube; limb 5-lobed. *Filaments* broadest at the base; *anthers* incumbent. *Dec.*

1. *P. cæruleum* Linn. Jacob's Ladder. Greek Valerian.

E. B. 1. 14.

Leaves pinnate. Flowers erect. Root fibrous. *Smith.*

In bushy places, in the north of England, and south of Scotland. — Perennial. *June.*

Order 51. PLANTAGINEÆ *Juss.*

Flowers usually hermaphrodite, seldom unisexual.

Calyx 4-parted, persistent.

Corolla monopetalous, hypogynous, scarious, with a 4-parted limb.

Stamens 4, inserted into the corolla, alternately with its segments; *filaments* filiform, doubled inwards in æstivation; *anthers* versatile, 2-celled.

Ovary sessile, 2-, very seldom 4-celled; *ovula* peltate or erect, solitary, twin, or indefinite; *style* simple, subulate; *stigma* hispid, simple.

Capsule membranous, dehiscing transversely.

Seeds sessile, peltate, or erect, solitary, twin, or indefinite; *testa* mucilaginous; *embryo* in the axis of fleshy albumen; *radicle* inferior; *plumula* inconspicuous.

Herbaceous plants, usually stemless, occasionally with a stem; *hair* simple, articulated. *Leaves* flat and ribbed, or taper and fleshy. *Flowers* in spikes, rarely solitary.

1. PLANTAGO *Linn.*

Flowers hermaphrodite. *Capsule* with 2 or 4 cells, and 2 or several seeds.

1. *P. major* *Linn.* Greater Plantain. E. B. 22. 1558.
Leaves ovate, smoothish, somewhat toothed, on longish foot-stalks.
Flower-stalks round. Spike tapering. Seeds numerous. *Smith.*
In meadows and cultivated ground. — Perennial. *All summer.*

2. *P. media* *Linn.* E. B. 22. 1559.
Leaves ovate, downy, with very short foot-stalks. Flower-stalks round. Spike cylindrical. Seeds solitary. *Smith.*
In dry pastures. — Perennial. *June—August.*

3. *P. lanceolata* *Linn.* E. B. 8. 507.
Leaves lanceolate, entire, tapering at each end, woolly at the base.
Flower-stalks angular. Spike ovate. *Smith.*
In meadows and pastures. — Perennial. *June, July.*

4. *P. maritima* *Linn.* E. B. 3. 175.
Leaves linear, channelled, nearly entire. Flower-stalks round, longer than the leaves. Spike cylindrical. *Smith.*
In muddy salt marshes. — Perennial. *August, September.*

5. *P. Coronopus* *Linn.* Star of the Earth. E. B. 13. 892.
Leaves in many pinnate linear segments. Flower-stalks round. *Smith.*
In dry, sandy, or gravelly ground. — Annual. *June—August.*

2. LITTORELLA *Linn.*

Monœcious. Males. *Flowers* 4-parted. *Stamens* hypogynous. *Fe-*

males. *Flowers* sessile. *Calyx* 3-parted. *Corolla* urceolate, contracted at the orifice, with obsolete toothings. *Ovarium* 1-seeded.

1. *L. lacustris* Linn. Plantain Shore-weed. E. B. 7. 468.
In watery sandy places, especially about the margins of lakes and pools. — Perennial. *June*.

Order 52. PLUMBAGINEÆ Juss.

Calyx tubular, plaited, persistent.

Corolla monopetalous or 5-petalous, regular.

Stamens definite; in the monopetalous species hypogynous! in the polypetalous inserted on the petals!

Ovarium single, 1-seeded; *ovulum* inverted, pendulous from the point of an umbilical cord arising from the bottom of the cavity; *styles* 5! seldom 3 or 4; *stigmas* the same number.

Pericarpium a nearly indehiscent utriculus.

Seed inverted; *testa* simple; *embryo* straight; *radicle* superior.

Herbaceous plants or *under-shrubs*, variable in appearance. *Leaves* alternate or clustered, undivided, somewhat sheathing at the base.

Flowers in spikes or heads. *R. Br.*

1. ARMERIA Dec.

Calyx scarious, plaited, entire. *Corolla* monopetalous or pentapetalous.

Stamens 5, inserted on the lobes of the corolla. *Styles* 5. *Fruit* indehiscent. *Flowers* capitate, in solitary heads, surrounded by a common imbricated scarious involucre. *Leaves* radical, tufted.

1. *A. maritima* Willd. Common Thrift. Sea Gilliflower.
E. B. 4. 226.

Leaves linear, flat, obtuse. *Scape* twice or 4 times as long as the leaves. *Scales* of the involucre scarious, obovate, very obtuse, shorter than the flowers. *Calyx* hairy at the base, with 5 sharp teeth, shorter than the corolla.

Statice Armeria Linn.

S. linearifolia Laterr.

On the sea-coast. — Perennial. *July, August*.

S.

2. STATICE Linn.

Flowers in loose panicles, arranged on one side of the branches in long rows, surrounded by scarious scales. Otherwise the same as *Armeria*.

1. *S. Limonium* Linn. Sea Lavender. E. B. 2. 102.
Stalks round. *Spikes* level-topped. *Leaves* elliptic-oblong, single-ribbed, smooth, with a nearly terminal bristle. *Smith*.
On muddy sea-shores. — Perennial. *July, August*.

1. *S. reticulata* Linn.

E. B. 5. 328.

Stalks prostrate, zigzag, dotted; lower branches barren. Leaves wedge-shaped, rather acute, without points. *Smuh.*

On muddy sea-shores. — Perennial. *July, August.*

S.

Order 53. OLEACEÆ *Hoffmannsegg & Link.*

Flowers hermaphrodite, sometimes diœcious.

Calyx monophyllous, divided, persistent, inferior.

Corolla hypogynous, monopetalous, 4-cleft, occasionally of 4 petals, connected in pairs by the intervention of the filaments, sometimes without petals; *æstivation* somewhat valvate.

Stamens 2, alternate with the segments of the corolla or the petals; *anthers* 2-celled, opening longitudinally.

Ovary simple, without any hypogynous disk, 2-celled; the cells 2-seeded; the *ovules* pendulous and collateral. *Style* 1 or 0. *Stigma* bifid or undivided.

Fruit drupaceous, berried, or capsular; often by abortion 1-seeded.

Seeds with dense, fleshy, abundant albumen; *embryo* straight; *cotyledons* foliaceous, partly asunder; *radicle* superior; *plumula* inconspicuous.

Trees or *shrubs*. *Leaves* opposite, simple, seldom pinnated. *Flowers* in terminal or axillary racemes or panicles; the *pedicels* opposite, with single bractæ. *R. Br.*

1. LIGUSTRUM Linn.

Calyx very small, 4-toothed. *Corolla* with a short tube; *limb* 4-cleft spreading. *Berry* 1-celled, with from 2 to 4 seeds. *Dec.*

1. *L. vulgare* Linn. Common Privet.

E. B. 11. 764.

Leaves elliptic-lanceolate, obtuse, with a small point. *Smith.*

In thickets and hedges. — Shrub. *May, June.*

2. FRAXINUS Linn.

Calyx and *corolla* none. *Samara* pendulous, with 1 seed.

1. *F. excelsior* Linn. Common Ash.

E. B. 24. 1692.

Leaflets serrated. *Flowers* without calyx or corolla. *Smith.*

In woods and hedges. — Tree. *April, May.*

2. *F. heterophylla* Vahl.

E. B. 35. 2476.

Leaves both simple and compound, with tooth-like serratures. *Smith.*

F. simplicifolia Willd.

In woods, rare. — Tree. *April, May.*

Order 54. ERICEÆ *Juss.*

Calyx monophyllous, 4- or 5-cleft, nearly equal, inferior, persistent.

Corolla hypogynous, monopetalous, 4- or 5-cleft, occasionally separable into 4 or 5 petals, regular, often withering, with an imbricated æstivation.

Stamens definite, equal in number to the segments of the corolla, or twice as many, hypogynous, or inserted into the base of the corolla; *anthers* 2-celled; the cells hard and dry, separate either at the apex or base, where they are furnished with some kind of appendage, and dehiscing by a pore or a cleft.

Ovarium surrounded at the base by a disk or secreting scales, many-celled, many-seeded. *Style* 1, straight. *Stigma* 1, undivided, or toothed.

Fruit capsular, many-celled, with central placentæ; dehiscence various.

Seeds indefinite, minute; *testa* firmly adhering to the nucleus; *embryo* cylindrical, in the axis of fleshy albumen; *radicle* opposite the hilum.

Shrubs or *undershrubs*. *Leaves* evergreen, rigid, entire, whorled, or opposite, without stipulæ. *Inflorescence* variable; the pedicels generally bracteate.

ANALYSIS OF THE GENERA.

Fruit dry								
Divisions of the calyx 5								
Calyx coloured	-	-	-	-	-	-	-	1. AZALEA.
Calyx green								
Corolla 5-parted	-	-	-	-	-	-	-	2. LEDUM.
Corolla ventricose	-	-	-	-	-	-	-	3. ANDROMEDA.
Divisions of the calyx 4								
Capsule dehiscing through the dissepiments								
Calyx coloured	-	-	-	-	-	-	-	4. CALLUNA.
Calyx green	-	-	-	-	-	-	-	5. MENZIESIA.
Capsule dehiscing through the cells	-	-	-	-	-	-	-	6. ERICA.
Fruit fleshy								
Berry granular	-	-	-	-	-	-	-	7. ARBUTUS.
Berry smooth	-	-	-	-	-	-	-	8. ARCTOSTAPHYLOS.

1. AZALEA *Linn.*

Calyx 5-cleft, coloured. *Corolla* campanulate, 5-cleft. *Stamens* 5, hypogynous. *Capsule* 5-celled, many-seeded, with 5 valves dehiscing through the dissepiments.

1. *A. procumbens* *Linn.*

E. B. 13. 865.

Branches spreading and reclining. *Leaves* opposite, revolute very smooth. *Smith.*

On alpine moors. — Shrub. *July.*

2. LEDUM *Linn.*

Calyx minute, 5-toothed. *Corolla* 5-parted. *Stamens* 5 or 10, inserted

into the base of the calyx. *Capsule* 5-celled, many-seeded, with 5 valves dehiscing through the dissepiments.

1. *L. palustre* Linn.

Leaves linear, revolute at the margin, downy beneath. *Dec.*

On the north-west coast of Ireland. — Shrub. *July, August.*

3. *ANDROMEDA* Linn.

Calyx small, 5-parted. *Corolla* ovate, with a 5-cleft reflexed limb. *Stamens* 10, erect. *Capsule* 5-celled, 5-valved. *Seeds* numerous, minute.

1. *A. polifolia* Linn. Wild Rosemary. E. B. 10. 713.

Clusters terminal. Leaves alternate, lanceolate, revolute; glaucous beneath. *Smith.*

On mossy peat bogs, in the mountainous parts of England and Ireland, and the lowlands of Scotland. — Shrub. *June.*

4. *CALLUNA* Salisb.

Calyx of 4 coloured sepals, surrounded by 4 coloured bractæ. *Corolla* campanulate, 4-cleft. *Stamens* 8. *Capsule* 4-celled, the dissepiments adhering to the axis, and with 4 valves dehiscing through the dissepiments.

1. *C. vulgaris* Salisb. Common Ling. E. B. 15. 1013.

Erica vulgaris Linn.

Common on dry heaths. — Shrub. *June, July.*

5. *MENZIESIA* Smith.

Calyx 4-parted. *Corolla* ventricose, with a spreading 4- or 5-toothed limb. *Stamens* 8 or 10, inserted into the base of the corolla. *Capsule* 4-celled, many-seeded, with 4 valves dehiscing through the dissepiments.

1. *M. cærulea* Swartz. E. B. 25. 2469.

Leaves linear, obtuse, with cartilaginous teeth. Flower-stalks terminal, aggregate, simple. Flowers 5-cleft, decandrous. *Smith.*

Andromeda cærulea Linn.

A. taxifolia Pall.

Erica cærulea Willd.

On dry heathy moors in Scotland. — Shrub. *June, July.*

2. *M. polifolia* Smith. E. B. 1. 35.

Leaves ovate, revolute; downy and white beneath. Flowers 4-cleft, octandrous, in terminal leafy clusters. *Smith.*

Andromeda Daboecia Linn.

Vaccinium cantabricum Huds.

Erica Dabeoci Linn.

Menziesia Dabeoci Smith.

On mountains in the west of Ireland. — Shrub. *June, July.*

6. *ERICA* Linn. HEATH.

Calyx 4-parted. *Corolla* campanulate, often ventricose, 5-toothed. *Stamens* 8. *Capsule* with from 4 to 8 cells, and the same number of valves.

1. *E. Tetralix* Linn. E. B. 15. 1014.
Anthers horned. Style nearly concealed. Corolla ovate. Leaves fringed, 4 in a whorl. Flowers in round tufts. *Smith*.
On heathy boggy ground. — Shrub. *July, August*.
2. *E. cinerea* Linn. E. B. 15. 1015.
Anthers crested. Style a little prominent. Stigma capitate. Corolla ovate. Leaves 3 in a whorl. *Smith*.
On dry turfy heaths. — Shrub. *July—October*.
3. *E. vagans* Linn. E. B. 1. 3.
Anthers simple, deeply cloven, prominent as well as the style. Corolla bell-shaped. Leaves 4 in a whorl. Flowers on simple, crowded, axillary stalks. *Smith*.
E. multiflora Hudson.
E. didyma Withering.
On heaths in Cornwall. — Shrub. *July, August*.
4. *E. ciliaris* Linn. E. B. Supp. 2618.
Leaves 3 or 4 in a whorl, somewhat ovate, ciliated. Racemes 1-sided. Segments of the calyx lanceolate. Corolla ovate, inflated. Anthers simple, included. Style protruded. *Dec*.
Sent from a bog near Truro, by the Rev. I. S. Tozer, to *Dr. Greville*, 1828. — Shrub. *July, August*.

S.

7. ARBUTUS Linn.

Calyx small, 5-parted. *Corolla* ovate, with a small 5-cleft revolute limb. *Stamens* 10, villous at base; *anthers* with 2 pores at the tip. *Berry* granulated, 5-celled, many-seeded.

1. *A. Unedo* Linn. Common Strawberry-tree. E. B. 34. 2377.
Stem arboreous. Leaves smooth, bluntly serrated. Panicle terminal. Berry with many seeds. *Smith*.
About the lake of Killarney. — Tree. *September*.

8. ARCTOSTAPHYLOS Kunth.

Calyx small, 5-parted. *Corolla* ovate, with a small 5-cleft revolute limb. *Stamens* 10, smooth; *anthers* without pores. *Berry* smooth; seeds solitary.

1. *A. alpina* Sprengel. E. B. 29. 2030.
Stems procumbent. Leaves rugged, serrated. Clusters terminal. *Smith*.
Arbutus alpina. Linn.
On stony mountainous heaths. — Shrub. *May*.
2. *A. Uva ursi* Sprengel. E. B. 10. 714.
Stems procumbent. Leaves obovate, entire. Clusters terminal. *Smith*.
Arbutus Uva ursi Linn.
On dry stony alpine heaths. — Shrub. *June*.

Order 55. PYROLEÆ.

Calyx 5-leaved, persistent, inferior.

Corolla monopetalous, hypogynous, regular, deciduous, 4 or 5-toothed, with an imbricated æstivation.

Stamens hypogynous, twice as numerous as the divisions of the corolla; *anthers* 2-celled, opening longitudinally, and furnished with appendages at the base.

Ovary superior, 4- or 5-celled, many-seeded, with an hypogynous disk; *style* 1, straight or declinate; *stigma* simple.

Fruit capsular, 4- or 5-celled, dehiscent, with central placentæ.

Seeds indefinite, minute, winged; *embryo* minute, at one extremity of a fleshy albumen.

Herbaceous plants, rarely *undershrubs*, sometimes parasitical and leafless. *Stems* round, covered with scales; in the frutescent species leafy. *Leaves* either wanting or simple, entire or toothed. *Flowers* in terminal racemes, rarely solitary.

1. PYROLA Linn. WINTER-GREEN.

Calyx 5-cleft or 5-parted. *Petals* 5, cohering very slightly at the base. *Style* longer than the stamens. *Stamens* 10, subulate. *Capsule* 5-celled, dehiscing at the angles of the base. — Herbaceous plants, with evergreen entire leaves, rarely leafless. *Scapes* simple. *Flowers* white or pink, unilateral.

1. *P. rotundifolia* Linn. E. B. 3. 213.

Stamens ascending. *Style* twice as long, declining and recurved.

Cluster many-flowered. *Calyx* as long as the stamens. *Smith*.

In bushy places, and in dry heathy woods. — Perennial. *July, August*.

2. *P. media* Swartz. E. B. 28. 1945.

Stamens regularly inflexed. *Style* twice as long, deflexed. Cluster of many pendulous flowers. *Calyx* shorter than the stamens. *Smith*.

In woods in the north. — Perennial. *July, August*.

3. *P. minor* Linn. E. B. 36. 2543.

Stamens regularly inflexed. *Style* the same length, straight. *Stigma* 5-lobed, pointless, without a ring. Cluster of many drooping flowers. *Smith*.

P. rosea E. Bot.

In mossy woods and thickets, in mountainous situations. — Perennial. *July*.

4. *P. secunda* Linn. E. B. 8. 517.

Leaves ovate, acute, serrated. *Flowers* drooping, unilateral. Pores of the anthers dilated. *Style* straight. *Stigma* 5-lobed. *Smith*.

In mossy alpine woods. — Perennial. *July*.

5. *P. uniflora* Linn. E. B. 3. 146.

Stalk single-flowered. Pores of the anthers contracted, tubular stigma with 5 pointed rays. *Smith*.

In alpine woods. — Perennial. *July*.

2. MONOTROPA Linn.

Sepals 4 or 5, coloured. *Petals* 4 or 5, slightly cohering by the base. *Stamens* 8 or 10. *Style* simple, cylindrical. *Capsule* with 4 or 5 cells, and 4 or 5 valves, many-seeded. — Herbaceous *parasitical plants*, with *leafless scaly* stems.

1. *M. Hypopitys* Linn. Yellow Bird's-nest. E. B. 1. 69.
 Flowers in a drooping cluster; lateral ones with 8 stamens; terminal one with 10. *Smith*.
 About the roots of beeches and firs, in woods. — Perennial. *June*.

Order 56. APOCYNEÆ Juss.

Calyx divided in 5, persistent, inferior.

Corolla monopetalous, hypogynous, regular, 5-lobed, deciduous, with an imbricated æstivation.

Stamens 5, inserted upon the corolla, alternate with the segments of the limb. *Filaments* distinct. *Anthers* 2-celled, opening longitudinally. *Pollen* granular, applied immediately to the stigma.

Ovaries 2, or 1 with 2 cells, usually many-seeded; *styles* 2 or 1; *stigma* 1.

Fruit follicular, capsular, drupaceous, or berried, double or single.

Seeds usually containing *albumen*; *embryo* leafy; *plumula* inconspicuous.

Trees or *shrubs*, generally flowing with milk. *Leaves* opposite, sometimes whorled, sometimes scattered, quite entire, generally hairy; fringes or glands between the petioles. *Inflorescence* somewhat corymbose. *R. Br.*

1. VINCA Linn. PERIWINKLE.

Calyx 5-parted. *Corolla* hypocrateriform; the tube long, the orifice prominent, 5-angled, the limb flat, bluntly 5-lobed. *Anthers* converging. *Style* 1. *Stigma* capitate, with a ring at the base. *Seeds* naked. *Dec.*

1. *V. minor* Linn. E. B. 13. 917.
 Stems procumbent. Leaves elliptic-lanceolate, smooth-edged. Flowers stalked. Segments of the calyx lanceolate. *Smith*.
 In bushy places, and about hedges and banks. — Perennial. *May*.
2. *V. major* Linn. E. B. 8. 514.
 Stems ascending. Leaves ovate, fringed. Flowers stalked. Segments of the calyx bristle-shaped, elongated. *Smith*.
 In thickets and groves. — Perennial. *May*.

Order 57. GENTIANEÆ Juss.

Calyx monophyllous, divided, inferior, persistent.

Corolla monopetalous, hypogynous, usually regular, withering or deciduous; the limb divided, equal, its lobes of the same number as those of the calyx, generally 5, sometimes 4 or 8, with an imbricated æstivation.

Stamens inserted upon the corolla, equal in number to the segments, and alternate with them; some of them occasionally abortive.

Ovary single, 1- or 2-celled, many-seeded. *Styles* 1 or 2, either partially or wholly cohering. *Stigmas* 1 or 2.

Capsule, or *Berry*, many-seeded, with 1 or 2 cells, generally 2-valved; the margins of the valves turned inwards, and in the genera with 1 cell, bearing the seeds; in the 2-celled genera inserted into a central placenta.

Seeds small; *embryo* straight in the axis of soft fleshy albumen; *radicle* next the hilum.

Herbaceous plants, seldom *shrubs*, generally smooth. *Leaves* opposite, entire, without stipulæ. *Flowers* terminal or axillary. *R. Br.*

ANALYSIS OF THE GENERA.

Leaves opposite										
Stamens 4	-	-	-	-	-	-	-	-	-	1. EXACUM.
Stamens 5										
Style simple	-	-	-	-	-	-	-	-	-	2. ERYTHRÆA.
Style 2-lobed										
Corolla funnel-shaped	-	-	-	-	-	-	-	-	-	3. GENTIANA.
Corolla rotate	-	-	-	-	-	-	-	-	-	4. SWERTIA.
Stamens 8	-	-	-	-	-	-	-	-	-	5. CHLORA.
Leaves alternate										
Margin of the corolla flat	-	-	-	-	-	-	-	-	-	6. MENYANTHES.
Margin of the corolla inflexed	-	-	-	-	-	-	-	-	-	7. VILLARSIA.

1. EXACUM Linn.

Calyx 4-parted. *Corolla* 4-lobed, with a globose tube. *Stamens* 4. *Anthers* when burst remaining straight. *Style* 1. *Stigma* 2-fid. *Capsule* 2-celled. *Dec.*

1. *E. filiforme* Smith.

E. B. 4. 235.

Leaves sessile. *Stem* thread-shaped, forked. *Flowers* on long stalks. *Smith.*

Gentiana filiformis Linn.

On sandy or turfy bogs. — Annual. *July.*

2. ERYTHRÆA Rencalm.

Calyx 5-cleft. *Corolla* funnel-shaped, withering, with a short limb. *Stamens* 5. *Anthers* when burst becoming spiral. *Style* erect. *Stigmas* 2, roundish. *Capsule* linear. *R. Br.*

1. *E. Centaurium* Pers. E. B. 6. 417.
 Stem nearly simple. Panicle forked, corymbose. Leaves ovate-lanceolate. Calyx half the length of the tube ; its segments partly combined by a membrane. *Smith.*
Chironia Centaurium *Curtis.*
Gentiana Centaurium *Linn.*
 In dry gravelly pastures. — Annual. *July, August.*
 2. *E. littoralis* Hooker.
 Stem simple, straight. Leaves linear-obovate ; obscurely 3-ribbed. Flowers densely corymbose, nearly sessile. Calyx as long as the tube ; its segments combined below. *Smith.*
Chironia littoralis *Turner.*
Ch. pulchella *Don.*
 On the sandy sea-coast. — Annual. *June, July.*
 3. *E. latifolia* Smith. E. B. Supp. 2719.
 Stem 3-cleft at the top. Flowers in dense forked tufts. Calyx as long as the tube. Segments of the corolla lanceolate. Lower leaves broadly elliptical, with 5 or 7 ribs. *Smith.*
 In sandy ground near the sea, to the north of Liverpool. — Annual. *July.*
 4. *E. pulchella* Hooker. E. B. 7. 458.
 Stem forked, variously branched, or simple, winged. Flowers solitary, stalked. Calyx above half as long as the tube. Segments of the corolla lanceolate. Leaves ovate. *Smith.*
Chironia pulchella *Willd.*
Ch. ramosissima *Ehr.*
Gentiana pulchella *Swartz.*
 In sandy ground, chiefly near the sea. — Annual. *August, September.*
3. GENTIANA *Linn.*
- Calyx* 4 or 5-cleft. *Corolla* funnel-shaped, or hypocrateriform, 4 or 5-cleft, with the orifice naked. *Stamens* 5. *Stigma* 2-lobed. *Seed* not bordered. *R. Br.*
1. *G. Pneumonanthe* *Linn.* Calathian Violet. E. B. 1. 20.
Corolla bell-shaped, 5-cleft. Flowers stalked. Leaves linear. *Smith.*
 On moist turfy bogs. — Perennial. *August, September.*
 2. *G. acaulis* *Linn.* E. B. 23. 1594.
 Flower solitary, 5-cleft, bell-shaped, about as long as the quadrangular stem. *Smith.*
 On mountains ; a very doubtful native. — Perennial. *June, July.*
 3. *G. verna* *Linn.* E. B. 7. 493.
Corolla 5-cleft, salver-shaped, crenate ; segments auricled at the base. Leaves crowded, ovate. *Smith.*
 In barren mountainous situations. — Perennial. *April.*
 4. *G. nivalis* *Linn.* E. B. 13. 896.
Corolla funnel-shaped, 5-cleft, with notched intermediate segments. Angles of the calyx even, acute. Stem bearing several flowers. *Smith.*
 On the top of Ben Lawers. — Annual. *August.*

5. *G. Amarella* Linn. E. B. 4. 236.
 Corolla salver-shaped, 5-cleft; bearded in the throat. Segments of the calyx nearly equal. Stem flowering from top to bottom, with short axillary branches. *Smith*.
 In limestone and chalky pastures. — Annual. *August, September*.
6. *G. campestris* Linn. E. B. 4. 237.
 Corolla salver-shaped, 4-cleft; bearded in the throat. Two outer segments of the calyx ovate, very large. *Smith*.
 In elevated pastures towards the sea-coast. — Annual. *September, October*.

4. SWERTIA Linn.

Calyx nearly 5-parted. *Corolla* rotate, with a very short tube; the limb flat, 5-parted, each segment lanceolate, and having at the base, in the inside, a double fringed gland. *Stamens* 5, shorter than the corolla. *Capsule* 1-celled, 2-valved, with numerous seeds adhering to the margins of the valves.

1. *S. perennis* Linn. Marsh Felwort. E. B. 21. 1441.
 Flowers 5-cleft. Radical leaves ovate. *Smith*.
 Found in Wales by Dr. Richardson. *Huds*. Some mistake is to be suspected, as no person has confirmed this discovery, and so fine a plant could scarcely be overlooked. *Smith*. — Perennial. *August*.

5. CHLORA Linn.

Calyx 8-parted. *Corolla* hypocrateriform; the tube short, the limb 8-parted. *Stamens* 8, very short, inserted in the orifice. *Style* 1. *Stigma* 4-cleft. *Capsule* 1-celled.

1. *C. perfoliata* Linn. E. B. 1. 60.
 Leaves perfoliate. Panicle forked, many-flowered. *Smith*.
 On chalky hills or banks. — Annual. *July, August*.

§ *Menyantheæ*.

Leaves alternate, usually toothed or divided.

MENYANTHES Linn.

Calyx 5-parted. *Corolla* funnel-shaped; the limb spreading, 5-parted, bearded internally, with a simple margin. *Stamens* 5. *Style* 1. *Stigma* capitate, with from 2 to 5 furrows. *Glands* 5, hypogynous, alternate with the stamens. *Capsule* 1-celled, 2-valved; the valves bearing the seed in their axis. — Leaves ternate.

1. *M. trifoliata* Linn. Common Buckbean, or Bog-bean. Marsh
 Trefoil. E. B. 7. 495.
 Leaves ternate. Disk of the corolla densely shaggy. *Smith*.
 In watery meadows. — Perennial. *June, July*.

7. VILLARSIA Vent.

Calyx 5-parted. *Corolla* somewhat rotate, the limb spreading, 5-parted, smooth in the disk, bearded or scaly at the base, with an inflexed margin. *Stamens* 5, alternate with the segments. *Style* 1. *Stigma*

2-lobed; the lobes toothed. *Glands* 5, hypogynous, alternate with the stamens. *Capsule* 1-celled, 2-valved, many-seeded, (in the floating species indehiscent); the valves bearing the seeds in their axis. — *Leaves* simple. *R. Br.*

1. *V. nymphaeoides* Vent. E. B. 4. 217.
Leaves heart-shaped, wavy at the edges, floating. *Corolla* fringed.
Smith.
 In ponds, and the bays of rivers. — Perennial. *July, August.*

Order 58. SOLANÆÆ *Juss.*

Calyx 5-parted, seldom 4-parted, persistent, inferior.

Corolla monopetalous, hypogynous; the limb 5-cleft, seldom 4-cleft, regular, or somewhat unequal, deciduous; the æstivation, in the genuine genera of the order, plaited; in the spurious genera, imbricated.

Stamens inserted upon the corolla, as many as the segments of the limb, with which they are alternate; 1 sometimes being abortive.

Pericarpium with 2 or 4 cells, either a capsule with a double dissepiment parallel with the valves, or a berry, with the placentæ adhering to the dissepiment.

Seeds numerous, sessile. *Embryo* more or less curved, often out of the centre, lying in fleshy *albumen*; *radicle* next the hilum.

Herbaceous plants or *shrubs*. *Leaves* alternate, undivided, or lobed; the floral ones sometimes double, and placed near each other. *Inflorescence* variable, often out of the axillæ; the pedicels without bractæ. *R. Br.*

ANALYSIS OF THE GENERA.

Fruit dry									
Corolla funnel-shaped									
Capsule with 4 valves									
Capsule dehiscing transversely									
Corolla rotate	-	-	-	-	-	-	-	-	1. DATURA
									2. HYOSCYAMUS
									3. VERRASCUM
Fruit fleshy									
Corolla rotate									
Corolla campanulate	-	-	-	-	-	-	-	-	4. SOLANUM
									5. ATROPA

1. DATURA *Linn.*

Calyx tubular, ventricose, with 5 angles, 5-toothed, deciduous, leaving behind a broad orbicular base. *Corolla* funnel-shaped; the tube long; the limb with 5 angles, 5 plaits, and 5 points. *Stamens* 5. *Stigma* of 2 plates. *Capsule* echinate or smooth, 2-celled; the cells divided occasionally by spurious dissepiments.

1. *D. Stramonium* Linn. Common Thorn-apple. E. B. 18. 1288.
Fruit spinous, ovate, erect. Leaves ovate, smooth, sinuated. *Smith*.
In waste ground, and on dunghills. — Annual. *July*.

2. HYOSCYAMUS Linn.

Calyx tubular, 5-cleft. *Corolla* funnel-shaped; the limb spreading, obliquely 5-lobed, unequal. *Stamens* 5. *Stigma* capitate. *Capsule* compressed, furrowed on each side, opening at the apex by a transverse aperture.

1. *H. niger* Linn. Common Henbane. E. B. 9. 591.
Leaves sinuated, clasping the stem. Flowers sessile. *Smith*.
On waste ground. — Biennial. *July*.

3. VERBASCUM Linn.

Calyx 5-parted. *Corolla* rotate, 5-lobed, unequal. *Stamens* 5, unequal; filaments declinate, almost always villous at the base. *Capsule* with 2 valves, ovate, or globose. *Dec*.

1. *V. Thapsus* Linn. High Taper. E. B. 8. 549.
Leaves decurrent, crenate, woolly on both sides. Stem simple.
Cluster dense. Flowers almost sessile. *Smith*.
On banks and waste ground. — Biennial. *July, August*.
2. *V. Lychnitis* Linn. White Mullein. E. B. 1. 58.
Leaves wedge-shaped-oblong; stripped of down on their upper side.
Stem angular, paniced. *Smith*.
By road sides, and other waste places. — Biennial. *July, August*.
3. *V. thapsiforme* Schrad.
Stem simple. Leaves lanceolate-ovate, decurrent, crenulate, downy; the upper acuminate. Raceme spiked, dense. Bractæ longer than the woolly calyx. Segments of the corolla obovate, rounded.
Two anthers oblong. *Dec*.
V. thapsoides Willd.
By road sides in Kent. — Biennial. *July, August*.
4. *V. pulverulentum* Villars. E. B. 7. 487.
Leaves ovate-oblong, obscurely serrated, clothed on both sides with mealy deciduous wool. Stem round, paniced. *Smith*.
By road sides, and in the borders of fields, chiefly in Norfolk and Suffolk. — Biennial. *July*.
5. *V. nigrum* Linn. E. B. 1. 59.
Leaves oblong-heart-shaped, stalked, waved, and crenate, slightly downy. Cluster mostly solitary. *Smith*.
On banks in shady lanes. — Perennial. *July, August*.
6. *V. virgatum* Withering. E. B. 8. 550.
Leaves ovate-lanceolate, toothed, sessile; radical ones downy, somewhat lyrate. Stem branched. Flowers aggregate, partly sessile. *Smith*.
In fields, and by way sides, rare. — Biennial. *August*.
7. *V. Blattaria* Linn. E. B. 6. 393.
Leaves clasping the stem, oblong, smooth, serrated; radical ones

sinuated. Clusters panicled, simple. Flower-stalks longer than the bractæas. *Smith.*

On banks, in a gravelly soil. — Annual. *July.*

4. SOLANUM *Linn.*

Calyx persistent, with from 5 to 10 divisions. *Corolla* monopetalous, rotate; the tube very short; the limb spreading, with 4, 5, or 6 divisions. *Stamens* 4, 5, or 6. *Anthers* oblong, opening by 2 pores at the apex. *Berry* roundish, with 2, 3, 4, or 6 cells. *Embryo* spiral. *Dec.*

1. *S. Dulcamara* *Linn.*

E. B. 8. 365.

Stem shrubby, zigzag, without thorns. Upper leaves hastate. Clusters cymose. *Smith.*

In hedges and thickets. — Shrub. *June, July.*

2. *S. nigrum* *Linn.* Nightshade.

E. B. 8. 566.

Stem herbaceous, without thorns. Leaves ovate, bluntly toothed, or wavy. Umbels lateral, drooping. *Smith.*

Common in waste ground, and on dunghills. — Annual; occasionally perennial. *June—September.*

5. ATROPA *Linn.*

Calyx campanulate, 5-cleft. *Corolla* campanulate, twice as long as the calyx, 5-lobed, equal. *Filaments* 5, filiform. *Berry* globose, seated in the calyx. *Dec.*

1. *A. Belladonna* *Linn.* Common Dwale. Deadly Nightshade.

E. B. 9. 592.

Stem herbaceous. Leaves ovate, undivided. Flowers solitary. *Smith.*

In hedges and waste ground. — Perennial. *June.*

Order 59. PRIMULACEÆ *Vent.*

Calyx divided, 5-cleft, seldom 4-cleft, inferior, regular, persistent.

Corolla monopetalous, hypogynous, regular; the limb 5-cleft, seldom 4-cleft.

Stamens inserted upon the corolla, equal in number to its segments, and opposite them.

Ovary 1-celled. *Style* 1. *Stigma* capitate.

Capsule opening with valves. *Placenta* central, distinct.

Seeds numerous, peltate. *Embryo* included within fleshy albumen, and lying across the hilum; *radicle* with no determinate direction.

Herbaceous plants. *Leaves* usually opposite, either whorled or scattered. *R. Br.*

dehiscing at the apex, with 5 or 10 teeth. *Seeds* minute, very numerous.

1. *P. vulgaris* Hudson. Common Primrose. E. B. 1. 4.
Leaves obovate-oblong, toothed, wrinkled. Stalks single-flowered.
Limb of the corolla flat. *Smith*.
P. acaulis Jacq.
In groves and grassy places. — Perennial. *April, May*.
2. *P. elatior* Withering. Oxlip. E. B. 8. 513.
Leaves toothed, wrinkled, contracted towards the middle. Stalk many-flowered. Limb of the corolla flat. *Smith*.
In woods or pastures. — Perennial. *April*.
3. *P. veris* Linn. Common Cowslip. Paigle. E. B. 1. 5.
Leaves toothed, wrinkled, contracted towards the middle. Stalk many-flowered. Limb of the corolla concave. *Smith*.
P. officinalis Jacq.
In meadows and pastures. — Perennial. *April, May*.
4. *P. farinosa* Linn. Bird's-eye Primrose. E. B. 1. 6.
Leaves toothed, even; powdery beneath. Limb of the corolla flat; mouth with a notched border. Stigma undivided. *Smith*.
In wet pastures, and by rivulets, on mountains. — Perennial. *June, July*.
5. *P. scotica* Hooker. E. B. Supp. 2608.
Leaves finely toothed, even; powdery on both sides. Limb of the corolla flat; mouth with a notched border. Stigma 5-cleft. *Smith*.
Found by Mr. Gibb, of Inverness, on Holborn Head, near Thurso, in Caithness, abundantly; also, in the way from Thurso to Dunbeath. *Hooker*. — Perennial *July*.

5. LYSIMACHIA Linn.

Calyx 5-parted. *Corolla* rotate, 5-cleft. *Stamens* 5. *Capsule* globose, with 5 or 10 valves. *R. Br.*

* *Stalks many-flowered.*

1. *L. vulgaris* Linn. Yellow Loosestrife. E. B. 11. 761.
Clusters paniced, terminal. Leaves ovate-lanceolate, acute. *Smith*.
In watery shady places. — Perennial. *July*.
2. *L. thysiflora* Linn. E. B. 3. 176.
Clusters lateral, axillary, stalked. *Smith*.
In watery places, very rare. — Perennial. *July*.

** *Stalks single-flowered.*

3. *L. nemorum* Linn. Yellow Pimpernel. E. B. 8. 527.
Leaves ovate, acute. Flowers solitary. Stem procumbent. Stamens smooth. *Smith*.
In moist woods and shady places. — Perennial. *May—September*.
4. *L. Nummularia* Linn. Moneywort, or Herb Twopence. E. B. 8. 528.
Leaves somewhat heart-shaped. Flowers solitary. Stem prostrate, creeping. Stamens glandular. *Smith*.
In wet meadows, and the borders of rivulets. — Perennial. *June, July*.

6. HOTTONIA Linn.

Calyx 5-parted. *Corolla* with a short tube, and a flat 5-lobed limb. *Stamens* 5, nearly sessile. *Capsule* globose, crowned by the long persistent style. *Dec.*

1. *H. palustris* Linn. Water Featherfoil. Common Water-violet.
E. B. 6. 364.
Stalks solitary, many-flowered; partial stalks whorled. *Smith.*
In clear ditches and ponds. — Perennial. *June.*

7. ANAGALLIS Linn.

Calyx 5-parted. *Corolla* rotate, 5-lobed. *Capsule* globose, dehiscing by a transverse incision.

1. *A. arvensis* Linn. Common Pimpernel. E. B. 8. 529.
Leaves ovate, dotted beneath. Stem procumbent. *Corolla* minutely notched. *Smith.*
In fields and gardens. — Annual. *June—August.*
2. *A. cærulea* Schreb. E. B. 26. 1823.
Leaves ovate, or somewhat lanceolate, dotted beneath. Stem erect.
Corolla strongly notched. *Smith.*
In corn-fields, rare. — Annual. *July.*
3. *A. tenella* Linn. E. B. 8. 530.
Leaves roundish, somewhat pointed, stalked. Stem creeping.
Stigma acute. *Smith.*
Lysimachia tenella Linn.
On wet mossy bogs. — Perennial. *July, August.*

8. TRIENTALIS Linn.

Calyx 7-parted. *Corolla* rotate, 7-parted. *Stamens* 7. *Fruit* fleshy, dehiscing at the sutures.

1. *T. europæa* Linn. Chickweed Winter-green. E. B. 1. 15.
Leaves obovate-oblong; the lowermost very obtuse. *Smith.*
On turfy heaths, in mountainous countries. — Perennial. *May, June.*

* * * Related to *Primulaceæ*.

9. SAMOLUS Linn.

Calyx half superior. *Corolla* somewhat campanulate, 5-lobed. *Stamens* 5, bearing anthers, and opposite the segments of the limb; 5 sterile and alternate. *Capsule* half inferior, ovate, half 5-valved, 1-celled. *Placenta* central, loose. *Seeds* numerous, fixed by one end, albuminous. *Embryo* included; *radicle* next the umbilicus. *R. Br.*

1. *S. Valerandi* Linn. Common Brook-weed. E. B. 10. 703.
Leaves obovate, obtuse. Clusters corymbose, many-flowered.
Bractæas solitary, in the middle of each partial stalk. *Smith.*
In clear watery places. — Perennial. *July.*

Order 60. LENTIBULARIÆ *Richard.*

Calyx divided, persistent, inferior.

Corolla monopetalous, hypogynous, irregular, bilabiate, with a spur.

Stamens 2, included within the corolla, and inserted into its base.

Anthers simple, sometimes contracted in the middle.

Ovarium 1-celled. *Style* 1, very short. *Stigma* bilabiate.

Capsule 1-celled, many-seeded, with a large central placenta.

Seeds minute. *Embryo* without albumen, sometimes undivided.

Herbaceous plants, living in water or marshes. *Leaves* radical, undivided, or compound, resembling roots, and bearing little vesicles.

Scapes either with minute stipula-like scales, or naked; sometimes with whorled vesicles; generally undivided. *Flowers* single, or in spikes, or in many-flowered racemes. *Flowers* with a single bractea, rarely without bracteæ. *R. Br.*

1. PINGUICULA *Linn.*

Calyx campanulate, 5-cleft. *Corolla* 2-lipped; the upper 3-lobed, the lower 2-lobed, shorter and spurred. *Stigma* bilabiate.

1. *P. lusitanica* *Linn.*

E. B. 3. 145.

Spur obtuse, shorter than the nearly regular petal. Flower-stalk hairy. Capsule globose.

P. villosa *Hudson.*

In bogs. — Perennial. *June, July.*

2. *P. vulgaris* *Linn.* Common Butterwort.

E. B. 1. 70.

Spur cylindrical, acute, as long as the very irregular petal. Segments of the calyx oblong. Capsule ovate.

On bogs. — Perennial. *May, June.*

3. *P. grandiflora* *Willd.*

Spur cylindrical, acute, as long as the nearly regular, 5-cleft, veiny petal. Segments of the calyx ovate, obtuse. Capsule ovate.

In marshy ground, in the western part of the county of Cork. — Perennial. *May.*

S.

2. UTRICULARIA *Linn.*

Calyx 2-leaved; the lips equal and undivided. *Corolla* personate; the lower lip spurred at the base. *Stamens* 2, the filaments bearing the anthers on their inner face at the top. *Stigma* bilabiate. *R. Br.*

1. *U. vulgaris* *Linn.* Bladderwort, or Hooded Milfoil.

E. B. 4. 253.

Spur conical. Stalk straight. Cluster somewhat corymbose. Upper lip of the corolla the length of the palate, reflexed at the sides. *Sm.*

In ditches and deep standing pools. — Perennial. *June, July.*

2. *U. intermedia* *Hayne.*

E. B. 35. 2489.

Spur conical. Stalk 2- or 3-flowered. Upper lip of the corolla flat,

twice as long as the palate. Leaves with deep, forked, flat segments. Bladders separate from the leaves. *Smith.*

In ditches and bogs. — Perennial. *July.*

3. *U. minor* Linn.

E. B. 4. 254.

Spur short, obtuse, keeled, deflexed. Cluster of few flowers. Corolla gaping; palate nearly flat; lips undivided. *Smith.*

In ditches, on spongy bogs, but rare. — Perennial. *July.*

Order 61. SCROPHULARINEÆ *Juss.*

Calyx divided, persistent, inferior.

Corolla monopetalous, hypogynous, usually irregular, deciduous, with an imbricated æstivation.

Stamens 2, or 4, didynamous, very seldom equal.

Ovarium superior, 2-celled, many-seeded. *Style* 1. *Stigma* 2-lobed.

Fruit capsular, very seldom succulent, with from 2 to 4 valves, which are either entire or bifid; the dissepiment either double, arising from the incurved margins of the valves; or simple, and in that case, either parallel with, or opposite to, the valves. *Placentæ* central, either adhering to the dissepiment or separating from it.

Seeds indefinite. *Embryo* included within fleshy albumen; *radicle* turned towards the hilum.

Herbaceous plants, seldom *shrubs*, with opposite or alternate leaves

Inflorescence very variable.

ANALYSIS OF THE GENERA.

Stamens 2	-	-	-	-	-	-	-	1. VERONICA.
Stamens 4								
Calyx ventricose								
4-cleft	-	-	-	-	-	-	-	2. RHINANTHUS.
5-cleft	-	-	-	-	-	-	-	3. PEDICULARIS.
Calyx not ventricose								
4-cleft								
Galea entire	-	-	-	-	-	-	-	4. BARTSIA.
Galea emarginate	-	-	-	-	-	-	-	5. EUPHRASIA.
5-cleft								
Corolla with a spur	-	-	-	-	-	-	-	6. LINARIA.
Corolla without a spur								
gibbous at the base in front	-	-	-	-	-	-	-	7. ANTIRRHINUM.
equal at the base in front								
campanulate								
5-lobed	-	-	-	-	-	-	-	8. LIMOSELLA.
4-lobed	-	-	-	-	-	-	-	9. DIGITALIS.
rotate	-	-	-	-	-	-	-	10. SIBTHORPIA.
globose	-	-	-	-	-	-	-	11. SCROPHULARIA.

1. VERONICA *Linn.*

Calyx 4- or 5-parted. *Corolla* rotate; the *limb* 4-parted, unequal, with

entire lobes. *Stamens* 2. *Capsule* either separable in 2, or bearing the septa in the middle of the valves.

* *Clusters or spikes terminal. Root perennial.*

1. *V. spicata* Linn. E. B. 1. 2.
Spike terminal. Leaves bluntly serrated about the middle only; their base tapering into a footstalk: radical ones obovate. Stem ascending, quite simple. *Smith.*
In high dry chalky pastures. — Perennial. *July—September.*
2. *V. hybrida* Linn. E. B. 10. 673.
Spikes terminal. Leaves elliptical, obtuse, unequally and bluntly serrated: lowermost ovate, stalked. Stem nearly upright, not perfectly simple. *Smith.*
At the sides of mountains, very rare. — Perennial. *July, August.*
3. *V. fruticulosa* Linn. E. B. 15. 1028.
Cluster terminal, elongated, many-flowered. Leaves elliptic-lanceolate. Stems erect; shrubby below. Capsule ovate, with 4 lanceolate valves. *Smith.*
On the mountains of Scotland. — Perennial. *July.*
4. *V. saxatilis* Linn. E. B. 15. 1027.
Cluster terminal, corymbose, of few flowers. Leaves elliptical. Stems spreading; shrubby below. Capsule ovate, with 4 lanceolate valves. *Smith.*
On rocks and stony ground, on the mountains of Scotland. — Perennial. *July.*
5. *V. alpina* Linn. E. B. 7. 484.
Cluster terminal, dense, corymbose. Leaves ovate, smoothish, somewhat serrated. Calyx fringed. Stem ascending, simple. *Smith.*
V. pumila All.
On the margins of rivulets, on the highest mountains of Scotland. — Perennial *July, August.*
6. *V. serpyllifolia* Linn. Paul's Betony. E. B. 15. 1075.
Cluster terminal, somewhat spiked. Leaves ovate, slightly crenate, 3-ribbed, smooth. Capsule inversely heart-shaped, shorter than the style. *Smith.*
V. humifusa Dicks.
In meadows and pastures. — Perennial. *May, June.*

** *Clusters or spikes lateral. Root perennial.*

7. *V. Beccabunga* Linn. Brooklime. E. B. 10. 655.
Clusters lateral. Leaves elliptical, flat. Stem creeping. *Smith.*
In clear ditches and rivulets. — Perennial. *June, July.*
8. *V. Anagallis* Linn. E. B. 11. 781.
Clusters lateral, opposite. Leaves lanceolate, serrated. Stem erect. *Smith.*
In ditches, and muddy watery places. — Perennial. *July.*
9. *V. scutellata* Linn. E. B. 11. 782.
Clusters lateral, alternate; fruit-stalks reflexed. Leaves linear, slightly indented. *Smith.*

V. parmularia Poit.

In watery, spongy bogs. — Perennial. *July, August.*

10. *V. officinalis* Linn. Common Speedwell. E. B. 11. 765.

Clusters lateral; partial stalks shorter than their bractes. Leaves elliptical, serrated, roughish. Stem procumbent. Stigma capitate. *Smith.*

β. *V. Allionii* Hooker's *Fl. Scot.*

Flowers densely spiked. Leaves ovate, subserrated, rigid, and as well as the procumbent stem perfectly glabrous. *Hooker.*

About dry sandy banks, woods, and pastures. β. On various mountains in Scotland and Ireland. — Perennial. *May, June.*

11. *V. hirsuta* Hopkirk. E. B. Supp. 2673.

Clusters lateral; partial stalks shorter than their bractes. Leaves elliptic-lanceolate, somewhat serrated, slightly hairy. Stems ascending. Capsule abrupt, undivided. *Smith.*

V. setigera D. Don.

In dry heathy places in Carrick, Ayrshire. — Perennial. *June.*

12. *V. Chamædrys* Linn. Germander. E. B. 9. 623.

Clusters lateral. Leaves ovate, sessile, rugged, deeply serrated. Stem diffuse, with a hairy line at each side. Calyx 4-cleft, lanceolate. *Smith.*

In groves and hedges. — Perennial. *May, June.*

13. *V. montana* Linn. E. B. 11. 766.

Clusters lateral, lax, of few flowers. Leaves ovate, stalked, serrated. Stem diffuse, hairy all round. *Smith.*

In woods, chiefly on a moist calcareous soil. — Perennial. *May, June.*

*** *Flowers axillary, solitary. Root annual.*

14. *V. agrestis* Linn. E. B. Supp. 2603.

Leaves all stalked, heart-shaped-ovate, deeply serrated as long as the flower stalks. Sepals oblong, blunt. Stem procumbent. Capsule of two turgid keeled lobes. Cells about 6-seeded.

A common weed. — Annual. *April—September.*

S.

15. *V. arvensis* Linn. E. B. 11. 734.

Flowers solitary, nearly sessile. Leaves ovate, deeply serrated; the floral ones lanceolate, entire. Stem erect. Seeds flat. *Smith.*

On walls and dry gravelly ground. — Annual. *May.*

16. *V. hederifolia* Linn. E. B. 11. 784.

Flowers solitary. Leaves heart-shaped, flat, 5-lobed. Segments of the calyx heart-shaped, acute. Seeds cupped, wrinkled. *Smith.*

In cultivated and waste ground. — Annual. *April, May.*

17. *V. triphyllos* Linn. E. B. 1. 26.

Flowers solitary. Upper leaves in deep, finger-like obtuse segments. Flower-stalks longer than the calyx. Seeds flat. *Smith.*

In sandy fields. — Annual. *April.*

18. *V. verna* Linn. E. B. 1. 25.

Flowers solitary. Leaves pinnatifid; uppermost lanceolate, undivided. Flower-stalks shorter than the calyx. Stem erect. *Smith.*

V. *Bellardi* Willd.

V. *succulenta* Willd.

In fields of the most barren sand. — Annual. *April*.

2. RHINANTHUS Linn.

Calyx 4-cleft, ventricose. *Corolla* tubular, 2-lipped; the upper lip compressed, the lower flat and 3-lobed. *Stamens* 4, didynamous. *Capsule* compressed, obtuse, covered by the calyx. *Seeds* compressed, bordered. *Dec.*

1. R. *Crista galli* Linn.

E. B. 10. 657.

Stem slightly branched. Leaves lanceolate, serrated. *Calyx* smooth. Style concealed by the upper lip. *Seeds* with a dilated membranous border. *Smith.*

In meadows and pastures. — Annual. *June*.

2. R. *major* Ehr.

E. B. Supp. 2737.

Stem much branched. Leaves linear-lanceolate, serrated. Bractees taper-pointed. *Calyx* smooth. Style prominent. *Seeds* slightly bordered. *Smith.*

In corn-fields, in the north of England. — Annual. *July, 2 or 3 weeks later than the former.*

3. PEDICULARIS Linn.

Calyx ventricose, generally 5-cleft, or unequally 2-3-lobed. *Corolla* tubular, 2-lipped; the upper lip long, compressed, often emarginate; the lower flat, spreading, 3-lobed. *Stamens* 4, didynamous. *Capsule* compressed, acuminate, often oblique and longer than the calyx. *Dec.*

1. P. *palustris* Linn.

E. B. 6. 399.

Stem solitary, branched. *Calyx* ovate, hairy, ribbed, in 2 unequally notched lobes. *Smith.*

In marshes and boggy meadows. — Perennial? *June, July.*

2. P. *sylvatica* Linn. Louse-wort. Red Rattle. E. B. 6. 400.

Stems several, spreading, simple. *Calyx* oblong, angular, smooth, in 5 unequal notched segments. *Smith.*

In heathy pastures. — Perennial. *June, July.*

4. BARTSIA Linn.

Calyx not ventricose, 4-cleft. *Corolla* tubular, 2-lipped; the upper lip galeate, erect, entire, the lower very small, reflexed, trifid. *Stamens* shorter than the galea; *anthers* downy. *Capsule* ovate, acuminate, compressed. *Dec.*

1. B. *alpina* Linn.

E. B. 6. 361.

Leaves opposite, ovate, somewhat heart-shaped, bluntly serrated. Stem square. Root creeping. *Smith.*

In boggy alpine meadows. — Perennial. *July.*

2. B. *viscosa* Linn.

E. B. 15. 1045.

Leaves serrated; upper ones alternate. Flowers lateral and distant. Stem round. Root fibrous. *Smith.*

In marshy ground, rare. — Annual. *July, August.*

3. *B. Odontites* Linn. E. B. 20. 1415.
 Leaves lanceolate, serrated; the upper ones alternate. Flowers forming unilateral clusters. Stem square, branched. Root fibrous. *Smith*.

In meadows and pastures. — Annual. *July, August*.

5. *EUPHRASIA* Linn. EYE-BRIGHT.

Calyx 4-cleft. *Corolla* tubular, 2-lipped; the upper lip galeate, emarginate, the lower 3-lobed, equal. *Anthers* 2, or 4, acuminate at the base. *Capsule* ovate, compressed, obtuse, emarginate. *Dec*.

1. *E. officinalis* Linn. E. B. 20. 1416.

Leaves ovate, furrowed, sharply toothed. *Smith*.

On heaths, and in mountainous pastures. — Annual. *July—September*.

6. *LINARIA* Desf.

Calyx 5-parted; the 2 lower segments far apart from the rest. *Corolla* ringent, calcarate at the base; the tube inflated; the limb 2-lipped; the upper lip bifid, reflexed; the lower 3-lobed. *Capsule* ovate or globose, opening with several valves at the apex. *Seeds* bordered. *Dec*.

* *Leaves* dilated. *Stems* flaccid.

1. *L. Cymbalaria* Mill. E. B. 7. 502.

Leaves heart-shaped, 5-lobed, alternate, smooth. Stems procumbent. *Smith*.

Antirrhinum Cymbalaria Linn.

On old walls. — Perennial. *May—November*.

2. *L. spuria* Miller. E. B. 10. 691.

Leaves ovate, downy, chiefly alternate. Stems procumbent, hairy. *Smith*.

Antirrhinum spurium Linn.

In corn-fields. — Annual. *July—September*.

3. *L. Elatine* Desf. E. B. 10. 692.

Leaves chiefly halberd-shaped, alternate; lowermost ovate, opposite. Stems procumbent, hairy. *Smith*.

Antirrhinum Elatine Linn.

In corn-fields, after harvest. — Annual. *July—September*.

** *Leaves* narrower. *Stems* upright.

4. *L. repens* H. Kew. E. B. 18. 1253.

Leaves linear, glaucous, scattered; partly whorled. Stem panicled.

Calyx smooth, the length of the spur. *Smith*.

Antirrhinum repens Linn.

Antirrhinum monspessulanum Linn.

On chalky banks. — Perennial. *July—September*.

5. *L. vulgaris* Moench. E. B. 10. 658.

Leaves linear-lanceolate, crowded. Stem erect. Spikes terminal.

Flowers imbricated. *Calyx* smooth, shorter than the spur. *Smith*.

Antirrhinum Linaria Linn.

In hedges and fields. — Perennial. *June, July*.

6. *L. minor* Desf. E. B. 28. 2014.
 Leaves lanceolate, obtuse, downy, mostly alternate. Stem much branched, spreading. Calyx longer than the spur. *Smith*.
Antirrhinum minus Linn.
 In sandy fields. — Annual. *June—August*.

7. *ANTIRRHINUM* Linn.

Calyx 5-parted. *Corolla* without a spur, gibbous at the base; the tube inflated; the limb 2-lipped; the upper lip bifid and reflexed; the lower 3-lobed, with a projecting palate. *Capsule* oblique at the base, dehiscing by 3 small holes at the apex. *Dec*.

1. *A. majus* Linn. Snapdragon. E. B. 2. 129.
 Flowers in a dense cluster. Leaves lanceolate. Segments of the calyx ovate, obtuse.
 On old walls and cliffs. — Perennial. *July, August*.

2. *A. Orontium* Linn. E. B. 17. 1155.
Corolla scarcely tumid at the base. Flowers loosely spiked. Calyx finger-shaped, longer than the corolla. *Smith*.
 In dry fields. — Annual. *July, August*.

8. *LIMOSELLA* Linn.

Calyx 5-cleft, irregular. *Corolla* campanulate, very small, 5-lobed, nearly equal. *Stamens* 4, or by abortion 2. *Stigma* globose. *Ovary* 2-celled at the base, 1-celled at the apex. *Capsule* ovate. *Dec*.

1. *L. aquatica* Linn. Common Mudwort. E. B. 5. 357.
 Leaves lanceolate, somewhat spatulate. Foot-stalks twice as long as the flower-stalks. *Smith*.
 In muddy spots, where water has stagnated during winter. — Annual. *July, August*.

9. *DIGITALIS* Linn.

Calyx 5-parted, unequal. *Corolla* campanulate; the limb unequal, obliquely 4-lobed. *Stigma* simple or bilabiate. *Capsule* ovate, acuminate. *Dec*.

1. *D. purpurea* Linn. E. B. 19. 1297.
 Segments of the calyx ovate, acute. *Corolla* obtuse; its upper lobe scarcely cloven. Leaves downy. *Smith*.
 In pastures, and about hedges. — Biennial. *June, July*.

10. *SIBTHORPIA* Linn.

Calyx 5-parted. *Corolla* somewhat rotate; the tube short; the limb regular, 5-lobed. *Stamens* 4, didynamous. *Stigma* capitate. *Capsule* orbicular, compressed, dehiscing at the apex. *Dec*.

1. *S. europæa* Linn. Cornish Moneywort. E. B. 10. 649.
 In moist shady places. — Perennial. *July, August*.

11. *SCROPHULARIA* Linn.

Calyx 5-lobed. *Corolla* globose; the limb contracted, 2-lipped; the upper lip 2-lobed, with an occasional intermediate scale; the lower

shorter, and 3-lobed. *Stigma* simple. *Capsule* roundish, acuminate; *valves* entire, turned inwards at the base. *Dec.*

1. *S. nodosa* Linn. E. B. 22. 1544.
Leaves heart-shaped, acute, 3-ribbed at the base. Stem sharp-edged.
Root tuberous. *Smith.*
In hedges, woods, and thickets. — Perennial. *July.*
2. *S. aquatica* Linn. Figwort. Water Betony. E. B. 12. 854.
Leaves heart-shaped, bluntish, on decurrent foot-stalks. Stem winged. Root fibrous. *Smith.*
In watery places. — Perennial. *July.*
3. *S. Scorodonia* Linn. E. B. 31. 2209.
Leaves heart-shaped, doubly serrated, downy beneath. Cluster leafy. *Smith.*
On the banks of rivulets. — Perennial. *July, August.*
4. *S. vernalis* Linn. E. B. 8. 567.
Leaves heart-shaped, doubly serrated, downy. Flower-stalks axillary, solitary, forked, leafy. Corolla without an interior lobe. *Smith.*
In thickets, and under hedges. — Biennial. *April, May.*

Order 62. OROBANCHEÆ *Rich.*

Calyx divided, persistent, inferior.

Corolla monopetalous, hypogynous, irregular, persistent, with an imbricated æstivation.

Stamens 4, didynamous.

Ovarium superior, 1-celled, seated in a fleshy disk, with 2 or 4 parietal polyspermous placentæ; *style* 1; *stigma* 2-lobed.

Fruit capsular, enclosed within the withered corolla, 1-celled, 2-valved, each valve bearing 1 or 2 placentæ in the middle.

Seeds indefinite, very minute; *embryo* minute, at one end of a fleshy albumen.

Herbaceous leafless plants, growing parasitically upon the roots of other species. *Stems* covered with brown or colourless scales.

1. OROBANCHE *Linn.*

Calyx 1- or 2-parted, with from 1 to 3 bractææ. *Corolla* tubular, ringent, 4- or 5-cleft. *Stamens* 4, didynamous. *Ovarium* surrounded by a disk at the base. *Style* 1. *Stigma* capitate, emarginate, 2-lobed. *Dec.*

* *Bractæas* solitary.

1. *O. major* Linn. Broom-rape. E. B. 6. 421.
Stem simple, Corolla inflated; upper lip slightly notched; lower

with acute, nearly equal segments. Stamens quite smooth below. Style downy. *Smith.*

In bushy places, on the roots of broom or furze. — Perennial. *June, July.*

2. *O. elatior* Sutton. E. B. 8. 568.
Stem simple. Corolla funnel-shaped; lower lip with acute, nearly equal segments. Stamens downy. Style smooth. *Smith.*
In clover fields. — Perennial. *July, August.*
3. *O. minor* Smith. E. B. 6. 422.
Stem simple. Corolla nearly cylindrical; lower lip with curled segments, the middle one largest and lobed. Stamens fringed. Style smooth. *Smith.*
In clover fields. — Annual? *July, August.*
4. *O. rubra* Smith. E. B. 25. 1786.
Stem simple. Corolla somewhat tumid; upper lip cloven; lower in 3 nearly equal segments. Stamens fringed at the base. Style partially hairy. Calyx-leaves lanceolate, undivided. *Smith.*
On basaltic rocks in Ireland and Scotland. — Perennial. *July.*

S.

** *Bracteas 3 to each flower.*

5. *O. cærulea* Villars. E. B. 6. 423.
Stem simple. Bracteas 3. Upper lip of the corolla cloven and notched; lower in 3 equal entire segments. Style downy. *Smith.*
O. purpurea Jacq.
In grassy pastures, near the sea. — Perennial. *July.*
6. *O. ramosa* Linn. E. B. 3. 184.
Stem branched. Bracteas 3. Upper lip of the corolla deeply cloven; lower equally 3-lobed; segments all rounded and entire. Style smoothish. *Smith.*
In low, moist, rich fields, attached to the roots of hemp. — Annual. *August, September.*

2. LATHRÆA Linn.

Calyx campanulate, 4-cleft. *Corolla* tubular, 2-lipped; the upper lip galeate. *Stamens* 4, didynamous. *Ovarium* surrounded by a disk at the base. *Style* 1. *Stigma* 2-lobed.

1. *L. Squamaria* Linn. Tooth-wort. E. B. 1. 50.
Flowering branches erect, simple. Flowers axillary, unilateral, pendulous; lower lip in 3 lobes; upper cloven. *Smith.*
In dry shady places, mostly at the roots of hazels or elms. — Perennial. *April.*

Order 63. MELAMPYRACEÆ *Richard.*

Calyx divided, persistent, unequal, inferior.

Corolla monopetalous, hypogynous, deciduous, personate.

Stamens 4, didynamous; *anthers* with acuminate lobes.
Ovarium superior, 2-celled, 2-seeded; *style* 1; *stigma* obtuse.
Fruit capsular, 2-celled, 2-valved, covered by the calyx.
Seeds in pairs, erect; *embryo* minute, inverted in the apex of fleshy *albumen*; *radicle* superior.
Herbaceous plants. *Leaves* opposite, without stipulæ. *Flowers* axillary, with coloured floral leaves.

1. MELAMPYRUM Linn.

Calyx tubular, 4-cleft. *Corolla* tubular, 2-lipped, compressed; the upper lip galeate, folded back at the margin, the lower sulcate, trifold. *Stamens* 4, didynamous. *Capsule* oblong, obliquely acuminate, compressed; cells monospermous. *Seeds* large, somewhat ovate.

1. *M. cristatum* Linn. E. B. 1. 41.
Spikes quadrangular. *Bracteas* heart-shaped, closely imbricated, finely toothed. *Smith*.
In woods and thickets. — Annual. July.
2. *M. arvense* Linn. E. B. 1. 53.
Spikes conical. *Bracteas* lax, lanceolate, pinnatifid. *Calyx-teeth* longer than the tube. *Corolla* closed. *Smith*.
In corn-fields. — Annual. July.
3. *M. pratense* Linn. Cow-wheat. E. B. 2. 113.
Flowers axillary, in partly distant pairs, turned to one side. *Corolla* closed; lip direct. Upper floral leaves toothed at the base. *Smith*.
Woods and bushy places. — Annual. July, August.
4. *M. sylvaticum* Linn. E. B. 12. 804.
Flowers axillary, in distant pairs, turned to one side. *Corolla* gaping; lip deflexed. *Leaves* nearly all entire. *Smith*.
In alpine woods. — Annual. July, August.

Order 64. VERBENACEÆ Juss.

Calyx tubular, persistent, inferior.
Corolla hypogynous, monopetalous, tubular, deciduous, generally with an irregular limb.
Stamens usually 4, didynamous, seldom equal, occasionally 2.
Ovarium 2- or 4-celled; *ovules* erect, solitary or twin; *style* 1; *stigma* bifid or undivided.
Fruit drupaceous, or baccate.
Seeds erect; *albumen* none, or in very small quantity; *embryo* erect.
Trees or *shrubs*, sometimes *herbaceous* plants. *Leaves* generally opposite, simple or compound, without stipulæ. *Flowers* in opposite corymbs, or spiked alternately; sometimes in dense heads; very seldom axillary and solitary. *R. Br.*

1. VERBENA Linn.

Calyx 5-cleft. *Corolla* with a somewhat 2-lipped, 5-lobed, unequal limb. *Stamens* 4, didynamous. *Seeds* enclosed in a vesicular tissue. *Dec.*

1. *V. officinalis* Linn. Vervain.

E. B. 11. 767.

Stamens 4. *Spikes* slender, paniced. *Leaves* deeply cut. *Stem* mostly solitary. *Smith.*

In waste ground or pastures. — Perennial. *July.*

Order 65. LABIATÆ Juss.

Calyx tubular, 5- or 10-toothed, inferior, persistent; the odd tooth being next the axis; regular or irregular.

Corolla monopetalous, hypogynous, bilabiate; the upper lip undivided or bifid, overlapping the lower, which is larger and 3-lobed.

Stamens 4, didynamous, inserted upon the corolla, alternately with the lobes of the lower lip; the 2 upper sometimes wanting; *anthers* 2-lobed; the lobes sometimes so far apart at the base that the 2 cells are confluent at the apex; sometimes 1 cell altogether obsolete.

Ovarium deeply 4-lobed, inserted in a fleshy hypogynous disk; the lobes each containing 1 erect ovulum; *style* 1; *stigma* bifid, usually acute.

Fruit 4 small nuts, enclosed within the persistent calyx.

Seeds erect, with little or no albumen; *embryo* erect; *cotyledons* flat.

Herbaceous plants or *under-shrubs*. *Stem* 4-cornered, with opposite ramifications. *Leaves* opposite, divided or undivided, without stipulæ, replete with receptacles of aromatic oil. *Flowers* in opposite, nearly sessile cymes, resembling whorls; sometimes as if capitate.

Note. — For the following analysis, I am indebted to the friendly aid of Mr. Bentham, whose valuable arrangement of Labiatae has been also followed in the distribution of the genera and species.

ANALYSIS OF THE GENERA.

Stamens 2,			
Anthers 1-celled, with a lengthened connective	-	-	1. SALVIA.
Anthers with two contiguous cells	-	-	4. LYCOPUS.
Stamens 4,			
Upper stamens longer than the lower	-	-	9. NEPETA.
Upper stamens shorter, or equal to the lower,			
<i>Corolla</i> nearly equal; tube not longer than the calyx,			
four-lobed	-	-	5. MENTHA.
five-lobed, obscurely 2-lipped,			
Flowers imbricated, with coloured bracts	-	-	7. ORIGANUM.
Flowers scattered	-	-	6. THYMUS.
<i>Corolla</i> apparently 1-lipped,			
Upper lip minute	-	-	2. AJUGA.
Upper lip 2-cleft, and turned downwards	-	-	3. TEUCRIUM.

- Corolla distinctly 2-lipped, or much longer than calyx,
 Calyx regularly 5-lobed,
 Stam. shorter than tube of cor. - - 16. MARRUBIUM.
 Stam. longer than tube of cor.
 Anth. with transverse valves - - 11. GALEOPSIS.
 Anth. with longitudinal valves,
 Nuts truncate, with sharp angles,
 Anthers hairy - - 12. LAMIUM.
 Anthers hairless,
 Flowers yellow - - 12. LAMIUM.
 Flowers reddish,
 Tube of cor. longer than cal. - - } 14. STACHYS.
 Tube of cor. not do. - - } 13. LEONURUS.
 Nuts obtuse, and rounded,
 Cal. nearly funnel-shaped, dilated at mouth - - } 15. BALLOTA.
 Cal. nearly campanulate - - 14. STACHYS.
 Calyx 2-lipped, or less than 5-lobed,
 with 3-4 broad leafy lobes - - 10. MELITTIS.
 with two lips,
 lips both entire - - 17. SCUTELLARIA.
 lower lip 2-lobed,
 Stamens with a tooth below the anther - - } 18. PRUNELLA.
 Stamens without a tooth - - 8. MELISSA.

1. SALVIA Linn.

Calyx somewhat campanulate, 2-lipped; the upper lip entire or 3-toothed, the lower bifid; the orifice naked. *Corolla* ringent; the upper lip fornicate and emarginate. *Stamens* 2. *Anthers* consisting of a long linear connective, with a fertile cell at the upper extremity, and usually connected together at the lower extremity.

1. *S. pratensis* Linn. Meadow Clary. E. B. 3. 153.
 Leaves oblong, crenate; heart-shaped at the base: uppermost clasping the stem. Bractees very small. Summit of the corolla glutinous. *Smith*.
 In dry meadows, and about hedges. — Perennial. *July*.
 2. *S. Verbenaca* Linn. E. B. 3. 154.
 Leaves serrated, sinuated, smoothish. *Corolla* much more contracted than the calyx. *Smith*.
 In meadows, pastures, and waste ground. — Perennial. *June — October*.

2. AJUGA Linn.

Calyx 5-cleft, nearly equal. *Corolla* tubular, labiate; the upper lip very small, and with 2 teeth; the lower 3-lobed, with a large intermediate obcordate lobe. *Nuts* reticulated. *Dec*.

* *Bugula* Tourn. *Flowers* whorled, blue.

1. *A. reptans* Linn. Common Bugle. E. B. 7. 489.
 Almost smooth, with a solitary stem, and creeping runners. Lower lip of the corolla 4-cleft.
 In woods and moist pastures. — Perennial. *May*.
 2. *A. genevensis* Linn. E. B. 7. 477.
 Leaves almost smooth, irregularly toothed; uppermost entire. Runners none. Whorls not crowded, of many flowers.

A. pyramidalis Hudson.

A. alpina Sm.

On mountains. — Perennial. *July*.

3. *A. pyramidalis* Linn.

E. B. 18. 1270.

Hairy. Whorls crowded into a pyramidal form, many-flowered.

Radical leaves very large, obovate, crenate, obtuse. Upper lip of the corolla deeply cloven. *Smith*.

In the Highlands of Scotland. — Perennial. *June*.

** *Chamæpitys* Tourn. *Flowers solitary, yellow*.

4. *A. Chamæpitys* Smith. Ground Pine. Yellow Bugle. E. B. 2. 77.

Stem diffuse, branched. Leaves in 3 deep, linear, entire segments.

Flowers axillary, solitary, shorter than the leaves. *Smith*.

Teucrium Chamæpitys Linn.

In sandy or gravelly fields. — Annual. *April, May*.

3. TEUCRIUM Linn.

Calyx tubular, seldom campanulate, 5-cleft. *Corolla* with a short tube, labiate; the upper lip 2-parted; the segments reflexed at the sides; the lower 3-lobed, the intermediate lobe largest. *Stamens* protruded between the fissure of the upper lip. *Dec*.

1. *T. Scorodonia* Linn. Wood Sage.

E. B. 22. 1543.

Leaves heart-shaped, hairy, serrated, stalked. Clusters aggregate, unilateral. Stem erect. *Smith*.

In woods, and heathy bushy places. — Perennial. *July*.

2. *T. Scordium* Linn.

E. B. 12. 828.

Leaves oblong, sessile, downy, with tooth-like serratures. Flowers axillary, stalked, in pairs. Stem procumbent. *Smith*.

In low, wet meadows. — Perennial. *July, August*.

3. *T. scordioides* Schreb.

Leaves ovate-oblong, crenate, cordate and stem clasping at the base. Flowers axillary in sixes. Stem procumbent, shaggy.

In Cambridgeshire. *Prof. Henslow*. — Perennial. *July, August*.

4. *T. Chamædryas* Linn.

E. B. 10. 680.

Leaves somewhat ovate, stalked, deeply crenate or cut. Flowers axillary, 3 together, stalked. Stem roundish, hairy. *Smith*.

On old ruined buildings. — Perennial. *July*.

4. LYCOPUS Linn.

Corolla little longer than the calyx, 4-lobed, nearly equal. *Stamens* 2.

1. *L. europæus* Linn. Common Gipsy-wort. Water Horehound.

E. B. 16. 1105.

Leaves deeply serrated. *Smith*.

On the banks of ditches and rivers. — Perennial. *July, August*.

5. MENTHA Linn.

Corolla little longer than the calyx, 4-lobed, nearly equal; the upper lobe broadest and often emarginate. *Stamens* 4, distant. *Dec*.

1. *M. sylvestris* Smith. Horse Mint. E. B. 10. 686.
 Stem erect. Leaves subsessile, ovate-lanceolate, or oblong, downy above, white with hoariness beneath. Spikes dense or interrupted at the base. Calyxes shaggy.
a. longifolia.
 Leaves lanceolate, acute. *Smith.*
M. longifolia Hudson.
β. villosa.
 Leaves ovate, acute. *Smith.*
M. villosa Hudson.
γ. candicans.
 Leaves shorter. Spikes more obtuse. *Smith.*
δ. nemorosa.
 Leaves elliptical, broad and obtuse. *Smith.*
M. rotundifolia Sole.
M. nemorosa Willd.
M. alopecuroides Hull.
 In waste ground, especially in watery places. — Perennial. *August, September.*
2. *M. rotundifolia* Linn. E. B. 7. 446.
 Stem erect. Leaves sessile, roundish, ovate, crenelled, rugose, hairy on the upper, soft and hoary on the under side. Spikes dense, between conical and cylindrical. Calyxes hairy.
M. crispa Linn.
M. sylvestris Sole.
 In wet places, amongst rubbish. — Perennial. *August, September.*
3. *M. viridis* Linn. Spear Mint. E. B. 34. 2424.
 Spikes interrupted. Leaves sessile, lanceolate, acute, naked. Bractees bristle-shaped, somewhat hairy as well as the teeth of the calyx. Flower-stalks very smooth. *Smith.*
 In marshy places. — Perennial. *August.*
4. *M. pratensis* Sole. E. B. 7. 449.
 Flowers whorled. Leaves lanceolate, nearly sessile. Stem upright, much branched. Flower-stalks, and base of the calyx, quite smooth. *Smith.*
M. gentilis E. Bot.
M. gracilis Smith.
M. rubra Hudson.
 In watery places, or moist meadows. — Perennial. *August, September.*
5. *M. piperita* Smith. Pepper Mint. E. B. 10. 687.
 Spikes blunt, interrupted below. Leaves stalked, somewhat ovate, smoothish. Calyx very smooth at the base. *Smith.*
a. officinalis.
 Leaves ovate-lanceolate. Spikes elongated. *Smith.*
M. officinalis Hull.

β. ovata.

Leaves ovate. Spikes shorter and blunter, almost capitate. *Smith.*

γ. hircina.

Leaves ovate, slightly heart-shaped. Spikes more acute. *Smith.*

M. hircina *Hull.*

In watery places. — Perennial. *August, September.*

6. *M. citrata* Ehr. Bergamot Mint. E. B. 15. 1025.
 Spikes capitate, very blunt. Leaves stalked, heart-shaped, naked on both sides. Calyx and flower-stalks perfectly smooth. *Smith.*
M. odorata *Sole.*
 In watery places. — Perennial. *August, September.*

7. *M. aquatica* Linn. E. B. 7. 447.
 Flowers capitate or whorled. Leaves stalked, ovate. Calyx clothed with erect hairs. Flower-stalks with recurved ones. *Smith.*

* Flowers capitate.

M. aquatica *Huds.*

M. hirsuta *Linn.*

M. palustris *Sole.*

M. paludosa *Sole.*

** Flowers whorled.

M. sativa *Linn.*

M. verticillata *Linn.*

M. rivalis *β, γ, δ. Sole.*

* In watery places, everywhere. — Perennial. *August, September.*

8. *M. arvensis* Linn. E. B. 30. 2119.
 Stems hairy backwards, or nearly smooth. Leaves stalked, ovate or oblong, rounded at base, wedge-shaped, the floral ones longer than the flowers, and often empty. Whorls remote. Bracts lanceolate, awl-shaped, as long as the tubular or campanulate calyx.
M. præcox *Sole.*
 In sandy corn-fields. — Perennial. *June — September.*
α. M. agrestis *Sole.* E. B. 30. 2120.

β. M. acutifolia *Smith.* E. B. 34. 2415.
 Flowers whorled. Leaves ovate-lanceolate, tapering at each end. Calyx hairy all over. Hairs of the flower-stalks spreading. *Smith.*

About the banks of rivers. — Perennial. *September.*

γ. M. rubra *Smith.* E. B. 20. 1413.
 Flowers whorled. Leaves ovate. Stem upright, zigzag. Flower-stalks, and lower part of the calyx, very smooth; teeth hairy. *Smith.*

M. sativa *Sole.*

About wet hedges and thickets. — Perennial. *September.*

8. *M. gentilis* Smith.

E. B. 30. 2118.

Flowers whorled. Leaves ovate. Stem much branched, spreading. Flower-stalks, and base of the bell-shaped calyx, nearly smooth. *Smith.*

In watery waste places. — Perennial. *August.*

9. *M. Pulegium* Linn. Penny-royal.

E. B. 15. 1026.

Flowers whorled. Leaves ovate. Stem prostrate. Flower-stalks and calyx all over downy; teeth fringed. *Smith.*

On wet commons, and about the margins of small brooks. — Perennial. *September.*

6. THYMUS Linn.

Calyx campanulate; the orifice closed with hairs; the limb 2-lipped; the upper lip 3-toothed; the lower bifid, or with 2 bristles. *Corolla* short; the upper lip emarginate; the lower 3-lobed; all the lobes plane and nearly equal. *Stamens* 4, distant.

1. *T. Serpyllum* Linn. Wild Thyme.

E. B. 22. 1514.

Flowers in small heads. Stems recumbent. Leaves flat, ovate, obtuse, entire, fringed at their base. *Smith.*

On heaths and dry mountainous ground. — Perennial. *July, August.*

7. ORIGANUM Linn.

Calyx cylindrical, 5-toothed, when in fruit closed up with hairs. *Corolla* short; the upper lip erect, emarginate; the lower trifid, and all the lobes nearly equal. *Stamens* 4, distant.

1. *O. vulgare* Linn. Common Marjoram.

E. B. 16. 1143.

Heads of flowers roundish, paniced, crowded, erect. Involucral leaves ovate, smooth. Calyx with 5 acute unequal teeth; throat hairy. *Smith.*

In bushy places, on a limestone or gravelly soil. — Perennial. *July, August.*

8. MELISSA Linn.

Calyx cylindrical or gibbous at the base, the orifice closed with hairs, or nearly naked; the limb 2-lipped, the upper lip 3-toothed; the lower bifid, or with 2 bristles. *Corolla* with a 2-lipped limb; the upper lip emarginate, the lower 3-lobed. *Stamens* 4, the upper ones shorter than the lower. *Anthems* in pairs under the upper lip of the corolla.

1. *M. Acinos* Benth.

E. B. 6. 411.

Flowers about 6 in a whorl, on simple stalks. Stem branched, ascending. Leaves acute, serrated.

Thymus Acinos Linn.

In fields. — Annual. *July, August.*

2. *M. Calamintha* Linn. Calamint.

E. B. 24. 1676.

Whorls on forked, many-flowered stalks. Leaves with shallow serratures. Hairs in the mouth of the calyx not prominent. *Smith.*

Thymus Calamintha Scop.

By way sides. — Perennial. *July, August.*

3. *M. Nepeta* Linn. E. B. 20. 1414.
 Whorls on forked many-flowered stalks, longer than the adjoining leaf. Leaves serrated. Hairs in the mouth of the calyx prominent. *Smith*.
Thymus Nepeta *Smith*.
 On dry banks, and by way sides. — Perennial. *August*.
4. *M. Clinopodium* Benth. E. B. 20. 1401.
 Herbaceous, erect, villous. Leaves stalked, ovate, obtuse, somewhat crenelled, rounded at base. Whorls equal, globose, many-flowered. Bracts numerous, subulate, as long as the calyx.
Clinopodium vulgare Linn.
 Woods, fields, and hedges. — Perennial.

9. NEPETA Linn.

Calyx cylindrical. *Corolla* with a long tube; the orifice gaping; the upper lip emarginate; the lower 3-lobed; the lateral lobes very short, reflexed; the intermediate one larger, crenate, and concave.
Stamens 4, the upper ones longer than the lower ones.

1. *N. Cataria* Linn. Cat-mint, or Nep. E. B. 2. 137.
 Whorls stalked, crowded into spikes. Leaves finely downy, heart-shaped, stalked, with tooth-like serratures. *Smith*.
 On banks, and by road sides. — Perennial. *July*.
2. *N. Glechoma* Benth. Ground Ivy. E. B. 12. 853.
 Procumbent. Leaves round, crenelled, cordate. Whorls few-flowered. *Calyx* long, rather incurved.
Glechoma hederacea Linn.
 Hedges and dry ditches. — Perennial.

10. MELITTIS Linn.

Calyx campanulate, large, with 3 or 4 broad lobes. *Corolla* twice as long as the calyx; the limb dilated, spreading; the upper lip flat, entire; the lower 3-lobed; the lobes large and unequal.

1. *M. Melissophyllum* Linn. Bastard Balm. E. B. 9. 577.
Calyx with 3 unequal, partly notched, lobes. *Smith*.
M. grandiflora *Smith*. E. B. 9. 636.
 In woods and hedges, in the south of England. — Perennial. *May, June*.

11. GALEOPSIS Linn.

Calyx campanulate, 5-toothed, spiny. *Corolla* longer than the calyx; the limb bilabiate; the upper lip vaulted and crenate; the lower with 3 unequal lobes. *Anthers* opening with transverse valves, hairy on their margins.

1. *G. Ladanum* Linn. E. B. 13. 884.
 Stem not swelled below the joints. Leaves lanceolate, somewhat serrated, hairy. Upper lip of the corolla slightly notched. *Smith*.
Galeopsis angustifolia *Ehr*.
 In dry gravelly, or chalky fields. — Annual. *August, September*.

2. *G. villosa* Hudson. E. B. 33. 2353.
Stem not swelled below the joints. Leaves ovate-lanceolate, serrated, very soft and downy. Upper lip of the corolla deeply notched.
G. grandiflora Willd.
G. latifolia Ehr.
In sandy corn-fields. — Annual. July, August.
3. *G. Tetrahit* Linn. Common Hemp-nettle. E. B. 3. 207.
Stem bristly, swelled below the joints. Corolla twice the length of the calyx; upper lip nearly straight. *Smith*.
In cultivated ground. — Annual. July, August.
4. *G. versicolor* Curtis. Bee-Nettle. E. B. 10. 667.
Stem bristly, swelled below the joints. Corolla thrice the length of the calyx; upper lip tumid; middle lobe of the lower heart-shaped. *Smith*.
G. cannabina Willd.
In sandy corn-fields. — Annual. July, August.

12. LAMIUM Linn.

Calyx 5-toothed, awned, naked, spreading at the point. *Corolla* longer than the calyx; its orifice inflated; the upper lip vaulted, entire; the lower with 2 small lateral lobes, and a large emarginate one in the middle. *Anthers* smooth or hairy at the back. *Nuts* 3-cornered, truncate, with sharp angles.

* Flowers white or reddish.

1. *L. vulgatum* Benth.
Leaves ovate, cordate, or truncate at base, rugose, generally shaggy. Teeth of the calyx long, subulate, smooth, or hairy. Tube of corolla large, with a ring of hairs inside, twice bent; throat dilated. Upper lip of corolla oblong, the lateral lobes with a long subulate tooth. *Anthers* hairy.
a. flowers red. E. B. 36. 255G.
L. maculatum Linn.
- β. flowers white.* E. B. 11. 768.
L. album Linn.
In waste ground. — Perennial. May, June; also September.
2. *L. purpureum* Linn. Red Dead-nettle. E. B. 11. 769.
Leaves heart-shaped, bluntish, unequally crenate, stalked; the upper ones crowded. Stem leafless in the middle. Calyx-teeth lanceolate. Tube of the corolla closed near the bottom with hairs. *Smith*.
In waste ground. — Annual. May.
3. *L. incisum* Willd. E. B. 27. 1933.
Leaves heart-shaped, dilated, stalked, irregularly cut; the upper ones crowded. Stem leafless in the middle. Tube of the corolla internally naked; marginal teeth dilated, combined. *Smith*.
L. dissectum With.
In waste ground. — Annual. May.

4. *L. amplexicaule* Linn. Great Henbit. E. B. 11. 770.
Floral leaves sessile, kidney-shaped, obtuse, deeply crenate, partly lobed, clasping the stem. Teeth of the calyx linear-awl-shaped, as long as its tube. *Smith*.

In sandy fields. — Annual. *February — June*.

S.

** Flowers yellow.

5. *L. Galeobdolon* Crantz. E. B. 11. 787.
Leaves ovate-acuminate, truncate at base, or cordate, nearly smooth or hairy. Tube of corolla contracted at base, inflated upwards, twice bent, with an oblique ring in the inside, dilated in the throat; upper lip long and entire; lateral lobes oblong, toothless, or nearly so, scarcely shorter than the lip.
Galeobdolon luteum *Huds*.
G. Galeopsis *Curtis*.
Galeopsis Galeobdolon *Linn*.

In shady, rather moist places, in groves or hedge-bottoms, not uncommon. — Perennial. *May*.

13. LEONURUS *Linn*.

Calyx 5-cornered, 5-toothed, with a naked orifice. *Corolla* scarcely longer than the calyx, 2-lipped; the upper lip villous, entire, concave, the lower reflexed, 3-parted, nearly equal. *Anthers* smooth. *Nuts* truncate, with sharp angles.

1. *L. Cardiaca* Linn. Motherwort. E. B. 4. 286.
Upper leaves lanceolate, either 3-lobed or undivided. *Smith*.
About hedges, on a gravelly or calcareous soil. — Perennial. *July, August*.

14. STACHYS *Linn*.

Calyx nearly campanulate, 5-cleft, or 5-toothed, acuminate. *Corolla* with a short tube; the upper lip vaulted; the lower 3-lobed, with the sides reflexed. *Nuts* obsoletely 3-cornered, ovate, or roundish. *Dec*.

1. *S. sylvatica* Linn. E. B. 6. 416.
Six flowers in a whorl. Leaves heart-shaped, stalked. Stem solid. *Smith*.
Under hedges. — Perennial. *July, August*.
2. *S. annua* Linn. E. B. Supp. 2669.
Leaves stalked, ovate, crenelled, rounded or wedge-shaped at the base. Whorls 6-flowered, distinct, the upper close together. Calyxes tubular-campanulate, shaggy: teeth somewhat spiny. Corollas downy.
In fields. — Annual. *July, August*.
3. *S. palustris* Linn. E. B. 24. 1675.
Six to 10 flowers in a whorl. Leaves linear-lanceolate, half embracing the stem. Root tuberous. *Smith*.
S. ambigua *Smith*.
In wet hedges and fields. — Perennial. *August*.

4. *S. germanica* Linn. E. B. 12. 829.
Many flowers in a whorl. Leaves crenate, densely silky; woolly beneath. Stem woolly, erect. *Smith*.
In fields, and by road sides. — Perennial. *September*.
5. *S. arvensis* Linn. E. B. 17. 1154.
Six flowers in a whorl. Stem weak. Leaves heart-shaped, obtuse, crenate, slightly hairy. *Smith*.
In sandy or chalky fields. — Annual. *July, August*.
6. *S. Betonica* Benth. Betony. E. B. 16. 1142.
Lower leaves on long stalks, ovate-oblong, obtuse, crenelled, cordate, the upper remote. Whorls many-flowered, collected into an oblong interrupted spike.
Betonica officinalis Linn.
In woods and thickets. — Perennial. *July, August*.

15. *BALLOTA* Linn.

Calyx funnel-shaped, dilated at the top, 5-cornered, with 10 streaks and 5 teeth. *Corolla* 2-lipped; the upper lip concave, crenate; the lower 3-lobed; the middle lobe larger and emarginate. *Nuts* triangular.

1. *B. nigra* Linn. Black Horehound. E. B. 1. 46.
Leaves ovate, undivided, serrated. *Calyx* funnel-shaped, abrupt, with short spreading teeth. *Smith*.
About hedges and waste places, common. — Perennial. *July, August*.

16. *MARRUBIUM* Linn.

Calyx cylindrical, with 10 streaks, and 5 or 10 teeth. *Corolla* a little longer than the calyx, 2-lipped; the upper narrow and bifid; the lower trifid, with the middle segment broader and emarginate. *Stamens* enclosed in the tube of the corolla.

1. *M. vulgare* Linn. White Horehound. E. B. 6. 410.
Calyx-teeth 10, bristle-shaped, hooked backwards. Leaves roundish-ovate, unequally serrated. *Smith*.
In dry waste ground, by road sides. — Perennial. *July*.

17. *SCUTELLARIA* Linn.

Calyx short, with both lips entire; a concave scale lying upon the upper lip. *Corolla* longer, curved at the base; limb bilabiate.

1. *S. galericulata* Linn. Common Skull-cap. E. B. 8. 523.
Leaves lanceolate, crenelled, rugged, heart-shaped at the base. Flowers axillary. *Smith*.
About ditches and other watery situations. — Perennial. *July, August*.
2. *S. minor* Linn. E. B. 8. 524.
Leaves ovate, nearly entire, heart-shaped, and occasionally lobed at the base. Flowers axillary. *Smith*.
On moist heaths. — Perennial. *July, August*.

18. PRUNELLA Linn.

Calyx 2-labiate; the upper lip flat, somewhat truncate, with 3 very short teeth; the lower bifid. *Corolla* with the upper lip concave; the lower 3-lobed; the middle lobe being larger than the rest, and emarginate. *Filaments* bearing a naked tooth below the anther.

1. *P. vulgaris* Linn. Common Self-heal, or Slough-heal.

E. B. 14. 961.

All the leaves ovate-oblong, stalked. Teeth of the upper lip of the calyx scarcely discernible. *Smith*.

In meadows and pastures. — Perennial. *July, August*.

Division II. MONOCHLAMYDEÆ.

Note. — There being a great many polypetalous, and some achlamydeous orders, which are occasionally apetalous, all such are introduced into the following table; their numbers will indicate in what part of this work they are to be found.

ANALYSIS OF THE ORDERS.

Carpels solitary, simple.	-	-	-	-	-	66. SANTALACEÆ.
Calyx superior	-	-	-	-	-	
Calyx inferior	-	-	-	-	-	
Leaves with stipules	-	-	-	-	-	69. POLYGONÆ.
Stipules ochreate	-	-	-	-	-	
Stipules distinct	-	-	-	-	-	
Calyx tough and woody	-	-	-	-	-	32. ROSACEÆ
Calyx membranous	-	-	-	-	-	
Flowers amentaceous	-	-	-	-	-	80. AMENTACEÆ
Flowers not amentaceous	-	-	-	-	-	
Styles 2, 3	-	-	-	-	-	21. ILLECEBREÆ.
Style one	-	-	-	-	-	73. URTICEÆ

Leaves without stipules				
Calyx tough and woody	-	-	-	72. SCLERANTHÆ.
Calyx membranous				
Leaves scurfy	-	-	-	67. ELÆAGNÆ.
Leaves not scurfy				
Calyx scarious, coloured	-	-	-	70. AMARANTHACEÆ.
Calyx green, herbaceous				
Herbs				
Stamens 4, 5	-	-	-	71. CHENOPODEÆ.
Stamens 12-20	-	-	-	78. CERATOPHYLLÆ.
Shrubs	-	-	-	68. THYMELÆÆ.
Carpels several, simple.				
Stamens hypogynous	-	-	-	1. RANUNCULACEÆ.
Stamens perigynous				
Calyx membranous	-	-	-	25. SAXIFRAGEÆ.
Calyx tough and woody	-	-	-	32. ROSACEÆ.
Carpels more than one, combined into an ovary with two or more cells.				
Calyx superior				
Ovary many-seeded				
Stamens gynandrous	-	-	-	77. ARISTOLOCHIÆ.
Stamens distinct	-	-	-	35. ONAGRARIÆ.
Ovary few-seeded				
Leaves compound	-	-	-	S. ARALIACEÆ.
Leaves undivided				
Herbs	-	-	-	37. HALORAGEÆ.
Trees	-	-	-	81. CUPULIFERÆ.
Calyx inferior				
Stamens alternate with the sepals				
Herbs	-	-	-	59. PRIMULACEÆ.
Shrubs	-	-	-	27. RHAMNÆÆ.
Stamens opposite the sepals, or in no certain position				
Ovules very numerous	-	-	-	74. RESEDACEÆ.
Ovules very few				
Ovary three-celled	-	-	-	75. EUPHORBIACEÆ.
Ovary two-celled	-	-	-	79. ULMACEÆ.
Ovary many celled	-	-	-	76. EMPETREÆ.

Order 66. SANTALACEÆ *R. Br.*

Calyx superior, 4- or 5-cleft, half-coloured, with valvate æstivation.

Stamens 4 or 5, opposite the segments of the calyx, and inserted into their bases.

Ovarium 1-celled, with from 2 to 4 seeds; *ovules* fixed to the top of a central placenta near the summit; *style* 1; *stigma* often lobed.

Fruit 1-seeded, hard and dry, or drupaceous.

Albumen fleshy, of the same form as the seed; *embryo* in the axis, inverted, taper.

Trees or *shrubs*, sometimes *undershrubs* or *herbaceous* plants. *Leaves* alternate, or nearly opposite, undivided, sometimes minute, and resembling stipulæ. *Flowers* in spikes, seldom in umbels, or solitary, small. *R Br.*

1. THESIUM *Linn.*

Calyx 4- or 5-cleft. *Stamens* 4 or 5, opposite the lobes of the calyx.

Fruit 1-seeded, indehiscent, crowned by the persistent calyx.

1. *T. linophyllum* *Linn.* Bastard-toadflax. E. B. 4. 247.

Cluster branched. Bractes 3 together. Leaves linear-lanceolate.

Tube of the calyx very short. *Smith.*

T. pratense *Ehr.*

In high, open, chalky pastures. — Perennial. *July.*

Order 67. ELÆAGNEÆ *Juss.*

Flowers diœcious, rarely hermaphrodite.

Male. *Calyx* 4-parted; *stamens* 3, 4, or 8, sessile; *anthers* 2-celled.

Female. *Calyx* inferior, tubular, persistent; the limb entire, or 2-4-toothed.

Ovarium superior, simple, 1-celled; *ovulum* solitary, ascending, stalked; *stigma* simple, subulate, glandular.

Fruit crustaceous, enclosed within the calyx become succulent.

Seed erect; *embryo* straight, surrounded by very thin fleshy *albumen*; *radicle* short, inferior; *cotyledons* fleshy.

Trees or *shrubs*, covered with leprous scales. *Leaves* alternate, or opposite, entire, without stipulæ. *Flowers* axillary, often fragrant.

1. HIPPOPHÆE *Linn.*

Flowers diœcious. *Male* catkin-like, tetrandrous. *Female* axillary, solitary. *Calyx* tubular, bifid, and closed at the apcx. *Disk* wanting. *Fruit* a nut, contained within a succulent calyx.

1. *H. rhamnoides* *Linn.* Sea Buck-thorn. E. B. 6. 425.

Leaves linear-lanceolate, scattered. *Smith.*

On sandy cliffs. — Shrub. *May.*

Order 68. THYMELÆÆ *Juss.*

Calyx inferior, tubular, coloured; the limb 4-cleft, seldom 5-cleft, with an imbricated æstivation.

Corolla 0, but sometimes with scales in the orifice.

Stamens definite, inserted in the tube or the orifice often 8, sometimes 4, less frequently 2; when equal in number to the segments of the calyx, or fewer, opposite to them; *anthers* 2 celled, dehiscing lengthwise in the middle.

Ovarium simple, with 1 solitary pendulous ovulum; *style* 1; *stigma* undivided.

Fruit hard, dry, and nut-like, or drupaceous.

Albumen none, or thin and fleshy; *embryo* straight, inverted; *cotyledons* plano-convex; *radicle* short, superior; *plumula* inconspicuous.

Stem shrubby, very seldom herbaceous, with tenacious bark. *Leaves* without stipulæ, alternate, or opposite, entire. *Flowers* capitate or spiked, terminal, or axillary, occasionally solitary. *R. Br.*

1. DAPHNE Linn.

Calyx 4-lobed. *Stamens* 8. *Style* short, terminal. *Berry* with 1 cell, and 1 seed. *Dec.*

1. *D. Mezereum* Linn. Common Mezereon. Spurge-olive.

E. B. 20. 1381.

Flowers naked on the stem, sessile about 3 together. *Leaves* lanceolate, deciduous. *Smith.*

In woods, but rare. — Shrub. *March.*

2. *D. Laureola* Linn. Spurge-laurel.

E. B. 2. 119.

Clusters axillary, simple, each of about 5 flowers, drooping, shorter than the smooth, obovate-lanceolate, evergreen leaves. **Calyx** obtuse. *Smith.*

In woods, thickets, and hedges. — Shrub. *March.*

Order 69. POLYGONEÆ Juss.

Calyx divided, inferior, imbricated in æstivation.

Stamens definite, inserted in the bottom of the calyx; *anthers* dehiscing lengthwise.

Ovarium superior, with a single erect ovulum; *styles* or *stigmas* several.

Nut naked, or protected by the calyx.

Seed with farinaceous albumen, rarely with scarcely any; *embryo* inverted, generally on one side; *plumula* inconspicuous.

Herbaceous plants, rarely *shrubs*. *Leaves* alternate, with ochreate stipules; the younger revolute at the edge. *Flowers* occasionally unisexual, often in racemes.

1. RUMEX Linn.

Calyx 6-parted; the 3 outer segments somewhat cohering at the base; the 3 inner becoming enlarged after flowering. *Stamens* 6. *Styles* 3, reflexed. *Stigmas* 3, cut. **Nut** with 3 sharp angles. **Embryo** on one side of the albumen.

§ Docks. Juice not acid.

1. *R. maritimus* Linn.

E. B. 11. 725.

Lower leaves ovate-lanceolate, acute, flat; upper oblong-lanceolate.

Flowering branches alternate, simple. Whorls dense, many-flowered, all axillary. Inner sepals all acquiring large tubercles, ovate, acuminate, with long setaceous teeth. *Duby.*

In marshes. — Perennial. *July, August.*

2. *R. palustris* Smith.

E. B. 27. 1932.

Lower leaves linear-lanceolate, acute, somewhat curled. Flowering branches alternate or twin, simple or divided. Whorls clustered, all axillary. Inner sepals all acquiring tubercles, ovate-lanceolate, nearly acute, each with 3 short teeth. *Duby.*

R. maritimus *Hudson.*

In marshes and ditches. — Perennial. *July, August.*

S.

3. *R. pulcher* Linn.

E. B. 22. 1576.

Lower leaves cordate-ovate, bluntish, sometimes fiddle-shaped. Flowering branches alternate. Whorls distant, 1-sided, few-flowered, all axillary. Inner sepals becoming deltoid-ovate, acute or bluntish, serrate, all bearing tubercles, but one in particular.

In pastures. — Perennial. *August.*

4. *R. obtusifolius* Linn.

E. B. 28. 1999.

Lower leaves cordate-ovate, obtuse, seldom roundish, slightly curled; the upper ovate-lanceolate, tapering to each end, obtuse, on long stalks. Flowering branches alternate, seldom in pairs, simple. Whorls somewhat clustered; the upper leafless. The inner sepals bearing tubercles, ovate, bluntish, with 2 or 4 short subulate teeth. *Duby.*

In waste ground. — Perennial. *July, August.*

5. *R. glomeratus* Spreng.

E. B. 11. 724.

Lower leaves cordate, lanceolate, acute, generally curled at the margin; the upper lanceolate, acuminate. Flowering branches alternate, or rarely double. Whorls distant, many-flowered, axillary. Inner sepals becoming ovate, acute, entire, or with 2 or 3 slight teeth, each bearing a large tubercle. *Duby.*

R. acutus *Linn.*

R. paludosus *With.*

In waste places. — Perennial. *July.*

6. *R. Nemolapathum* Linn.

Lower leaves cordate-lanceolate; the upper lanceolate, undulated, serrated, acute. Flowering branches alternate, simple, straggling. Whorls distant, few-flowered; the upper destitute of leaves. Inner sepals becoming tubercled, ovate, obtuse, and entire. *Duby.*

R. sanguineus β . *Smith.*

By road sides. — Perennial. *July.*

7. *R. sanguineus* Linn.

E. B. 22. 1533.

Leaves acute, slightly curled, stalked, stained with crimson; the lower cordate-lanceolate. Flowering branches alternate, simple. Whorls distant, few-flowered; the upper destitute of leaves. Inner sepals becoming ovate-lanceolate, bluntish, and entire, one generally bearing a large tubercle. *Duby.*

By road sides. — Perennial. *July.*

8. *R. crispus* Linn. E. B. 28. 1998.
 Leaves wavy, curled, acute; the lower oblong, lanceolate, stalked.
 Flowering branches alternate, double or triple, simple or divided.
 Whorls somewhat clustered, many-flowered; the upper destitute
 of leaves. Inner sepals becoming roundish, cordate, entire,
 acute, with very large tubercles. *Duby.*

In waste ground. — Perennial. *June, July.*

9. *R. Hydrolapathum* Huds. E. B. 30. 2104.
 Leaves lanceolate, acute at each end. Whorls rather crowded,
 almost destitute of leaves. Inner sepals ovate-oblong, nearly
 entire, unequally tubercled.
R. Britannica Hudson.
R. aquaticus Smith; not of Linn.
 In ditches. — Perennial. *July, August.*

§ SORRELS. Juice acid.

10. *R. Acetosa* Linn. E. B. 2. 127.
 Flowers dioecious. Leaves oblong, arrow-shaped. Permanent
 sepals tuberculated. *Smith.*
 In meadows and pastures. — Perennial. *June.*
11. *R. Acetosella* Linn. E. B. 24. 1674.
 Flowers dioecious. Leaves lanceolate, hastate. Permanent sepals
 without tubercles. *Smith.*
 In dry gravelly pastures and fields. — Perennial. *June, July.*

2. OXYRIA *R. Br.*

Flowers hermaphrodite. Sepals 4, becoming larger after flowering.
 Styles 2, reflexed. Nut 2-edged. Embryo in the centre. *Dec.*

1. *O. reniformis* *R. Br.* Mountain-sorrel. E. B. 13. 910.
Rumex digynus Linn.
Rheum digynum Wahl.
 In mountain bogs, rills, and moist clefts of rocks. — Perennial. *June.*

3. POLYGONUM Linn.

Flowers hermaphrodite. Calyx monophyllous, divided, persistent,
 generally petaloid. Stamens definite, either equal in number to the
 segments of the calyx, or twice as many, but generally in part
 abortive. Fruit a 2- or 3-cornered indehiscent monospermous nut.
Meisner.

* Styles usually but 2.

1. *P. amphibium* Linn. E. B. 7. 435.
 Styles 2, united half way up. Stamens 5. Spike ovate. *Smith.*
 In ponds and ditches. — Perennial. *July, August.*
2. *P. Persicaria* Linn. Spotted Persicaria. E. B. 11. 756.
 Styles 2, united half way up. Stamens 6. Clusters dense, ovate-
 oblong, erect, on smooth stalks. Stipulas fringed. *Smith.*
- P. incanum* Meisner.
 Leaves hoary beneath. Flowers pale.
P. incanum Willd.
 In ditches and watery places. — Annual. *July, August.*

3. *P. lapathifolium* Linn. E. B. 20. 1382.
 Styles 2, distinct. Stamens 6. Flower-stalks rough. Stipulas
 heardless. Seeds concave at each side. *Smith*.
P. pensylvanicum *Curtis*.
P. pallidum *Withering*.
 In cultivated ground. — Annual. *July, August*.
4. *P. Hydropiper* Linn. F. B. 14. 989.
 Styles 2, united half way up. Stamens 6. Clusters lax, inter-
 rupted, drooping. Stem erect. Leaves lanceolate, wavy, without
 spots. *Smith*.
 Common everywhere in ditches. — Annual. *September*.
5. *P. minus* Huds. E. B. 15. 1043.
 Styles 2, combined. Stamens 6. Clusters lax, slender, nearly
 upright. Stem trailing at the base. Leaves linear-lanceolate.
 flat. *Smith*.
P. intermedium *Ehr*.
 On gravelly watery commons. — Annual. *September*.
- ** *Styles 3.*
6. *P. Bistorta* Linn. Great Bistort, or Snake-weed. E. B. 8. 509
 Stem simple, with a single, spiked cluster of flowers. Leaves
 ovate, wavy, running down into the footstalks. *Smith*.
 In pastures and meadows. — Perennial. *June*.
7. *P. viviparum* Linn. E. B. 10. 669.
 Stem simple, with a single, spiked cluster of flowers. Leaves
 lanceolate, revolute, with copious, prominent marginal veins.
Smith.
 In pastures or moist rocks, in alpine situations. — Perennial. *June, July*.
8. *P. aviculare* Linn. Knot-grass. E. B. 18. 1252.
 Flowers axillary. Leaves elliptic-lanceolate. Stipules much shorter
 than the internodes, with 6 distinct nervures. Stem procum-
 bent, herbaceous. Fruit tuberculated.
 In waste ground. — Annual. *April—October*.
9. *P. maritimum* Linn. E. B. Suppl. 2804.
 Flowers axillary. Leaves crowded, lanceolate, fleshy, glaucous.
 Stipules with about 12 nervures, at length torn. Stem procum-
 bent, woody at the base. Fruit smooth, larger than the calyx.
 Sea coast. — Perennial. *August, September*.
10. *P. Fagopyrum* Linn. Buck-wheat, or Brank. E. B. 15. 1044.
 Leaves heart-arrow-shaped. Stem nearly upright, without prickles.
 Angles of the fruit even. *Smith*.
 In cultivated fields. — Annual. *July, August*.
11. *P. Convolvulus* Linn. Black Bindweed. E. B. 14. 941.
 Leaves heart-arrow-shaped. Stem twining, angular. Segments of
 the calyx bluntly keeled. *Smith*.
 In fields and osier grounds. — Annual. *June—September*.
- S.

Order 70. AMARANTHACEÆ *Juss.*

Calyx 3- or 5-leaved, coloured, scarious, occasionally with 2 bracteolæ at the base.

Stamens hypogynous, either 5, or some multiple of that number, either distinct or monadelphous, occasionally partly abortive; *anthers* either 2-celled, or 1-celled.

Ovarium single, superior, 1- or few-seeded; the *ovules* hanging from a free central funiculus; *style* 1 or none; *stigma* simple or compound.

Fruit a membranous utricle.

Seeds lentiform, pendulous; *testa* crustaceous; *albumen* central, farinaceous; *embryo* curved round the circumference; *radicle* next the hilum; *plumula* inconspicuous.

Herbs or *shrubs*. *Leaves* simple, opposite or alternate, without stipulæ.

Flowers scarious, in heads or spikes, usually coloured, occasionally bisexual, generally hermaphrodite. *Pubescence* simple, the hairs divided by internal partitions.

1. AMARANTHUS *Linn.*

Monœcious. *Calyx* 3- or 5-lobed. *Males*. *Stamens* 3 or 5. *Females*. *Styles* 3. *Stigmas* 3. *Fruit* 1-seeded, crowned with the remains of the style, and opening by a transverse incision.

1. *A. Blitum* *Linn.*

E. B. 31. 2212.

Flowers 3-cleft and triandrous, in small lateral tufts. *Leaves* ovate. Stem diffuse. *Smith*.

Perennial. *May—September*.

Order 71. CHENOPODEÆ *Vent.*

(*Atriplices Juss.*)

Calyx deeply divided, sometimes tubular at the base, persistent, with an imbricated æstivation.

Stamens inserted into the base of the calyx, opposite its segments, and equal to them in number, or fewer.

Ovarium single, superior, or occasionally adhering to the tube of the calyx, with a single *ovulum* attached to the base of the cavity, and either erect or inverted; *style* in 2 or 4 divisions, rarely simple; *stigmas* undivided.

Fruit membranous, not valvular, sometimes baccate.

Embryo curved round farinaceous albumen; or spiral, or doubled together without albumen; *radicle* next the hilum; *plumula* inconspicuous.

Herbaceous plants or *undershrubs*. *Leaves* alternate without stipulæ, occasionally opposite. *Flowers* small, occasionally polygamous.

ANALYSIS OF THE GENERA.

Hermaphrodite				
Calyx of the fruit with appendages at the back	-	1.	SALSOLA.	
Calyx without appendages				
tubular	-	2.	SALICORNIA.	
3-4-5-parted				
Fruit loose in the calyx	-	3.	CHENOPODIUM.	
Fruit adhering to the lower half of the calyx	-	4.	BETA.	
Polygamous or monœcious	-	5.	ATRIFLEX.	

1 SALSOLA Linn. SALTWORT.

Calyx 5-parted, persistent; the segments after flowering producing from their back a scarious appendage. *Stamens* 5. *Stigmas* 2 or 3. *Seed* solitary. *Embryo* in the circumference. *Dec.*

1. *S. Kali* Linn. E. B. 9. 634.
Herbaceous and decumbent. Leaves awl-shaped, spinous-pointed, rough. *Calyx* with a dilated margin. *Smith.*
On the sea-coast. — Annual. *July.*

2. SALICORNIA Linn.

Calyx tubular, ovate, compressed, with 5 inconspicuous teeth. *Stamens* 1 or 2, protruding. *Style* 1, short. *Stigmas*, 2, projecting, papillose. *Fruit* a utricle covered by the calyx. *Seed* cochleate.

1. *S. herbacea* Linn. Jointed-glasswort. Marsh Samphire.
E. B. 6. 415.
Stem herbaceous, erect; joints compressed, notched; interstices inversely conical. Spikes tapering upward. *Smith.*
S. annua *Smith.*
On muddy sea-shores. — Annual. *August, September.*
2. *S. procumbens* *Smith.* E. B. 35. 2475.
Stem herbaceous, procumbent; interstices inversely conical; branches simple. Spikes tapering upward. *Stamens* 2. *Smith.*
S. herbacea *Ehr.*
In salt marshes. — Annual. *August.*
3. *S. radicans* *Smith.* E. B. 24. 1691.
Stem woody; procumbent, and taking root at the base. Joints compressed, notched; interstices somewhat cylindrical. Spikes oblong. *Stamens* 2. *Smith.*
S. fruticosa *Smith.* E. B. 35. 2467.
On muddy sea-shores. — Perennial. *September.*

3. CHENOPODIUM Linn.

Calyx 3-, 4-, or 5-parted, persistent, neither warted nor growing

together after flowering. *Stamens* 5, or fewer. *Style* 2-fid. *Stigmas* 2-4. *Fruit* a thin utricle, containing a single polished brittle seed.

* *Leaves angular.*

1. *Ch. Bonus Henricus* Linn. E. B. 15. 1033.
Leaves triangular-arrow-shaped, entire. Spikes terminal, compound, leafless. *Smith*.
In waste ground. — Perennial. *May, June*.
2. *Ch. urbicum* Linn. (*intermedium* Mert. & Koch.) E. B. 10. 717.
Leaves triangular, toothed. Spikes crowded, lobed, very long and straight, approaching the stem, almost leafless. *Smith*.
On dunghills. — Annual. *August, September*.
3. *Ch. rubrum* Linn. E. B. 24. 1721.
Leaves triangular, somewhat rhomboid, deeply toothed and sinuated. Spikes erect, compound, leafy. Fruit very minute. *Smith*.
In waste ground. — Annual. *August*.
4. *Ch. botryodes* Smith E. B. 32. 2247.
Leaves triangular, somewhat toothed; the upper ones bluntish. Spikes erect, compound, rounded, leafy. *Smith*.
In moist sandy places, near the sea. — Annual. *August, September*.
5. *Ch. murale* Linn. E. B. 24. 1722.
Leaves ovate, acute, many-toothed, shining. Spikes aggregate, panicled, cymose, leafless. *Smith*.
In waste ground. — Annual. *August, September*.
6. *Ch. hybridum* Linn. E. B. 27. 1919.
Leaves heart-shaped, pointed, with broad angular teeth. Spikes aggregate, panicled, cymose, divaricated, leafless. *Smith*.
In waste ground. — Annual. *August*.
7. *Ch. album* Linn. Goosefoot. E. B. 24. 1723.
Leaves rhomboid-ovate, jagged, mealy; entire towards the base: upper ones oblong, entire. Fruit quite smooth. *Smith*.
Ch. viride Linn.
In waste ground. — Annual. *July, August*.
8. *Ch. ficifolium* Smith. E. B. 24. 1724.
Leaves sinuated, jagged, somewhat hastate; entire towards the base: upper ones oblong, quite entire. Fruit dotted. *Smith*.
Ch. serotinum Hudson.
In waste ground. — Annual. *August, September*.
9. *Ch. glaucum* Linn. E. B. 21. 1454.
Leaves all oblong; deeply waved at the margin; glaucous and mealy beneath. Spikes compound, leafless, lobed. Fruit very minutely dotted. *Smith*.
In waste ground. — Annual. *August*.

**** Leaves undivided, entire.**

10. *Ch. olidum* Curtis. E. B. 15. 1034
 Stems ascending. Leaves stalked, rhomboid-ovate, rather blunt, or somewhat acute, entire, hoary with grey powder. Racemes dense, spiked, ascending, leafless. Calyx of the fruit not keeled. Seed polished, shining, with a sharp edge.
Atriplex Vulvaria Crantz.
C. Vulvaria Linn.
 In waste ground. — Annual. *August.*
11. *Ch. polyspermum* Linn. E. B. 21. 1480, 1481.
 Stem erect or procumbent, simple or branched. Leaves ovate-elliptical, entire, acute, obtuse, or emarginate, mucronate. Racemes axillary, compound, cymose. Branches dichotomous, divaricate, leafless. Seeds depressed, blackish brown, shining, round, obsoletely dotted, obtuse at the edge. *Leighton.*
C. acutifolium Smith.
C. marginatum Hornem.
 Waste places, partially overflowed during winter. — Annual. *July—September.*
12. *Ch. maritimum* Linn. E. B. 9. 633.
 Leaves awl-shaped, semicylindrical. Flowers axillary, sessile. *Smith.*
 On the sea-shore. — Annual. *July, August.*
13. *Ch. fruticosum* Linn. E. B. 9. 635.
 Erect, shrubby. Leaves semicylindrical, bluntish, without spines. *Smith.*
Salsola fruticosa Linn.
 On the sea-coast. — Shrub. *July, August.*

4. BETA Linn.

Calyx 5-parted, half adherent to the ovarium at the base. *Stamens* 5. *Styles* 2. *Fruit* reniform, enveloped in the capsular base of the calyx. *Dec.*

1. *B. maritima* Linn. Sea Beet. E. B. 4. 285.
 Stems procumbent. Flowers in pairs. Segments of the calyx entire at the keel. *Smith.*
 On the sea-shore. — Perennial. *August.*

5. ATRIPLEX Linn.

Polygamous or often monœcious. *Hermaphrodite.* *Calyx* 5-parted. *Stamens* 5. *Pistillum* usually defective. *Female.* *Calyx* 2-parted; the segments parallel and close together, uniting after flowering, and forming a cover for the fruit. *Style* bifid. *Fruit* a utricle, with a single brittle seed.

1. *A. portulacoides* Linn. Sea Purslane. E. B. 4. 261.
 Stem shrubby, spreading. Leaves opposite, obovate-lanceolate, entire, tapering at the base. Flowers generally completely separated. *Smith.*
 On the sea-coast. — Shrub. *July, August*

2. *A. laciniata* Linn. E. B. 3. 165.
 Stem herbaceous, spreading. Leaves trowel-shaped, angular, and toothed; scaly beneath. *Smith.*
 On the sea-coast. — Annual. *July.*
3. *A. patula* Linn. E. B. 13. 936.
 Stem herbaceous, spreading. Leaves triangular-lanceolate, somewhat halberd-shaped. Calyx of the fruit tuberculated at the sides. *Smith.*
 In cultivated, as well as waste ground. — Annual. *June—August.*
4. *A. angustifolia* Smith. E. B. 25. 1774.
 Stem herbaceous, spreading. Leaves lanceolate, entire; the lower ones partly 3-lobed. Calyx of the fruit halberd-shaped, slightly warty at the sides. *Smith.*
 In waste ground. — Annual. *June—August.*
5. *A. erecta* Huds. E. B. 31. 2223.
 Stem herbaceous, erect. Leaves ovate-lanceolate; lower ones sinuated. Calyx of the fruit all over armed with sharp tubercles. *Smith.*
 In waste ground. — Annual. *August.*
6. *A. littoralis* Linn. E. B. 10. 708.
 Stem herbaceous, erect. Leaves all linear, entire, variously toothed, or sinuated. Calyx of the fruit sinuated; its disk armed with prominent tubercles. *Smith.*
A. serrata Huds.
A. marina Linn.
 In muddy salt marshes. — Annual. *August, September.*
7. *A. pedunculata* Linn. E. B. 4. 232.
 Stem herbaceous, zigzag, with spreading branches. Leaves obovate, entire. Seed-bearing flowers stalked, wedge-shaped. *Smith.*
 On the sea-coast. — Annual. *August, September.*

Order 72. SCLERANTHÆ *Link.*

Flowers hermaphrodite.

Calyx 4- or 5-toothed, with an urceolate tube.

Stamens from 1 to 10, inserted into the orifice of the tube.

Ovarium simple, superior, 1-seeded.

Styles 2, or 1, emarginate at the apex.

Fruit a membranous utricle enclosed within the hardened calyx.

Seed pendulous from the apex of a funiculus, which arises from the bottom of the cell; *embryo* cylindrical, curved round farinaceous albumen.

Small herbs. *Leaves* opposite, without stipules. *Flowers* axillary, sessile.

1. *SCLERANTHUS* Linn. KNAWELE.

Calyx 5-cleft, persistent, with an urceolate tube. *Stamens* 2, 5, or 10. *Ovarium* 2-seeded. *Fruit* thin, indehiscent, covered by the hardened tube of the calyx.

1. *S. annuus* Linn.

E. B. 5. 351.

Calyx of the fruit with spreading, taper, acute segments. *Stems* spreading. *Smith*.

In sandy fields. — Annual. *July*.

2. *S. perennis* Linn.

E. B. 5. 352.

Calyx of the fruit with converging obtuse segments, edged with a broad membrane. *Stems* procumbent. *Smith*.

In sandy fields. — Perennial. *August—October*

Order 73. URTICEÆ Juss.

Flowers monœcious or diœcious, scattered or clustered.

Calyx membranous, lobed, persistent.

Stamens definite, distinct, inserted into the base of the calyx; *anthers* curved inwards in æstivation, curving backwards with elasticity when bursting.

Ovarium superior, simple; *ovule* solitary, erect; *stigma* fringed, simple.

Fruit a simple indehiscent nut, surrounded either by the membranous or fleshy calyx.

Embryo straight, curved, or spiral, with or without albumen; *radicle* superior.

Leaves usually alternate, with stipules, hispid or scabrous, mostly covered with stiff or pungent hairs.

1. *PARIETARIA* Linn.

Flowers polygamous, surrounded by an involucre. *Calyx* 4-parted.

Stamens 4. *Ovarium* 1. *Style* 1. *Stigma* 1. *Fruit* 1-seeded, covered by the lengthened calyx.

1. *P. officinalis* Linn. Common Wall-pellitory. E. B. 13. 879.

Leaves lanceolate-ovate, without lateral ribs at the base. *Involucre* 3-flowered, with 7 ovate segments. *Stem* ascending. *Smith*.

On old walls and rubbish, in sheltered places. — Perennial. *June—September*.

2. *URTICA* Linn.

Monœcious, seldom diœcious. — *Males* in loose racemes. *Calyx* 4-parted. *Stamens* 4. — *Females* in capitate racemes. *Calyx* 2-leaved. *Ovarium* 1. *Stigma* 1. *Fruit* 1-seeded, enclosed in the calyx.

1. *U. pilulifera* Linn. Roman Nettle. E. B. 3. 148.
Leaves opposite, ovate, serrated; with transverse ribs. Fertile flowers in globular heads. *Smith*.
In waste ground near the sea. — Annual. *June, July*.
2. *U. urcns* Linn. Small Nettle. E. B. 18. 1236.
Leaves opposite, elliptical, with about 5 longitudinal ribs. Clusters nearly simple. *Smith*.
A troublesome weed. — Annual. *June—October*
3. *U. dioica* Linn. Great Nettle. E. B. 25. 1750.
Leaves opposite, heart-shaped. Clusters much branched, in pairs, mostly diœcious. Roots creeping. *Smith*.
In waste ground. — Perennial. *July, August*.

3. HUMULUS Linn.

Diœcious. *Males*. Calyx 5-parted. *Stamens* 5. *Females*. Inflorescence a lax membranous cone. *Ovarium* 1. *Styles* 2. *Fruit* 1-seeded. *Embryo* spiral.

1. *H. Lupulus* Linn. Hop. E. B. 6. 427.
In thickets and hedges — Perennial. *July*.

Order 74. RESEDACEÆ *Lindley*.

Calyx consisting of many narrow sepals.

Petals unequal, lacerated.

Stamens definite in number, perigynous, declinate, inserted into a glandular unequal-sided disk.

Ovarium sessile, 3-lobed, 1-celled, many-seeded, with 3 parietal placentæ. *Stigmata* 3, glandular, sessile.

Fruit dry, and membranous, or succulent, opening at the apex.

Seeds several, reniform, attached to 3 parietal placentæ; *embryo* taper, arcuate, without albumen; *radicle* superior.

Herbaceous plants, with alternate leaves, the surface of which is minutely papillose.

1. RESEDA Linn.

Fruit dry, many-seeded, surrounded by the withered calyx.

1. *R. Luteola* Linn. Dyer's Rocket. Yellow-weed, or Weld. E. B. 5. 320.

Leaves lanceolate, undivided. Involucrum in 4 segments.

In waste ground. — Annual. *July*.

2. *R. lutea* Linn. Base Rocket. Wild Mignonette. E. B. 5. 321.
Leaves deeply 3-lobed; lower ones pinnatifid. Involucrum in 6 divisions.

On chalky hills. — Annual, or, in mild winters, perennial. *July, August*.

Order 75. EUPHORBIACEÆ Juss.

Flowers monœcious or diœcious.

Calyx lobed, inferior, with various glandular or scaly internal appendages, sometimes wanting.

Males. *Stamens* definite or indefinite, distinct or monadelphous; *anthers* 2-celled.

Females. *Ovarium* superior, sessile, or stalked, 2- 3- or more-celled; *ovules* solitary, or twin, suspended from the inner angle of their cell; *styles* equal in number to the cells, sometimes distinct, sometimes combined, sometimes none; *stigma* compound, or single with several lobes.

Fruit consisting of 2, 3, or more dehiscent cells, separating with elasticity from their common axis.

Seeds solitary or twin, suspended, with an arillus; *embryo* enclosed in fleshy albumen; *cotyledons* flat; *radicle* superior.

Trees, shrubs, or herbaceous plants, often abounding in acrid milk.

Leaves opposite or alternate, usually with stipulæ. *Flowers* axillary or terminal, usually with bracteæ, sometimes enclosed within an involucre.

1. EUPHORBIA Linn.

Flowers collected in monœcious heads, surrounded by an involucre, consisting of 1 leaf with five divisions, which have externally 5 glands alternating with them. *Males* naked, monandrous, articulated with their pedicel, surrounding the female, which is in the centre. *Female* naked, solitary. *Ovarium*, stalked. *Stigmas* 3, forked. *Fruit* hanging out of the involucre, consisting of 3 cells, bursting at the back with elasticity, and each containing 1 suspended seed.

§ *Anisophyllum* Röper.

Leaves with stipulæ. Glands of the involucre externally supported by membranous processes. *Seeds* without an arillary caruncula. *Röper*.

1. *E. Peplis* Linn.

E. B. 28. 2002.

Branches firm. *Leaves* oblong, deeply cordate on one side at the base, entire or slightly toothed towards the base, between fleshy and membranous, very smooth. *Fruit* ovate, 3-cornered, polished and quite smooth. *Seeds* obovate, somewhat 4-cornered, smooth, whitish. *Röper*.

On the sea-coast. — Annual. *July—September*.

§ *Tithymalus* Tournef.

Leaves without stipulæ. Glands of the involucre without membranous processes. *Seeds* without an arillary caruncula. *Röper*.

A. Glands of the involucre and cotyledons nearly round.

a. Seeds netted.

2. *E. Helioscopia* Linn.

E. B. 13. 883.

Annual. Leaves membranous, obovate-cuneate, obtuse, or emarginate, serrated towards the points, smooth, or occasionally with a few hairs. Whorl 5-cleft, rarely 4- or 3-cleft. Ovaria convex at the back, polished, smooth. Seeds obovate, sculptured, brown, not shining. *Röper*.

In fields and waste places. — Annual. *All seasons*.

b. Seeds smooth, or warted with raised points.

3. *E. platyphylla* Linn.

Annual or half-shrubby. Leaves membranous, lanceolate, generally acute, serrulate, smooth, pubescent, or hairy. Whorl 5-cleft, seldom 4- or 3-cleft. Ovaria convex at the back, smoothish or more or less warted, smooth or hairy. Seeds obovate, brown, shining. *Röper*.

β. stricta Röper.

E. B. 5. 333.

Involucre generally hairy externally. Whorl generally 5-cleft, seldom 3-cleft. Pericarpium warted, smooth, or hairy. Seeds smooth. *Röper*.

E. stricta Linn.*E. Coderiana* Fl. Fr.

In corn-fields. — Annual. *July, August*.

4. *E. hiberna* Linn.

E. B. 19. 1337.

Perennial. Leaves membranous, or between membranous and coriaceous, broadly lanceolate, sessile, obtuse or acute, entire, pubescent or smooth. Whorl 5-cleft, rarely 6-cleft. Ovaria convex at the back, muricated with warts, smooth. Seeds obovate, smooth, somewhat shining, blackish-brown. *Röper*.

In fields, thickets, and woods. — Perennial. *June*.

S.

B. Glands of the involucre triangular-lunate, or lunate with 2 horns. Cotyledons linear.

5. *E. Esula* Linn.

E. B. 20. 1399.

Perennial. Leaves membranous, lanceolate, sessile, bluntish, muricate, entire, or with a few roughish teeth towards the point, smooth. Flowering branches either arranged under the whorl, in a sort of multifid false umbel, or occasionally in a 5-cleft whorl. Glands lunate, somewhat 2-horned. Ovaria convex, smooth, and rough, with dots at the back. Seeds obovate, smooth, greyish-brown, not shining. *Röper*.

In shady woods. — Perennial. *July*.

6. *E. Cyparissias* Linn.

E. B. 12. 840.

Perennial. Leaves membranous, stiff, linear, sessile, obtuse, or rather pointed, entire, smooth. Flowering branches either arranged under the whorl, in a sort of multifid false umbel, or occasionally in a 5-cleft whorl. Glands lunate, somewhat 2-horned. Ovaria

smooth, convex at the back, roughish with dots. Seeds obovate, smooth, greyish-brown or whitish, not shining. *Röper*.

In groves and thickets. — Perennial. *June, July*.

7. *E. paralias* Linn.

E. B. 3. 195.

Perennial. Leaves thickish, leathery, lanceolate, sessile, acute or bluntish, entire, smooth. Whorl 5-cleft or 4- or 3-cleft; the flowering branches occasionally collected beneath the whorl into a sort of multifid false umbel. Glands lunate, somewhat eroded. Ovarium convex at the back, with a longitudinal furrow, covered with extremely minute elevated dots, wrinkled, smooth. Seeds roundish-obovate, smooth or slightly sculptured, cinereous, occasionally with a few brownish spots. *Röper*.

On the sea-coast. — Perennial. *August, September*.

8. *E. segetalis* Linn.

Annual. Leaves membranous, rather stiff, linear-lanceolate, sessile, or tapering into the petiole, acute or rather blunt, mucronate, quite entire, smooth. Whorl 5-cleft. Glands lunate with very long horns. Ovaria convex at the back, and rough with elevated points, smooth. Seeds obovate, whitish, sculptured. *Röper*.

β. *maritima* Röper.

E. B. 7. 441.

Bractæ broad, subcordate, slightly mucronate.

E. Portlandica Linn.

On the sea-coast, in the south. — Perennial. *August*.

9. *E. exigua* Linn.

E. B. 19. 1336.

Annual. Leaves membranous, rather stiff, linear or linear wedge-shaped, sessile, rather acute, blunt or retuse, slightly mucronate, quite entire, smooth. Whorl trifid, 4-cleft or 5-cleft. Glands with very long horns. Ovaria convex at the back, rough with elevated points, smooth. Seeds obovate-cylindrical, nearly 4-cornered, covered with warted net-work, whitish or brownish ash-colour, not shining. *Röper*.

In corn-fields. — Annual. *July*.

10. *E. Peplus* Linn.

E. B. 14. 959.

Leaves membranous, roundish, tapering into the petiole, very blunt, entire, smooth. Whorl trifid, very seldom 5-fid. Glands lunate, with very long horns. Ovaria with a double-winged keel at the back, wrinkled and scabrous, smooth. Seeds obovate-cylindrical, bluntly 6-cornered; 4 of the sides dotted in rows, 2 with a longitudinal furrow; greyish white, not shining. *Röper*.

E. peploides Gouan.

A common weed. — Annual. *July, August*.

11. *E. Lathyris* Linn.

E. B. 32. 2255.

Biennial. Leaves somewhat coriaceous, linear, sessile, rather acute, or obtuse, mucronate, entire, smooth. Whorl 4-cleft, rarely bifid, still more rarely 5-cleft. Glands lunate, 2-horned; the horns dilated and obtuse. Ovaria convex at the back, with a deep longitudinal furrow, even, smooth. Seeds obovate, truncate at the base, rough, brown, not shining. *Röper*.

In dry thickets. — Biennial. *June, July*.

12. *E. amygdaloides* Linn.

E. B. 4. 256.

Perennial and half shrubby. Leaves coriaceous, or between coriaceous and membranous, broadly lanceolate, tapering into the petiole, acute or obtuse, slightly mucronate, entire, pubescent: of the flowering branches connate. Whorl 5-cleft, or the flowering branches collected under the whorl in a 6- or 8-cleft spurious umbel. Glands lunate, 2-horned. Ovaria convex at the back, with extremely minute elevated points, smooth. Seeds roundish-ovate, smooth, brown, not shining. *Rüper*

In woods and ditches. — Perennial. *March, April.*

13. *E. Characias* Linn.

E. B. 7. 442.

Perennial or half-shrubby. Leaves linear-lanceolate, tapering into the petiole, acute or rather blunt, slightly mucronate, entire, pubescent or smooth: of the flowering branches connate. The flowering branches collected under the whorl in a multifid spurious umbel. Glands lunate, sometimes 2-horned. Ovaria convex at the back, with extremely minute elevated points; when young, woolly, afterwards hairy or nearly smooth. Seeds oblong-ovate, smooth, opaque, blackish. *Rüper.*

In bushy mountainous places. — Shrub. *March, April.*

2. MERCURIALIS Linn.

Diœcious, or occasionally monœcious. *Calyx* 3-parted. *Males.* *Stamens* 9-12. *Females.* *Ovarium* double, with two opposite furrows, and two sterile filaments proceeding from either furrow. *Styles* 2, forked. *Fruit* dry, consisting of 2 cells bursting with elasticity, and containing each 1 seed.

1. *M. perennis* Linn. Perennial Mercury. E. B. 26. 1872.

Stem perfectly simple. Leaves rough. Root creeping. *Smith.*

On banks, and in bushy places. — Perennial. *April, May.*

2. *M. annua* Linn. Annual Mercury. E. B. 8. 559.

Stem cross-branching. Leaves smooth. Root fibrous. Barren flowers in numerous, spiked, alternate tufts. *Smith.*

In waste or cultivated ground. — Annual. *July—September.*

3. BUXUS Linn.

Monœcious. *Calyx* 3- or 4-parted. *Male.* *Scale* 2-lobed. *Stamens* 4, inserted about the rudiment of an ovary. *Female.* *Scales* 3, very small. *Styles* 3. *Stigmas* 3, obtuse. *Fruit* with 3 horns, 3 cells, and 6 seeds. *Dec.*

1. *B. sempervirens* Linn. Common Box-tree. E. B. 19. 1341.

Leaves ovate, convex. Footstalks slightly downy at the edges.

Anthers ovate-arrow-shaped. *Smith.*

On dry chalky hills. — Tree, or shrub. *April.*

Order 76. EMPETREÆ *Nuttall.*

Flowers unisexual.

Sepals 3 or 2, hypogynous, surrounded at the base by imbricated scales.

Stamens equal in number to the sepals, and alternate with them; *anthers* roundish, 2-celled, the cells distinct, bursting longitudinally.

Ovarium superior, seated in a fleshy disk, 3-, 6-, or 9-celled; *ovules* solitary, ascending; *style* 1; *stigma* radiating, the number of its rays corresponding with the cells of the ovarium.

Fruit fleshy, seated in the persistent calyx, 3-, 6-, or 9-celled; the coating of the cells bony.

Seeds solitary, ascending; *embryo* taper, in the axis of fleshy watery albumen; *radicle* inferior.

Small shrubs with heath-like evergreen leaves without stipulæ; and minute flowers in their axillæ.

1. EMPETRUM *Linn.*

Sepals 3. *Stamens* 3. *Stigma* 6- or 9-cleft. *Fruit* succulent, spherical, with from 6 to 9 seeds.

1. *E. nigrum* *Linn.* Crow-berry, or Crake-berry. *E. B.* 8. 526. Stem and branches procumbent. Leaves slightly elliptical. *Smith.* On mountainous heaths. — Shrub. *May.*

Order 77. ARISTOLOCHIÆ *Juss.*

Flowers hermaphrodite.

Calyx superior, tubular, with 3 segments, which are valvate in æstivation, sometimes regular, sometimes very unequal.

Stamens 10 or 12, epigynous, distinct, or cohering to the style and stigmas.

Ovarium inferior, 3- or 6-celled; *ovules* numerous, horizontally attached to the axis; *style* simple; *stigmas* radiating, as numerous as the cells of the ovarium.

Fruit dry or succulent, 3- or 6-celled, many-seeded.

Seeds with a very minute embryo placed in the base of fleshy albumen.

Herbaceous plants or *shrubs*, the latter often climbing. *Leaves* alternate, simple, stalked. *Flowers* axillary, solitary, brown or some dull colour.

1. ASARUM *Linn.* ASARABACCA.

Calyx campanulate, 3-lobed. *Stamens* placed upon the ovarium. *Anthers* adnate to the middle of the filaments. *Style* short. *Stigma* stellate, 6-lobed. *Fruit* capsular, 6-celled.

1. *A. europæum* Linn. E. B. 16. 1083.
Leaves two on each stem, kidney-shaped, obtuse. *Smith*.
In mountainous woods. — Perennial. *May*.

2. *ARISTOLOCHIA* Linn.

Calyx tubular, ventricose at the base, dilated at the apex, and lengthened into a strap-like lobe. *Anthers* 6, subsessile, inserted round the base of the style. *Stigma* 6-cleft. *Capsule* with 6 corners and 6 cells.

1. *A. Clematitis* Linn. Birthwort. E. B. 6. 398.
Leaves heart-shaped. Stem erect. Flowers aggregate, upright.
Calyx unilateral. *Smith*.
In woods and thickets. — Perennial. *July, August*.

Order 78. CERATOPHYLLÆ *Dec.*

Flowers monœcious.

Calyx inferior, many-parted.

Male. *Stamens* from 12 to 20; *filaments* wanting; *anthers* 2-celled.

Female. *Ovarium* superior, 1-celled; *ovule* solitary, pendulous; *stigma* filiform, oblique, sessile.

Nut 1-celled, 1-seeded, indehiscent, terminated by the hardened stigma.

Seed pendulous, solitary; *albumen* 0; *embryo* with 4 cotyledons, alternately smaller; *plumula* many-leaved; *radicle* superior (*Dec.*)

Floating herbs, with multifid, cellular leaves.

1. *CERATOPHYLLUM* Linn.

Character that of the order, there being no other genus.

1. *C. demersum* Linn. Hornwort. E. B. 14. 947.
Fruit armed with 3 spines. Segments of the calyx notched at the extremity. *Smith*.
In ditches and fish-ponds. — Perennial. *August, September*.
2. *C. submersum* Linn.
Fruit destitute of spines. Segments of the calyx acute, entire. *Smith*.
In ditches. — Perennial. *September*.

Order 79. ULMACEÆ *Mirb.*

Flowers hermaphrodite or polygamous.

Calyx divided, campanulate, inferior.

Stamens definite, inserted into the base of the calyx; erect in æstivation.

Ovarium superior, 2-celled; *ovules* solitary, pendulous; *stigmas* 2, distinct.

Fruit 1 or 2-celled, indehiscent, membranous or drupaceous.

Seed solitary, pendulous; *albumen* none, or in very small quantity; *embryo* with foliaceous cotyledons; *radicle* superior.

Trees or *shrubs* with scabrous, alternate, simple, deciduous leaves, and stipulæ.

1. ULMUS Linn.

Calyx campanulate, 4- or 5-toothed, persistent. *Stamens* from 3 to 6.

Ovarium compressed. *Stigmas* 2, sessile. *Pericarpium* membranous, winged, compressed, 1-seeded.

1. *U. campestris* Linn. Narrow-leaved English Elm. E. B. 27. 1886.

Leaves rhomboid-ovate, acuminate, wedge-shaped, and oblique at the base, always scabrous above, doubly and irregularly serrated, downy beneath, serratures incurved. Branches wiry, slightly corky; when young, bright brown, pubescent. Fruit oblong, deeply cloven, naked.

In hedges in Norfolk, and elsewhere. — Tree. *March* or *April*.

N. B. Of this, the *Hertfordshire elm* of the nurseries is probably a variety.

2. *U. suberosa* Ehr.

E. B. 31. 2161.

Leaves nearly orbicular, acute, obliquely cordate at the base, sharply, regularly, and doubly serrated; always scabrous above, pubescent below, chiefly hairy in the axillæ. Branches spreading, bright brown, winged with corky excrescences; when young, very hairy. Fruit nearly round, deeply cloven, naked.

In hedges. — Tree. *March*.

3. *U. major* Smith.

E. B. 36. 2542.

Leaves ovate-acuminate, very oblique at the base, sharply, doubly, and regularly serrated; always scabrous above, pubescent below, with dense tufts of white hairs in the axillæ. Branches spreading, bright brown, winged with corky excrescences; when young nearly smooth. Fruit obovate, slightly cloven, naked.

U. hollandica Miller.

In hedges. — Tree. *March*.

4. *U. carpinifolia*.

Leaves ovate-acuminate, coriaceous, strongly veined, simply crenate, serrate, slightly oblique and cordate at the base, shining, but rather scabrous above, smooth beneath. Branches bright brown, nearly smooth. Fruit

Four miles from Stratford on Avon, on the road to Alcester. — Tree.

5. *U. glabra* Miller.

E. B. 32. 2248.

Leaves ovate-lanceolate, acuminate, doubly and evenly crenate-serrate, cuneate and oblique at the base, becoming quite smooth above, smooth or glandular beneath, with a few hairs in the axillæ. Branches bright brown, smooth, wiry, weeping. Fruit obovate, naked, deeply cloven.

β. glandulosa.

Leaves very glandular beneath.

γ. latifolia.

Leaves oblong, acute, very broad.

In woods and hedges; *β.* near Ludlow; *γ.* at West Hatch, in Essex. *Mr. Forster.*

— Tree. *March*

N. B. — To this species the Downton elm and Scampston elm of the nurseries probably belong. They, the latter especially, require further examination.

6. *U. stricta.* Cornish Elm.

Leaves obovate, cuspidate, cuneate at the base, evenly and nearly doubly crenate-serrate, strongly veined, coriaceous, very smooth and shining above, smooth beneath, with hairy axillæ. Branches bright brown, smooth, rigid, erect, very compact. Fruit

β. parvifolia.

Leaves much smaller, less oblique at the base, finely and regularly crenate, acuminate rather than cuspidate.

In Cornwall and North Devon; *β.* the less common. — Tree.

7. *U. montana* Bauh. Witch Elm. E. B. 27. 1887.

Leaves obovate, cuspidate, doubly and coarsely serrated, cuneate and nearly equal at the base, always exceedingly scabrous above, evenly downy beneath. Branches not corky, cinereous, smooth. Fruit rhomboid-oblong, scarcely cloven, naked.

U. campestris Willd.

U. effusa Sibth., not of others.

U. nuda Ehr.

U. glabra Hudson, according to Smith.

In woods and hedges. — Tree. *March, April.*

N. B. — Of this, the Giant elm and the Chichester elm of the nurseries are varieties. It is often confounded by foreign botanists with *U. pedunculata*, a totally different species, not found in England. It is very nearly related to the *U. rubra* of North America, from which it can be scarcely distinguished by the leaves.

Nothing can be more imperfect than the state of our knowledge of either our domestic or foreign Elms. The whole genus requires to be very carefully studied by some one who can observe the species in different states of growth, and also ascertain the quality of their timber. I have no doubt that all here enumerated are distinct; and it is probable that the Wormsley Grange or Byford Elm of Hertfordshire, and the Black Elm of Ireland, are other species to add to our Flora. Let it always be remembered, however, that it is not from dried specimens that such a genus as this can be understood.

Division III. ACHLAMYDEÆ.

Note. The genus *Euphorbia*, among Monochlamydeæ, being destitute of calyx and corolla, may, by the student, be referred to some order of this division; but in that genus the absence of floral envelopes is to be ascribed to the excessive development of the involucre; the other genera of the same order are furnished with calyx. There is a tendency to produce a calyx in Cupulifereæ.

ANALYSIS OF THE ORDERS.

Flowers amentaceous									
Fruit succulent	-	-	-	-	-	-	-	-	83. MYRICEÆ.
Fruit dry									
Stigmas developed.									
Leaves ribbed									
Fruit naked	-	-	-	-	-	-	-	-	80. AMENTACEÆ.
Fruit in an involucre	-	-	-	-	-	-	-	-	81. CUPULIFEREÆ.
Stigmas wanting.									
Leaves ribless, resinous	-	-	-	-	-	-	-	-	82. CONIFEREÆ.
Flowers axillary, solitary	-	-	-	-	-	-	-	-	84. CALLITRICHINEÆ.

Order 80. AMENTACEÆ Juss.

Flowers unisexual; either monoëcious or dioëcious, amentaceous.

Male. *Stamens* distinct, scarcely ever monadelphous. *Anthers* 2-celled. *Calyx* sometimes present and membranous.

Female. *Ovarium*, superior, 1- or 2 celled; *ovules* solitary or indefinite, erect or pendulous; *style* single or none; *stigmas* divided.

Fruit membranous and indehiscent, or coriaceous and dehiscent, 1-celled, 1- or many-seeded.

Seeds erect or pendulous, naked or comose; *albumen* none; *embryo* straight or curved; *radicle* superior.

Trees or *shrubs*, with alternate, simple, stipulate, deciduous *leaves*, the veins of which are either reticulated or straight.

§ 1. *Betulineæ* Richard.

Fruit indehiscent, membranous, 2-celled, with solitary ovules. *Seeds* pendulous, naked. — *Trees* or *shrubs*, with *leaves* having their *venæ primariæ* running straight from the midrib to the margin.

1. *BETULA* Linn.

Monœcious. *Catkins* cylindrical. *Males.* *Scales* ternate, that in the middle bearing the stamens. *Female.* *Scales* 3-lobed, membranous, deciduous. *Styles* 2. *Ovarium* compressed, 2-celled; 1 cell abortive. *Fruit* membranous, winged, 1-celled.

1. *B. alba* Linn. Common Birch. E. B. 31. 2198.
Leaves ovate, acute, somewhat deltoid, unequally serrated, nearly smooth. Branches erect; when young, pubescent.
In woods. — Tree. April, May.
2. *B. pendula* Roth. Weeping Birch.
Leaves ovate, deltoid, acute, unequally serrated, smooth. Branches weeping; when young, smooth and warted.
B. margaritacea of some.
B. verrucosa Ehr.
In woods. — Tree. April, May.
3. *B. nana* Linn. E. B. 33. 2326.
Leaves orbicular, crenate, reticulated with veins beneath. *Smith*.
In spongy bogs, Scotland. — Shrub. May.

2. *ALNUS* Tourn.

Monœcious. *Male*. Catkins cylindrical. Scales stalked, cordate, with 3 smaller scales beneath them, which are staminiferous at the base. *Female*. Catkins roundish-ovate. Scales 2-flowered, coriaceous, persistent. Ovarium compressed. Stigmas 2. Fruit compressed, ovate, 2-celled, 2-seeded.

1. *A. glutinosa* Gært. Common Alder. E. B. 21. 1508.
Leaves roundish-wedge-shaped, wavy, serrated, glutinous, rather abrupt; downy at the branching of the veins beneath. *Smith*.
Betula Alnus Linn.
In watery meadows. — Tree. March.

§ 2. *Salicineæ* Richard.

Fruit 2-valved, 1-celled, many-seeded. Seeds erect, comose. — Trees or shrubs, with leaves having their *venæ primariæ* ramifying within the margin; and forming *venæ arcuatæ*.

3. *SALIX* Linn.

Flowers diœcious, very seldom monœcious. *Catkins* consisting of imbricated scales. — *Males*. Stamens from 2 to 5; sometimes apparently single, in consequence of the cohesion of 2. — *Female*. *Fruit* a 1-celled follicle, with a gland at its base. *Seeds* comose. *Radicle* inferior.

ANALYSIS OF THE DIVISIONS.

Catkins sessile on the point of the branchlets.	Leaves	} viii. CHRYSANTHÆ.
below the catkins proceeding from the sides of the branchlets		
Catkins originating in terminal buds, seated on a leafy peduncle having new buds. Peduncle permanent, continuing the branchlet		} x. GLACIALES.

Terminal bud and generally several more next the point of the branchlets producing leaves, the intermediate lateral ones catkins.

- | | | |
|---|-------|-----------------|
| Scales of the catkins whole-coloured, yellowish green, falling off before the fruit is ripe | } | i. FRAGILES. |
| Scales of the catkins whole-coloured, yellowish green, permanent | } | ii. AMYGDALINÆ. |
| Scales of the catkins discoloured at the point. | | |
| Anthers after flowering black | - - - | iv. PURPUREÆ. |
| Anthers after flowering yellow or brown. | | |
| Caps. on long stalks which are at least twice as long as the gland. | | |
| Tall, erect, or arborescent shrubs | - | vi. CAPRÆÆ. |
| Low shrubs with a creeping decumbent stem | - | vii. ARGENTÆÆ. |
| Caps. sessile or with very short stalks. | | |
| Catkins sessile. Leaves cuspidate, acuminate, serrate | - | iii. PRUINOSÆ. |
| Catkins sessile. Leaves entire or very slightly toothed | - | v. VIMINALES. |
| Catkins stalked ; stalk leafy | - | ix. FRIGIDÆÆ. |

§ I. FRAGILES. *Catkins lateral ; the fertile placed on a leafy stalk. Scales of the catkin whole-coloured, yellowish green, falling off before the fruit is ripe. Large Trees. Koch.*

1. *S. pentandra* Linn. Sweet Willow. E. B. 26. 1805.
Polyandrous. Catkins seated on a leafy stalk. Capsules tapering, ovate, smooth, on short stalks, which are twice as long as the gland. Style middling. Stigmas thickish, bifid. Leaves ovate-elliptical, acuminate, closely serrulate, quite smooth. Stipules ovate, straight. Leafstalk with many glands above. *Koch.*
About rivers, chiefly in the north of England and south of Scotland. — Tree. *June, July.*
2. *S. cuspidata* Schultz.
Usually tetrandrous. Catkins on leafy stalks. Capsules ovate, tapering, smooth, placed on stalks 3 or 4 times as long as the gland. Style middling. Stigmas thickish, emarginate. Leaves oblong-lanceolate, with taper points, closely and finely serrate, quite smooth. Stipules half cordate, oblique. Leafstalk with many glands above. *Koch.*
S. Meyeriana Willd.
North of England. — Tree. *June, July.*
3. *S. fragilis* Linn. E. B. 26. 1807.
Diandrous. Catkins on leafy stalks, Capsules ovate-lanceolate, smooth, on stalks 2 or 3 times as long as the gland. Style middling. Stigmas thickish, bifid. Leaves lanceolate, taper-pointed, quite smooth, with coarse inflexed serratures. Stipules half cordate, rather obtuse. *Koch.*
S. decipiens Hoffm. E. B. 27. 1937. White Welsh or Varnished Willow.
Meadows. — Tree. *April, May.*
4. *S. Russelliana* Smith. Bedford Willow. E. B. 26. 1808.
Diandrous. Catkins on leafy stalks. Capsules ovate-lanceolate,

smooth, on stalks 2 or 3 times as long as the gland. Style mid-
dling. Stigmas thickish, bifid. Leaves lanceolate, tapering,
smooth, serrated, when young silky on each side. Stipules ob-
lique, half cordate, tapering. *Koch.*

Marshy Woods. — Tree. *April, May.*

5. *S. alba* Linn. Cærulean Willow. E. B. 34. 2430.

Diandrous. Catkins on leafy stalks. Capsules ovate, obtuse,
smooth, by degrees gaining a stalk, which, however, is hardly so
long as the very short gland. Style short. Stigmas thickish,
emarginate. Leaves lanceolate, tapering, serrulate, silky on both
sides. Stipules lanceolate. *Koch.*

S. cærulea Smith. E. B. 34. 1243.

β. *Branches yellow.* Golden Osier. E. B. 20. 1389.

S. vitellina Linn.

In meadows and moist woods. — Large tree. *May.*

- § II. *AMYGDALINÆ.* *Catkins lateral, the fertile ones placed on a leafy
stalk. Scales of the catkins whole-coloured, yellowish green, permanent.
Leaves long, serrated, smooth. Tall shrubs, with pliable shoots.
Koch.*

6. *S. amygdalina* Linn. E. B. 27. 1636.

Triandrous. Catkins on leafy stalks. Scales smooth at the point.
Capsules ovate-conical, bluntish, smooth, on stalks 2 or 3 times
as long as the gland. Style very short. Stigmas horizontal,
diverging, emarginate. Leaves lanceolate or oblong, tapering,
serrated, very smooth. Stipules half-cordate. *Koch.*

α. *Leaves green, or rather glaucous beneath.*

S. triandra Linn. E. B. 20. 1435.

S. Hoffmanniana Smith. E. B. Supp. 2620.

β. *Leaves quite glaucous beneath.*

S. amygdalina Smith.

In wet woods and hedges. — Large shrub. *May—August.*

7. *S. undulata* Ehr. E. B. 20. 1436.

Triandrous. Catkins on leafy stalks. Scales bearded at the point.
Capsules ovate conical, downy or smooth, on stalks about twice
as long as the gland. Style long. Stigmas bifid. Leaves
lanceolate, with long points, finely serrate, downy, becoming
smooth. Stipules half cordate. *Koch.*

S. lanceolata Smith.

Low meadows. — Large bush. *April, May.*

- * * *S. petiolaris* Smith, E. B. 16. 1147., is not a British, nor even a European, species.

- § III. *PRUINOSÆ.* *Catkins lateral, sessile even in fruit. Capsules
sessile. Stamens 2, distinct; anthers after shedding their pollen
remaining yellow. Scales of the catkin discoloured at the point.
Leaves cuspidate-acuminate, serrated, becoming smooth. Inner bark
yellow in the summer. Tall shrubs or trees, of a bright-green hue.
Koch.*

No British species; *S. daphnoides* of Villars not being the same as *cinerea*, as Smith supposed. *S. acutifolia*, which is the *S. violacea* of our gardens, is so common as to be within reach of any one as an illustration of this division.

§ IV. PURPUREÆ. *Catkins lateral, sessile; their scales dark or purple at the point. Stamens 2, united as far as the middle or the point; anthers purple, becoming black after flowering. Inner bark yellow in the summer. Tall shrubs or trees, with a glaucous or dull green hue. Koch.*

8. *S. purpurea* Linn. E. B. 20. 1388.
 Monandrous. Catkins sessile, with bracts at the base. Capsules ovate, sessile, downy. Gland longer than the base of the ovary. Style short. Stigmas ovate. Leaves lanceolate, broader upwards, taper-pointed, finely serrated, smooth, flat. Koch.
S. monandra Ehr.
α. Stem lower, branches more straggling, catkins very slender.
S. purpurea Smith.
S. Doniana Smith. E. B. Supp. 2599.
β. Like the last, but catkins twice as thick, and leaves larger and broader.
S. Lambertiana Smith. E. B. 19. 1359.
γ. Branches more erect, leaves longer.
S. Helix Linn. E. B. 19. 1343. Rose Willow.
S. Woolgariana Hooker. E. B. Supp. 2651.
 Low meadows. — Bush or tree. March.

9. *S. rubra* Huds. E. B. 16. 1145.
 Monadelphous. Catkins sessile, with bracts at the base. Capsules ovate, sessile, downy. Gland longer than the base of the ovary. Style long. Stigmas oblong-linear or filiform. Leaves long, lanceolate, tapering, with spreading teeth, rolled back a little at the edge, downy, becoming smooth. Stipules linear. Koch.
α. Stigmas oblong-linear.
S. rubra Smith.
β. Stigmas long, filiform.
S. Forbyana. E. B. 19. 1344.
 Low meadows. — Tree. April, May.

§ V. VIMINALES. *Catkins lateral, sessile; the scales brownish or dark at the point. Stamens 2, distinct, rarely united at the base; the anthers yellow as they go off. Capsules sessile or on short stalks, which are not longer than the gland. Leaves long, entire, or finely toothed, covered on the under side with a silky or thick down. Tall shrubs, sometimes trees. Koch.*

10. *S. viminalis* Linn. Common Osier. E. B. 27. 1898.
 Catkins sessile, with bracts at the base. Capsules ovate lanceolate, downy, sessile. Style long. Stigmas filiform, undivided. Hairs

of the scales shorter than the styles. Leaves lanceolate, linear, tapering, entire, somewhat repand, silky, and shining beneath. Stipules lanceolate-linear, shorter than the leafstalk. *Koch.*

In wet meadows. — Tree. *April, May.*

11. *S. stipularis* Smith.

E. B. 17. 1214.

Catkins sessile, with bracts at the base. Capsules ovate-lanceolate, downy, on very short stalks. Style long. Stigmas filiform, undivided. Hairs of the scales about as long as the stigmas. Leaves lanceolate-linear, tapering, quite entire, somewhat repand, downy, and rather shining beneath. Stipules from a half-cordate base, lanceolate, tapering, as long as the leafstalk. *Koch.*

In osier-holts. — Shrub. *March.*

12. *S. acuminata* Smith.

E. B. 20. 1434.

Catkins sessile, with bracts at their base. Capsules ovate-lanceolate, downy, placed on stalks about as long as the gland. Style long. Stigmas filiform, undivided. Leaves oblong-lanceolate, tapering, either entire or repand-toothleted, downy beneath. Stipules half-cordate, reniform, acute. *Koch.*

β. *leaves narrower.*

S. mollissima Smith. E. B. 21. 1509.

S. Smithiana Willd.

In wet grounds. — Tree. *April, May.*

§ VI. CAPRÆÆ. *Catkins lateral, in flower sessile, supported by a few leaves, in fruit usually placed on leafy stalks; scales dark, or brownish at the point. Stamens 2, or but little united; anthers after bursting yellow. Capsules placed on stalks which are at least twice as long as the glands. Tall shrubs or trees. Koch.*

13. *S. holosericea* Willd.

Catkins sessile, before the leaves, with bracts at the base. Capsules ovate-lanceolate, downy, on stalks 2 or 3 times as long as the gland. Style very short. Stigmas ovate, emarginate. Leaves lanceolate, tapering, thinner, and finely serrated towards the point, downy underneath. Stipules half ovate, blunt. *Koch.*

In Sussex. *Mr. Borrer.*

14. *S. cinerea* Linn. Sallow.

E. B. 27. 1897.

Catkins sessile, before the leaves, with bracts at the base. Capsules from an ovate base, long-lanceolate, downy, on stalks 4 times as long as the gland. Style very short. Stigmas ovate, bifid. Leaves elliptical, or lanceolate-obovate, with short points, flat, with wavy serratures, greyish-green, downy above, hairy beneath. Stipules kidney-shaped. Buds hoary. *Koch.*

β. *Leaves elliptical-obovate.*

S. aquatica Smith. E. B. 20. 1437.

γ. *Leaves narrow.*

S. oleifolia Smith. E. B. 20. 1402.

δ. *Leaves very narrow, and somewhat ferruginous.*

S. ferruginea Borrer. E. B. Supp. 2665.

? *S. rufinervis* Dec.

In wet hedgerows. — Shrub, or small tree. *April.*

This and the next form the *Saule Marceau* of the French, which is the best for the manufacture of gunpowder charcoal.

14. *S. caprea* Linn.

E. B. 21. 1488.

Catkins sessile, before the leaves, with small bracts at the base.

Capsules from an ovate base, long-lanceolate, placed on stalks from 4 to 6 times longer than the gland. Style very short.

Stigmas ovate, bifid. Leaves ovate or elliptical, flat with narrow points, obsoletely wavy and crenelled, smooth above, glaucous and downy beneath. Stipules kidney-shaped. Buds smooth. *Koch.*

β. *leaves quite entire.*

S. sphacelata Smith. E. B. 33. 2333.

Woods and hedges. — Tree. *April.*

15. *S. aurita* Linn.

E. B. 21. 1487.

Catkins sessile, when in fruit stalked with a few leaves at the base.

Capsules from an ovate base long-lanceolate, downy, on stalks 3 or 4 times as long as the gland. Style very short. Stigmas ovate, emarginate. Leaves obovate, or oblong-obovate, recurved at the points with wavy serratures, rugose and downy above, glaucous and hairy beneath. Stipules kidney-shaped. Buds smooth. *Koch.*

In moist upland woods. — Shrub. *April, May.*

16. *S. livida* Wahlenb.

Catkins when in fruit on leafy stalks. Capsules from an ovate base, long-lanceolate, downy, on stalks 5 times as long as the gland. Style very short. Stigmas ovate, bifid. Leaves obovate or elliptical, with short points, entire; the upper remotely and bluntly serrated, glaucous beneath, when full grown quite smooth. Stipules kidney-shaped. *Koch.*

S. bicolor Ehr.

Woods and meadows.

Introduced upon no certain authority. Probably it exists in the shape of one of the many supposed varieties of *S. arbuscula*.

17. *S. phylicifolia* Linn.

Catkins sessile, when in fruit with very short stalks, which have a few small leaves at their base. Capsules from an ovate base, subulate, on stalks about 2 or 3 times as long as the gland. Style long. Stigmas bifid. Leaves ovate, elliptical; or lanceolate, with wavy serratures, hoary on the under side; the younger ones and the branches hairy, becoming smooth. Stipules half cordate, straight at the point. *Koch.*

S. Andersoniana Smith. E. B. 33. 2343.

S. damascena Borrer. E. B. Supp. 2709.

β. *Ovaries downy.*

S. nigricans Smith. E. B. 17. 1213.

S. rupestris Smith. E. B. 33. 2342.

- S. Forsteriana* Smith. E. B. 33. 2344.
S. hirta Smith. E. B. 20. 1404.
S. cotinifolia Smith. E. B. 20. 1403.
S. Borreriana Smith. E. B. Supp. 2619.

In woods and the banks of rivers. — Shrub. *March—May.*

18. *S. hastata* Linn. E. B. 23. 1617.

Catkins placed on leafy stalks. Capsules from an ovate base, subulate, on stalks about half as long again as the gland. Style long. Stigmas bifid. Leaves ovate, elliptical, or lanceolate, smooth, serrated. Stipules half cordate, straight at the point. Young branches between woolly and shaggy. Scales of the catkins exceedingly shaggy; their hairs long, becoming curled and contracted. *Koch.*

- S. Davalliana* Smith. E. B. Supp. 2701.

* *Leaves ovate-oblong, more numerous and deeply serrated.*

- S. malifolia* Smith.

** *Leaves glaucous beneath, more distinctly serrated.*

- S. Wulfeniana* Willd.

In thickets. — Shrub. *April.*

19. *S. arbuscula* Wahlenb.

Catkins sessile with bracts at the base; when in fruit slightly stalked with some leaves at the base. Capsules from an ovate base, long-lanceolate, downy or smooth, placed on a stalk 2 or 3 times as long as the gland. Style long. Stigmas bifid. Leaves ovate, elliptical, or lanceolate, with remote repand serratures, or entire, glaucous beneath, when full grown quite smooth. Stipules half cordate, oblique at the point. *Koch.*

* *Leaves lanceolate, broader upwards, with wavy serratures.*

- S. phyllicifolia* Smith. E. B. 28. 1958.

- S. radicans* Smith.

- S. tetrapla* Walker. E. B. Supp. 2702.

** *Leaves elliptical, remotely and finely toothletted.*

- S. Dicksoniana* Smith. E. B. 20. 1390.

- S. petræa* Hooker. E. B. Supp. 2725.

- S. laxiflora* Borrer. E. B. Supp. 2749.

- S. phillyreifolia* Borrer. E. B. Supp. 2660.

- S. propinqua* Borrer. E. B. Supp. 2729.

- S. myrtilloides* Smith.

- S. Weigeliana* Willd. E. B. Supp. 2656.

- S. tenuifolia*. E. B. 31. 2186.

- S. nitens* Anderson. E. B. Supp. 2655.

- S. tenuior* Borrer. E. B. Supp. 2650.

*** *Leaves larger, downy underneath; branches dull green.*

- S. laurina* Smith.

- S. bicolor* Smith. E. B. 26. 1806.

**** *Stamens half connate.*

- S. Croweana* Smith. E. B. 16. 1146.

Meadows and mountains. — Bush. *April, May.*

§ VII. ARGENTEÆ. *Catkins and capsules as in the last, but the stature different; for these are dwarf shrubs with a subterranean creeping trunk. Stalks of the capsules in all longer than the gland, or very rarely, in some varieties, of the same length. Koch.*

20. *S. repens* Linn.

E. B. 3. 183.

Catkins sessile, when in fruit placed on leafy stalks. Capsules ovate-lanceolate, downy or smooth, on stalks 3 or 4 times as long as the gland. Style middling. Stigmas ovate, bifid. Leaves oval, elliptical, or lanceolate, recurved at the point, entire, or with a few remote glandular teeth, silky underneath. Stipules lanceolate, acute. *Koch.*

β. *Leaves oblong-oval, all silky underneath.*

S. fusca Smith. E. B. 28. 1960.

γ. *Leaves broad oval, or roundish oval.*

S. argentea Smith. E. B. 19. 1364.

S. parvifolia Smith.

S. ascendens Smith

S. incubacea Thuill.

S. foetida. E. B. 28. 1962.

In moist sandy places. — Shrub. *May.*

21. *S. rosmarinifolia* Linn.

E. B. 19. 1365.

Catkins sessile, when in fruit placed upon leafy stalks. Capsules ovate-lanceolate, downy, on stalks 2 or 3 times as long as the gland. Style short. Stigmas ovate, bifid. Leaves linear or long-lanceolate, tapering, entire or with distant glandular serratures, silky underneath. Stipules lanceolate. *Koch.*

* *Leaves lanceolate.*

S. incubacea Linn. E. B. Supp. 2600.

** *Leaves smooth underneath.*

S. arbuscula Smith. E. B. 19. 1366.

S. angustifolia Wulf.

Moist sandy ground. — Shrub. *April.*

22. *S. ambigua* Ehr.

E. B. Supp. 2733.

Catkins sessile, when in fruit with very short stalks with a few minute leaves upon them. Capsules ovate-lanceolate, downy, on stalks 3 or 4 times as long as the gland. Style short. Stigmas ovate, emarginate. Leaves elliptical, obovate, or lanceolate, with recurved points, entire, or with a few small distant teeth; on the underside wrinkled, veiny, and silky with close-pressed shagginess, becoming smooth. Stipules half ovate, straight. *Koch.*

* *Leaves lanceolate.*

S. prostrata Smith. E. B. 28. 1959.

On heaths and commons. — Shrub. *March, April.*

§ VIII. CHRYSANTHÆ. *Catkins sessile, with small bract-like leaves at the base; at the ends of branches of the previous year, or just below them, placed above the leaf-buds. Koch.*

23. *S. lanata* Linn.

E. B. Supp. 2624.

Catkins terminal, sessile, very yellow, and hairy. Capsules from

an ovate base, conical, tapering, smooth, on short stalks just longer than the gland. Style long. Stigmas linear, entire. Leaves somewhat cordate, elliptical, or lanceolate, entire or serrulate, woolly or becoming smooth. Stipules ovate, toothed. *Koch.*
Rocks in the Highlands of Scotland. — Shrub.

§ IX. FRIGIDÆ. *Catkins lateral, when in fruit placed on leafy stalks; scales darker brown at the point. Stamens 2, distinct, or slightly joined; anthers after flowering yellow or brown. Capsules sessile, or placed on stalks that are not longer than the gland. Branching shrubs; the old branches knotted, the younger hardly twiggy. Koch.*

24. *S. limosa* Wahlenb. E. B. 26. 1809.

Catkins sessile, when in fruit slightly stalked. Capsules ovate-lanceolate, downy, sessile, in time gaining very short stalks. Style long. Stigmas linear, bifid. Leaves lanceolate or elliptical, tapering, entire, the younger covered with silky hairs, the older wrinkled above, downy and opaque beneath. Stipules half cordate, recurved at the point. Koch.

S. arenaria Smith. E. B. 26. 1809.

S. Stuartiana Smith. E. B. 36. 2586.

Scotch mountains. — Shrub. *July, August.*

25. *S. glauca* Linn. E. B. 26. 1810.

Catkins on long leafy stalks. Capsules ovate-lanceolate, downy, on short stalks about as long as the gland. Styles bifid. Stigmas long, bifid. Leaves lanceolate or elliptical, entire, ashy beneath, silky on both sides, but becoming smooth, acute; the lowermost very blunt. Stipules ovate, acute, straight. Koch.

In the Highlands of Scotland. — Shrub. *May.*

26. *S. prunifolia* Smith. E. B. 19. 1361.

Catkins on leafy stalks. Capsules ovate-conical, downy, sessile, finally gaining a stalk which is shorter than the gland. Style either long or shortish. Stigmas ovate-oblong, entire, and bifid. Leaves elliptical and lanceolate, tapering, smooth, with close glandular serratures. Koch.

S. venulosa Smith. E. B. 19. 1362.

S. carinata Smith. E. B. 19. 1363.

β. *leaves slightly hairy beneath.*

S. vacciniifolia Smith. E. B. 33. 2341.

S. livida Hooker.

In the Highlands of Scotland. — Shrub. *April, May.*

27. *S. Myrsinites* Linn. E. B. 19. 1360.

Catkins on long leafy stalks, naked at the top, and nearly as long as the catkins. Capsules from an ovate base, lanceolate, tapering, sessile, densely woolly, by degrees gaining stalks, which are shorter than the gland. Style long. Stigmas linear, entire, or bifid. Leaves elliptical or lanceolate, pitted on both sides, shining, when old quite smooth, with small, close, glandular serratures. Koch,

S. retusa Dickson.

S. arbutifolia Willd.

S. lævis Hooker. E. B. Supp. 2753.

Highlands of Scotland. — Shrub. May, June.

§ X. GLACIALES. From the terminal bud of branches of the preceding year, there proceeds a new branch clothed with leaves, having the buds for a future year in their axils; and on the top of this a catkin is placed. The catkins, therefore, are seated upon a leafy permanent peduncle, by which the branch is continued and lengthened. Very small shrubs, with a subterranean creeping trunk, and ascending branches. Koch.

28. *S. reticulata* Linn.

E. B. 27. 1908.

Leaves orbicular, somewhat elliptical, obtuse, entire, coriaceous, with reticulated veins, nearly smooth, glaucous beneath. Ovary sessile, downy. Smith.

On the loftiest mountains of Yorkshire, Wales, and Scotland. — Shrub. June.

29. *S. herbacea* Linn.

E. B. 27. 1907.

Leaves orbicular, serrated, reticulated with veins, very smooth and shining on both sides. Ovary stalked, ovate-lanceolate, smooth. Smith.

On the summits of the loftiest mountains of England, Scotland, and Wales. — Shrub. June.

4. POPULUS Linn.

Diœcious. Catkins cylindrical with lacerated scales.—*Male*. Stamens from 8 to 30, arising out of a little oblique cup.—*Female*. Fruit a follicle, almost 2-celled by the rolling inwards of the margins of its two valves. Seeds comose. Radicle superior.

1. *P. alba* Linn. Abele-tree.

E. B. 23. 1618.

Leaves lobed and toothed; somewhat heart-shaped at the base, snow-white and densely downy beneath. Fertile catkins ovate. Stigmas 4. Smith.

P. nivea Willd.

In woods. — Tree. March.

2. *P. canescens* Linn. White Poplar.

E. B. 23. 1619.

Leaves roundish, deeply waved, toothed; hoary and downy beneath. Fertile catkins cylindrical. Stigmas 8. Smith.

In wet meadows, or on dry heaths. — Tree. March.

3. *P. tremula* Linn. Aspen.

E. B. 27. 1909.

Leaves nearly orbicular, toothed, smooth on both sides. Footstalks compressed. Young branches hairy. Stigmas 4, erect, auricled at the base. Smith.

In woods. — Tree. March, April.

4. *P. nigra* Linn. Black Poplar.

E. B. 27. 1910.

Leaves deltoid, pointed, serrated; smooth on both sides. Catkins all lax and cylindrical. Stigmas 4, simple, spreading. Smith.

β. *P. viridis*.

Branches green. Leaves broader.

In watery places; β. in Norfolk. — Tree. March.

Order 81. CUPULIFERÆ *Richard.*Quercineæ *Juss.* Corylaceæ *Mirb.*

Flowers unisexual; males amentaceous; females aggregate or amentaceous.

Male. *Stamens* 5 to 20, inserted into the base of the scales, generally distinct.

Female. *Ovaries* crowned by the rudiments of a superior calyx, seated within a coriaceous involucre (*cupule*) of various figure; with several cells and several ovules, the greater part of which are abortive; *ovules* twin or solitary, pendulous; *stigmata* several, sessile, distinct.

Fruit a bony or coriaceous 1-celled nut, more or less enclosed in the involucre.

Seeds solitary, 2 or 3, pendulous; *embryo* large, with plano-convex fleshy cotyledons, and a minute superior radicle.

Trees or shrubs. *Leaves* with stipulæ, alternate, simple, with veins proceeding straight from the midrib to the margin.

1. FAGUS *Linn.*

Monœcious. *Males.* *Catkins* pendulous, globose, dense. *Calyx* 6-lobed. *Stamens* 8. *Females* 2, inclosed in a spiny 4-lobed involucre. *Stigmas* 3. *Ovary* 3-cornered, 3-celled. *Nut* by abortion 1-celled, 1- or 2-seeded.

1. *F. sylvatica* *Linn.* Common Beech. E. B. 26. 1846.
Leaves ovate, obsoletely serrated. Prickles of the outer calyx simple. *Stigmas* 3. *Smith.*

In woods. — Tree. *April, May.*

2. CASTANEA *Gærtn.*

Polygamous. *Male.* *Catkins* very long, with irregular clusters of flowers. *Stamens* from 5 to 20. *Hermaphrodite.* *Involucre* generally 3-flowered, and 4-lobed. *Stamens* 12, abortive. *Ovary* 6-celled, with 2 ovules in each cell. *Styles* 6. *Nut* 1-celled, with from 1 to 3 seeds, inclosed in a spiny involucre.

1. *C. vesca* *Gærtn.* Sweet Chesnut. E. B. 13. 886.
Leaves oblong-lanceolate, acuminate, with mucronate serratures, smooth on each side.

Fagus Castanea *Linn.*

Castanea vulgaris *Dec.*

In woods. — Tree. *May.*

3. QUERCUS *Linn.*

Monœcious. *Male.* *Catkin* lax and pendulous. *Stamens* from 5 to 10. *Female.* *Involucre* cup-shaped, covered with scales.

Ovarium with 3 cells, 2 of which are abortive. *Stigmas* 3. *Acorn* 1-celled, 1-seeded, seated in the cup-shaped involucre.

1. *Q. Robur* Linn. Common British Oak. E. B. 19. 1342.
Leaves deciduous, oblong, wider towards the extremity; their sinuses rather acute, lobes obtuse. Fruit-stalks elongated. *Smith*.
Q. pedunculata Willd.
Q. femina Wühering.
In woods and hedges, everywhere. — Tree. April.
2. *Q. sessiliflora* Salisb. E. B. 26. 1845.
Leaves on elongated stalks, deciduous, oblong, with opposite, acute sinuses. Fruit sessile. *Smith*.
Q. sessilis Ehr.
Q. Robur Willd.
In woods, less common than the foregoing. — Tree. April.

S.

4. CORYLUS Linn.

Monœcious. *Male*. *Catkins* cylindrical, with 3-lobed scales, the middle lobe of which covers the 2 lateral ones. *Stamens* 8. *Anthers* 1-celled. *Female*. *Flowers* numerous, enclosed in a scaly bud. *Stigmas* 2. *Nut* enclosed in a lacerated involucre.

1. *C. Avellana* Linn. Common Hazel-nut. E. B. 11. 723.
Stipulas ovate, obtuse. Leaves roundish, heart-shaped, pointed. Young branches hairy. Calyx shorter than the nut. *Smith*.
In hedges and coppices, everywhere. — Tree. March, April.

5. CARPINUS Linn.

Monœcious. *Male*. *Catkins* long, cylindrical. *Scales* ciliated at the base. *Stamens* from 8 to 14, somewhat bearded at the apex. *Females*. *Cones* lax, membranous. *Involucre* scale-shaped, 3-lobed, 2-flowered. *Ovarium* with 2 cells, of which 1 is abortive. *Stigmas* 2. *Nut* long.

1. *C. Betulus* Linn. Hornbeam. E. B. 29. 2032.
Bracteas of the fruit flat, oblong, serrated, with two lateral lobes. *Smith*.
In woods and hedges. — Tree. May.

Order 82. CONIFERÆ Juss.

Flowers monœcious or diœcious, amentaceous.

Males in deciduous, scarious catkins; *stamens* distinct, adhering to the scales, with 1- or many-celled *anthers*.

Females either in cones, or solitary, and surrounded by imbricated scales.

Ovules erect, naked, sometimes seated in an envelope, which in *Taxus* becomes succulent.

Nuts either solitary and naked, or enclosed within the hardened scales of a woody cone. *Embryo* straight in the axis of a fleshy albumen. *Cotyledons* subulate, from 2 to 10 in number; *radicle* superior.

Trees abounding in resin; their *wood* consisting of equal parallel tubes constituting woody tissue; whose coats are marked with round transparent glands having a coloured central point.

Leaves generally acerose and persistent, sometimes broad, very rarely deciduous.

1. PINUS Linn.

Monœcious. *Males*. *Catkins* with the scales each bearing 2 1-celled anthers at the ends. *Females*. *Catkins* with acuminate scales. *Ovaries* 2. *Cones* with oblong, clavate, woody scales, with an angular termination. — *Leaves* two or more from the same sheath.

1. *P. sylvestris* Linn. Scotch Fir. E. B. 35. 2460.
Leaves rigid, in pairs. Young cones stalked, recurved. Crest of the anthers very small. *Smith*.

In the Highlands of Scotland. — Tree. *May*.

Obs. There are several strongly-marked varieties, or perhaps species, confounded under this name. They were distinguished by the late Mr. George Don, and deserve re-examination by some Scottish botanist, who has opportunities of observing them on their native hills.

2. JUNIPERUS Linn.

Diœcious or monœcious. *Males*. *Catkins* ovate, with 4-8 1-celled anthers. *Females*. *Cone* round, consisting of 3 fleshy scales growing together and enclosing 3 bony nuts.

1. *J. communis* Linn. Common Juniper. E. B. 16. 1100.
Leaves 3 in each whorl, tipped with a spine, spreading, longer than the ripe fruit. Stem erect. *Smith*.

On hills and heathy downs, especially where the soil is chalky. — Shrub. *May*.

2. *J. nana* Willd. E. B. Supp. 2743.
Leaves 3 in each whorl, tipped with a spine, somewhat imbricated, curved, the length of the oval ripe fruit. Stem recumbent. *Smith*.

On mountains. — Shrub. *May*.

3. TAXUS Linn.

Flowers diœcious or monœcious, surrounded by scales. *Males*. *Stamens* 8 or 10, monadelphous. *Females*. *Nut* enclosed in a succulent cup.

1. *T. baccata* Linn. Common Yew. E. B. 11. 746.
Leaves linear, distichous. Fruit roundish.
In mountainous woods, and on the ledges of limestone cliffs. — Tree. *March, April*.

2. *T. fastigiata*. Irish Yew.
Leaves linear, scattered, crowded. Fruit oblong.
In Ireland, about the Giant's Causeway. — Tree. *March, April*.

Order 83. MYRICEÆ *Rich.*

Flowers unisexual, amentaceous.

Males. *Stamens* 1 or several, each with an hypogynous scale. *Anthers* 2-celled, opening lengthwise.

Females. *Ovarium* 1-celled, surrounded by several hypogynous scales; *ovulum* solitary, erect, with a foramen in its apex; *stigmas* 2, subulate.

Fruit drupaceous, covered with waxy secretions; formed of the hypogynous scales of the ovary become fleshy and adherent.

Seed solitary, erect; *embryo* without albumen; *cotyledons* 2, plano-convex; *radicle* short, superior.

Shrubs with resinous glands and dots. *Leaves* alternate, simple.

1. MYRICA *Linn.*

Dioecious. *Catkins* ovate, with lunate scales. *Males.* *Stamens* 4-6. *Anthers* 4-valved. *Females.* *Ovarium* 1. *Stigmas* 2. *Drupe* 1-celled, 1-seeded.

1. *M. Gale* *Linn.* Sweet Gale, or Dutch Myrtle. *E. B.* 8. 562. *Leaves* lanceolate, serrated, tapering and entire at the base. *Scales* of the catkins pointed. *Smith.*

In bogs. — Shrub. *May.*

Order 84. CALLITRICHINEÆ *Link.*

Flowers usually unisexual, monœcious, naked, with 2 fistular coloured bractæ.

Stamen single; *filament* filiform, furrowed along the middle; *anther* reniform, 1-celled, 2-valved; the valves opening fore and aft.

Ovarium solitary, 4-cornered, 4-celled; *ovules* solitary, peltate; *styles* 2, right and left, subulate; *stigmas* simple points.

Fruit 4-celled, 4-seeded, indehiscent.

Seeds peltate; *embryo* inverted in the axis of fleshy albumen; *radicle* very long, curved, superior; *cotyledons* very short.

Small aquatic herbaceous plants, with opposite, simple, entire leaves.

Flowers axillary, solitary, very minute.

N. B. — The affinity of this order to other Dicotyledones appears to be of precisely the same nature as that borne by Lemna to Monocotyledones. They each exhibit the lowest degree of organization known in their respective classes. I can by no means agree in the definition of the genus proposed by M. Decandolle; but, at the same time, I fully assent to Mr. Brown's opinion of its affinity with Haloragæ, although I do not place it in the same order.

1. CALLITRICHE *Linn.* WATER-STARWORT.

The character that of the order, there being no other genus.

1. *C. verna* Linn. E. B. 11. 722.
Fruit-stalks very short, with two bracts at the base. Lobes of fruit bluntly keeled.
In ditches and slow streams everywhere. — Annual. *April, May.*
2. *C. pedunculata* De Cand. E. B. Supp. 2606.
Fruit-stalks elongated, without bracts. Lobes of fruit bluntly keeled.
Ditches in Sussex. — Annual. *June.*
3. *C. autumnalis* Linn. E. B. Supp. 2732.
Fruit-stalks very short, without bracts. Lobes of fruit broadly winged.
Ditches and slow streams. — Annual. *June—October.*

Subclass II. MONOCOTYLEDONES.

TRUNK cylindrical, formed of bundles of woody fibre, intermixed with cellular tissue ; with no distinction of wood, bark, or pith, and destitute of medullary rays ; increasing by the addition of new matter to the centre. Leaves generally sheathing at the base, and not articulated with the stem, always alternate, with parallel simple veins connected by others which traverse the space between them. Flowers usually with a ternary division of the floral envelopes ; the calyx and corolla either distinct, or confounded together ; in this case, the two taken together are called the perianthium. Embryo with only one cotyledon, or, if with two, then the accessory one is imperfect and alternate with the other ; radicle enclosed within the substance of the embryo, through which it bursts when germinating.

DIVISIONS.

1. PETALOIDEÆ. Flowers having a regular perianthium ; .or if destitute of one, naked.
2. GLUMACEÆ. Flowers destitute of a perianthium, and composed of imbricated alternate bracteæ.

Division I. PETALOIDEÆ.

ARTIFICIAL ANALYSIS OF THE ORDERS.

* Flowers perfect ; *with a fully developed perianth, which is considerably larger than the stamens.*

Ovary inferior,		
Stamens gynandrous	- - - - -	93. ORCHIDEÆ.
Stamens distinct from the style,		
three	- - - - -	92. IRIDEÆ.
six	- - - - -	95. AMARYLLIDEÆ.
nine or more	- - - - -	91. HYDROCHARIDEÆ.
Ovary superior,		
Ovules growing all over the lining of the carpels	-	99. BUTOMRÆ.
Ovules marginal or central,		
Calyx and corolla quite distinct	-	90. ALISMACEÆ.
Calyx and corolla alike or nearly so,		
brightly coloured and juicy,		
Anthers turned outwards	-	94. MELANTHACEÆ.
Anthers turned inwards,		
Flowers large ; seed-coat soft	-	96. LILIACEÆ.
Flowers small ; seed-coat black	-	97. ASPHODELEÆ.
and brittle	-	
brown or dingy and dry	-	101. JUNCÆ.

** Flowers imperfect ; with either a very small scale-like perianth, which is seldom larger than the stamens, or none at all.

- Flowers in dense heads, spikes, or spadixes,
 Stamens short and stiff,
 Inflorescence with a bract or spathe at the base 85. AROIDEÆ.
 Heads surrounded with an involucre - - - 100. RESTIACEÆ.
 Stamens long and weak - - - 86. TYPHACEÆ.
 Flowers in loose bunches, or in lax spikes, or solitary,
 Terrestrial,
 Ovary inferior - - - - - 98. DIOSCOREÆ.
 Ovary superior - - - - - 89. JUNCAGINÆÆ.
 Floating,
 with distinct stems and leaves - - - 87. FLUVIALES.
 with stem and leaf represented by green lobes - 88. PISTIACEÆ.

Order 85. AROIDEÆ Juss.

Flowers monœcious, arranged upon a spadix, occasionally surrounded by a few scales.

Perianthium wanting.

Males. *Stamens* definite or indefinite, hypogynous ; *anthers* very short, 1- or 2-celled, ovate, turned outwards.

Females. *Ovarium* superior, 1-celled, very seldom 3-celled, and many-seeded ; *ovules* erect, or pendulous, or parietal ; *stigmas* sessile, as many as the cells.

Fruit succulent or dry, not opening.

Seeds solitary or numerous ; *embryo* in the axis of fleshy or mealy albumen, straight, taper, with a cleft in one side, in which the plumula lies ; *radicle* obtuse, usually next the hilum ; occasionally at the opposite extremity.

Herbaceous plants or *shrubs*, stemless, or arborescent, or climbing by means of aerial roots. *Leaves* either with parallel or branching veins ; often cordate. *Spadix* generally enclosed in a *spathe*.

1. ARUM Linn.

Spadix naked at the apex, enclosed in a *spathe*. *Flowers* naked, the males crowded about the middle of the spadix ; the females seated at the base. *Berry* 1-celled, many-seeded.

1. *A. maculatum* Linn. Cuckow-pint, or Wake Robin.

E. B. 19. 1298.

Stem none. *Leaves* halberd-shaped, entire. *Common* stalk of the flowers club-shaped, obtuse. *Smith*.

In groves and hedge banks. — Perennial. *May*.

2. ACORUS Linn.

Spathe wanting. *Perianthium* persistent, globose, 6-parted. *Stamens* 6, opposite the divisions of the perianthium. *Ovary* globose, 3-celled, many-seeded. *Stigma* sessile. *Fruit* dry.

1. *A. Calamus* Linn. Sweet Flag.

E. B. 5. 356.

Leafy summit of the flower-stalk rising high above the spadix. *Smith*.

In watery places. — Perennial. *June*.

Order 86. TYPHACEÆ *Juss.*

Flowers monœcious, arranged upon a naked spadix.

Sepals 3, or more.

Petals wanting.

Males. *Stamens* 3 or 6; *anthers* wedge-shaped, attached by their base to long filaments.

Females. *Ovary* single, superior, 1-celled; *ovulum* solitary, pendulous; *style* short; *stigmas* 1 or 2, simple, linear.

Fruit dry, not opening, 1-celled, 1-seeded.

Embryo in the centre of *albumen*, straight, taper, with a cleft in one side, in which the plumula lies; *radicle* next the hilum.

Herbaceous plants, growing in marshes or ditches. *Leaves* rigid, ensiform, with parallel veins. *Spadix* without a spathe.

1. TYPHA *Linn.*

Spikes cylindrical. *Males.* *Sepals* 3, imperfect. *Stamens* 3, united at the base into one. *Females.* *Sepals* several, filiform, surrounding the stalk of the fruit.

1. *T. latifolia* *Linn.* Bulrush, Cat's-tail, or Reed-mace.

E. B. 21. 1455.

Leaves somewhat convex beneath. Catkin continuous. Receptacle hairy. *Smith.*

Typha major *Curtis.*

In ponds, ditches, and slow streams. — Perennial. *July.*

2. *T. angustifolia* *Linn.*

E. B. 21. 1456.

Leaves slightly semicylindrical; channelled above. Barren catkin separated from the fertile one. Receptacles scaly. *Smith.*

Typha minor *Curtis.*

In pools and ditches. — Perennial. *June, July.*

3. *T. minor* *Smith.*

E. B. 21. 1457.

Leaves linear, convex beneath. Catkins a little distant; barren one leafy; fertile short and turgid; often interrupted. Anthers nearly solitary. Receptacle naked. *Smith.*

In marshes, but rare. — Perennial. *July.*

2. SPARGANIUM *Linn.* BUR-REED.

Spikes round. *Sepals* 3. *Stamens* 6; *anthers* wedge-shaped. *Fruit* sessile, turbinate, without bristles at the base.

1. *S. ramosum* *Hudson.*

E. B. 11. 744.

Leaves triangular at the base, with concave sides. Common flower-stalk branched. Stigmas linear. *Smith.*

S. erectum *Linn.*

In ditches, and the margins of ponds and rivers. — Perennial. *July, August.*

2. *S. simplex* *Hudson.*

E. B. 11. 745.

Leaves triangular at the base, with flat sides. Common flower-stalk simple. Stigmas linear. *Smith.*

S. superaxillare Ehr.

In pools and ditches. — Perennial. *July, August.*

3. *S. natans* Linn.

E. B. 4. 273.

Leaves floating, flat; concave at the base. Common flower-stalk simple. Stigma ovate, very short. Head of barren flowers mostly solitary. *Smith.*

In muddy fens, or slow rivers. — Perennial. *July.*

Order 87. FLUVIALES *Ventenat.*

Potameæ *Juss.*

Flowers hermaphrodite or unisexual.

Perianthium of 2 or 4 pieces, often deciduous, rarely wanting.

Stamens definite, hypogynous.

Ovary 1 or more, superior; *stigma* simple; *ovule* solitary, pendulous.

Fruit dry, not opening, 1-celled, 1-seeded.

Seed pendulous; *albumen* none; *embryo* having a direction contrary to that of the seed, with a lateral cleft for the emission of the plumula.

Water-plants. *Leaves* very cellular, with parallel veins. *Flowers* inconspicuous, usually arranged in terminal spikes.

1. POTAMOGETON *Linn.*

Sepals 2. *Petals* 2. *Stamens* 4, opposite the sepals and petals; anthers nearly sessile. *Ovaries* 4, alternate with the stamens; *ovules* solitary, suspended. *Nuts* 4, compressed. *Seed* suspended, arcuate, more or less spiral. *Albumen* none. *Plumula* dorsal. — Floating plants, with pellucid leaves.

Tribe i. *Leaves opposite.*

1. *P. densus* Linn.

E. B. 6. 397.

Leaves opposite. *Schlecht.*

P. oppositifolius Dec.

P. setaceus Lam.

P. serratus Linn.

P. pauciflorus Lam.

In ditches. — Perennial. *June.*

Tribe ii. *Leaves sheathing; their stipules adnate to the petiole.*

2. *P. pectinatus** Linn.

E. B. 5. 323.

Leaves sheathing, 1-ribbed. Nuts very large, keeled at the back. *Schlecht.*

* The following species is not yet recorded as British, but is probably to be found in these islands:

P. filiformis Persoon.

Leaves sheathing, 1-ribbed. Nut small, not keeled at the back. *Schlecht.*

- P. marinum* Linn.
P. interruptus Kitaib.
P. Vaillantii R. & S.
P. tenuifolium Humb. & Bonpl.

In rivers and ponds. — Perennial. July.

Tribe iii. *Leaves all linear.*

3. *P. pusillus** Linn. E. B. 3. 215. & 6. 418.
 Leaves 3- 5-ribbed, with a few obsolete veins. Spikes somewhat interrupted, on long stalks. *Schlecht.*
P. compressus Linn.
P. acutifolium Presl.
P. gramineum Merat.
P. denticulatum Link.
 In ditches. — Perennial. July.
4. *P. obtusifolius* Mertens & Koch. E. B. 32. 2253.
 Leaves 3-ribbed, blunt, with a few obsolete veins. Spikes ovate, on short stalks. *Schlecht.*
P. gramineum Smith.
 In ponds and ditches. — Perennial. July.

- S.
 5. *P. zosterifolius* Schumacher. E. B. Supp. 2685.
 Leaves many-ribbed, acuminate. Spikes cylindrical, on long stalks. *Schlecht.*
P. cuspidatum Schrad.
P. complanatus Willd.
P. compressum Teesdale in L. Trans.
 In ponds. — Perennial. July.

Tribe iv. *Leaves dilated, all under water.*

6. *P. crispus* Linn. E. B. 15. 1012.
 Leaves linear-oblong, 3-ribbed, evidently serrulated. Nuts with long beaks. *Schlecht.*
P. serratus Lam.
 In ditches. — Perennial. June, July.
7. *P. perfoliatus*† Linn. E. B. 3. 168.
 Leaves ovate, ribbed, amplexicaul; scabrous at the margin, as long as the peduncle. *Schlecht.*
P. Löselii R. & S.
 In ponds. — Perennial. July, August.

S.

* The following species, distinguished from this by Schlechtendahl, is probably British:

P. trichoides Schlecht.

Leaves setaceous, 1-ribbed, veinless. Spikes somewhat interrupted, on long stalks. *Schlecht.*

† Search should be made for

P. praelongus Wulff.

Leaves oblong, ribbed, half-amplexicaul; smooth at the margin; navicular at the apex. *Schlecht.*

Found in very deep waters, with stems more than 8 feet long.

Also

8. *P. lanceolatus* Smith. E. B. 28. 1985.
 Leaves lanceolate, membranous, flat, entire ; contracted at the base ;
 with chain-like reticulations near the ribs. Spikes ovate, dense,
 of few flowers. *Smith*.
 In Anglesey and Scotland. — Perennial. *July, August*.
 Tribe v. *Floating leaves coriaceous, accessory*.
9. *P. Proteus* Schlecht.
 Spikes cylindrical, on long stalks. Peduncle thickened. *Schlecht*.
a. lucens Schl. E. B. 6. 376.
 Leaves lanceolate or oval, very large, distinctly mucronate, sub-
 sessile, all submersed. *Schl*.
P. lucens Linn.
P. acuminatum Schum.
β. heterophyllus Schl. E. B. 18. 1285.
 Leaves small ; the lower lanceolate, sessile, acute ; the upper often
 on long stalks, floating, coriaceous. *Schl*.
P. heterophyllum Schreb.
P. hybridum Petagn.
P. augustanum Balb.
P. distachyum Bellard.
 In pools. — Perennial. *June — September*.
10. *P. rufescens* Schrader. E. B. 18. 1286.
 Leaves tapering to the base, obtuse at the end ; those which are
 under water thin, with thin ribs ; those above water generally
 floating and stalked, as long as the peduncles. *Schlecht*.
P. fluitans Smith.
P. obscurum Dec.
P. annulatum Bellard.
P. alpinum Balb.
 In ponds. — Perennial. *July, August*.
 Tribe vi. *Leaves floating, coriaceous, all necessary*.
11. *P. oblongus* Viviani.
 Lower leaves floating, or all swimming (without leafless petioles).
 Nuts small, blunt at the back. *Schlecht*.
P. Plantago Batard.
P. polygonifolius Pour.
P. parnassifolius Schrad.
P. uliginosum Bonnigh.
P. affine Ib.
 In ditches. — Perennial. * *July*.
12. *P. natans* Linn. E. B. 26. 1822.
 Lower petioles leafless, elongated. Nuts large, keeled at the back.
Schlecht.
 In ditches. — Perennial. *July*.

Also for

P. coloratus Hornemann.

Leaves stalked ; all membranous and transparent. Spikes on long stalks, cylin-
 drical, many-flowered. Nuts very small. *Schlecht*.

Common in the north of France.

2. *ZOSTERA* Linn.

Flowers monœcious or diœcious, arranged in a unilateral manner within the base of a leaf. *Style* bifid. *Nuts* 1-seeded.

1. *Z. marina* Linn. Grass-wrack. E. B. 7. 467.
Leaves entire, obscurely 3-ribbed. Stem slightly compressed. *Smith*.
In creeks and ditches of salt water. — Perennial. *August, September*.

3. *RUPPIA* Linn.

Flowers hermaphrodite, distichous, arranged upon a solitary spadix. *Sepals* 2, deciduous. *Anthems* 4, sessile, reniform, 1-celled. *Ovaries* 4, acquiring pedicels as they approach maturity. *Fruit* dry, ovate, 1-seeded, crowned by the persistent stigma.

1. *R. maritima* Linn. E. B. 2. 136.
In salt-water ditches. — Perennial? *August, September*.

4. *ZANNICHELLIA* Linn.

Flowers solitary, monœcious. *Males*. *Stamen* single, naked, placed at the base of the female flower on the outside. *Female*. *Perianthium* campanulate. *Ovaries* 2-6. *Fruit* dry, 1-seeded, sessile, compressed, gibbous, crenated outwardly.

1. *Z. palustris* Linn. Horned-pondweed. E. B. 26. 1844.
Anther of 4 cells. *Stigmas* entire. *Smith*
In ponds and ditches. — Annual. *July*.

Order 88. PISTIACEÆ *Richard*. — *Lindley in Hooker's Flora Scotica*, 2. 191.

Flowers 2, naked, enclosed in a spatha.

Male. *Stamens* definite.

Female. *Ovarium* 1-celled, with 1 or more erect *ovides*; *style* short; *stigma* simple.

Fruit membranous or capsular, not opening, 1 or more seeded.

Seeds with a striated testa, marked with a distinct raphe and chalaza; *embryo* in the axis of fleshy albumen, with a similar direction to that of the seed, having a lateral cleft for the emission of the *plumule*.

Floating plants, very cellular, lenticular, or lobed. *Stems* and *leaves* mixed. *Flowers* appearing from the margin of the plants.

1. *LEMNA* Linn. DUCK-WEED.

Stamens 2. *Ovule* solitary, erect. *Fruit* a 1-seeded indehiscent utricle. — Spiral vessels transient, or none. Young plants naked.

1. *L. trisulca* Linn. E. B. 13. 926.
Plants stalked, elliptic-lanceolate, proliferous.
In clear still waters. — Annual. *June*.

2. *L. minor* Linn.

E. B. 16. 1095.

Plants obovate, flattish above and beneath. Roots solitary.
In ponds and ditches.—Annual. *June, July.*

2. TELMATOPHACE Schleiden.

Stamens 2. *Filaments* recurved, dilated in the middle. *Ovules* 2 or more, erect. *Fruit* a many-seeded pyxis.—Spiral vessels transient, or none. Young plants naked.

1. *T. gibba* Schleiden.

E. B. 18. 1233.

Plants obovate; slightly convex above; hemispherical beneath.
Roots solitary.

Lemna gibba Linn.

In ponds and ditches.—Annual. *June, July.*

S.

Order 89. JUNCAGINEÆ Richard.

Sepals and *petals* both herbaceous; rarely absent.

Stamens 6.

Ovaries 3 or 6, superior, cohering firmly; *ovules* 1 or 2, approximated at their base, erect.

Fruit dry, indehiscent, 1 or 2-seeded.

Seeds erect; *albumen* wanting; *embryo* having the same direction as the seed, with a lateral cleft for the emission of the plumule.

Herbaceous bog-plants. *Leaves* ensiform, with parallel veins. *Flowers* in naked spikes, inconspicuous.

1. TRIGLOCHIN Linn.

Sepals and *petals* deciduous, herbaceous. *Anthers* 6, nearly sessile.

Fruit consisting of from 3 to 6 cohering pieces, each of which is 1-seeded.

1. *T. palustre* Linn. Arrow-grass.

E. B. 6. 366.

Capsule nearly linear, of 3 cells; tapering at the base. Root fibrous.
Smith.

In wet boggy meadows.—Perennial. *June, July.*

2. *T. maritimum* Linn.

E. B. 4. 255.

Capsule ovate, of 6 cells. *Smith.*

In salt marshes.—Perennial. *May—August.*

2. SCHEUCHZERIA Linn.

Sepals and *petals* permanent, brown. *Anthers* 6, long, upon capillary filaments. *Fruit* consisting of 3, roundish, spreading pieces, each of which has 2 valves, and contains 1 or 2 seeds.

1. *S. palustris* Linn.

E. B. 26. 1801.

In Lakeby Car, near Boroughbridge in Yorkshire.—Perennial. *June.*

Order 90. ALISMACEÆ *R. Br.*

Sepals 3, herbaceous.

Petals 3, petaloid.

Stamens definite or indefinite.

Ovaries superior, several, 1-celled; *ovules* solitary, or 2, attached to the suture, at a distance from each other.

Styles and *stigmas* the same number as the ovaries.

Fruit dry, not opening, 1- or 2-seeded.

Seeds without albumen; *embryo* shaped like a horse-shoe, undivided, with the same direction as the seed.

Water plants. *Leaves* with parallel veins.

1. ALISMA *Linn.* WATER-PLANTAIN.

Stamens 6. *Ovaries* from 6 to 25. *Nuts* distinct, generally 1-seeded, deciduous, indehiscent.

1. *A. Plantago* *Linn.* E. B. 12. 837.

Leaves ovate, acute. *Capsules* obtusely triangular. *Smith.*

Alisma lanceolata *With.*

In pools and ditches. — Perennial. *July.*

2. *A. Damasonium* *Linn.* E. B. 23. 1615.

Leaves oblong; heart-shaped at the base. *Styles* 6. *Capsules* tapering. *Smith.*

In ditches and pools. — Perennial. *June, July.*

3. *A. natans* *Linn.* E. B. 11. 775.

Leaves elliptical, obtuse. *Flower-stalks* simple. *Capsules* striated. *Smith.*

In the lakes of North Wales and Cumberland. — Perennial. *July, August.*

4. *A. ranunculoides* *Linn.* E. B. 5. 326.

Leaves linear-lanceolate. *Capsules* angular, acute, numerous, in a globular head. *Stem* none. *Smith.*

In swamps and turfy bogs. — Perennial. *August.*

5. *A. repens* *Cav.* E. B. Supp. 2722.

Leaves lanceolate. *Capsules* compressed, acute, numerous, in a globular head. *Stems* prostrate, creeping. *Smith.*

On the margins of lakes in North Wales. — Perennial. *September, October.*

2. SAGITTARIA *Linn.*

Monœcious. *Male.* *Stamens* about 24. *Female.* *Ovaries* numerous, seated upon a globose receptacle. *Nuts* compressed, bordered, 1-seeded.

1. *S. sagittifolia* *Linn.* Arrow-head. E. B. 2. 84.

Leaves arrow-shaped, acute. *Smith.*

In ditches and rivers. — Perennial. *July, August.*

Order 91. HYDROCHARIDÆ Juss.

Flowers hermaphrodite or unisexual.

Sepals 3, herbaceous.

Petals 3, petaloid.

Stamens definite or indefinite

Ovary single, inferior; *stigmas* several; *ovules* indefinite.

Fruit dry or succulent, indehiscent, with 1 or more cells.

Seeds without albumen; *embryo* undivided.

Floating plants. *Leaves* with parallel veins.

1. STRATIOTES Linn.

Spathe compressed, persistent, deeply parted in two, keeled, 1-flowered.

Perianthium tubular; *sepals* 3, minute, green; *petals* 3, large. *Stamens* about 20, inserted into the apex of the tube, or margin of the ovary. *Styles* 6, bifid. *Fruit* fleshy, taper-pointed, 6-cornered, 6-celled. *Seeds* somewhat angular, attached to the dissepiments.

1. *S. aloides* Linn. Water Aloe, or Water-soldier. E. B. 6. 379.

Leaves sword-shaped, channelled, with a prominent rib, and sharp marginal prickles. *Smith*.

In deep fen ditches and pools. — Perennial. *July*.

2. HYDROCHARIS Linn.

Diœcious. *Male.* *Spathe* 2-parted, 3-flowered. *Perianthium* of 6 pieces. *Stamens* 12, or by abortion 9, placed in a triple order upon the rudiments of an abortive ovary. *Female.* *Spathe* sessile, 1-flowered. *Perianthium* like that of the male, with 6 filiform abortive stamens. *Stigmas* 6, wedge-shaped, bifid. *Fruit* leathery, 6-celled, many-seeded.

1. *H. Morsus ranæ* Linn. Frog-bit.

E. B. 12. 808.

In ditches and streams. — Perennial. *July*.

Order 92. IRIDEÆ Juss.

Perianthium superior, petaloid, in six parts, sometimes irregular, deciduous; the 3 petals occasionally abortive.

Stamens 3, inserted into the sepals; *filaments* distinct or connate; *anthers* turned outwards.

Ovary 3-celled, many-seeded; *style* 1 or 3, united at the base and petaloid; *stigmas* either simple or 3-lobed.

Capsule 3-celled, 3-valved, with a loculicidal dehiscence.

Seeds attached to the axis of the fruit; *albumen* horny or densely fleshy; *embryo* included, undivided.

Herbaceous plants, very seldom undershrubs. Roots tuberous or fibrous. Leaves equitant, distichous. Bractæ usually spathaceous. Flowers brightly coloured.

1. IRIS Linn.

Perianthium 6-parted; the *sepals* larger and spreading, the petals smaller and erect. *Stamens* distinct, opposite the sepals. *Styles* 3, very large, petaloid, opposite the sepals, and incumbent upon the stamens.

1. *I. Pseud-acorus* Linn. E. B. 9. 578.
Corolla beardless; inner segments smaller than the stigmas. Leaves sword-shaped. Seeds angular. *Smith*.
In ditches and rivers. — Perennial. *July*.
2. *I. fœtidissima* Linn. Gladwyn. Roast-beef plant. E. B. 9. 596.
Corolla beardless; inner segments spreading. Stem with 1 angle. Leaves sword-shaped. Seeds globose.
In groves, thickets, and under hedges. — Perennial. *May*.

2. TRICHONEMA Ker.

Perianthium in 6 deep equal segments; longer than the tube. *Filaments* downy. *Stigmas* very slender, deeply cloven.

1. *T. Bulbocodium* Ker. E. B. 36. 2549.
Leaves linear, channelled, recurved, longer than the flower-stalks. *Smith*.
Ixia Bulbocodium Linn. *Trichonema Columnæ Reich*.
On grassy hillocks in Guernsey. — Perennial. *March, April*.

3. CROCUS Linn.

Perianthium with a slender tube twice as long as the limb. *Limb* 6-parted, equal, inflated, erect. *Stigmas* 3, convolute, many-lobed.

1. *C. sativus* Linn. Saffron Crocus. E. B. 5. 343.
Stigma prominent laterally, in 3 deep, linear, notched segments. *Smith*.
C. officinalis Hudson.
C. autumnalis E. Bot.
In meadows and pastures. — Perennial. *September*.
- S.** 2. *C. vernus* Willd. E. B. 5. 344.
Stigma within the flower, in 3 short wedge-shaped jagged lobes. Tube hairy at the mouth. *Smith*.
In meadows about Nottingham. — Perennial. *March*.
3. *C. nudiflorus* Smith. E. B. 7. 491.
Stigma within the flower, in 3 deeply-lacinated tufted segments. Flower unaccompanied by leaves. *Smith*.
C. speciosus Wilson in Eng. B. Supp. 2752.
In sandy meadows between Nottingham castle and the Trent. — Perennial. *October*.

Order 93. ORCHIDEÆ *Juss.*

Perianthium superior, ringent.

Sepals 3, usually coloured, of which the odd one is uppermost in consequence of a twisting of the ovarium.

Petals 3, usually coloured, of which 2 are uppermost in consequence of a twisting of the ovarium, and 1, called the *lip*, undermost; this latter is frequently lobed, always of a different form from the others, and very often spurred at the base.

Stamens 3, united in a central column, the 2 lateral usually abortive, the central perfect, or the central abortive, and the 2 lateral perfect; *anther* either persistent or deciduous, 2- or 4- or 8-celled; *pollen*, either powdery or cohering in definite or indefinite waxy masses, either adhering to a gland or loose in their cells.

Ovarium 1-celled, with 3 parietal placentæ; *style* forming part of the column of the stamens; *stigma*, a viscid space in front of the column, communicating directly with the ovarium by a distinct open canal. *Impregnation* taking effect by absorption from the pollen masses through the gland into the stigmatic canal?

Capsule inferior, bursting with 3 valves and 3 ribs.

Seeds parietal, very numerous; *testa* loose, reticulated, contracted at each end; *albumen* none; *embryo*, a solid undivided fleshy mass.

ANALYSIS OF THE GENERA.

Pollen simple, or consisting of granules in a slight state of cohesion

Anther parallel with the stigma - - - - - i. NEOTTIÆ.

Anther terminal, like a lid - - - - - ii. ARETHUSEÆ.

Pollen cohering in grains or masses, which are indefinite in number, and waxy - - - - - } iii. OPHRYDEÆ.

Pollen cohering in grains or masses, which are definite in number, and waxy - - - - - } iv. MALAXIDÆÆ.

Lateral anthers fertile; intermediate sterile and petaloid - - - - - v. CYPRIPEDEÆ.

NEOTTIÆÆ

Lip entire

saccate - - - - - 1. GOODYERA.

shovel-shaped - - - - - 2. SPIRANTHES.

Lip lobed

Anther naked - - - - - 3. NEOTTIA.

Anther enclosed in a hood - - - - - 4. LISTERA.

ARETHUSEÆ

Lip spurred - - - - - 5. CORALLORHIZA.

Lip not spurred - - - - - 6. EPIPACTIS.

OPHRYDEÆ

Lip spurred

Glands of the pollen masses enclosed in a pouch

two glands - - - - - 7. ORCHIS.

one gland - - - - - 8. ANACAMPTIS.

Glands of the pollen masses naked

Lobes of the anther parallel - - - - - 9. GYMNA DENIA.

Lobes of the anther diverging

spur long - - - - - 10. PLATAN THERA.

spur very short - - - - - 11. PERISTYLUS.

Lip without a spur					
Glands of the pollen masses enclosed in a pouch					
Pouch single	-	-	-	-	- 12. ACERAS.
Pouches 2	-	-	-	-	- 13. OPHRYS.
Glands of the pollen masses naked	-	-	-	-	- 14. HERMINIUM.
MALAXIDÆ					
Lip uppermost	-	-	-	-	- 15. MALAXIS.
Lip undermost	-	-	-	-	- 16. LIPARIS.
CYPRIPEDIÆ	-	-	-	-	- 17. CYPRIPIEDUM.

Tribe i. *Neottieæ* Lindley.

1. GOODYERA R. Br.

Sepals spreading, ovate, herbaceous. *Petals* erect; *lip* saccate, entire. *Column* taper, distinct, with 2 teeth at the apex. *Stigma* prominent, roundish.

1. *G. repens* R. Br.

E. B. 5. 289.

Leaves ovate. Spike spiral. Point of the lip elongated, deflexed. *Smith.*

Neottia repens Swartz.

Satyrion repens Linn.

In mossy woods in Scotland. — Perennial. *July.*

2. SPIRANTHES Rich.

Sepals coloured, and *petals* converging, parallel with the lip; *lip* shovel-shaped, unguiculate, with two fleshy projections at the base. *Column* taper, club-shaped, distinct, with 2 teeth at the apex. *Stigma* prominent, rostrate.

1. *S. autumnalis* Rich. Ladies' Traces,

E. B. 8. 541.

Leaves ovate, stalked. Spike twisted, unilateral. Bractees downy, tumid. Lip ovate, entire. *Smith.*

Neottia spiralis Swartz.

Ophrys spiralis Linn.

In open pastures, on a chalky or gravelly soil. — Perennial. *August, September.*

S.

2. *S. gemmipara*.

Leaves lanceolate, as tall as the stalk. Spike 3-ranked, twisted.

Bractees smooth. *Smith.*

Neottia gemmipara *Smith.*

Near Castletown, opposite to Bearhaven on the northern side of Bantry Bay, county of Cork, in small quantities. — Perennial. *July.*

3. NEOTTIA Linn. *act. ups.* 1740.

Sepals and *petals* brown, converging; *lip* dependent, 2-lobed, concave at the base. *Column* taper, erect, 4 times as long as the stigma. *Stigma* distinctly 2-lipped; the upper lip narrower than the lower. *Anther* naked. — A leafless brown parasite, with succulent clustered roots.

1. *N. Nidus avis*. E. B. 1. 48.
 Leaves none. Stem clothed with sheathing scales. Lip with 2 spreading lobes.
Epipactis nidus avis Swartz.
Ophrys nidus avis Linn.
 In shady woods, especially beech, on a chalky or loamy soil. — Perennial. May, June.

4. LISTERA R. B

Sepals and *petals* herbaceous, spreading; *lip* dependent, 2-lobed. *Column* taper, erect, much shorter than the stigma. *Stigma* plane, ovate. *Anther* covered by a hood proceeding from the back of the column. — Leafy herbaceous plants, with fascicled fibrous roots.

1. *L. ovata* R. Br. Twayblade. E. B. 22. 1548.
 Leaves elliptical, opposite. Lip with 2 linear-oblong, nearly parallel lobes.
Ophrys ovata Linn.
 In groves and thickets. — Perennial. June.
2. *L. cordata* R. Br. E. B. 5. 358.
 Leaves heart-shaped, opposite. Lip with 4 lobes.
Ophrys cordata Linn.
 On turfey mountainous moors in the north. — Perennial. July.

Tribe ii. *Arethuseæ* Lindley.

5. CORALLORHIZA Haller.

Sepals and *petals* more or less coloured, spreading; the lower sepals cohering at the base; *lip* more or less lobed, producing from the base a spur, which is more or less adherent to the ovary. *Column* plano-convex, entire. *Pollen masses* spherical. *Anther* round, 2-celled, with 2 anterior valves.

1. *C. innata* R. Br. Coral-root. E. B. 22. 1547.
 Spur short, not distinct from the slightly 3-lobed lip. Root copiously branched. *Smith.*
Cymbidium corallorhizum Swartz.
Ophrys corallorhiza Linn.
 In marshy umbrageous woods in Scotland. — Perennial. May, June.

6. EPIPACTIS Swartz. HELLEBORINE.

Sepals and *petals* spreading, or converging, more or less coloured; *lip* inflated at the base, either entire or with 3 lobes, of which the middle one is articulated with the others. *Column* plano-convex, with 2 teeth at the apex. *Pollen masses* acuminate. *Anther* 2-celled.

1. *E. latifolia* Swartz. E. B. 4. 269.
 Leaves ovate, clasping the stem. Lower bractees longer than the

drooping flowers. Lip shorter than the sepals, entire, with a minute point. Ovary downy.

Serapias latifolia Linn.

β. *E. purpurata* Smith.

E. B. Suppl. 2775.

Bracts rather longer.

In shady mountainous woods and thickets. — Perennial. *July, August.*

2. *E. palustris* Swartz.

E. B. 4. 270.

Leaves lanceolate, clasping the stem. Flowers drooping. Lip rounded, obtuse, crenate, as long as the petals, with a notched protuberance on the disk. *Smith.*

Serapias palustris Scop.

In watery places or swampy meadows. — Perennial. *July, August.*

6.* CEPHALANTHERA Rich.

Like the last; but the *anther* is terminal, not dorsal, and the flowers closed not ringent.

1. *C. pallens* Rich.

E. B. 4. 271.

Leaves elliptic-lanceolate. Bracteas longer than the smooth ovary.

Flowers sessile, erect. Lip abrupt, shorter than the sepals, with elevated lines on the disk.

E. grandiflora Smith.

Epipactis pallens Swartz.

Serapias grandiflora Linn.

S. longifolia Hudson.

S. lancifolia Murray.

In woods and thickets. — Perennial. *June.*

2. *C. ensifolia* Rich.

E. B. 7. 494.

Leaves lanceolate, pointed. Bracteas minute, much shorter than the smooth ovary. Flowers sessile, erect. Lip abrupt, half as long as the sepal, with elevated lines on the disk.

E. ensifolia Swartz.

Serapias ensifolia Murray.

S. grandiflora Fl. Dan.

In mountainous woods, but rarely. — Perennial. *May, June.*

3. *C. rubra* Rich.

E. B. 7. 437.

Leaves lanceolate. Bracteas longer than the downy ovary. Flowers sessile, erect. Lip tapering to a point, with elevated undulating lines on the disk. *Smith.*

Epipactis rubra Swartz.

Serapias rubra Linn.

In stony mountainous woods. — Perennial. *June, July.*

Tribe iii. *Ophrydeæ* Lindley.

7. ORCHIS Linn.

Sepals and *petals* ringent, coloured; *lip* lobed, spurred at the base.

Pollen masses with 2 glands, enclosed in a common pouch.

* *Knobs of the root roundish, undivided.*

1. *O. Morio* Linn. E. B. 29. 2059.
Knobs of the root oval. Lip 4-cleft, somewhat crenate; spur obtuse, ascending. Sepals many-ribbed, converging.
In meadows and pastures. — Perennial. *May, June.*
2. *O. mascula* Linn. E. B. 9. 631.
Knobs of the root oval. Lip 4-cleft, crenate; spur obtuse.
Sepals 3-ribbed; two lateral ones reflexed upwards.
In pastures. — Perennial. *April, May.*
3. *O. ustulata* Linn. E. B. 1. 18.
Knobs of the root oval. Lip 4-lobed, rough with small points.
Spur obtuse, not half the length of the ovary. Sepals converging.
Leaves lanceolate.
On dry, open, chalky downs. — Perennial. *June.*
4. *O. fusca* Jacq. E. B. 1. 16.
Knobs of the root oval. Lip 5-lobed, dilated, rough. Spur obtuse, not half the length of the ovary. Sepals converging, blunt-pointed. Leaves elliptic-oblong.
O. purpurea Hudson.
O. militaris E. Bot.
O. moravica Jacq.
On chalky bushy hills, chiefly in Kent. — Perennial. *May.*
5. *O. militaris* Linn. Military Orchis. E. B. Supp. 2675.
Knobs of the root oval. Lip 5-lobed, downy; 2 middle lobes dilated, rounded. Spur obtuse, not half the length of the ovary.
Sepals converging, taper-pointed.
On chalky hills. — Perennial. *May.*
5. *O. macra*. Monkey Orchis. E. B. 27. 1873.
Knobs of the root oval. Spike narrow, few-flowered. Sepals very tapering. Lip nearly hairless, covered with crystalline warts twice as long as the spur; with linear segments, of which the anterior have only one vein. Bracts short, acuminate.
O. tephrosanthos Bich. not of Villars.
On chalky hills. — Perennial. *May.*
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7. *O. hircina* Scopoli. Lizard Orchis. E. B. 1. 24.
Knobs of the root globose. Lip downy, in 3 linear segments; the middle one very long, twisted, notched at the end. Sepals converging.
Satyrium hircinum Linn.
In pastures and bushy places. — Perennial. *July.*
- ** *Knobs of the root palmate.*
8. *O. latifolia* Linn. E. B. 33. 2308.
Knobs imperfectly palmate. Lip convex, crenate, slightly 3-cleft; spur conical. Bracteas longer than the flowers. Stem hollow. *Smith.*
In marshes and moist meadows. — Perennial. *May, June.*
9. *O. maculata* Linn. E. B. 9. 632.
Knobs palmate, spreading. Lip flat, crenate, 3-lobed; spur cylin-

drical, rather shorter than the ovary. Bractees shorter than the flowers.

In meadows and woods. — Perennial. *June, July.*

8. ANACAMPTIS *Rich.*

Sepals and *petals* ringent, coloured; *lip* lobed, with 2 projecting plates along its middle, spurred at the base. *Pollen masses* with 1 gland, enclosed in a pouch.

1. *A. pyramidalis* *Rich.*

E. B. 2. 110.

Knobs of the root oval. Lip in 3 equal entire lobes, with 2 protuberances above; spur long and slender. *Smith.*

Orchis pyramidalis *Linn.*

On grassy hills or banks. — Perennial. *July.*

9. GYMNADENIA *R. Br.*

Sepals and *petals* converging, coloured; *lip* coloured, lobed, spurred. Lobes of the *anther* parallel. *Pollen masses* with 2 naked glands.

1. *G. conopsea* *R. Br.*

E. B. 1. 10.

Knobs palmate. Lip in 3 entire equal lobes; spur very slender, twice as long as the ovary. *Sepals* widely spreading.

Orchis conopsea *Linn.*

In rather moist meadows and pastures. — Perennial. *June.*

10. PLATANThERA *Rich.*

Flowers of *Orchis*. *Spur* slender. *Glands* of the pollen-masses naked; cells of the *anther* diverging.

1. *P. bifolia* *Rchb.* Butterfly *Orchis*.

Knobs of the root oval, taper-pointed. Lip lanceolate, entire, about half the length of its very long spur. *Anther* with converging lobes.

Orchis bifolia *Linn.*

Habenaria bifolia *R. Br.*

In groves and thickets. — Perennial. *June.*

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11. PERISTYLUS *Blume.*

Flowers of *Platanthera*. *Spur* very short, usually inflated. *Glands* of the pollen masses naked; cells of the *anther* parallel or diverging.

1. *P. albidus*.

E. B. 8. 505.

Knobs tapering, clustered, undivided. Lip in 3 deep acute lobes, the middle one largest; spur one third the length of the ovary.

Orchis albida *Swartz.*

Satyrium albidum *Linn.*

Habenaria albida *R. Br.*

In grassy mountain pastures. — Perennial. *June.*

2. *P. viridis*. Frog *Orchis*.

E. B. 2. 94.

Knobs tapering, clustered, divided. Lip linear, with 3 teeth; the middle one smallest. *Spur* very short, slightly cloven. *Smith.*

Orchis viridis *Swartz.*

Satyrium viride Linn.

Habenaria viridis R. Br.

In moist pastures and meadows, especially on gravelly or stony ground. — Perennial. *June, July.*

12. ACERAS R. Br.

Sepals and *petals* helmet-shaped, herbaceous; *lip* coloured, lobed, hanging down, not spurred. *Pollen masses* with 2 glands enclosed in a common pouch.

1. *A. anthropophora* R. Br. Green Man-orchis. E. B. 1. 29.

Lip longer than the ovary.

Ophrys anthropophora Linn.

In chalk pits and on banks, on a chalky soil. — Perennial. *June.*

13. OPHRYS Linn.

Sepals spreading, coloured or herbaceous. *Petals* much smaller than the sepals, generally coloured; *lip* convex, not spurred, more or less lobed, usually hairy, and figured. *Pollen masses* with 2 glands, each enclosed in a separate pouch.

1. *O. myodes* Jacq. Fly Orchis. E. B. 1. 64.

Lip twice as long as the calyx, flat, with 4 expanded lobes, somewhat downy; the disk polished. *Petals* linear, smooth.

Ophrys muscifera Hudson.

In chalky pastures, or in meadows. — Perennial. *June.*

2. *O. apifera* Huds. Bee Orchis. E. B. 6. 383.

Lip the length of the calyx, tumid, with 5 reflexed marginal lobes; the terminal one awl-shaped; the rest hairy above. *Sepals* coloured. *Petals* ciliated.

In meadows and pastures. — Perennial. *July.*

3. *O. aranifera* Huds. Spider Orchis. E. B. 1. 65.

Lip the length of the calyx, tumid, hairy, rounded, emarginate, with 4 shallow, reflexed, marginal lobes. *Sepals* herbaceous. *Petals* linear, smooth.

Ophrys fucifera Curtis.

In dry chalky or gravelly pastures. — Perennial. *April.*

- Var.* *O. fucifera* Smith. Drone Orchis. E. B. Supp. 2649.

Lip longer than the calyx, obovate, hairy, undivided, with a spreading wavy margin. Column bluntly pointed, incurved. *Petals* roughish; ovate at the base. *Smith.*

On chalky hillocks and banks, in Kent. — Perennial. *May, June.*

4. *O. fuciflora* Haller. Late Spider Orchis. E. B. Supp. 2596.

Lip longer than the calyx, dilated, somewhat tumid, with 5 shallow, inflexed, marginal lobes; the terminal one flattened. *Sepals* coloured. *Petals* deltoid, downy.

Orchis arachnites Scop.

In chalky pastures. — Perennial. *July.*

14. HERMINIUM R. Br.

Sepals and *petals* herbaceous, spreading; *lip* short, lobed, not spurred.

Lobes of the *anther* parallel. *Pollen masses* with 2 naked glands.

1. *H. monorchis* R. Br. Green Musk-orchis. E. B. 1. 71.
 Radical leaves 2, lanceolate. *Br.*
Ophrys monorchis Linn.
 On chalky banks and hillocks. — Perennial. *June, July.*

Tribe iv. *Malaxideæ* Lindley.

15. MALAXIS Linn.

Sepals herbaceous, ovate, spreading. *Petals* herbaceous, reflexed; *lip* uppermost, much smaller than the sepals, and similar in size and figure to the petals. *Column* very short. *Pollen masses* 4.

1. *M. paludosa* Linn. Bog-orchis. E. B. 1. 72.
 Leaves about 4, spatulate; rough at the tip. Stalk with 5 angles.
 Lip entire, concave, erect, acute, half the length of the calyx.
Ophrys paludosa Linn.
 In spongy turfy bogs. — Perennial. *July.*

16. LIPARIS Richard.

Sepals more or less herbaceous, spreading. *Petals* linear, spreading; *lip* undermost, dilated, much larger than the sepals. *Column* nearly as long as the sepals. *Pollen masses* 4.

1. *L. Læselii* Rich. E. B. 1. 47.
 Leaves 2, elliptic-lanceolate. Stalk triangular. Lip channelled,
 undivided, recurved, longer than the calyx.
Malaxis Löselii Swartz.
Cymbidium Löselii Swartz.
Ophrys Löselii Linn.
O. liliifolia Hudson.
O. paludosa Fl. Dan.
 On sandy bogs, among rushes. — Perennial. *July.*

Tribe v. *Cypripediæ* Lindley.

17. CYPRIPIEDUM Linn.

Lip inflated, sometimes saccate. *Column* terminated at the back by a petaloid lobe representing a barren stamen, and dividing the anthers. The 2 anterior *sepals* often united. *R. Br.*

1. *C. Calceolus* Linn. Ladies' Slipper. E. B. 1. 1.
 Stem leafy. Appendage to the column elliptical, obtuse, channelled. Lip somewhat compressed, shorter than the petals.
Smith.
 In mountainous woods and thickets in the north of England. — Perennial.
June.

Order 94. MELANTHACEÆ *R. Brown.*Colchicaceæ *Decandolle.*

Perianthium inferior, petaloid, in 6 pieces, or, in consequence of the cohesion of their claws, tubular; the pieces generally involute in æstivation.

Stamens 6; *anthers* mostly turned outwards.

Ovarium 3-celled, many-seeded; *style* trifid or 3-parted; *stigmas* undivided.

Capsule generally divisible into 3 pieces; sometimes with a loculicidal dehiscence.

Seeds with a membranous testa; *albumen* dense, fleshy. *R. Br.*

Roots bulbous or fibrous. *Leaves* sheathing at the base, with parallel veins. *Flowers* either arising from under the surface of the ground, or arranged upon tall leafy stems in large panicles; or disposed in spikes or racemes upon a naked scape.

1. COLCHICUM *Linn.*

Perianthium tubular, long, with a campanulate 6-parted limb. *Stamens* inserted in the orifice of the tube. *Anthers* oblong, versatile. *Ovary* 1. *Styles* 3, very long. *Follicles* 3, inflated, erect, united at the base, many-seeded.

1. *C. autumnale* *Linn.* Meadow-saffron. *E. B.* 2. 133.
Leaves flat, lanceolate, erect. Segments of the corolla oblong.
Smith.

In moist rich meadows. — Perennial. *September.*

2. TOFIELDIA *Huds.*

Perianthium 6-parted, with 3 minute bractæ at its base. *Stamens* smooth. *Follicles* 3 or 6, united at the base, many-seeded.

1. *T. palustris* *Huds.* Scottish Asphodel. *E. B.* 8. 536.
Flowers in an ovate head. Stem smooth, thread-shaped, leafless.
Petals obovate, obtuse. Ovaries roundish.
T. borealis *Wahl.*
Helonias borealis *Willd.*
Anthericum calyculatum *Linn.*
Narthecium calyculatum *Lam.*

In the black boggy margins of pools and rills. — Perennial. *August.*

Order 95. AMARYLLIDÆ *R. Br.*

Perianthium superior, in 6 parts, regular, with an imbricated æstivation; the 3 sepals overlapping the petals.

Stamens 6, inserted upon the segments of the perianthium; *filaments* sometimes connate at the base; *anthers* turned inwards.

Ovary 3-celled, either many-seeded or few-seeded; in the latter case the ovules ascending. *Style* 1; *stigma* with 3 lobes.

Fruit 3-celled, either capsular, with 3 loculicidal valves and many seeds; or succulent, with from 1 to 3 seeds.

Seeds neither black nor crustaceous; the *testa* often extremely fleshy; *albumen* fleshy; *embryo* straight, entire, pointing to the hilum.

Roots either fibrous or bulbous. *Flowers* usually with bright colours.

Leaves with parallel minute veins.

1. GALANTHUS Linn.

Perianthium in 6 pieces; the *petals* twice as short as the sepals, and emarginate. *Stigma* simple.

1. *G. nivalis* Linn. Snowdrop.

E. B. 1. 19.

Leaves not plaited.

In meadows, orchards, woods, hedges, and on the banks of rivers. — Perennial. February.

2. LEUCOJUM Linn.

Perianthium with a short tube, and a campanulate, equal limb formed of 6 pieces, which are thickish at the apex. *Stigma* simple.

1. *L. æstivum* Linn. Snowflake.

E. B. 9. 621.

Flowers several. *Style* club-shaped. *Smith*.

In moist meadows, and marshes near rivers. — Perennial. May.

3. NARCISSUS Linn.

Perianthium funnel-shaped, with a spreading, 6-parted limb, surrounded at the orifice of the tube by a cup. *Stamens* 6, inserted in the tube, and concealed within the cup.

1. *N. poeticus* Linn.

E. B. 4. 275.

Flowers mostly solitary. Crown very short, depressed; membranous and crenate at the margin. Leaves bluntly keeled; their edges reflexed.

In heathy, elevated, open fields. — Perennial. May.

2. *N. biflorus* Curt. Primrose peerless.

E. B. 4. 276.

Flowers in pairs. Crown very short, depressed; membranous and crenate at the margin. Leaves acutely keeled; their edges inflexed.

N. poeticus Hudson

In sandy fields. — Perennial. April, May.

3. *N. Pseudo-narcissus* Linn. Daffodil.

E. B. 1. 17.

Flowers solitary. Crown bell-shaped, erect, crisped, with 6 marginal segments; its length equal to that of the ovate petals.

In rather moist woods and thickets. — Perennial. March.

Order 96. LILIACEÆ Juss.

Tulipaceæ Dec. Hemerocallideæ R. Br.

Perianthium inferior, in 6 pieces, coloured, regular; occasionally with a tube.

Stamens 6, inserted into the pieces of the perianthium.

Ovary superior, 3-celled, many-seeded; *stigma* simple, or 3-lobed.

Fruit dry, capsular, 3-celled, many-seeded, with a loculicidal dehiscence.

Seeds flat, packed one upon another in 1 or 2 rows, with a spongy, dilated, often winged integument; *embryo* with the same direction as the seed, in the axis of fleshy *albumen*.

Roots scaly bulbs. *Leaves* with parallel veins, either lanceolate or cordate. *Flowers* large, usually with bright colours, often solitary.

1. FRITILLARIA Linn.

Perianthium campanulate, of 6 pieces, with an oval honey-pore at their base. *Stigmas* 3. *Seeds* flat.

1. *F. Meleagris* Linn. Common Fritillary Chequered Daffodil. Snake's-head. E. B. 9. 622.

All the leaves alternate, linear-lanceolate, pointed. Stem single-flowered. Honey-pore linear. Points of the perianthium inflexed. *Smith*.

In moist meadows and pastures. — Perennial. *April*.

2. TULIPA Linn.

Perianthium campanulate, of 6 pieces, without honey-pores at the base. *Stigmas* 3, thick, sessile. *Capsule* oblong, 3-cornered. *Seeds* flat.

1. *T. sylvestris* Linn. Wild Tulip. E. B. 1. 63.

Flower solitary, a little drooping. Leaves lanceolate. *Stigma* triangular, abrupt. *Stamens* hairy at the base. *Smith*.

In chalk pits. — Perennial. *April*.

Order 97. ASPHODELEÆ R. Br.

Calyx and *corolla* forming a 6-parted or 6-cleft, petaloid, regular *perianthium*.

Stamens 6, inserted upon the perianthium, or hypogynous; the 3 opposite the sepals sometimes either unlike the rest or wanting.

Ovarium superior, 3-celled, with 2- or many-seeded cells; *ovules* when 2 ascending. *Style* 1. *Stigma* entire or with 3 short lobes.

Fruit mostly a 3-celled, 3-valved *capsule*, with a loculicidal dehiscence; occasionally succulent, and sometimes 3-parted.

Seeds with a testa, which is black, brittle, and crustaceous; *albumen* fleshy; *embryo* included.

Herbaceous plants, or occasionally *trees*, with bulbous or fascicled roots.

Fruit succulent				
Three sepals and petals				
distinct	-	-	-	- 10. RUSCUS.
combined				
globular or tubular	-	-	-	- 9. CONVALLARIA.
spreading	-	-	-	- 1. ASPARAGUS.
Four sepals and petals	-	-	-	- 11. PARIS.
Fruit capsular				
Perianthium spreading open				
Inflorescence an umbel				
Stigma simple	-	-	-	- 2. ALLIUM.
Stigma gaping	-	-	-	- 3. GAGEA.
Inflorescence a spike or raceme				
Perianthium withering	-	-	-	- 4. ORNITHOGALUM.
Perianthium deciduous				
Filaments bearded	-	-	-	- 5. ANTHERICUM.
Filaments smooth	-	-	-	- 6. SCILLA.
Perianthium tubular				
6-toothed	-	-	-	- 7. MUSCARI.
6-parted	-	-	-	- 8. HYACINTHUS.

1. ASPARAGUS Linn.

Perianthium 6-parted, spreading, equal, deciduous. *Stamens* 6, inserted in the base of the sepals and petals. *Filaments* subulate, smooth. *Anthers* peltate, erect. *Ovary* with 2-seeded cells. *Style* short, with 3 furrows. *Stigma* 3-lobed. *Berry* round, with from 1 to 3 cells, and few seeds. *Embryo* out of the centre. *R. Br.*

1. *A. officinalis* Linn. Asparagus. E. B. 5. 339.
 Stem herbaceous, round, erect, without prickles. Leaves bristle-shaped, flexible. Stipulas mostly solitary. *Smith.*
 On the sea-coast. — Perennial. *June, July.*

2. ALLIUM Linn.

Perianthium 6-parted, spreading. *Stigma* simple. *Capsule* 3-angular, the cells deeply parted in two, separating from a permanent filiform axis. — Flowers in *terminal umbels*, with two herbaceous bractææ.

* *Stem leafy. Leaves flat.*

1. *A. Ampeloprasum* Linn. E. B. 24. 1657.
 Umbel globose, without bulbs. Stem leafy below. Leaves flat. Three alternate stamens deeply 3-cleft. Keel of the petals rough. *Smith.*
 In open hilly places. — Perennial. *August.*
2. *A. arenarium* Linn. E. B. 19. 1358.
 Umbel globose, bearing bulbs. Stem leafy below. Leaves flat, with cylindrical sheaths. Bractæas obtuse. Three alternate stamens dilated, 3-cleft. Keel of the petals roughish. *Smith.*
 In mountainous woods and fields. — Perennial. *July.*

3. *A. carinatum* Linn. E. B. 24. 1658.
 Umbel lax, bearing bulbs. Leaves flat. Bractees tapering, longer than the umbel. Stamens simple, awl-shaped. *Smith*.
 On mountains and rocks in the north. — Perennial. *July*.
- ** *Stem leafy. Leaves somewhat cylindrical.*
4. *A. oleraceum* Linn. E. B. 7. 488.
 Umbel lax, bearing bulbs. Leaves semicylindrical, tubular, rough; channelled above; ribbed beneath. Bractees pointed, longer than the umbel. Stamens simple, awl-shaped. *Smith*.
 In corn-fields and their borders. — Perennial. *July*.
5. *A. vineale* Linn. E. B. 28. 1974.
 Umbel spherical, bearing bulbs. Leaves cylindrical, smooth. Three alternate stamens deeply 3-cleft. *Smith*.
 In pastures and waste ground. — Perennial. *July*.
- S. *** *Stalk radical, naked.*
6. *A. ursinum* Linn. Ramsons. E. B. 2. 122.
 Stalk naked, semicylindrical. Leaves elliptic-lanceolate, stalked. Umbel level-topped. Stamens simple. *Smith*.
 In moist woods, hedges, and meadows. — Perennial. *May, June*.
7. *A. Schœnoprasum* Linn. Chives. E. B. 34. 2441.
 Stalk naked, round, the height of the foliage. Leaves cylindrical, somewhat tapering at the point. Stamens simple. *Smith*.
 In meadows and pastures. — Perennial. *June*.

3. GAGEA *Salisb.*

Perianthium somewhat herbaceous, 6-parted, persistent, converging at the base, spreading at the apex. *Stamens* 6; *filaments* not dilated at the base. *Stigma* gaping. *Capsule* 3-cornered. — Flowers yellow, corymbose, with leafy bractæ.

1. *G. lutea* Ker. E. B. 1. 21.
 Radical leaves 1 or 2, linear, much longer than the angular leafless scape. Pedicels solitary, shorter than the taper-pointed bractæ. Segments of the perianth lanceolate, obtuse.
Ornithogalum luteum Linn.
 In groves and pastures. — Perennial. *April*.

4. ORNITHOGALUM *Linn.*

Perianthium petaloid, 6-parted, withering upon the stalk, converging at the base, diverging at the apex. *Stamens* 6, the 3 outer with dilated filaments. *Stigma* small, capitate. *Ovary* bluntly 3-cornered. — Flowers racemose, white, green, or yellow, with membranous bractæ.

1. *O. pyrenaicum* Linn. E. B. 7. 499.
 Cluster very long. Filaments all dilated. Flower-stalks equal, spreading; growing erect, and close-pressed, as the fruit ripens. *Smith*.
 In pastures. — Perennial. *June, July*.

2. *O. umbellatum* Linn. Star of Bethlehem. E. B. 2. 130.
Flowers corymbose; their partial stalks overtopping the main one.
Filaments dilated, tapering, entire. *Smith*.
In meadows, pastures, and groves. — Perennial. *April, May*.

3. *O. nutans* Linn. E. B. 28. 1997.
Flowers pendulous, unilateral. Filaments dilated, cloven, converging; 3 of them longer, their lobes nearly equal to the anther.
Smith.
In fields and orchards. — Perennial. *April, May*.

5. *ANTHERICUM* Linn.

Perianthium 6-parted, petaloid, equal, spreading, deciduous. *Stamens* 6.
Filaments bearded. *Anthers* versatile. *Ovary* polyspermous. *Style* filiform. *Capsule* roundish, 3-celled, with 3 valves bearing the dissepiments in the middle. *Seeds* few, angular, naked at the hilum.
R. Br.

1. *A. serotinum* Linn. Mountain Spiderwort. E. B. 12. 793.
Leaves semicylindrical; those on the stem dilated at their base.
Flower mostly solitary. *Smith*.
On the loftiest Welsh mountains. — Perennial. *June*.

6. *SCILLA* Linn.

Perianthium 6-parted, generally spreading and deciduous. *Filaments* filiform, smooth, inserted into the base of the perianthium. *Seeds* roundish. — Root *bulbous*. *Duby*.

1. *S. verna* Huds. E. B. 1. 23.
Bulb coated. Corymb hemispherical, of few flowers. Bractæas lanceolate, obtuse. Leaves linear, channelled. *Smith*.
On maritime rocks and cliffs. — Perennial. *April*.
2. *S. bifolia* Linn. E. B. 1. 24.
Bulb coated. Cluster slightly corymbose, without bractæas.
Flowers nearly erect. Leaves lanceolate, generally 2. *Smith*.
In groves in the west of England. — Perennial. *March, April*.
3. *S. autumnalis* Linn. E. B. 2. 78.
Leaves linear, numerous. Cluster somewhat corymbose. Flower-stalks ascending, the length of the flowers, without bractæas.
Smith.
In dry pastures or on rocks. — Perennial. *September*.

7. *MUSCARI* Tourn.

Perianthium ovate, inflated, 6-toothed. *Capsule* 3-cornered, with prominent angles. *Cells* 2-seeded.

1. *M. racemosum* Mill. Starch Hyacinth. E. B. 27. 1931.
Flowers ovate, with 6 furrows; the upper ones sessile and abortive.
Leaves linear, channelled, flaccid. *Smith*.
Hyacinthus racemosus Linn.
In grassy fields, or among ruins. — Perennial. *May*.

8. HYACINTHUS Linn.

Perianthium 6 cleft, tubular; segments spreading at the apex. *Stamens* inserted about the middle of the perianthium. *Capsule* obtusely 3-cornered; *cells* many-seeded.

1. *H. non scriptus* Linn. Harebells. E. B. 6. 377.
 Leaves linear. Bracteæ in pairs.
Scilla nutans Smith.
S. non scripta Redouté.
 In thickets. — Perennial. May.

9. CONVALLARIA Linn.

Sepals and *petals* united in a perianthium, which is either globose or cylindrical, and 6-toothed. *Stamens* 6. *Berry* round, before maturity spotted, 3-celled, with 1-seeded cells.

1. *C. majalis* Linn. Lily of the Valley. E. B. 1035.
 Flower-stalk radical, naked, semicylindrical. Cluster simple.
 Flowers drooping, cup-shaped, with rather distinct segments.
 Smith.
 In groves or rocky woods. — Perennial, May.
2. *C. verticillata* Linn. E. B. 2. 128.
 Leaves linear-lanceolate, whorled. Smith.
 In woods at the bases of the Scottish mountains. — Perennial. June.
3. *C. Polygonatum* Linn. E. B. 4. 280.
 Leaves alternate, clasping the angular stem. Stalks axillary, mostly single-flowered. Stamens smooth. Smith.
 In rocky mountainous woods. — Perennial. May, June.
4. *C. multiflora* Linn. Common Solomon's Seal. E. B. 4. 279.
 Leaves alternate, clasping the round stem. Stalks axillary, many-flowered. Stamens downy. Smith.
 In woods and thickets. — Perennial. May, June.

10. RUSCUS Linn.

Sepals 3. *Petals* 3, spreading. *Filaments* united in a tube, which is either with or without anthers. *Style* 1. *Stigma* 1. *Berry* globose, 3-celled, with 2-seeded cells.

1. *R. aculeatus* Linn. Butcher's Broom. E. B. 8. 560.
 Leaves ovate, sharp-pointed, flowering on the upper side without a leaflet. Smith.
β. laxus.
Ruscus laxus Smith.
 On bushy heaths, and in woods. — Perennial. March, April.

11. PARIS Linn.

Sepals 4. *Petals* 4. *Stamens* 8. *Anthems* attached to the middle of the filaments. *Stigmas* 4. *Berry* 4-celled; cells 6 or 8-seeded.

1. *P. quadrifolia* Linn. Herb Paris. E. B. 1. 7.
 Leaves ovate, about 4. *Smith*.
 In groves and shady places. — Perennial. *May, June*.

Order 98. DIOSCOREÆ R. Br.

Flowers diœcious.

Calyx and *corolla* undistinguishable, superior.

Stamens 6, inserted into the base of the sepals and petals.

Ovary 3-celled; *style* deeply trifid; *ovules* one or two in each cell.

Fruit succulent or dry. *Embryo* small, near the hilum, lying among cartilaginous albumen.

Twiners. *Leaves* with reticulated veins. *Flowers* small, greenish.

1. TAMUS Linn.

Flowers diœcious. *Perianthium* companulate, 6-parted; in the males, which are hexandrous, spreading; in the females superior and contracted at the neck. *Style* 1. *Stigmas* 3. *Berry* 3-celled.

1. *T. communis* Linn. Black Bryony. E. B. 2. 91.
 Leaves heart-shaped, undivided, acute. *Smith*.
 In tall hedges, thickets, and woods. — Perennial. *June*.

Order 99. BUTOMEÆ Richard.

Sepals 3, herbaceous.

Petals 3, coloured, petaloid.

Stamens definite or indefinite, hypogynous.

Ovaries superior, 3, 6, or more, either distinct or united into a single mass; *stigmas* the same number as the ovaries, simple.

Follicles many-seeded, either distinct and rostrate, or united in a single mass.

Seeds minute, very numerous, attached to the whole of the inner surface of the fruit; *albumen* none; *embryo* with the same direction as the seed.

Aquatic plants. *Leaves* very vascular, often yielding a milky juice, with parallel veins. *Flowers* in umbels, conspicuous, purple, or yellow.

1. BUTOMUS *Linn.*

Stamens 9, of which 3 are internal and petaloid. *Ovaries* 6, with long beaks. *Fruit* capsular, dehiscent at the inner edge. *Seeds* linear-oblong, straight, with longitudinal streaks.

1. *B. umbellatus* *Linn.* Flowering-rush. E. B. 10. 651.
In ditches, and the margins of rivers. — Perennial. *June, July.*

Order 100. RESTIACEÆ *R. Br.*

Perianthium inferior, 2-6-parted, seldom wanting.

Stamens definite, 1-6; when they are from 2 to 3 in number, and attached to a perianthium of 4 or 6 divisions, they are then opposite the inner segments (*petals*).

Ovary 1- or more celled; cells monospermous; ovules pendulous. *Fruit* capsular, or nucamentaceous.

Seeds inverted; *albumen* of the same figure as the seed; *embryo* lenticular, on the outside of the albumen, at that end of the seed which is most remote from the hilum.

Herbaceous plants or *under-shrubs*. *Leaves* simple, narrow, or none. *Culms* naked, or more usually protected by sheaths, which are slit, and have equitant margins. *Flowers* generally aggregate, in spikes or heads, separated by bractæ, and most frequently bisexual.
R. Br.

1. ERIOCAULON *Linn.*

Head androgynous. *Scales* 1-flowered, the exterior generally empty, and forming an involucre. *Petals* 2 or 3. *Sepals* 2 or 3. *Males* in the disk. *Petals* cohering at the base, or inserted rather higher up than the sepals. *Stamens* 4 or 6. *Anthers* 2-celled. *Females* in the circumference. *Petals* distinct. *Style* 1. *Stigmas* 2 or 3. *Capsule* 2- or 3-celled, 2- or 3-lobed, dehiscent by the salient angles. *Seeds* solitary.

1. *E. septangulare* *With.* Pipewort. E. B. 11. 733.
Capsule of 2 cells. Stem with about 7 angles, many times taller than the channelled, taper-pointed leaves. Head convex. Outer scales empty, rounded, smooth.

E. decangulare *Lightf.*

Nasmythia articulata *Hudson.*

In lakes, in the isle of Skye, and on the west coast of Ireland. — Perennial
September.

Order 101. JUNCEÆ *Dec*

Flowers hermaphrodite or unisexual.

Calyx and *corolla* forming an inferior, 6-parted, somewhat glumaceous *perianthium*.

Stamens 6, inserted into the base of the segments; sometimes 3, and then opposite the sepals. *Anthers* 2-celled.

Ovarium 1- or 3-celled, 1- or many-seeded, or 1-celled and 3-seeded.

Style 1. *Stigmas* generally 3, sometimes only 1.

Fruit capsular, with 3 valves, which have the dissepiment in their middle, sometimes destitute of valves, and 1-seeded by abortion.

Seeds with a testa, which is neither black nor crustaceous; *albumen* firm, fleshy, or cartilaginous; *embryo* within it. *R. Br.*

Herbaceous plants with fascicled or fibrous roots. *Leaves* fistular, or flat and channelled with parallel veins. *Inflorescence* often more or less capitate. *Flowers* generally brown.

1. JUNCUS Linn. Rush.

Perianthium 6-parted, glumaceous. *Stamens* 3 or 6. *Capsule* 3-celled, 3-valved, with a loculicidal dehiscence. *Seeds* numerous, attached to the dissepiment. — Stems taper, usually leafless, with internal *phragmata*.

* *Leaves* none.

1. *J. acutus* Linn.

E. B. 23. 1614.

Stem naked, sharp-pointed. Panicle aggregate, near the summit. Bractea spinous. Capsule twice as long as the calyx, roundish, with a blunt point.

On the sea-coast, in deep sand. — Perennial. *July*.

2. *J. maritimus* Smith.

E. B. 24. 1725.

Stem naked, sharp-pointed. Panicle proliferous, near the erect summit. Bractea spinous. Capsule oblong, the length of the calyx.

In marshes near the sea, along with the preceding, but much more plentiful. — Perennial. *August*.

3. *J. glaucus* Sibth.

E. B. 10. 665.

Stem naked, straight, glaucous. Panicle upright, far below the summit. Capsule elliptical, pointed, rather shorter than the calyx. *Smith*.

J. inflexus Relhan.

In wet pastures, or moist waste ground. — Perennial. *July*.

4. *J. conglomeratus* Linn. Common Rush.

E. B. 12. 835.

Stem naked, straight. Panicle dense, globular, far below the summit. Capsule abrupt. *Stamens* 3. *Smith*.

In pastures, and by road sides. — Perennial. *July*.

5. *J. effusus* Linn.

E. B. 12. 836.

Stem naked, straight. Panicle loose, repeatedly compound, very far below the summit. Capsule obtuse. *Smith*.

In wet pastures, and boggy places by road sides. — Perennial. *July*.

6. *J. filiformis* Linn. E. B. 17. 1175.
Stem naked, thread-shaped, drooping. Panicle nearly simple, corymbose, of few flowers, very far below the summit. Bractea taper-pointed. Capsule almost globular. *Smith*.
About the margins of lakes in the north. — Perennial. *August*.
7. *J. balticus* Willd. E. B. Supp. 2621.
Stem naked, straight, acute. Panicle towards the summit, dense, capitate of few flowers. Bractea shorter than the panicle. Capsule oblong, bluntish. *Smith*. — *J. arcticus* *Sm*.
On the sands of Barry, near Dundee. *Mr. Drummond*. — Perennial. *July, August*.
- ** Herb leafy.
8. *J. trifidus* Linn. E. B. 21. 1482.
Stem naked. Radical leaves very few. Bractea 3, leafy, channelled, with from 1 to 3 terminal flowers. *Smith*.
J. monanthus *Jacq*.
In alpine bogs in Scotland. — Perennial. *July*.
9. *J. squarrosus* Linn. Moss Rush. Goose Corn. E. B. 13. 933.
Stem naked. Leaves numerous, radical, channelled. Panicle terminal, compound, with cymose branches. *Smith*.
J. Sprengelii *Willd*.
In boggy spots, on the most barren sandy heaths. — Perennial. *June, July*.
10. *J. compressus* *Jacq*. E. B. 13. 934.
Stem simple, compressed; leafy below. Leaves linear, incurved at the edges. Panicle cymose, terminal, shorter than the bractea. Capsule roundish-obovate, longer than the obtuse calyx. *Smith*.
J. bulbosus *Linn*.
In moist pastures. — Perennial. *July, August*.
11. *J. cœnosus* *Bichenø*. E. B. Supp. 2680.
Stem simple, leafy. Leaves linear, channelled. Panicle cymose, terminal, longer than the bractea. Capsule obovate, the length of the rather obtuse calyx. *Smith*.
In salt marshes, and muddy places towards the sea, abundantly. — Perennial. *July, August*.
12. *J. Gesneri* *Smith*. E. B. 31. 2174.
Stem simple, naked. Leaves slightly channelled. Panicle forked, racemose, shorter than the bractea. Calyx-leaves lanceolate, taper-pointed, 3-ribbed, longer than the oval capsule. *Smith*.
J. gracilis *Smith*.
J. tenuis *Hooker*.
By a rivulet in marshy ground, among the mountains of Clova, Angushire, very rare. *Mr. G. Don*. — Perennial. *July*.
13. *J. bufonius* Linn. E. B. 12. 802.
Stem leafy. Leaves angular, channelled. Panicle forked, racemose, longer than the bractea. Calyx-leaves lanceolate, taper-pointed, membranous, 2-ribbed, longer than the oblong capsule. *Smith*.
In marshy ground. — Annual. *July, August*.

14. *J. uliginosus* Sibth. E. B. 12. 801.
 Stem leafy, bulbous at the base. Leaves bristle-shaped, channelled.
 Heads lateral and terminal, about 3-flowered. Capsule obtuse,
 rather longer than the calyx. *Smith.*
J. bulbosus Linn.
J. supinus Don.
 On moist, sandy, or turfy heaths. — Perennial. *June, July.*
15. *J. subverticillatus* Wulfen.
 Stem leafy, trailing. Leaves bristle-shaped, channelled, very
 slightly jointed. Panicle forked. Heads lateral and terminal,
 about 5-flowered, somewhat whorled. Capsule obtuse, rather
 longer than the calyx. *Smith.*
J. setifolius Ehr.
 In boggy and watery places. — Perennial. *July, August.*
16. *J. capitatus* Weigel. E. B. Supp. 2644.
 Stem erect, unbranched; leafy at the base. Leaves bristle-shaped,
 channelled. Heads 1 or 2, lateral and terminal. Stamens 3.
 Calyx keeled, bristle-pointed, twice as long as the capsule. *Smith.*
J. gracilis Roth.
J. supinus Bichenov.
Schœnus minimus Forst.
 In sandy ground. — Annual? *May—July.*
17. *J. biglumis* Linn. E. B. 13. 898.
 Stem erect, unbranched; leafy at the base. Leaves flat. Head
 solitary, of 2 unilateral flowers, surmounted by a leafy bractea.
Smith.
 About mountain rills, in the Highlands of Scotland. — Perennial. *August.*
18. *J. triglumis* Linn. E. B. 13. 899.
 Stem erect, unbranched; leafy in the lower part. Leaves flat.
 Head solitary, terminal, of about 3 upright flowers, with elliptical
 bracteas. *Smith.*
 In alpine rivulets. — Perennial. *July.*
19. *J. castaneus* Smith. E. B. 13. 900.
 Stem unbranched, leafy. Leaves keeled, flat; sheathing at the
 base. Heads terminal, mostly in pairs, many-flowered, with
 leafy bracteas. Capsule twice the length of the calyx. *Smith.*
 In the Highlands of Scotland, also in the north of England. — Perennial. *July.*
20. *J. acutiflorus* Ehr. E. B. 4. 238.
 Leaves apparently jointed, slightly compressed. Panicle repeatedly
 compound, forked. Petals and sepals all bristle-pointed, shorter
 than the taper beak of the capsule. *Smith.*
J. sylvaticus Willd.
J. articulatus E. Bot.
J. nemorosus Sibth.
 In woods and watery places. — Perennial. *June, July.*
21. *J. lampocarpus* Ehr. E. B. 30. 2143.
 Leaves apparently jointed, compressed. Panicle erect, compound,

forked. Petals bordered. Capsule ovate, coloured, highly polished, longer than the calyx.

J. compressus *Relh.*

In meadows and watery places. — Perennial. *July, August.*

22. *J. obtusiflorus* Ehr.

E. B. 30. 2144.

Leaves apparently jointed, cylindrical. Stem with internal partitions. Panicle repeatedly compound; branches divaricated and reflexed. Sepals obtuse, as long as the capsule. *Smith.*

In marshes. — Perennial. *August.*

23. *J. nigritellus* D. Don.

E. B. Supp. 2643.

Leaves apparently jointed, awl-shaped, cylindrical. Panicle erect, twice or thrice forked, with nearly simple branches. Heads many-flowered. Sepals lanceolate, acute, rather shorter than the elliptic-ovate bluntish capsule. — *J. polycephalus* D. Don.

In the Highlands of Scotland. — Perennial.

2. LUZULA Dec.

Perianthium 6-parted, glumaceous. *Stamens* 6. *Capsule* 1-celled, 3-seeded, 3-valved. — Leaves flat, usually hairy.

1. *L. pilosa* Willd.

E. B. 11. 736.

Panicle cymose, widely spreading and reflexed. Flowers solitary. Capsule pointless. Crest of the seeds hooked. *Smith.*

Juncus pilosus Linn.

J. vernalis Ehr.

In shady groves, and on banks. — Perennial. *March, April.*

2. *L. Forsteri* Dec.

E. B. 18. 1293.

Panicle cymose, erect. Flowers solitary. Capsule pointed. Crest of the seeds straight and obtuse. *Smith.*

Juncus Forsteri *Smith.*

In groves and thickets. — Perennial. *May.*

3. *L. sylvatica* Bicheno.

E. B. 11. 737.

Panicle cymose, doubly compound. Flowers and bracteas aggregate. Capsule pointed. Crest of the seeds obsolete. *Smith.*

Juncus sylvaticus Hudson.

Luzula maxima Willd.

Juncus maximus Ehr.

J. latifolius Jacq.

In woods, and hilly, open, or bushy ground. — Perennial. *May, June.*

4. *L. campestris* Willd.

E. B. 10. 672.

Panicle of 3 or 4 ovate, dense, partly stalked, clusters. Capsule obovate, obtuse, with a small point, shorter than the calyx. Seeds stalked, without a crest. Leaves flat. *Smith.*

Juncus campestris Linn.

In dry barren pastures. — Perennial. *April, May.*

5. *L. congesta* Dec.

E. B. Supp. 2718.

Panicle of numerous, roundish-ovate, dense, partly stalked, clusters. Capsule obovate, obtuse, with a small point, as long as the

calyx. Seeds stalked, without a crest. Leaves flat, rough-edged.
Smith.

L. campestris β . *Bicheno.*

Juncus liniger *Purton.*

In marshy turfy ground. — Perennial. *June.*

6. *L. spicata* *Bicheno.*

E. B. 17. 1176.

Panicle dense, compound, oblong, lobed, drooping. Capsule elliptical, with a small point. Crest of the seeds obsolete. Stem-leaves channelled. *Smith.*

Juncus spicatus *Linn.*

On the loftiest mountains of Scotland and Westmoreland. — Perennial. *July, August.*

7. *L. arcuata* *Smith.*

E. B. Supp. 2688.

Panicle somewhat umbellate, partly compound, with drooping branches. Heads globose, of few flowers. Bractees membranous, fringed. Capsule elliptical. Leaves channelled. *Smith.*

On the most stony and barren summits of Cairngorum, and others of the Grampian mountains. *Professor Hooker.* — Perennial. *July.*

3. NARTHECIUM *Huds.*

Perianthium 6-parted. *Stamens* 6. *Filaments* woolly, persistent. *Ovary* pyramidal. *Style* short. *Capsule* 3-celled, 3-valved. *Seeds* numerous, with an appendage at each end.

1. *N. ossifragum* *Huds.* Lancashire Bog-asphodel. E. B. 8. 535.

Cluster uninterrupted. One bractea at the base, the other above the middle, of each partial stalk. *Smith.*

Anthericum ossifragum *Linn.*

Abama ossifraga *Dec.*

In black turfy bogs. — Perennial. *July, August.*

Division II. GLUMACEÆ.

ANALYSIS OF THE ORDERS.

- Bracteæ to each flower 1; or 3, of which 2 are connate. Em-
 bryo undivided, included within the albumen. Stem } 102. CYPERACEÆ
 angular. Leaves with their sheaths entire - - -
- Bracteæ to each flower several, imbricated. Embryo with
 a naked plumula on the outside of the albumen. Stem } 103. GRAMINEÆ
 cylindrical. Leaves with their sheaths split - - -

Order 102. CYPERACEÆ Juss.

- Flowers* hermaphrodite, or bisexual, consisting of imbricated solitary bracteæ, very rarely enclosing other bracteæ called *glumes*.
- Stamens* hypogynous, definite, 1- 2- 3- 4- 6-12; *anthers* fixed by their base, entire, 2-celled.
- Ovary* 1-seeded, often surrounded by bristles called hypogynous setæ, probably constituting the rudiments of a perianthium; *ovulum* erect; *style* single, trifid, or bifid; *stigmas* undivided, occasionally bifid.
- Nut* crustaceous or bony.
- Albumen* of the same figure as the seed; *embryo* lenticular, undivided, enclosed within the base of the albumen.
- Roots* fibrous. *Stems* very often without joints, 3-cornered, or taper.
- Leaves* with their sheaths entire. The lowermost bracteæ often sterile.

ANALYSIS OF THE GENERA.

- Florets hermaphrodite
- Bracteæ distichous - - - - - 1. CYPERUS.
- Bracteæ regularly imbricated
- Style persistent
- Bracteæ all fertile - - - - - 5. HELIOCHARIS.
- Lower bracteæ empty - - - - - 2. RHYNCHOSPORA.
- Style deciduous
- Hypogynous setæ present
- longer than the bracteæ - - - - - 7. ERIOPHORUM.
- shorter than the bracteæ
- Bracteæ all fertile - - - - - 6. SCIRPUS.
- Lower bracteæ empty - - - - - 3. BLYSMUS.

Hypogynous setæ wanting			
Spikes 1- or 2-flowered, paniced	-	-	8. CLADIUM.
Spikes many-flowered			
paniced and round	-	-	9. HOLOSCHÆNUS.
terminal and oval			
Leaves with parallel veins			
Bractæ all fertile	-	-	10. ISOLEPIS.
Lower bractæ empty	-	-	4. SCHÆNUS.
Lateral veins of leaves straggling	-	-	11. HELIOGITON.
Florets unisexual			
Female florets naked	-	-	12. KOBRESIA.
Female florets enclosed in 2 united glumes	-	-	13. CAREX.
S.			

1. CYPERUS Linn.

Spikes terminal, with involucre leaves. *Bractæ* distichous, in pairs; the outer usually smallest at the base and empty; the inner adhering to the rachis. *Hypogynous setæ* wanting. *Fruit* 2-edged, or 3-cornered. *Style* filiform, deciduous.

1. *C. longus* Linn. English Galingale. E. B. 19. 1309.
Stem triangular. Umbel leafy, twice compounded, with naked stalks. *Spikes* alternate. *Smith*.
By a rivulet between St. David's town and St. David's head; at Walton in Gordan, Somersetshire. — Perennial. *July*.
2. *C. fuscus* Linn. E. B. Supp. 2626.
Stem triangular. Umbel compound, with 3 unequal leaves beneath. *Spikes* crowded, spreading every way. *Stigmas* 3. *Smith*.
Found by Mr. Haworth in a low marshy meadow, half a mile from Little Chelsea. — Annual. *September*.

2. RHYNCHOSPORA Vahl.

Spikes terminal and axillary, with a many-leaved involucre. *Rachis* nearly straight, or somewhat flexuose. Lower *bractæ* smaller than the others and empty. *Hypogynous setæ* from 6 to 10. *Fruit* compressed, somewhat 3-cornered. *Style* dilated at the base, and persistent upon the fruit.

1. *R. alba* Vahl. E. B. 14. 985.
Heads abrupt. *Stamens* 2. *Leaves* tapering. *Hypogynous setæ* many.
Schœnus albus Linn.
On turf bogs. — Perennial. *July, August*.
2. *R. fusca* Smith. E. B. 22. 1575.
Heads ovate-oblong. *Stamens* 3. *Leaves* thread-shaped. *Hypogynous setæ* 3.
Schœnus fuscus Linn.
In bogs, rare. — Perennial. *July, August*.

3. BLYSMUS Panzer.

Spike compound, terminal. *Spiculæ* furnished with an involucre leaf. *Rachis* nearly straight. *Bractæ* gradually diminishing in size; the lowest empty. *Hypogynous setæ* several or none. *Fruit* somewhat compressed, tapering, with a filiform, deciduous *style*.

1. *B. compressus* Panzer. E. B. 11. 791.
 Stem roundish, leafy at the bottom. Spikes aggregate, 2-ranked,
 many-flowered. Leaves flat, with rough edges and keel. Hypo-
 gynous setæ 6.
Schoenus compressus Linn.
Scirpus caricinus Schrad.
Carex uliginosa Linn.
Scirpus compressus Pers.
 In boggy meadows. — Perennial. July.

4. SCHŒNUS Linn.

Spikes terminal. *Involucrum* 2- or many-leaved. *Rachis* nearly
 straight. Lower *bracteæ* smaller than the rest and empty. *Hypo-*
gynous setæ 0. *Fruit* 3-cornered, with a very short point. *Style*
 filiform, deciduous.

1. *S. nigricans* Linn. E. B. 16. 1121.
 Stem round, naked. Head roundish, abrupt, overtopped by one of
 the two involucral leaves.
Cyperus nigricans With.
 On turfy bogs. — Perennial. June.
2. *S. rufus* Hudson. E. B. 15. 1010.
 Stem round, leafy at the bottom. Spikes aggregate, distichous.
 Leaves channelled, smooth, without a keel.
Scirpus rufus Schrader.
Blysmus rufus Link.
 In marshes towards the sea-coast. — Perennial. June, July.

5. HELIOCHARIS.

Iamina of the leaf absent, or nearly so. *Spike* terminal. *Rachis*
 nearly straight. *Bracteæ* gradually diminishing in size. *Hypogy-*
nous setæ from 2 to 10. *Fruit* 2-edged, seldom 3-cornered. *Style*
 2- or 3-parted, persistent.

1. *H. palustris*. E. B. 2. 131.
 Stem round. Root creeping. Stigmas 2. Fruit lenticular, most
 convex at one side.
Scirpus palustris Linn.
Eleocharis palustris R. Br.
 In ditches, rivulets, and boggy ground. — Perennial. June, July.
2. *H. multicaulis*. E. B. 17. 1187.
 Stem round. Root fibrous. Stigmas 3. Fruit acutely triangular,
 as well as the permanent base of the style.
Scirpus multicaulis Smith.
Eleocharis multicaulis Smith.
 On turfy bogs and wet commons. — Perennial. July.
3. *H. acicularis*. E. B. 11. 749.
 Stem quadrangular. Stigmas 3. Fruit numerous furrowed.
 Filaments permanent.
Scirpus acicularis Linn.
Eleocharis acicularis R. & S.
 In damp spots upon heaths. — Perennial. August.

4. *H. cæspitosa*. E. B. 15. 1029.
 Stem round, striated; sheathed and invested with numerous scales at the base. Spike terminal. Outer bractæ largest, with leafy points.
Scirpus cæspitosus Linn.
Eleocharis cæspitosa Link.
 On turfey barren heaths. — Perennial. July.
5. *H. pauciflora*. E. B. 16. 1122.
 Stem round, with a tight leafless sheath at the base. Spike terminal, of few flowers, longer than its blunt membranous-tipped outer bractæ.
Scirpus pauciflorus Lightf.
Sc. Bæothryon Ehr.
Sc. campestris Roth.
Eleocharis pauciflora Link.
 On moors and mountains. — Perennial. August.

6. SCIRPUS Linn.

Spikes lateral or terminal. *Rachis* nearly straight. *Bractæ* gradually diminishing in size. *Hypogynous setæ* shorter than the bractæ, or nearly of the same length. *Style* filiform, 2- or 3-parted, deciduous. *Fruit* 2-edged or 3-cornered, mucronate, usually plano-convex.

1. *S. triqueter* Linn. E. B. 24. 1694.
 Stem acutely triangular, straight, naked, sharp-pointed. Spikes lateral; sessile or stalked. Stigmas 2. Fruit smooth.
Scirpus pungens Vahl.
 About the muddy banks of rivers. — Perennial. August.
- S. 2. *S. carinatus* Smith. E. B. 28. 1983.
 Stem bluntly triangular upwards, naked; round at the base. Panicle cymose, terminal. Involucral leaf pungent, channelled, erect. Stigmas 2.
 About the banks of large rivers. — Perennial. August.
3. *S. lacustris* Linn. Bull-rush. E. B. 10. 666.
 Stem round, naked. Panicle cymose, twice compound, terminal. Spikes ovate. Involucral leaves generally much shorter than the panicle.
 In clear ditches, ponds, and the borders of rivers. — Perennial. July, August.
4. *S. glaucus* Smith. E. B. 33. 2321.
 Stem round, naked, glaucous. Panicle cymose, not higher than the bractea. Spikes ovate, conglomerate. Stigmas 2. Smith.
 In salt marshes. — Perennial. August.
5. *S. maritimus* Linn. E. B. 8. 542.
 Stem triangular. Panicle terminal, leafy. Spikes conglomerate. Bractæ torn, with an intermediate point. Stigmas 3.
Sc. tuberosus Desf.
 In salt marshes. — Perennial. July, August.
6. *S. sylvaticus* Linn. E. B. 13. 919.
 Stem triangular, leafy throughout. Panicle terminal, leafy, cy-

mose, repeatedly compound. Flower-stalks sheathed at the base. Spikes aggregate. *Smith.*

In moist shady woods. — Perennial. *June, July.*

7. *ERIOPHORUM* Linn. COTTON-GRASS.

Spike terminal. *Rachis* nearly straight. *Bracteæ* gradually diminishing in size. *Hypogynous setæ* much longer than the bracteæ, persistent. *Style* 2- or 3-parted, filiform, deciduous. *Fruit* 3-cornered, pointed.

* *Spike solitary.*

1. *E. vaginatum* Linn. Hare's-tail Cotton-grass. E. B. 13. 873.
Stem triangular above; round below, with a swelling sheath. Spike ovate. Bracteæ membranous.

E. cæspitosum Host.

On barren mountainous moors. — Perennial. *March, April.*

2. *E. capitatum* Host. E. B. 34. 2387.
Stem entirely round, with a swelling sheath. Spike roundish. Bracteæ membranous.

E. Scheuchzeri Roth.

On a sand bank by an alpine rivulet on Ben Lawers, Scotland, near the limits of perpetual snow. — Perennial. *August.*

3. *E. alpinum* Linn. E. B. 5. 311.
Stem triangular, naked above the leaves, which are shorter than their sheaths. Spike oblong-ovate. Glumes firm, strongly keeled.

On turf alpine bogs in Scotland. — Perennial. *June, July.*

** *Spikes several.*

4. *E. polystachion* Linn. E. B. 8. 563.
Stem round. Leaves flat, lanceolate, with a triangular point. Stalks of the spikes smooth. Setæ thrice the length of the spike.

E. latifolium Schrad.

In boggy meadows. — Perennial. *April.*

5. *E. pubescens* Smith. E. B. Supp. 2663.
Stem angular upwards. Leaves flat, lanceolate, with a triangular point. Stalks of the spikes downy. Setæ twice the length of the spike.

E. angustifolium Poit. & Turp.

In bogs and marshes. — Perennial. *April, May?*

6. *E. angustifolium* Roth. E. B. 8. 564.
Stem nearly round. Leaves linear, triangular; channelled towards the base. Stalks of the spikes smooth. Setæ four times the length of the spike.

E. Vaillantii Poit.

In turf, boggy, and muddy meadows. — Perennial. *April.*

7. *E. gracile* Roth. E. B. 34. 2402.
Stem round, with 3 slight angles. Leaves triangular; channelled towards the base. Spikes longer than the bractea. Setæ twice the length of the spike.

E. triquetrum Schrad.

On Ben Lawers and the Clova mountains, in a micaceous soil. — Perennial.
July.

8. CLADIUM Schrad.

Inflorescence terminal and axillary, panicle; the heads formed of 1- or 2-flowered spikelets. *Lower bractæ* smaller and empty. *Hypogynous setæ* wanting. *Stamens* 2. *Style* 3-parted, filiform, deciduous. *Fruit* covered with a brittle pericarpium.

1. *C. Mariscus* R. Br.

E. B. 14. 950.

Panicle repeatedly compound, leafy. Spikes capitate. Stem round, smooth, leafy. Leaves prickly at the margin and keel. *Smith.*

Schœnus Mariscus Linn.

Cladium germanicum Schrad.

In fens and boggy places. — Perennial. *July, August.*

9. HOLOSCHÆNUS Link.

Spikes terminal, clustered. *Rachis* nearly straight. *Bractæ* gradually diminishing in size. *Hypogynous setæ* wanting. *Fruit* 3-cornered, with a short point. *Style* 2- or 3-parted, filiform, deciduous.

1. *H. vulgaris* Link.

E. B. 23. 1612.

Stem round, naked. Involucrum many-leaved. Leaves channelled.

Scirpus Holoschœnus Linn.

Sc. australis Linn.

Sc. romanus Linn.

Isolepis Holoschœnus R. & S.

On sandy sea-shores. — Perennial. *September.*

10. ISOLEPIS R. Br.

Spikes terminal or lateral. *Rachis* nearly straight. *Bractæ* gradually diminishing in size. *Hypogynous setæ* wanting. *Fruit* 2-edged, rarely 3-cornered, with a short point. *Style* 2- or 3-parted, filiform, deciduous.

1. *I. setacea* R. Br.

E. B. 24. 1693.

Stem bristle-shaped, leafy at the base. Spikes about 2, sessile, surmounted by a leafy bractea. *Fruit* furrowed.

Scirpus setaceus Linn.

In watery places. — Annual. *July, August.*

11. HELIOGITON.

Leaves with short straggling lateral veins. *Spikes* terminal. *Rachis* nearly straight. *Bractæ* gradually diminishing in size. *Hypogynous setæ* 0. *Fruit* 2-edged, seldom 3-cornered, with a short point. *Style* 2- or 3-parted, filiform, deciduous.

1. *H. fluitans*.

E. B. 3. 216.

Stem branched, leafy, pliant, and floating. Flower-stalks alternate, naked. Spikes terminal of few flowers. *Smith.*

Scirpus fluitans Linn.

Isolepis fluitans R. Br.

Eleogiton fluitans Link.

In ditches and ponds. — Perennial. *June, July.*

12. KOBRESIA Willd.

Spikes terminal, compound, the lateral clustered. *Bracteæ* male above, female below. *Hypogynous setæ* wanting. *Style* 3-parted. *Fruit* somewhat 3-cornered.

1. *K. caricina* Willd.

E. B. 20. 1410.

Spikes aggregate, crowded, alternate.

Carex hybrida Schk.

Schoenus monoicus Smith.

Carex mirabilis Host.

On mountains, in muddy spots. — Perennial. *August.*

3. CAREX Linn. Sedge.

Spikes bisexual or unisexual (diœcious or androgynous). *Bracteæ* single. *Glumes* of the male florets wanting, of the female 2, united at the margins, ribbed, becoming hard and enclosing a nut. *Style* 2- or 3-parted. *Hypogynous setæ* wanting.

* *Spike* solitary, simple.

1. *C. dioica* Linn.

E. B. 8. 543.

Spikes simple, diœcious. *Fruit* ovate, ribbed, ascending, finely serrated at the edges. *Root* creeping. *Smith.*

C. capitata Hudson.

In spongy bogs. — Perennial. *May, June.*

2. *C. Davalliana* Smith.

E. B. 30. 2123.

Spikes simple, diœcious. *Fruit* lanceolate, triangular, ribbed, deflexed; its angles rough towards the summit. *Root* tufted. *Smith.*

C. dioica Hudson.

In boggy mountainous situations. — Perennial. *May, June.*

3. *C. pulicaris* Linn.

E. B. 15. 1051.

Spike simple; *bracteæ* in the upper half barren; in the lower fertile. *Fruit* spreading, deflexed, polished, tapering at each end. *Stigmas* 2.

C. Psyllophora Ehr.

In spongy or muddy bogs. — Perennial. *June.*

4. *C. pauciflora* Lightf.

E. B. 29. 2041.

Spike simple, lax, of few *bracteæ*; the uppermost barren. *Fruit* spreading, deflexed, awl-shaped, smooth. *Stigmas* 3.

C. patula Hudson.

C. Leucoglochis Ehr.

In alpine bogs. — Perennial. *June.*

** *Spikes* aggregate, each composed of barren and fertile *bracteæ*.

S.

5. *C. stellulata* Goodenough.

E. B. 12. 806.

Spikes 3 or 4, roundish, slightly distant. Barren *bracteæ* inferior. *Fruit* spreading, with a tapering undivided beak.

C. muricata Hudson.

C. echinata Sibth.

In boggy meadows. — Perennial. *May, June.*

6. *C. curta* Goodenough. E. B. 20. 1386.
 Spikes about 6, elliptical, slightly distant, with scarcely any involu-
 cral leaf. Bractææ ovate, membranous, about as long as the ovate,
 tumid, smooth fruit.
C. brizoides Huds.
C. canescens Lightf.
C. elongata Leers.
C. tenella Ehr.
 In watery meadows. — Perennial. *June.*
7. *C. elongata* Linn.
 Spikes numerous, oblong, rather distant, without involu-
 cral leaves. Fruit ovate-oblong, tapering, cloven, many-ribbed, recurved,
 longer than the bractææ.
 At Aldwark, near the river Don, below Sheffield, Yorkshire. — Perennial.
June.
8. *C. ovalis* Goodenough. E. B. 5. 306.
 Spikes about 6, oval, crowded, alternate, with an involu-
 cral leaf under the lowermost. Fruit lanceolate, rough-edged, striated,
 nearly entire, the length of the lanceolate acute bractææ.
C. leporina Hudson.
 In marshes and watery meadows. — Perennial. *June.*
9. *C. tenella* Schk.
 Spikes 3, distant, minute, of about 3 bractææ, with involu-
 cral leaves. Fruit elliptical, convex at each side, very smooth and even, with a
 blunt, entire beak. Stamens 2.
 In a wood by the river Esk, Angushire, very rare. — Perennial. *June.*
10. *C. remota* Linn. E. B. 12. 832.
 Spikes several, solitary, simple, remote, nearly sessile. Involu-
 cral leaves very long, overtopping the stem. Fruit ovate, with a
 slightly cloven beak.
C. axillaris Linn.
 In moist shady places. — Perennial. *May, June.*
11. *C. axillaris* Goodenough. E. B. 14. 993.
 Spikes several, remote, sessile; the lower ones compound, with very
 long involu-
 cral leaves. Fruit ovate; its beak deeply cloven.
 In marshes, and the neighbourhood of wet ditches. — Perennial. *June.*
12. *C. incurva* Lightf. E. B. 13. 927.
 Spikes crowded into a dense head. Lower bractææ fertile. Invo-
 lu-
 cral leaves membranous. Stem roundish, smooth. Leaves
 channelled.
C. juncifolia All.
 About the mouths of alpine rivers. — Perennial. *July, August.*
13. *C. arenaria* Linn. E. B. 13. 928.
 Spikes numerous, crowded into an oblong head; upper ones chiefly

of barren, lower of fertile, bracteæ. Involucral leaves membranous; lower ones leafy. Stem triangular. Leaves flat. Fruit winged.

C. repens *Bellardi*.

On the sea-shore. — Perennial. *June*.

14. *C. intermedia* Goodenough. E. B. 29. 2042.

Spikes numerous, crowded into an oblong dense head; the lowermost and terminal ones fertile; intermediate ones barren. Stem upright, triangular.

C. disticha *Huds.*

C. arenaria *Leers.*

In marshy watery meadows. — Perennial. *May, June*.

15. *C. divisa* Hudson. E. B. 16. 1096.

Head dense, once or twice compounded. Spikes of barren and fertile bracteæ, the latter inferior, most numerous. Involucral leaf leafy, erect. Fruit not spreading. Root creeping.

In marshes. — Perennial. *May, June*.

16. *C. muricata* Linn. E. B. 16. 1097.

Head oblong, dense, prickly with the broad, rough-edged, cloven, spreading beaks of the fruit. Spikes roundish, mostly simple. Root fibrous.

C. spicata *Hudson.*

In moist pastures and shady places. — Perennial. *May*,

17. *C. divulsa* Goodenough.

Head elongated, lax. Spikes of its lower half finally very distant, mostly single. Fruit erect, smooth-edged; roughish at the cloven point of the beak. Root fibrous.

C. canescens *Hudson.*

C. divisa *Don.*

In moist shady pastures. — Perennial. *May*.

18. *C. vulpina* Linn. E. B. 5. 307.

Head thrice compound, dense, obtuse. Fruit spreading, with a notched rough-edged beak. Bracteæ pointed. Angles of the stem compressed, very sharp.

In watery places. — Perennial. *May*.

19. *C. teretiuscula* Goodenough. E. B. 15. 1065.

Head twice or thrice compound, dense. Fruit spreading, tumid at one side, with a tapering, serrated beak. Stem triangular, with convex interstices.

In boggy meadows. — Perennial. *May*.

20. *C. paniculata* Linn. E. B. 15. 1064.

Head thrice compound, loosely paniced, interrupted, acute. Fruit spreading, with an abrupt, serrated beak. Stem sharply triangular, with flat interstices.

In wet pastures. — Perennial. *June*.

*** *Barren and fertile bractæ in separate spikes ; the barren spike solitary. Involucral leaves membranous. Stigmas 3.*

21. *C. digitata* Linn. E. B. 9. 615.
Involucral leaves membranous, sheathing, scarcely leafy. Spikes linear, lax, erect ; the barren one shortest ; fertile 2 or 3. Leaves flat.
In thickets, among limestone rocks. — Perennial. May.

22. *C. clandestina* Goodenough. E. B. 30. 2124.
Involucral leaves membranous, scarcely leafy. Fertile spikes remote, of few bractæ, inclosed in the sheathing involucral leaves. Leaves channelled.
C. humilis Leys.
C. prostrata Allioni.
On St. Vincent's rocks, Bristol, just below the hot wells. — Perennial. May.

**** *Barren and fertile bractæ in separate spikes ; the barren spike solitary, very rarely or occasionally more than one. Involucral leaves leafy, often sheathing.*

23. *C. pendula* Hudson. E. B. 33. 2315.
Sheaths nearly as long as the flower-stalks. Fertile spikes cylindrical, very long, drooping. Fruit densely crowded, ovate, beaked. *Smith.*
C. Agastachys Ehr.
C. maxima Scop.
In moist woods and hedges. — Perennial. May, June.

24. *C. strigosa* Hudson. E. B. 14. 994.
Sheaths nearly equal to the flower-stalks. Spikes slender, loose, slightly drooping. Fruit lanceolate, triangular, ribbed. *Smith.*
C. leptostachys Ehr.
In groves and thickets. — Perennial. April, May.

25. *C. sylvatica* Hudson. E. B. 14. 995.
Sheaths not half the length of the flower-stalks. Spikes slender, rather loose, drooping. Fruit ovate, triangular, beaked, without ribs. *Smith.*
C. Drymeia Ehr.
C. patula Scop.
C. capillaris Leers.
In woods. — Perennial. May, June.

26. *C. depauperata* Goodenough. E. B. 16. 1098.
Sheaths much shorter than the flower-stalks. Fertile spikes distant, erect, of about 3 bractæ. Fruit inflated, ribbed, with a notched beak.
C. ventricosa Curtis.
C. triflora Willd.
In dry woods. — Perennial. May, June.

27. *C. Melichoferi* Willd. E. B. 32. 2293.
Sheaths not half the length of the flower-stalks. Fertile spikes 3,

distant, erect, lax. Fruit ovate, tumid, triangular, rough-edged; its beak cloven, membranous at the summit. *Smith.*

C. salina *Don.*

According to Boott, same as No. 29.

Upon the rocky ledges of Craig Challoch, Breadalbane. — Perennial. *August.*

28. *C. speirostachya* *Swartz.*

According to Dr. Boott, this is a mere variety of *C. fulva*, whose fruit has a smoother bract, with a more distinct membranous orifice, and the female spikes 3, on longer stalks.

About Mugdoch castle, 9 miles north of Glasgow; also on the hills of Lanarkshire and Perthshire. — Perennial. *July, August.*

29. *C. phæostachya* *Smith.*

E. B. Supp. 2731.

Sheaths shorter than the flower-stalks. Fertile spikes 2, distant, erect, ovate. Fruit ovate, triangular, smooth, with a cloven beak. Bractæ of the barren spike pointed; of the fertile ones obtuse. *Smith.*

Upon rocks on the high mountains of Cairngorum, Inverness-shire; also on the Clova mountains; and on Ben Macdowie, near the head of the river Dee. — Perennial. *June.*

30. *C. capillaris* *Linn.*

E. B. 29. 2069.

Common sheath much shorter than the 2 or 3 capillary drooping flower-stalks. Fertile spikes ovate, rather loose, pendulous. Fruit ovate, triangular, pointed, without ribs; membranous at the tip. Root fibrous. *Smith.*

On the Highland mountains of Scotland. — Perennial. *July, August.*

31. *C. rariflora* *Smith.*

E. B. 35. 2516.

Sheaths scarcely any. Fertile spikes lax, drooping, of few bractæ. Fruit obovate, triangular, slightly pointed, without ribs. Root creeping.

C. limosa β . *Wahl.*

At the head of a glen, called the Dell, among the mountains of Clova, Angus-shire, near the limits of perpetual snow. — Perennial. *July.*

32. *C. Pseudo-cyperus* *Linn.*

E. B. 4. 242.

Sheaths scarcely any. Fertile spikes dense, cylindrical, drooping, many-flowered. Bractæ awl-shaped. Fruit spreading, lanceolate, furrowed, rough-edged, with a deeply-cloven beak. *Smith.*

In wet shady places. — Perennial. *June.*

33. *C. limosa* *Linn.*

E. B. 29. 2043.

Sheaths scarcely any. Fertile spikes ovate, dense, drooping, many-flowered. Fruit elliptical, compressed, ribbed, smooth-edged, without a beak. Root creeping. *Smith.*

C. elegans *Willd.*

In deep rotten bogs. — Perennial. *July.*

34. *C. ustulata* *Willd.*

E. B. 34. 2404.

Sheaths very short. Fertile spikes ovate, dense, pendulous. Fruit elliptical, compressed, rough-edged, with a cloven beak. Root tufted, somewhat creeping. *Smith.*

C. nigra *All.*

C. atro-fusca *Schk.*

On Ben Lawers. — Perennial. *July.*

35. *C. atrata* Linn. E. B. 29. 2044.
Sheaths scarcely any. Spikes uniform, stalked, ovate, drooping; the terminal one with many barren bracteæ below. Fruit elliptical, compressed, smooth, with a notched beak. Stamens 2 or 3. *Smith*.
In alpine pastures. — Perennial. *June, July*.
36. *C. saxatilis* Linn. E. B. 29. 2045.
Sheaths none. Fertile spikes ovate; the lower one stalked. Fruit elliptical, slightly inflated, with a short notched beak. Stigmas 2. *Smith*.
C. fusca Schk. *C. pulla* Goodenough.
On the Highland mountains of Scotland. — Perennial. *July*.
37. *C. pallescens* Linn. E. B. 31. 2185.
Sheaths very short. Fertile spikes cylindrical, stalked; at length pendulous. Fruit obovate, triangular, inflated, smooth, obtuse, with a minute abrupt beak. *Smith*.
In pastures and shady places. — Perennial. *May, June*.
38. *C. flava* Linn. E. B. 18. 1294.
Sheaths short, nearly equal to the flower-stalks. Fertile spikes roundish-ovate. Fruit triangular, smooth, with a cloven beak curved downward. Stem nearly smooth. *Smith*.
In boggy meadows. — Perennial. *May, June*.
39. *C. Oederi* Ehr. E. B. 25. 1773.
Sheaths and flower-stalks all very short. Fertile spikes roundish-ovate. Fruit globular, triangular, direct, smooth, with a straight cloven beak. Stem smooth. *Smith*.
C. flava β . *Hooker*.
On wet commons. — Perennial. *July*.
40. *C. fulva* Goodenough. E. B. 18. 1295.
Sheaths tubular, elongated, shorter than the flower-stalks. Fertile spikes ovate, erect. Bracteæ pointless. Fruit ovate, triangular, direct, smooth, with a straight, cloven, rough-edged beak. Stem rough. *Smith*.
In boggy meadows. — Perennial. *June, July*.
41. *C. extensa* Goodenough. E. B. 12. 833.
Sheaths and flower-stalks very short. Involucral leaves very long and spreading. Fertile spikes elliptic-oblong, near together. Bracteæ somewhat awned. Fruit ovate, triangular, with a short, smooth, cloven beak. Stem very smooth.
On the sea-coast. — Perennial. *June*.
42. *C. distans* Linn. E. B. 18. 1234.
Sheaths tubular, elongated, nearly equal to the flower-stalks. Fertile spikes elliptic-oblong, widely distant. Bracteæ pointed. Stem smooth.
In muddy marshes. — Perennial. *June*.
43. *C. binervis* Smith. E. B. 18. 1235.
Sheaths tubular, elongated, shorter than the flower-stalks. Fertile

spikes cylindrical, distant; partly compound. Bractæa pointed.
Stem smooth. Fruit with 2 principal ribs.

On dry heaths. — Perennial. *June*.

44. *C. præcox* Jacq.

E. B. 16. 1099.

Sheaths about equal to the very short flower-stalks. Spikes all elliptical, rather crowded. Bractæa of the fertile ones pointed. Fruit pear-shaped, downy, with an abrupt entire point.

C. saxatilis Hudson.

C. montana Lightf.

C. filiformis Leers.

C. stolonifera Ehr.

On dry heaths and hillocks. — Perennial. *April*.

45. *C. pilulifera* Linn.

E. B. 13. 885.

Sheaths none. Fertile spikes 2 or 3, sessile, crowded, almost globular, with pointed bractæa. Fruit triangular, roundish, downy, with a short cloven beak.

C. montana Linn.

C. filiformis Fl. Dan.

C. decumbens Ehr.

On heaths. — Perennial. *April, May*.

46. *C. tomentosa* Linn.

E. B. 29. 2046.

Sheaths extremely short. Fertile spikes 1 or 2, nearly sessile, cylindrical, obtuse, with acute bractæa. Fruit globose, slightly triangular, densely downy, with a short cloven beak.

C. sphærocarpa Ehr.

In meadows in the south of England. — Perennial. *June*.

47. *C. panicea* Linn.

E. B. 21. 1505.

Sheaths elongated, about half the length of the flower-stalks. Fertile spikes 1 or 2, distant; lower one rather lax. Fruit tumid, smooth, cloven at the summit. Stem smooth, obtusely triangular. *Smith*.

In meadows. — Perennial. *May, June*.

48. *C. recurva* Huds.

E. B. 21. 1506.

Sheaths short. Fertile spikes 2 or 3, cylindrical, dense, drooping, on very long recurved stalks. Fruit elliptical, triangular, roughish, obtuse, slightly notched. *Smith*.

C. glauca Scop.

C. flacca Schreb.

C. pendula Schreb.

β Micheliana. Fruit smooth.

E. B. 32. 2236.

C. Micheliana Smith.

C. ambleocarpa Willd. *C. stictocarpa* Smith.

In moist meadows. — Perennial. *May, June*.

49. *C. rigida* Goodenough.

E. B. 29. 2047.

Stigmas 2. Sheaths none. Fertile spikes ovate; the lowermost stalked. Involucral leaves lanceolate, recurved, as well as the leaves. Fruit triangular somewhat compressed, with a short abrupt beak.

C. saxatilis Fl. Dan.

C. fusca All.

C. mucronata Jacq.

On the tops of mountains. — Perennial. *June, July.*

50. *C. cæspitosa* Linn.

E. B. 21. 1507.

Stigmas 2. Sheaths none. Fertile spikes cylindrical, obtuse, erect; the lowermost rarely stalked. Leaves, and auricled involucreal leaves, linear, erect. Fruit permanent, elliptical, flat, many-ribbed, with a very short abrupt beak. *C. angustifolia* Smith

In wet places. — Perennial. *May, June.*

51. *C. stricta* Goodenough.

E. B. 13. 914.

Stigmas 2. Sheaths none. Fertile spikes nearly sessile, erect, cylindrical, elongated, acute; often barren-flowered at the top. Bases of the leaves reticulated. Fruit elliptical, flat, with a short cloven beak, deciduous. *Smith.*

C. cæspitosa Hudson.

In marshes. — Perennial. *April.*

***** *Barren and fertile bractæ in separate spikes. Barren spikes*
S. *2 or more.*

52. *C. acuta* Linn.

E. B. 9. 580.

Stigmas 2. Spikes cylindrical, slender; drooping in flower; afterwards erect. Fruit elliptical, with a blunt undivided beak. *Smith.*

C. gracilis Curtis.

In watery meadows. — Perennial. *May.*

53. *C. paludosa* Goodenough.

E. B. 12. 807.

Stigmas 3. Spikes cylindrical, bluntish, erect; the fertile ones with taper-pointed bractæ. Fruit ovate, triangular, compressed, with a notched beak. *Smith.*

C. acutiformis Ehr.

C. acuta Curt.

In meadows. — Perennial. *May.*

54. *C. riparia* Curtis.

E. B. 9. 579.

Stigmas 3. Spikes erect, with taper-pointed bractæ. Fruit ovate, tumid, with a deeply-cloven beak. *Smith.*

C. acuta Hudson.

C. crassa Ehr.

In watery places. — Perennial. *April, May.*

55. *C. lævigata* Smith.

E. B. 20. 1387.

Spikes cylindrical; fertile ones stalked. Bractæ all pointed. Sheaths very long. Fruit triangular, with a cloven beak. *Smith.*

C. patula Schk.

C. æthiopica Schk.

In marshes. — Perennial. *June.*

56. *C. vesicaria* Linn.

E. B. 11. 779.

Fertile spikes cylindrical, short, abrupt, on short stalks. Bractæ all

lanceolate, acute. Sheaths none. Fruit ovate, inflated, with an elongated cloven beak. *Smith.*

C. inflata *Hudson.*

In marshes. — Perennial. *May.*

57. *C. ampullacea* Goodenough.

E. B. 11. 780.

Fertile spikes cylindrical, elongated, nearly sessile. Bractæ all lanceolate, acute. Sheaths none. Fruit inflated, globose, with a linear cloven beak. *Smith.*

C. vesicaria *Hudson.*

C. rostrata *Sibth.*

C. obtusangula *Ehr.*

In marshes. — Perennial. *May.*

58. *C. hirta* *Linn.*

E. B. 10. 685.

Herbage hairy. Fertile spikes ovate-cylindrical, remote. Bractæ awned. Sheaths nearly as long as the flower-stalks. Fruit hairy, tumid, with a deeply-cloven beak. Stem rough-edged. *Smith.*

C. anonyma *Fl. Dan.*

In wet meadows. — Perennial. *May, June.*

59. *C. secalina* *Willd.*

Fertile spikes ovate-cylindrical; the lower one very remote. Bractæ acute. Sheaths as long as the flower-stalks. Fruit ovate, rough-edged, compressed; concave at the inner side; with an elongated, linear, cloven beak. Stem smooth. *Smith.*

In a den near Panmure, about 9 miles south-east of Forfar. — Perennial. *June, July?*

60. *C. filiformis* *Linn.*

E. B. 13. 904.

Fertile spikes ovate. Bractæ pointed. Sheaths nearly equal to the short flower-stalks. Fruit ovate, hairy, with a deeply cloven beak. Leaves linear, channelled, smooth. *Smith.*

C. tomentosa *Lightf.*

C. hirta *Fl. Dan.*

C. lasiocarpa *Ehr.*

C. splendida *Willd.*

In boggy meadows — Perennial. *June.*

61. *C. hordeiformis* *Host.*

Sheaths as long as the flower-stalks. Bracts foliaceous, very long. Sterile spikes about 2, remote; fertile oblong, remote, sessile. Scales mucronate. Fruit oblong, acuminate, striated, rough at the margin, deeply bifid at the point. Stem smooth, bluntly angular. *Hooker.*

Forfarshire. — Perennial. *June.*

Order 103. GRAMINEÆ Juss.

Flowers usually hermaphrodite, sometimes monœcious or polygamous ; consisting of imbricated bractæ, of which the most exterior are called *glumes*, the interior immediately enclosing the stamens *paleæ*, and the innermost at the base of the ovarium *scales*.

Glumes usually 2, alternate ; sometimes single, most commonly unequal.

Paleæ 2, alternate ; the lower or exterior simple, without keel ; the upper or interior composed of two united by one margin, and usually with 2 keels.

Scales 2, sometimes wanting, collateral, alternate with the paleæ, and opposite the lower of them ; either distinct, or united.

Stamens hypogynous, 1, 2, 3, 4, 6, or more ; *anthers* versatile.

Ovary single ; *styles* 2, very rarely 1 or 3 ; *stigmas* feathery or hairy.

Pericarpium usually undistinguishable from the seed, membranous.

Albumen farinaceous ; *embryo* lying on one side of the albumen at the base, lenticular, with a broad cotyledon, and a developed plumula ; and occasionally, but very rarely, with a second cotyledon on the outside of the plumula, and alternate with the usual cotyledon.

Roots fibrous or bulbous. **Stems** cylindrical, fistular, closed at the joints, covered with a coat of silex. **Leaves** alternate, with a split sheath. **Flowers** in spikes, racemes, or panicles.

ANALYSIS OF THE GENERA.

Inflorescence in imbricated or 2-sided spikes		
Spikelets imbedded in the rachis	- - - -	1. OPHIURUS.
Spikelets not imbedded		
A bractea at the base of the spiculæ	- - - -	2. LOLIUM.
Bractea wanting		
Glumes none	- - - -	3. NARDUS.
Glumes twin		
Spikelets 1-flowered	- - - -	4. HORDEUM.
Spikelets 2- or many-flowered		
in pairs, threes, or fours	- - - -	5. ELYMUS.
solitary		
Rachis flat	- - - -	6. CATOPIDIUM.
Rachis nearly round or angular		
Florets equal-sized	- - - -	7. BRACHYPODIUM.
Florets smallest upwards	- - - -	8. AGROPYRUM.
Inflorescence in 1-sided spikes		
Spikelets 1-flowered. Glumes keeled		
Scales present	- - - -	9. CYNODON.
Scales wanting	- - - -	10. SPARTINA.
Spikelets 2-flowered. Glumes flat	- - - -	11. DIGITARIA.
Inflorescence paniced. Spikelets 1-flowered		
Florets enveloped in hair	- - - -	12. LAGURUS.
Florets naked		

- Panicle spiked, or densely contracted**
 Glumes awnless
 Palea single, with a basal awn - - 13. *ALOPECURUS*.
 Palea 2, awnless
 Glumes navicular - - - 14. *PHALARIS*.
 Glumes not navicular - - - 15. *ACHNODON*.
 Glumes awned - - - 16. *PHLEUM*.
- Panicle loose**
 Palea cartilaginous, plane - - - 17. *MILIUM*.
 Palea membranous
 awnless
 Glumes with a tuft of hairs in the } 18. *DIGRAPHIS*.
 inside at the base - - - }
 Glumes naked at the base - - - 19. *CHAMAGROSTIS*.
 awned
 Awns twisted - - - 20. *STIPA*.
 Awns straight
 Glumes awned - - - 21. *POLYPOGON*.
 Glumes awnless
 ventricose - - - 22. *GASTRIDIVM*.
 keeled - - - 23. *AMMOPHILA*.
 convex
 Palea 1 - - - 24. *TRICHODIVM*.
 Palea 2
 No rudiment of a
 second floret
 Palea naked } 25. *AGROSTIS*.
 at the base }
 Palea sur- }
 rounded by } 26. *CALAMAGROSTIS*.
 hairs - - - }
 A rudiment of a } 27. *ANEMAGROSTIS*.
 second floret - - - }
- Inflorescence paniced. Spikelets 2- or 3-flowered**
 Florets of 2 sexes
 Florets 2
 upper hermaphrodite, lower male or neuter
 Glumes nearly equal - - - 28. *ARRHENATHERUM*.
 Lower glume much smaller - - - 29. *ECHINOCHLOA*.
 upper male, lower hermaphrodite - - - 30. *HOLCUS*.
- Florets 3**
 Lateral florets, neuter - - - 31. *ANTHOXANTHUM*.
 Lateral florets, male - - - 32. *HIEROCHLOE*.
- Florets all of the same sex**
 Lower glume largest
 Spikelets with a pinnated bractea - - - 33. *CYNOSURUS*.
 Spikelets destitute of bractea - - - 34. *CATABROSA*.
 Glumes truncate - - -
 Glumes acute
 Palea awnless
 Panicle loose
 Glumes much shorter } 35. *MOLINIA*.
 than the florets - - - }
 Glumes the length of the } 36. *MELICA*.
 florets - - - }
 Panicle contracted - - - 37. *AIROCHLOA*.
 Palea awned
 Awn articulated clavate - - - 38. *CORYNEPHORUS*.
 Awn twisted
 Palea emarginate - - - 39. *AIRA*.
 Palea deeply cleft - - - 40. *TRisetum*.
 Awn straight - - - 41. *DESCHAMPSIA*.
 Lower glume smallest - - - 42. *SETARIA*.
- Inflorescence paniced. Spikelets many-flowered**
 Panicle spiked - - - 43. *SESLERIA*.
 Panicle loose
 Florets of different sexes
 lower male, upper hermaphrodite - - - 44. *ARUNDO*.
 lower hermaphrodite, upper neuter - - - 45. *AVENA*.
 Florets all hermaphrodite
 Palea awned
 Spikelets clustered at the end of the } 46. *DACTYLIS*.
 ramifications - - - }
 Spikelets regularly paniced or racemose

- Lower palea with 3 nearly equal } 47. *TRIODIA*.
 teeth - - - - - }
 Lower palea awned under the apex 48. *BROMUS*.
 Lower palea awned at the apex
 Glumes nearly equal, or not
 very unequal
 Pedicels of the florets }
 with 3 tufts of hair at } 49. *SCHEDONORUS*.
 the end - - - - - }
 Pedicels of the florets }
 naked at the end - - } 50. *FESTUCA*.
 Glumes very unequal, some- }
 times single - - - - - } 51. *VULPIA*.
 Paleæ awnless
 Scale single - - - - - 52. *GLYCERIA*.
 Scales 2
 Spikelets cordate - - - - - 53. *BRIZA*.
 Spikelets not cordate
 Pedicels articulated with the }
 spikelets - - - - - } 54. *SCLEROCHLOA*.
 Pedicels not articulated with
 the spikelets
 Scales truncate - - - - - 55. *HYDROCHLOA*.
 Scales acute - - - - - 56. *POA*.

I. Inflorescence in imbricated or 2-sided spikes.

1. *OPHIURUS* Beauv.

Spikelets 1-flowered, seldom 2-flowered. *Glumes* 2, seldom single, lateral, longer than the floret. *Paleæ* 2, awnless, about as long as the glumes. *Scales* lanceolate, acute. *Styles* pencil-shaped.

1. *O. incurvatus* Beauv. Sea Hard-grass. E. B. 11. 760.
 Spikes cylindrical, tapering. Glumes combined below. Floret solitary. Paleæ awnless.
Rottböllia incurvata Linn.
Ægilops incurvata Linn.
 On the sea-coast. — Annual. August.

2. *LOLIUM* Linn.

Spikelets many-flowered, at right angles with the rachis, sessile. *Glumes* 2, the inner often deficient. *Paleæ* 2, nearly equal; the outer often awned under the apex. *Seeds* oval, gibbous, nearly acute. *Styles* feathery.

1. *L. perenne* Linn. Perennial Darnel. Rye-grass. E. B. 5. 315.
 Paleæ very slightly awned. Spikelets longer than the glumes.
 Florets lanceolate.
Lolium tenue Linn., a variety.
 In meadows and waste ground. — Perennial. June.
2. *L. temulentum* Linn. E. B. 16. 1124.
 Awns longer than the paleæ. Spikelets shorter than the glumes.
 Florets elliptical. Stem rough in the upper part.
 In fields, among wheat, barley, or flax. — Annual. July.
3. *L. arvense* With. Annual Darnel. E. B. 16. 1125.
 Paleæ slightly awned. Spikelets as long as the glumes. Florets elliptical. Stem very smooth.
 In fields. — Annual. July.

3. *NARDUS* Linn.

Glumes none. *Paleæ* 2; the outer wrapping up the inner, which is flat. *Style* hairy.

1. *N. stricta* Linn. Mat-grass. E. B. 5. 290.
Spike bristle-shaped, straight. Leaves thrice the length of their sheaths. *Smith*.
On barren heaths and moors. — Perennial. *July*.

4. *HORDEUM* Linn.

Spikelets in pairs or threes, 1-flowered. *Glumes* 2. *Paleæ* 2; the lower awned at the apex. *Scales* obtuse, fringed. *Styles* feathery. *Ovarium* villous at the end.

1. *H. murinum* Linn. Wall Barley. Mouse Barley. Way Benet. E. B. 28. 1971.
Lateral flowers barren. Glumes of the intermediate one lanceolate, fringed. *Smith*.
In waste ground. — Annual. *June—August*.
2. *H. pratense* Huds. E. B. 6. 409.
Lateral flowers imperfect, with shorter awns. All the glumes bristle-shaped and rough. *Smith*.
H. nodosum Linn.
H. secalinum Willd.
In meadows and pastures. — Perennial. *June*.
3. *H. maritimum* With. Sea Barley. Squirrel-tail-grass. E. B. 17. 1205.
Lateral flowers imperfect, with shorter awns; the inner glume half-ovate. *Smith*.
H. marinum Huds.
H. geniculatum Allion.
H. rigidum Roth.
In pastures and sandy ground. — Annual. *June, July*.

5. *ELYMUS* Linn.

Spikelets in pairs, threes, or fours, many-flowered or somewhat 2-flowered. *Glumes* 2, as long as the spikelet, or shorter. *Paleæ* 2; the lower often awned at the apex. *Scales* obtuse, generally fringed. *Styles* 2, feathery.

1. *E. arenarius* Linn. Sea Lyme-grass. E. B. 24. 1672.
Spike upright, close; main stalk not winged. Glumes lanceolate, the length of the spikelets. Leaves spinous-pointed. *Smith*.
On the sea-shore. — Perennial. *July*, but rarely.
2. *E. geniculatus* Curtis. E. B. 23. 1586.
Spike bent perpendicularly downward, lax; main stalk winged. Glumes awl-shaped, longer than the spikelets. Leaves spinous-pointed. *Smith*.
In marshes near the coast. — Perennial. *July*.

3. *E. europæus* Linn. E. B. 19. 1317
 Spike erect. Florets about 2, rough, awned, as well as the glumes.
 Leaves flat, pliant. *Smith.*
Hordeum sylvaticum *Huds.*
 In woods and hedges. — Perennial. *June.*

6. CATOPODIUM *Link.*

Inflorescence spiked. *Rachis* flat, flexuose. *Spikelets* alternate, 1-sided, many-flowered. *Glumes* 2, unequal, shorter than the lower florets. *Paleæ* 2; the lower awnless. *Scales* 2, lanceolate. *Styles* somewhat pencil-shaped.

1. *C. loliaceum* *Link.* E. B. 4. 221.
Glumes obtuse, awnless. *Florets* numerous, awnless, elliptical, ribbed. *Spike* unilateral. *Stem* branched. *Root* fibrous. *Smith.*
Triticum loliaceum *Smith.*
T. unilaterale *H. Kew.*
Poa loliacea *Huds.*
 On the sea-coast. — Annual. *June, July.*

7. BRACHYPODIUM *Beauv.*

Inflorescence somewhat racemose. *Spikelets* many-flowered, with a short pedicel. *Glumes* 2, unequal, shorter than the lower florets. *Paleæ* 2; the lower awned under the point, or awnless. *Scales* lanceolate, hairy above, occasionally bifid. *Styles* feathery. *Ovarium* villous at the end.

1. *B. sylvaticum* *Beauv.* E. B. 11. 729.
Spike simple, drooping. *Spikelets* nearly cylindrical, turned to one side. *Awns* longer than their glumes. *Leaves* hairy. *Root* fibrous. *Smith.*
Festuca sylvatica *Huds.*
F. gracilis *Mœnch.*
Bromus sylvaticus *Pollich.*
B. gracilis *Weig.*
 In dry copses and hedges. — Perennial. *July.*
2. *B. pinnatum* *Beauv.* E. B. 11. 730.
Spike simple, erect, 2-ranked. *Spikelets* nearly cylindrical. *Awns* shorter than their glumes. *Leaves* nearly smooth. *Root* somewhat creeping. *Smith.*
Festuca pinnata *Huds.*
Bromus pinnatus *Linn.*
 In open fields and heaths. — Perennial. *July.*

8. AGROPYRUM *Beauv.*

Inflorescence spiked, and somewhat racemose. *Spikelets* many-flowered. *Florets* all fertile, diminishing upwards. *Glumes* 2, shorter than the lower florets. *Paleæ* 2; the lower generally awned. *Scales* 2, acute, seldom partially bifid. *Styles* feathery. *Ovarium* hairy at the point.

1. *A. junceum* Beauv. E. B. 12. 814.
Glumes blunt, many-ribbed. Florets about 5, awnless. Main stalk smooth. Leaves involute, sharp-pointed. Root creeping. *Smith*.
Triticum junceum Linn.
On the sea-coast. — Perennial. *July*.
2. *A. repens* Beauv. Couch-grass. E. B. 13. 909.
Glumes pointed or awned, lanceolate, many-ribbed. Florets about 5, sharp-pointed or awned. Leaves flat. Root creeping. *Smith*.
Triticum repens Linn.
In waste, as well as cultivated, land. — Perennial. *July*.
3. *A. caninum* Beauv. E. B. 20. 1372.
Glumes somewhat awned, with 3 or 5 ribs. Florets 4, awned. Leaves flat. Root fibrous. *Smith*.
Elymus caninus Linn.
Triticum caninum Huds.
In woods and shady hedges. — Perennial. *July*.
4. *A. cristatum* Beauv. E. B. 32. 2267.
Glumes elliptical, awned, keeled, obscurely ribbed. Florets awned. Spikelets closely imbricated, depressed, straight. Stems simple. *Smith*.
Triticum cristatum Linn.
Bromus cristatus Linn.
On steep banks and rocks by the sea-side, between Arbroath and Montrose. — Perennial. *July*, but rarely.

II. Inflorescence in 1-sided spikes.

9. CYNODON Rich.

Spikelets 1-sided, in 2 or more rows, 1-flowered, attached to a flat rachis. *Glumes* 2, keeled, nearly equal, shorter than the paleæ. *Paleæ* 2, keeled, the upper enwrapped by the lower. *Styles* pencil-shaped. The rudiment of an abortive floret.

1. *C. Dactylon* Rich. Dog's-tooth-grass. E. B. 12. 850.
Spikes 4 or 5, crowded together. Paleæ smooth.
Panicum Dactylon Linn.
Digitaria stolonifera Schrad.
Agrostis linearis Retz.
On the sandy shores of Cornwall. — Perennial. *July, August*.

10. SPARTINA Willd.

Spikelets 1-flowered, 1-sided, in 2 rows, pressed close to the rachis. *Glumes* 2, unequal, often awned; the lower smaller and narrower, the upper about the same length as the paleæ. *Paleæ* 2, nearly equal, both keeled. *Scales* wanting.

1. *S. stricta* Smith. E. B. 6. 380.
Spikes 2 or 3. Rachis scarcely protruded. Glumes downy. Leaves shorter than the spikes.

S.

Dactylis stricta H. Kew.

D. cynosuroides Hudson.

In muddy salt marshes, on the eastern coast. — Perennial. *August*.

11. DIGITARIA Scopoli.

Spikes somewhat fascicled. *Spikelets* 2, about 2-flowered, their back turned to the rachis; one on a longer stalk than the other. *Glumes* 2, the lower very small, sometimes wanting. *Paleæ* of the neuter floret single. *Paleæ* of the hermaphrodite floret 2, nearly equal, cartilaginous, awnless.

1. *D. sanguinalis* Scop. Cock's-foot Finger-grass. E. B. 12. 849.
Leaves and their sheaths somewhat hairy. Flowers in pairs.
Glumes rough at the edges of the largest only.
Panicum sanguinale Linn.
Syntherisma vulgare Schreb.
In sandy cultivated fields. — Annual. *July, August*.

S.

III. Inflorescence paniced. *Spikelets* 1-flowered.

12. LAGURUS Linn.

Panicle contracted. *Spikelets* 1-flowered. *Glumes* 2, equal, terminating in a long plumed awn. *Paleæ* 2, the lower with a dorsal awn, membranous and bifid at the apex, with long, sharp, awn-like lobes.

1. *L. ovatus* Linn. Hare's-tail-grass. E. B. 19. 1334.
In Guernsey. — Annual. *June*.

13. ALOPECURUS Linn.

Panicle contracted. *Glumes* 2, equal, keeled, often connate at the base, about as long as the palea. *Palea* single, with an awn arising from its base, ribbed. *Style* single or double, hairy.

1. *A. pratensis* Linn. Meadow Fox-tail-grass. E. B. 11. 759.
Stem erect, smooth. Spike somewhat paniced. Glumes acute, hairy, combined at the base, shorter than the awn of the palea.
In meadows and pastures. — Perennial. *May*.
2. *A. alpinus* Smith. E. B. 16. 1126.
Stem erect, smooth. Spike ovate, somewhat paniced. Glumes woolly, obliquely abrupt, nearly as long as the awn of the palea.
? *A. ovatus* Knapp.
On the mountains about Loch-ne-gare, Aberdeenshire. — Perennial. *July*.
3. *A. agrestis* Linn. E. B. 12. 848.
Stem erect, roughish. Spike racemose, nearly simple, tapering. Glumes almost naked, combined at the base, dilated at the keel.
Smith.
In cultivated fields, and by way sides. — Annual. *July*.
4. *A. bulbosus* Linn. E. B. 18. 1249.
Stem erect. Spike tapering, perfectly simple. Glumes distinct, linear, pointed, downy. Root bulbous. *Smith*.
In wet salt marshes. — Perennial. *July*.

5. *A. geniculatus* Linn. E. B. 18. 1250.
Stem ascending, bent at the joints. Spike cylindrical, slightly paniced. Glumes combined at the base, abrupt, fringed. Palea notched, its awn twice the length of the glumes.

A. paniceus Fl. Dan.

Floats in ponds and slow streams. — Perennial. July.

6. *A. fulvus* Smith. E. B. 21. 1467.
Stem ascending, bent at the joints. Spike cylindrical, paniced. Glumes combined at the base, obtuse, fringed. Awn the length of the palea. Anthers roundish.

Floats in ponds and ditches. — Perennial. July.

14. PHALARIS Linn.

Panicle contracted. *Glumes* 2, navicular, equal, longer than the paleæ, each with a scale at its base inside, representing an abortive floret. *Paleæ* 2, awnless, equal, forming a hard shining coat to the grain.

1. *Ph. canariensis* Linn. Common Canary-grass. E. B. 19. 1310.
Panicle ovate, resembling a spike. Glumes entire at the summit.
In cultivated and waste ground. — Annual. June—August.

15. ACHNODON Trinius.

Panicle contracted. *Glumes* 2, equal, acute, converging, much longer than the paleæ. *Paleæ* 2, equal, awnless, convex, membranous, ribbed. A rudiment of a second floret at the back of the upper palea.

1. *A. arenarius* Trinius. E. B. 4. 222.
Spike slightly paniced, ovate-lanceolate, obtuse. Glumes lanceolate, fringed, thrice the length of the abrupt, notched paleæ.
Phleum arenarium Linn.
Phalaris arenaria Willd.
Chilochloa arenaria Trinius.
On the sandy sea-coast. — Annual. May.

16. PHLEUM Linn.

Panicle contracted. *Glumes* 2, keeled, equal, longer than the paleæ, with an awn proceeding from the midrib. *Paleæ* 2, equal, awnless, membranous, usually convex, and ribless. *Styles* half pencil-shaped.

1. *Ph. pratense* Linn. Cat's-tail-grass. Timothy-grass. E. B. 15. 1076.
Cluster spiked, cylindrical. Glumes abrupt, fringed at the keel, longer than its awns.
P. nodosum Linn.
In moist meadows and pastures. — Perennial. June—October.
2. *Ph. alpinum* Linn. E. B. 8. 519.
Cluster spiked, ovate-oblong. Glumes abrupt, fringed at the keel, as long as their awns. Root tuberous.
On the mountains of Scotland. — Perennial. July.

3. *Ph. asperum* Jacq. E. B. 15. 1077.
 Panicle spiked, cylindrical. Glumes wedge-shaped, swelling upward, pointed, rough; keel naked. Stem branched.
P. paniculatum Hudson.
P. viride Allioni.
Phalaris aspera Retz.
Phalaris paniculata H. Kew.
 In dry open fields. — Annual. July.
4. *Ph. Boehmeri* Schrad. E. B. 7. 459.
 Panicle spiked, nearly cylindrical. Glumes linear-lanceolate, slightly pointed, nearly smooth, abrupt at the inner margin.
 Stem simple. Smith.
Phalaris phleoides Linn.
 In sandy or chalky fields. — Perennial. July.
5. *Ph. Michellii* Allioni. E. B. 32. 2265.
 Panicle spiked, nearly cylindrical. Glumes lanceolate, taper-pointed, hairy, fringed. Paleæ oblong, firm, hairy; upper cloven.
Phalaris alpina Hænke.
 On the rocky parts of the mountains of Clova, Angusshire. — Perennial. July.

17. MILIUM Linn.

- Panicle* loose. Glumes 2, flattish, equal, ribbed, as long as the paleæ, or a little longer. Paleæ 2, equal, ribless, very smooth, awnless; the upper flat. Styles feathery.
1. *M. effusum* Linn. E. B. 16. 1106.
 Flowers in a loose spreading panicle.
 In moist shady places. — Perennial. June, July.

18. DIGRAPHIS Trinius.

- Panicle* open. Glumes 2, keeled, equal, longer than the paleæ; each with a tuft of hairs at its base, representing an abortive floret. Paleæ 2, equal, awnless, coating the grain.
1. *D. arundinacea* Trinius. E. B. 6. 402.
 Panicle upright, with spreading branches. Flowers crowded, unilateral.
Phalaris arundinacea Linn.
Baldingera arundinacea Dumort.
Arundo colorata H. Kew.
 By the side of water. — Perennial. July.

19. CHAMAGROSTIS Borkh.

- Raceme* simple. Glumes 2, equal, awnless, longer than the paleæ. Paleæ 2, equal, convex, awnless. Styles feathery.
1. *C. minima* Schrader. E. B. 16. 1127.
Agrostis minima Linn.
Sturmia minima Hoppe.
Knappia agrostidea Smith.
Mibora verna Beauv.
 In sandy pastures upon the sea-coast. — Annual. March, April.

20. *STIPA* Linn.

Glumes 2, equal, or nearly so, and longer than the *paleæ*. *Paleæ* 2; the lower convolute, bearing from its apex a twisted articulated awn. *Anthers* naked.

1. *S. pennata* Linn. Feather-grass. E. B. 19. 1356.

Awns feathery. *Smith*.

Found by Dr. Richardson, in company with Thomas Lawson, on the lime-stone rocks hanging over a little valley, called Long Sleedale, about six miles north of Kendall, Westmoreland. Nobody has been able to meet with it since. *Smith*. — Perennial. *June*.

21. *POLYPOGON* Desf.

Panicle contracted. *Glumes* 2, equal, much longer than the *paleæ*; the lower awned under the apex, the upper from the apex. *Paleæ* 2, equal, convex; the lower awned beneath the apex. *Styles* feathery.

1. *P. monspeliensis* Desf. E. B. 24. 1704.

Awns straight, thrice as long as the glumes. Root fibrous.

Alopecurus monspeliensis Linn.

Alopecurus aristatus Hudson.

Phleum crinitum Schreb.

Agrostis panicea H. Kew.

Agrostis triaristata Knapp.

Cynosurus paniceus Linn.

In moist pastures near the sea. — Annual. *July, August*.

2. *P. littoralis* Smith. E. B. 18. 1251.

Awns straight, about the length of the glumes. Root creeping.

Agrostis littoralis Smith.

Polypogon Lagascae Trin.

In muddy salt marshes. — Perennial. *July, August*.

22. *GASTRIDIDIUM* Beauv.

Panicle contracted into the form of a spike. *Glumes* 2, awnless, nearly equal, ventricose, much longer than the *paleæ*. *Paleæ* 2, equal, membranous; the lower usually awned under the apex. Sometimes a rudiment of a second floret at the back of the upper *palea*. *Styles* pencil-shaped.

1. *G. lendigerum* Link. E. B. 16. 1107.

Flowers in a dense spiked panicle.

Agrostis australis Linn.

Milium lendigerum Linn.

Agrostis rubra Hudson.

Agrostis ventricosa Gouan.

Alopecurus ventricosus Hudson.

Gastridium australe Beauv.

In fields where water has stagnated. — Annual. *August*.

23. *AMMOPHILA* Host.

Glumes 2, keeled, unequal, the lower smaller, longer than the *paleæ*. *Paleæ* 2; the lower awned under the apex, with hairs at the base. *Scales* longer than the ovary.

1. *A. arenaria* Host. Sea Reed. Marram. Sea Mat-weed. E. B. 8. 520.
 Panicle spiked. Flowers erect, slightly awned. Leaves involute,
 sharp-pointed.
Arundo arenaria Linn.
Calamagrostis arenaria Roth.
 Frequent on sea-coast. — Perennial. July.

24. TRICHODIUM Schrad.

Panicle loose. *Glumes* 2, nearly equal; the lower larger, longer than the paleæ. *Paleæ* single, usually with a dorsal awn. *Styles* feathery.

1. *T. caninum* Schrad. E. B. 26. 1856.
 Awn incurved, from below the middle of the palea. Glumes ovate, coloured. Stems decumbent, with prostrate shoots.
Agrostis canina Linn.
A. vinealis With.
A. stricta Sinclair.
Aragulus caninus Beauv.
Agrostis tenuifolia Curtis. } a variety according to Smth.
A. fascicularis Sinclair. }
 In meadows and pastures. — Perennial. June, July.
2. *T. setaceum* R. & S. E. B. 17. 1188.
 Awn incurved, from near the base of the palea. Glumes lanceolate, tapering, rough. Radical leaves bristle-shaped. Stem nearly erect. Panicle close, oblong.
Agrostis setacea Curtis.
A. alpina Withering.
 On dry turfy heaths. — Perennial. July, August.

25. AGROSTIS Linn.

Panicle loose. *Glumes* 2, nearly equal, the lower larger, longer than the paleæ. *Paleæ* 2, unequal, the lower larger, sometimes with a dorsal awn. *Styles* feathery.

1. *A. vulgaris* Withering. Bent-grass. E. B. 24. 1671.
 Panicle spreading; with divaricated, capillary branches. Glumes nearly equal. Stem erect. Ligula abrupt, very short.
A. hispida Willd.
A. tenuis Sibth.
A. capillaris Abbott.
A. polymorpha Hudson.
A. canina Withering; a variety.
A. pumila Linn.; a variety.
 Everywhere. Perennial. July, August.
2. *A. alba* Linn. Fiorin-grass. E. B. 17. 1189.
 Panicle condensed at the base of the main divisions; stalks rough. Glumes lanceolate, bristly at the keel. Stem spreading, creeping. Ligula oblong, ribbed.
A. mutabilis Knapp.
A. palustris Sinclair.

A. stolonifera Linn. ; a variety.

A. sylvatica Hudson ; a variety.

In moist meadows and fields. — Perennial. *July, August.*

26. CALAMAGROSTIS Roth.

Glumes 2, convex, equal or unequal, larger than the paleæ. *Paleæ* 2, unequal, membranous, ribbed, surrounded with hairs at the base ; the lower awned. *Styles* 2, feathery.

1. *C. epigejos* Roth.

E. B. 6. 403.

Panicle erect, close. Flowers crowded, unilateral. Paleæ with a dorsal awn about as long as the hairs and glumes. Leaves lanceolate.

Arundo epigejos Linn.

A. Calamagrostis Hudson.

Calamagrostis lanceolata With.

In shady ditches, and moist woods. — Perennial. *July.*

2. *C. lanceolata* Roth.

E. B. 30. 2159.

Panicle erect, loose. Flowers scattered, spreading every way. Awn terminal, short. Hairs longer than the paleæ. Leaves linear.

Arundo Calamagrostis Linn.

Calamagrostis epigejos With.

In moist woods and fens. — Perennial. *June, July.*

S.

3. *C. stricta*.

E. B. 30. 2160.

Panicle erect, close. Flowers scattered, spreading every way, with a dorsal awn. Hairs shorter than the paleæ. Ligula very short.

Arundo stricta Schrad.

A. neglecta Ehr.

In the White Mire, a mile from Forfar. — Perennial. *June.*

27. ANEMAGROSTIS Trinius.

Panicle loose. *Glumes* 2, unequal ; the lower smaller, the upper a little longer than the paleæ. *Paleæ* 2 ; the lower awned under the apex, the upper enwrapped in it. The rudiment of a second floret at the back of the upper palea. *Styles* feathery.

1. *A. Spica venti* Trinius.

E. B. 14. 951.

Awn straight, rigid, many times longer than the paleæ. Panicle loosely spreading.

Agrostis Spica venti Linn.

Apera Spica venti Beauv.

In sandy corn-fields, occasionally overflowed. — Annual. *June, July.*

IV. Inflorescence panicked. Spikelets 2- or 3-flowered.

28. ARRHENATHERUM Beauv.

Panicle loose. *Spikelets* 2-flowered ; upper floret hermaphrodite, lower male. *Glumes* 2, nearly equal, shorter than the paleæ. *Paleæ* 2 ; the lower emarginate, of the male floret with a twisted awn at the

base, of the hermaphrodite floret with a straight bristle under the apex.

1. *A. avenaceum* Beauv. E. B. 12. 813.
Root knotty. Knots of the stem smooth. Lower palea villous.
Dumortier.
Holcus avenaceus Scop.
Avena elatior Linn.
In pastures, and by road-sides. — Perennial. *June, July.*
2. *A. bulbosum* Dumortier.
Root bulbous. Knots of the stem villous. Lower palea smooth.
Dumortier.
Avena nodosa Cullum.
In waste places. — Perennial. *June, July.*

29. ECHINOCHLOA Beauv.

Spike compound. *Glumes* 2; the lower smaller, mucronate, the upper as long as the fertile palea, mucronate or awned. *Paleæ* of the fertile floret 2, equal; one convex, the other plane. *Paleæ* of the neuter or male floret 1- or 2-valved; the lower mucronate or with a long awn, the upper smaller, membranous, and often wanting.

1. *E. Crus-galli* Beauv. E. B. 13. 876.
Panicle erect, branched, bristly. Flowers awned, unilateral. Leaves lanceolate, harsh, naked, without ligulæ.
Panicum Crus-galli Linn.
Oplismenus Crus-galli Dumort.
In moist arable land. — Annual. *July.*

30. HOLCUS Linn. SOFT-GRASS.

Panicle loose. *Spikelets* 2-flowered; lower floret awnless and hermaphrodite; upper awned, and male. *Glumes* 2, nearly equal, rather longer than the florets. *Paleæ* 2; the lower awnless, or awned under the apex.

1. *H. lanatus* Linn. E. B. 17. 1169.
Glumes woolly. Lower floret perfect, awnless; upper with an arched awn. Leaves downy on both sides. Root fibrous. *Smith.*
Abundant in meadows and pastures. — Perennial. *June, July.*
2. *H. mollis* Linn. E. B. 17. 1170.
Glumes partly naked. Lower floret perfect, awnless; upper with a sharply bent prominent awn. Leaves slightly downy. Root creeping. *Smith.*
In pastures and hedges. — Perennial. *July.*

31. ANTHOXANTHUM Linn.

Glumes 2; the lower smaller, the upper enfolding the paleæ, and longer than them. *Florets* 3; the two lateral neuter, the middle hermaphrodite. *Paleæ* of the neuter florets single; one with a dorsal awn, the other with an awn from the base. *Paleæ* of the hermaphrodite floret 2, nearly equal, awnless. *Stamens* 2,

1. *A. odoratum* Linn. Sweet-scented Vernal-grass. E. B. 9. 647.
Panicle spiked, ovate-oblong. Florets longer than their awns, on short partial stalks. *Smith*.
In meadows and pastures. — Perennial. *May, June*.

32. HIEROCHLOE *Gmelin*.

Panicle loose. *Spikelets* 3-flowered: lateral florets male, triandrous; terminal, hermaphrodite, diandrous. *Glumes* 2, nearly equal. *Paleæ* 2, awnless, or awned.

1. *H. borealis* R. & S. Northern Holy-grass. E. B. Supp. 2641.
Panicle somewhat unilateral, with smooth flower-stalks. Perfect floret awnless; barren ones slightly awned. Scales unequal, linear. Leaves flat.
Holcus borealis *Schrad*.
Holcus odoratus *Linn*.
In a narrow mountain valley called Kella, Angusshire. — Perennial. *May, June*.

33. CYNOSURUS *Linn*.

Panicle contracted. *Spikelets* 2- or many-flowered, resting upon pinnate bractæ. *Glumes* 2, about the same length as the florets. *Paleæ* 2; the lower awned from the apex or mucronate. Scales lanceolate, acute. *Styles* feathery or hairy.

1. *C. cristatus* Linn. Crested Dog's-tail-grass. E. B. 5. 316.
Spike simple, linear. Neuter spikelets without awns. *Smith*.
In dry pasture, parks, and lawns. — Perennial. *June, July*.
2. *C. echinatus* Linn. Rough Dog's-tail-grass. E. B. 19. 1333.
Spike compound, ovate. Neuter spikelets awned. Awns of the paleæ full as long as the glume.
Chrysurus echinatus *Beauv*.
Phalona echinata *Dumort*.
On sandy ground in the south of England. — Annual. *July*.

34. CATABROSA *Beauv*.

Panicle loose. *Spikelets* 2-flowered. *Glumes* 2, truncate, unequal, much shorter than the florets. *Paleæ* 2, truncate, nearly equal, awnless; the upper free from the lower.

1. *C. aquatica* Beauv. Water Hair-grass. E. B. 22. 1557.
Panicle spreading. Florets awnless, even, obtuse, longer than the glumes. Leaves flat. Ligula oblong.
Aira aquatica *Linn*.
In ditches, and the margins of rivers. — Perennial. *May, June*.

35. MOLINIA *Mœnch*.

Joints of the stem not prominent. *Panicle* loose. *Spikelets* 2-, 3-, or many-flowered, sometimes with a rudimentary floret. *Glumes* 2, unequal, much shorter than the florets. *Paleæ* 2, nearly equal, awnless. Scales short, truncate. *Styles* pencil-shaped.

1. *M. cærulea* Mœnch. E. B. 11. 750.
 Leaves much shorter than the panicle. Panicle dense, coloured.
 Glumes nearly equal, 3- or 4-flowered. Lower palea obtuse,
 3-ribbed.
Melica cærulea Linn.
Aira cærulea Linn.
Enodium cæruleum Dumort.
 In barren, sandy, boggy ground. — Perennial. August.

2. *M. depauperata*
 Leaves much longer than the panicle. Panicle thin, few-flowered,
 colourless. Glumes very unequal, 1-flowered. Lower palea
 acuminate, obtuse, 5-ribbed.
 On the mountains of Clova. Mr. Donald Munro. — Perennial. August.
 N. B. This very distinct species is most nearly related to *Molinia atrovirens*
 (*Enodium cæruleum* var. *atrovirens* Dumort.); but that plant has the
 glumes constantly 2-flowered, and its lower paleæ have 3 ribs.

36. MELICA Linn. MELIC-GRASS.

Panicle loose. *Spikelets* 1- or 2-flowered; the apex of the spikelet
 involute. *Glumes* 2, nearly equal, about as long as the florets.
Paleæ 2, unequal, awnless. *Scales* 2, gibbous, cuspidate.

1. *M. uniflora* Retz. E. B. 15. 1058.
 Paleæ beardless. Panicle branched, drooping toward one side.
 Spikelets erect, with only one perfect floret.
M. Lobelii Villars.
M. nutans Hudson.
 In groves and thickets. — Perennial. May, June.

2. *M. nutans* Linn. E. B. 15. 1059.
 Paleæ beardless. Panicle close, drooping, nearly simple. Spike-
 lets pendulous, with 2 perfect florets.
M. montana Hudson.
 In mountainous woods. — Perennial. June, July.

37. AIROCHLOA Link.

Panicle contracted. *Spikelets* compressed, 2- or 3-flowered. *Glumes* 2.
Paleæ 2; the lower awnless or mucronate. *Scales* usually bifid.

1. *A. cristata* Link. E. B. 9. 648.
 Panicle spiked. Glumes longer than their flower-stalk, shorter
 than the florets, all pointed.
Aira cristata Linn.
Poa cristata Willd.
Köleria cristata Pers.
Köleria glauca Dec. } a variety.
Aira glauca Schrad. }
 In dry, elevated, or calcareous, pastures, or on walls. — Perennial. July, August.

38. CORYNEPHORUS Beauv.

Panicle loose. *Spikelets* 2-flowered; florets equally perfect. *Glumes*
 2, equal, longer than the paleæ. *Paleæ* 2; the lower entire, bear-
 ing a twisted, articulated, clavate awn at its base.

1. *C. canescens* Beauv. E. B. 17. 1190.
 Panicle rather dense. Florets shorter than the glumes. Awn club-shaped, not longer; hairy at the joint. Leaves bristle-shaped. *Smith*.
Aira canescens Linn.
 On the sea-coasts of Norfolk and Suffolk. — Perennial. *July*.

39. AIRA Linn.

Panicle loose. *Spikelets* 2-flowered; florets equally perfect. *Glumes* 2, nearly equal. *Paleæ* 2; the lower bifid, with a dorsal slightly-twisted awn.

1. *A. flexuosa* Linn. E. B. 22. 1519.
 Panicle spreading, triple-forked, with wavy branches. Florets about the length of the glumes, acute. Awn from the middle of the outer paleæ, longer than the glumes, twisted. Leaves bristle-shaped.
Avena flexuosa Link.
Aira montana Huds. } a variety.
A. scabrosetacea Knapp. }
A. setacea Hudson. }
 In heathy, sandy places. — Perennial. *July*.

2. *A. præcox* Linn. E. B. 18. 1296.
 Panicle close, erect. Florets the length of the glume, both sessile. Awn nearly twice as long, from the base of the palea. Leaves bristle-shaped, with angular sheaths.
Avena præcox Link.
 Common on dry gravelly ground. — Annual. *May, June*.

3. *A. caryophyllea* Linn. E. B. 12. 812.
 Panicle spreading, triple-forked. Florets not longer than the glumes, both sessile. Awn twice as long, from above the middle of the palea. Leaves bristle-shaped, with ribbed close sheaths.
Avena caryophyllea Link.
 On barren sandy heaths or hillocks. — Annual. *June, July*.

4. *A. alpina* Linn. E. B. 30. 2102.
 Panicle rather close and upright. Florets the length of the glumes, acute; one of them on a smooth stalk. Awn short, from near the top of the outer palea. Leaves involute-awl-shaped, with smooth sheaths. *Smith*.
A. lævigata *Smith*.
 On the highland mountains. — Perennial. *June, July*.

40. TRISETUM Pers.

Panicle cylindrical, dense. *Spikelets* 2-flowered; florets equally perfect. *Glumes* 2, longer than the paleæ. *Paleæ* 2; the lower deeply cleft, with a twisted dorsal awn.

1. *T. pubescens* Pers. E. B. 23. 1640.
 Panicle erect, nearly simple. Florets longer than the glumes. Partial stalk bearded. Leaves flat, downy. Root somewhat creeping.

Avena pubescens Linn.

A. sesquiteria Linn.

In pastures on a chalky, or limestone soil. — Perennial. *June*.

2. *T. flavescens* Beauv.

E. B. 14. 952.

Panicle much branched, spreading, erect. Florets longer than the very unequal glumes. Leaves flat, a little downy. Root somewhat creeping.

Avena flavescens Linn.

In meadows and by road-sides. — Perennial. *July*.

41. *DESCHAMPSIA* Beauv.

Panicle loose. Spikelets 2-flowered; florets equally perfect. Glumes 2, nearly equal. Paleæ 2; the lower toothed at the point, with a straight awn proceeding from its base.

1. *D. cæspitosa* Beauv.

E. B. 21. 1453.

Panicle spreading. Florets about the length of the glumes, abrupt, hairy at the base; one of them on a hairy stalk. Awn short, from the bottom of the outer palea. Leaves flat.

Aira cæspitosa Linn.

Campella cæspitosa Link.

In moist shady groves. — Perennial. *June, July*.

42. *SETARIA* Beauv.

Spike often compound. Involucrum of many bristles surrounding 2 spikelets. Glumes 2; the lower smaller. Paleæ of the fertile floret 2, equal, cartilaginous. Paleæ of the male or neuter floret 1 or 2; the upper smaller and membranous, often wanting.

1. *S. verticillata* Beauv.

E. B. 13. 874.

Panicle spiked, cylindrical, lobed, with whorled branches. Paleæ of the perfect floret slightly uneven.

Panicum verticillatum Linn.

In moist cultivated fields. — Annual. *July, August*.

2. *S. viridis* Beauv.

E. B. 13. 875.

Panicle spiked, cylindrical, continuous. Paleæ of the perfect floret slightly uneven.

Panicum viride Linn.

In sandy fields. — Annual. *July, August*.

V. *Inflorescence paniced. Spikelets many-flowered.*

43. *SESLERIA* Arduin. MOOR-GRASS.

Panicle contracted. Spikelets many-flowered, with a sheathing or glume-like bractea. Glumes 2, nearly equal, somewhat awned at the apex. Paleæ 2, nearly equal; the lower awned beneath the apex. Styles 1 or 2, long.

1. *S. cærulea* Scop.

E. B. 23. 1613

Spikes ovate-oblong, imbricated. Bractea alternate. Outer palea with 3 teeth.

Cynosurus cæruleus Linn.

On moist, alpine, limestone rocks. — Perennial. *April—June*.

44. ARUNDO Linn.

Panicle loose. *Spikelets* many-flowered; the lower floret male and naked, the upper hermaphrodite and surrounded by hairs. *Glumes* 2; the lower smaller, the upper about as long as the florets. *Paleæ* 2, unequal.

1. *A. Phragmites* Linn. Common Reed. E. B. 6. 401.
Florets about 5, awnless, longer than the glumes. *Panicle* loose.
Smith.

Phragmites communis Trin.

In marshes, ditches, and about the banks of pools and rivers. — Perennial.
July.

45. AVENA Linn.

Panicle loose. *Spikelets* many-flowered; upper florets sterile and imperfect. *Glumes* 2, nearly equal, as long as the paleæ. *Paleæ* 2; the lower bifid, with a twisted dorsal awn.

1. *A. fatua* Linn. Wild Oat, or Haver. E. B. 31. 2221.
Panicle erect, compound. *Spikelets* pendulous. Florets about 3, shorter than the glumes, bristly at the base, with an oblique scar, all awned. *Smith.*

In corn-fields. — Annual. *June, July.*

2. *A. strigosa* Schreb. E. B. 18. 1266.
Panicle oblong, turned to one side. Florets 2. Outer palea tipped with a double straight bristle.

In corn-fields. — Annual. *June, July.*

3. *A. pratensis* Linn. E. B. 17. 1204.
Panicle erect, with very short simple branches. Florets about 5, longer than the glumes. Partial stalk all over hairy. Leaves involute, finely serrated, naked; sheaths smooth. *Smith.*

A. bromoides Linn.

In dry chalky, or limestone, pastures, and heathy spots. — Perennial. *July.*

4. *A. alpina* Smith. E. B. 30. 2141.
Panicle erect, slightly branched. Florets about 5, longer than the glumes. Partial stalk bearded under each. Leaves flat, minutely serrated, naked; sheaths rough. Root fibrous. *Smith.*

A. planiculmis Smith.

Found upon the rocky summits of the highest mountains of Clova, Angusshire. — Perennial. *July.*

S.

46. DACTYLIS Linn.

Panicle loose or contracted; branches solitary; terminal ramifications always very short. *Spikelets* clustered, many-flowered, horizontal. *Glumes* 2, unequal-sided. *Paleæ* 2; the lower awned under the apex, the upper of nearly the same size. *Scales* toothed.

1. *D. glomerata* Linn. Cock's-foot-grass. E. B. 5. 335
Panicle distantly branched. Flowers in dense globular tufts, unilateral. *Paleæ* somewhat awned, 5-ribbed, taper-pointed.

In meadows and shady places. — Perennial. *June—August.*

47. *TRIODIA* R. Br.

Panicle somewhat racemose. *Spikelets* many-flowered. *Glumes* 2, nearly equal. *Paleæ* 2; the lower with 3 nearly equal teeth, the middle one of which is stiff. *Grain* 3-toothed.

1. *T. decumbens* Beauv.

E. B. 11. 792.

Panicle nearly simple, close, erect. *Florets* 4; their middle tooth shortest. *Glumes* smooth. *Ligula* hairy.

Festuca decumbens Linn.

Poa decumbens Withering.

Melica decumbens Weber.

In spongy bogs. — Perennial. *July*.

48. *BROMUS* Linn.

Panicle loose. *Spikelets* more than 4-flowered. *Glumes* 2, unequal, shorter than the lower *florets*. *Paleæ* 2; the lower awned under the apex, very seldom awnless. *Scales* lanceolate, entire.

1. *B. secalinus* Linn. Rye Brome-grass. E. B. 17. 1171.

Panicle spreading; slightly subdivided below. *Spikelets* ovate, of about ten, distinct, somewhat cylindrical, smooth *florets*. *Awns* wavy, shorter than the *glumes*. *Leaves* slightly hairy. *Smith*.

B. vitiosus Weigel.

In corn-fields. — Annual. *July—September*.

2. *B. velutinus* Schrad.

E. B. 27. 1884.

Panicle spreading; scarcely subdivided. *Spikelets* ovate-oblong, of from 10 to 15 crowded, elliptical, downy *florets*. *Awns* as long as the *glumes*. *Leaves* slightly hairy. *Smith*.

B. multiflorus Smith.

In corn-fields. — Annual. *July*.

3. *B. mollis* Linn. Brome-grass.

E. B. 15. 1078.

Panicle erect, rather close, compound. *Spikelets* ovate, downy. *Florets* imbricated, depressed, ribbed. *Awns* as long as the *glumes*. *Leaves* and *sheaths* very soft and downy. *Smith*.

B. polymorphus Hudson.

B. hordeaceus Linn.

In fields and pastures. — Biennial. *June*.

4. *B. racemosus* Linn.

E. B. 15. 1079.

Panicle nearly erect, spreading, slightly branched. *Spikelets* ovate-oblong, naked. *Florets* imbricated, depressed, ribbed. *Awns* as long as the *glumes*. *Leaves* somewhat downy. *Smith*.

B. pratensis Ehr.

B. arvensis Knapp.

In meadows and pastures. — Annual or biennial. *June*.

5. *B. squarrosus* Linn.

E. B. 27. 1885.

Panicle drooping, scarcely branched. *Spikelets* ovate-oblong. *Florets* about 12, imbricated, depressed, ribbed. *Awns* widely spreading. *Leaves* downy. *Smith*.

In corn-fields. — Annual. *July*.

6. *B. arvensis* Linn. E. B. 28. 1984.
Panicle spreading, drooping, compound, half-whorled. Spikelets lanceolate, acute. Florets about 8, imbricated, smoothish, with 2 close ribs at each side. Leaves hairy. *Smith*.
B. spiculitenuata Knapp.
B. versicolor Pollich.
B. verticillatus Cav.
In corn-fields. — Annual. July.
7. *B. erectus* Huds. E. B. 7. 471.
Panicle erect, slightly branched. Spikelets linear-lanceolate. Florets about 8, loosely imbricated, lanceolate, compressed. Awn shorter than the glumes, straight. Radical leaves very narrow, fringed with scattered hairs. *Smith*.
B. agrestis Allioni.
B. perennis Villars.
In fields and by road-sides. — Perennial. July.
8. *B. asper* Linn. E. B. 17. 1172.
Panicle drooping, branched. Spikelets linear-oblong. Florets about 8, rather distant, lanceolate, compressed, downy. Awns shorter than the glumes. Leaves uniform; lower ones hairy. *Smith*.
B. ramosus Linn.
B. nemoralis Huds.
B. nemorosus Vill.
B. hirsutus Curtis.
B. montanus Pollich.
In woods and hedges. — Annual or biennial. July, August.
9. *B. sterilis* Linn. E. B. 15. 1030.
Panicle drooping, mostly simple. Spikelets linear-lanceolate. Florets about 7, lanceolate, compressed, 7-ribbed, furrowed. Awns longer than the glumes. Leaves downy. *Smith*.
In fields and on walls. — Annual. June, July.
10. *B. diandrus* Curtis. E. B. 14. 1006.
Panicle upright, a little spreading, scarcely subdivided. Florets lanceolate, with 2 close marginal ribs, and only 2 stamens. *Smith*.
B. muralis Huds.
B. ciliatus Huds.
In sandy ground and on walls. — Annual. June.

49. SCHEDONORUS Beauv.

Panicle loose. Spikelets many-flowered. Glumes 2, nearly equal, shorter than the lower paleæ. Paleæ 2; the lower awned at the apex. Pedicels of the florets with 3 tufts of hairs at the end. Scales oblong, 2-toothed.

1. *S. pratensis* Beauv. E. B. 23. 1592.
Panicle nearly upright, branched, spreading, turned to one side. Spikelets linear, compressed. Florets numerous, cylindrical, obscurely ribbed. Root fibrous. *Smith*.

Festuca pratensis Huds.

F. elatior Host.

In pastures and meadows. — Perennial. *June, July.*

2. *S. elatior.*

E. B. 23. 1593.

Panicle somewhat drooping, much branched, spreading loosely every way. Spikelets ovate-lanceolate. Florets numerous, cylindrical, somewhat awned, obscurely ribbed. Root creeping. *Smith.*

Festuca arundinacea Schreb.

Festuca elatior Smith.

Schedonorus radicans Dumort.

Bromus littoreus Willd.

In meadows, and the borders of ditches. — Perennial. *June, July.*

3. *S. sylvaticus* Beauv.

E. B. 14. 1005.

Panicle repeatedly compound, spreading, erect. Florets from 2 to 5, oblong, cylindrical, keeled, angular, pointed; inner paleæ folded in the middle. *Smith.*

Festuca calamaria Smith.

F. sylvatica Villars.

Poa sylvatica Pollich.

P. trinervata Ehr.

Festuca decidua Smith.

E. B. 32. 2266. a variety.

In mountainous woods of Scotland, Ireland, and the north-west part of England. — Perennial. *June, July.*

4. *S. loliaceus* Dumort.

E. B. 26. 1821.

Spike 2-ranked, drooping. Spikelets nearly sessile, linear-oblong. Florets cylindrical, awnless, pointed, with 5 slight ribs at the top. *Smith.*

Festuca loliacea Huds.

F. elongata Ehr.

In rich moist pastures and meadows. — Perennial. *June, July.*

50. *FESTUCA* Linn.

Panicle loose. *Spikelets* many-flowered; the florets deciduous. *Glumes* 2, unequal, or nearly equal, acute. *Paleæ* 2; the lower mucronate or awned at the point. *Scales* 2, usually toothed.

1. *F. ovina* Linn. Sheep's Fescue-grass.

E. B. 9. 585.

Panicle unilateral, rather close. Florets cylindrical, pointed or awned; smooth at the base, and at the edges of the inner paleæ. Stem square. Leaves folded, bristle-shaped. Ligula short and obtuse.

Festuca rubra Withering; a variety.

F. cæsia E. B. 27. 1917.; a variety.

F. tenuifolia Sibth.; a variety.

In dry open pastures. — Perennial. *June.*

2. *F. vivipara* Smith.

E. B. 19. 1355.

Panicle unilateral, rather close. Florets compressed, keeled, awnless, somewhat downy, as well as the edges of their inner

paleæ and glumes. Stem square. Leaves folded, bristle-shaped, smooth.

On the tops of the loftiest mountains. — Perennial. *July*.

3. *F. duriuscula* Linn. Hard Fescue-grass. E. B. 7. 470.
Panicle unilateral, spreading. Florets longer than their awns. Stem round. Upper leaves flat. Root fibrous. *Smith*.
F. heterophylla Hænke.
F. nemorum Leyss.
F. dumetorum Linn. ; a variety.

In pastures, waste ground, and thickets. — Perennial. *June, July*.

4. *F. rubra* Linn. Creeping Fescue-grass. E. B. 29. 2056.
Panicle unilateral, spreading. Florets longer than their awns. Leaves downy on the upper side, more or less involute. Root extensively creeping. *Smith*.
Festuca cambrica Huds. ; a variety.
F. glabra Lightf. ; a variety.
F. glauca Winch. ; a variety.

In mountainous pastures. — Perennial. *July*.

5. *F. gigantea* Villars. Tall Fescue-grass. E. B. 26. 1820.
Panicle drooping, twice compound, spreading. Florets from 3 to 6, ovate-lanceolate, shorter than their awns. Ligula abrupt, auricled, clasping the stem.
Bromus giganteus Linn.
Festuca triflora E. B. 27. 1918. } a variety.
Bromus triflorus Linn. }

In woods and hedges. — Perennial. *July, August*.

51. VULPIA Gmelin.

Panicle racemose or contracted, with very thick pedicels. Spikelets many-flowered ; the florets deciduous. Glumes 2 ; the lower much smaller than the other, or wholly wanting. Paleæ 2 ; the lower ending in a long awn. Scales oval, acute.

1. *V. Myurus* Gmel. E. B. 20. 1412.
Panicle drooping, elongated, rather close. Florets tapering, shorter than their awns, rough at the top. Leaves awl-shaped. Stem leafy to the very summit. *Smith*.
Festuca Myurus Linn.
Mygalurus caudatus Link.

On walls, and barren sandy ground. — Annual. *June, July*.

2. *V. uniglumis* Dumort.
Panicle erect, nearly simple. Florets tapering, compressed, awned. One glume very short.
Festuca uniglumis H. Kew.
Stipa membranacea Linn.
Mygalurus uniglumis Link.
Vulpia membranacea Link
Lolium bromoides Hudson.
On the sandy sea-coast. — Biennial.

3. *V. bromoides* Dumort.

E. B. 20. 1411.

Panicle nearly erect, racemose. Florets tapering, shorter than their awns, rough at the top. Leaves tapering, shorter than their sheaths. Upper half of the stem naked. *Smith*.

Festuca bromoides *Linn.*

Mygalurus bromoides *Link.*

On walls and barren sandy ground. — Annual. *June*.

52. GLYCERIA *R. Br.*

Panicle loose. *Spikelets* cylindrical, many-flowered; florets articulated with their pedicels. *Glumes* 2, nearly equal, obtuse, 1-ribbed, shorter than the lower florets. *Paleæ* 2, many-ribbed, nearly equal, obtuse, awnless. *Scales* cohering in 1, truncate. *Styles* dichotomous, feathery.

1. *G. fluitans* *R. Br.* Manna Grass.

E. B. 22. 1520.

Panicle oblong, branched, divaricating. Spikelets close-pressed. Florets numerous, obtuse, 7-ribbed, with short intermediate ribs at the base.

Festuca fluitans *Linn.*

Poa fluitans *Scop.*

In stagnant waters and slow streams. — Perennial. *June—August*.

53. BRIZA *Linn.* QUAKING-GRASS.

Panicle loose. *Spikelets* many-flowered, cordate. *Glumes* 2, equal, convex, about as long as the lower florets. *Paleæ* 2, convex, awnless; their margins not involute. *Scales* acuminate, gibbous at the base. *Styles* feathery almost to the base.

1. *B. minor* *Linn.*

E. B. 19. 1316.

Spikelets triangular, 7-flowered. Glumes longer than the florets. Ligula lanceolate, elongated.

B. aspera *Knapp.*

In cultivated fields in the south of England. — Annual. *July*.

2. *B. media* *Linn.* Maiden's Hair.

E. B. 5. 340.

Spikelets ovate, about 7-flowered. Glumes shorter than the florets. Ligula very short and blunt.

In pastures. — Perennial. *May, June*.

54. SCLEROCHLOA *Beauv.*

Panicle contracted. *Pedicels* articulated with the spikelets. *Spikelets* many-flowered, cylindrical, and compressed. *Glumes* 2, shorter than the lower florets. *Paleæ* 2, awnless, or mucronate.

1. *S. maritima*.

E. B. 16. 1140.

Panicle branched, rather close; erect after flowering. Florets about 5, somewhat pointed, slightly 5-ribbed. Root creeping. *Smith*.

? *Sclerochloa dichotoma* *Link.*

Poa maritima *Hudson.*

Glyceria maritima Smith.

In salt marshes on the coast. — Perennial. July—October.

2. *S. procumbens* Beauv.

E. B. 8. 532.

Panicle lanceolate, unilateral, 2-ranked, close, with rough stalks; the main one cylindrical. Florets about 5, bluntish, 5-ribbed. Smith.

Poa procumbens Curtis.

Poa rupestris Withering.

Glyceria procumbens Smith.

In waste ground near the sea. — Annual. July, August.

3. *S. rigida* Panzer.

E. B. 20. 1371.

Panicle lanceolate, unilateral, 2-ranked, close, with smooth stalks; the main one bordered. Florets about 7, acute, scarcely ribbed. Smith.

Megastachya rigida R. & S.

Poa rigida Linn.

Glyceria rigida Smith.

On walls and dry gravelly banks. — Annual. June.

55. *HYDROCHLOA* Hartman.

Panicle loose. Spikelets many-flowered, compressed. Glumes 2, nearly equal, very obtuse, 1-ribbed, membranous, shorter than the lowest floret. Paleæ 2, nearly equal, awnless, many-ribbed. Scales 2, truncate. Styles simple, pencil-shaped.

1. *H. aquatica* Hartman.

E. B. 19. 1315.

Panicle erect, repeatedly branched, spreading. Florets numerous, obtuse, with 7 ribs.

Poa aquatica Linn.

Glyceria aquatica Smith.

G. spectabilis Mert. & Koch.

In ditches and the margins of streams. — Perennial. July.

56. *POA* Linn.

Panicle loose, seldom contracted. Spikelets 3- or many-flowered, or even 2-flowered, with the pedicels of a greater number of florets; florets articulated with their rachis. Paleæ 2, nearly equal, awnless. Scales oval, acute, gibbous at the base.

1. *P. compressa* Linn.

E. B. 6. 365.

Panicle unilateral, rather dense. Stem compressed. Root creeping. Spikelets ovate oblong. Florets connected by a web. Smith.

On walls and in dry ground. — Perennial. June—September.

2. *P. alpina* Linn.

E. B. 14. 1003.

Panicle loosely spreading. Spikelets heart-shaped, 4- or 5-flowered. Florets rather sickle-shaped, hairy at the base without a web. Lower ligulæ very short; upper oblong, acute. Smith.

On lofty mountains. — Perennial. July, August.

3. *P. laxa* Hænke.

E. B. 16. 1123.

Panicle drooping, loosely spreading, zigzag. Spikelets ovate, 3-

flowered. Florets connected by a web. Ligulæ all lanceolate.
Smith.

P. flexuosa Smith.

In the Highlands of Scotland. — Perennial. *July.*

4. *P. bulbosa* Linn. E. B. 15. 1071.

Panicle close, slightly zigzag. Spikelets 4-flowered. Florets hairy at the keel, connected by a web. Leaves finely serrated. Stem bulbous at the base. *Smith.*

On the sandy sea-shore. — Perennial. *April, May.*

5. *P. trivialis* Linn. E. B. 15. 1072.

Panicle spreading. Spikelets 3-flowered. Florets lanceolate, 5-ribbed, connected by a web. Ligula oblong. Stem and leaves roughish. Root fibrous. *Smith.*

P. dubia Linn.

P. scabra Ehr.

P. setacea Hudson; a variety

In meadows and pastures. — Perennial. *June—October.*

6. *P. pratensis* Linn. Meadow-grass. E. B. 15. 1073.

Panicle spreading. Spikelets 4-flowered. Florets lanceolate, 5-ribbed, connected by a web. Ligula short and obtuse. Stem and leaves smooth. Root creeping. *Smith.*

P. glabra Ehr.

P. angustifolia Linn.; a variety.

P. subcærulea Smith;

P. humilis Ehr.;

P. cærulea Knapp;

} a variety.

In meadows and pastures. — Perennial. *May, June.*

7. *P. annua* Linn. E. B. 16. 1141.

Panicle widely spreading. Spikelets ovate, 5-flowered. Florets a little remote, 5-ribbed, without a web. Stems oblique, compressed. *Smith.*

In meadows and cultivated ground everywhere. — Annual. *April—November.*

8. *P. glauca* Fl. Dan. E. B. 24. 1720.

Panicle spreading. Spikelets ovate. Florets from 2 to 5, obscurely 5-ribbed, bluntish; silky at the keel and lateral ribs; hairy at the base, without a web. Ligulæ of the lower leaves very short and blunt.

P. cæsia E. Bot.; a variety.

On mountains. — Perennial. *June, July.*

9. *P. nemoralis* Linn. E. B. 18. 1265.

Panicle spreading, capillary. Glumes lanceolate, taper-pointed, each 3-ribbed. Spikelets lanceolate. Florets about 3, 5-ribbed, acute; silky at the keel and lateral ribs; hairy at the base, without a web. Ligulæ very short, notched. *Smith.*

P. angustifolia Hudson.

In groves and woods. — Perennial. *June, July.*

10. *P. distans* Linn.

E. B. 14. 986.

Panicle branched, spreading; the branches finally reflexed. Florets about 5, obtuse, obscurely 5-ribbed, polished. Root fibrous.

*Smith.**Glyceria distans* *Smith.**P. retroflexa* *Curtis.**P. salina* *Pollich.*

On sandy waste ground. — Perennial. *July, August.*

SUPPLEMENT;

CONTAINING

ALL THE SPECIES NEW TO THE BRITISH FLORA,
WHICH HAVE BEEN DISCOVERED SINCE THE APPEARANCE OF THE
FIRST EDITION OF THIS WORK;
A FEW CRITICAL REMARKS; AND SOME CORRECTIONS.

Page 10. RANUNCULUS.

R. reptans Linn.

Leaves linear, quite entire, smooth, of the same breadth at either end; their sheaths and the carpels very smooth. Stem creeping, filiform, rooting at almost every joint.

By the sides of Highland lakes.—Perennial. *July, August.*

This, although considered by British botanists a mere variety of *R. Flammula*, deserves to be further examined. It is quite true, that in a dried state it is difficult to distinguish it from some forms of that common species; but it is very unlike it when alive. Its filiform creeping stems and remarkably small flowers are peculiarities that can hardly be the effect of its locality. In Clova, where both are common, *R. Flammula* does not lose in the least its Lowland habits.

Page 31. LEPIDIUM.

L. *Draba* R. Br.

E. B. Suppl. 2683.

Leaves stem-clasping, broadly oblong or lanceolate, entire or toothed.

Silicle heart-shaped, entire at the point, crowned with a style about its own length. *R. Br.*

Cochlearia Draba Linn.

Fields and hedges in the south of England: rare.—Perennial. *June.*

25.* SUBULARIA Linn.

Silicle oval, pointless, with convex valves, and many seeds in each cell.
Cotyledons linear.

1. *S. aquatica* Linn. Awlwort.

E. B. 11. 732.

Leaves awl-shaped. Flowers small; opening under water.

On the sandy or gravelly bottoms of alpine lakes.—Annual. *July.*

Page 32. BRASSICA.

5.* *B. Cheiranthus* Villars.

Leaves stalked, hispid, all deeply pinnatifid; lobes oval-oblong, unequally toothed, in the upper one linear. Base of stem hispid. Pods cylindrical; valves 3-nerved; beak 1-2-seeded. *Hooker.*

Jersey; sea-coast. — Biennial? *July, August.*

Page 36. VIOLA.

Three new violets are said to have been added to our Flora. Two, at least, appear to be nothing more than varieties of other species. I give their characters as they stand in books.

* *V. Curtisii* Forster.

E. B. Suppl. 2693.

Stem decumbent, angular, rough. Leaves oblong, crenelled, naked.

Leafstalks hairy. Stipules palmate; lobes acuminate, ciliated.

Bracts minute. Spur the length of the calyx. *Forster.*

Braunton Borougs in Devonshire. — Perennial. *May — September.*

Surely nothing but *V. tricolor*.

** *V. arvensis* Murray.

E. B. Suppl. 2712.

Stem angular, diffuse. Leaves deeply crenelled, fringed; the lower ones nearly heart-shaped, the upper ones oblong. Stipules pinnatifid. Petals shorter than the calyx. Ovary nearly round. *Forster.*

V. tricolor var. *Linn., Smith, &c.*

Common in corn-fields. — Perennial. *May — September.*

*** *V. suavis* Bieberst.

V. imberbis *Leighton.*

Sharpstones Hills in Shropshire.

A white variety of *V. odorata*, without hairiness on the petals.

N. B. According to Mr. Leighton, *V. lactea* changes by cultivation to *V. canina*.

Page 40. POLYGALA.

2. *P. amara* Linn.

E. B. Suppl. 2764.

Stems many, simple, ascending. Leaves obtuse; lower ones larger, obovate; upper ones strap-shaped. Flowers crested, racemose.

Wings of the calyx as long as the petals. Fruit nearly orbicular, sessile. *D. Don.*

Chalk downs in the south of England. — Perennial. *June, July.*

Page 41. ALTHÆA.

2. *hirsuta* Linn.

E. B. Suppl. 2674.

Leaves heart-shaped, rough with hairs; lower ones obtusely, upper ones acutely, lobed and toothed. Stem hispid. Peduncles single-flowered, longer than the leaves. *Hooker.*

Fields near Cobham in Kent. — Annual.

Page 42. HYPERICUM.

7.* *H. linearifolium* Vahl.

Styles 3. Flowers terminal, cymose. Sepals lanceolate, acute, their margins with numerous black spots and glandular serratures. Leaves linear, obtuse, the margin revolute. Stem terete. *Babington.*

Dry slopes ; Jersey. — Perennial. *July, August.*

Page 46. SILENE.

9.* *S. italica* Dec. Italian Catchfly. E. B. Suppl. 2748.

Flowers paniced, nearly erect. Branches opposite. Calyx long, club-shaped. Petals naked, two-lobed. Lower leaves ovate spatulate ; upper linear. Stem downy.

S. patens Peete.

Cucubalus viscosus Hudson.

S. nutans β. *Smith.*

South of England. — Perennial. *June, July.*

Page 48. Order 14.* ELATINACEÆ *Cambessédes.*

Sepals 3–5, distinct, or slightly united.

Petals the same number.

Stamens hypogynous, twice as numerous as the petals.

Ovary with from three to five cells. *Styles* distinct. *Stigmas* capitate.

Capsule 3–5-celled ; many-seeded, with a septifragal or septicidal dehiscence.

Seeds numerous, with a straight embryo in the axis of a small quantity of albumen.

Annuals, found in marshy places. *Stems* hollow. *Leaves* opposite, with stipules.

1. ELATINE *Linn.* WATERWORT.

All the parts of the *flower* either ternary or quaternary.

1. *E. Hydropiper* Linn. E. B. Suppl. 2670.

Flowers octandrous. Sepals linear. Seeds bent double.

Shores of lakes in Wales. — *August.*

2. *E. hexandra* Dec. E. B. 14. 955.

Flowers hexandrous. Sepals nearly orbicular. Seeds straight.

E. tripetala *Smith.*

Margins of ponds or ditches. — Annual. *July, August.*

Page 50. ARENARIA.

8.* *A. norvegica* Gunner.

Leaves spatulate, fleshy, smooth, as well as the much branched procumbent stems. Branches 1-3-flowered. Sepals half as long as the petals, ovate, acute, obscurely 3-5-ribbed.

Shetland Isles. — Perennial. *July*.

Page 51. CERASTIUM.

6.* *C. pedunculatum* Babington.

Leaves ovate, or oblong. Petals much shorter than the calyx. Sepals lanceolate, acute, glandular, hairy, membranous at margin and apex. Bracts membranous at edge. Capsule straight, erect; equal to, or larger than, the calyx. Fruit peduncles two or three times as long as calyx. Stems repeatedly dichotomous. *Babington*.

South of England.

6.** *C. atrovirens* Babington.

Leaves broadly ovate. Petals much shorter than calyx. Sepals lanceolate, acute, glandular, hairy, narrowly membranous at edge and point. Bracts herbaceous. Capsule obovate or sub-cylindrical, shorter than the calyx. Fruit peduncles two or three times as long as calyx, and erect. *Babington*.

Berwick on Tweed, Jersey, Hampshire.

Page 57. GERANIUM.

5. *G. Robertianum* Linn.

A shore variety of this is figured in the Supp. of English Botany, t. 2648., under the name of *Geranium purpureum* of Villars; and the *G. Raii* of this work is quoted as a synonyme. Unfortunately, my specimens of the latter species have by some mischance been mislaid; but I should say that *G. Raii*, if not a distinct species, is referable to *G. lucidum*, and by no means to *G. Robertianum*, of which it had not one of the essential characters, not even the smell.

Page 61. HERNIARIA.

2.* *H. ciliata* Babington.

Hairs curved downward. Leaves ovate, ciliated.

Cornwall. — Perennial. *August*.

Page 67. Order 37.* ARALIACEÆ.

To this order, which differs from Umbelliferæ in nothing but having more than two cells to the fruit, is referred by Bartling the paradoxical genus *Adoxa*; which now stands as an apetalous form in an order otherwise polypetalous.

Page 77. ULEX.

1. *U. europæus* Linn.
Calyx shaggy, with two ovate lax bracts. Spines many-flowered, much recurved, and spreading. Young leaves rigid, furrowed, recurved.
2. *U. strictus* Mackay. Irish Furze.
Calyx shaggy, with two ovate lax bracts. Spines 1-2-flowered, straight, adpressed. Young leaves thin, straight, and shaggy.
In the north of Ireland. — Shrub. June.
This species differs from *U. europæus* something in the same way as *U. nanus* from *U. provincialis*; that is to say, it and *U. nanus* are each few-flowered, and dwarf as compared with the others.
3. *U. nanus* Forster.
Calyx finely downy, with two very minute bracts. Spines 1-2-flowered, much recurved and spreading. Young leaves rigid and furrowed.

Page 78. ONONIS.

Mr. Bentham, in some remarks upon these species, in the Suppl. of English Botany, t. 2659., calls the *O. procurrens*, *O. arvensis*, and gives a figure of it; while he refers the *O. spinosa* of Linnæus to the same species, considering what is here called *O. spinosa* to be the *O. antiquorum* Linn., and to be the plant figured at t. 682. of English Botany. The amended names, &c., of the plants will therefore be as follows:—

1. *O. arvensis* L. E. B. Suppl. 2659.
O. procurrens Wallr.
O. repens and *spinosa* Linn.
2. *O. antiquorum* Linn. E. B. 10. 682.
O. spinosa of this and many other books.
- 2.* *O. reclinata* Linn.
Herbaceous, spreading, viscid, hairy. Leaves all stalked, ternate. Stipules broadly ovate. Peduncles 1-flowered. Calyx almost as long as the corolla, shorter than the closely reflexed cylindrical pods, which contain 14-16 warted seeds. Hooker.
Galloway. — Annual. July.

Page 78. ASTRAGALUS.

- 2.* *A. alpinus* Linn. E. B. Suppl. 2717.
Stems procumbent. Branches and both sides of the leaflets downy. Stipules ovate, separate from the petioles. Flowers in spiked heads, nodding. Pods stalked, pendulous, attenuated at each end, covered with black hairs, about two-seeded.
Phaca astragalina Dec.
Glen of Dole, Clova. — Perennial. July.

Page 79. MELILOTUS.

2. *M. leucantha* Koch. E. B. Suppl. 2689.
 Clusters lax. Legume two-seeded, ovate, wrinkled. Corolla twice
 as long as calyx. Keel and wings shorter than the standard.
 Stem erect.

Sandy downs and meadows. — Biennial. *July*.

Page 81. TRIFOLIUM.

- 13.* *T. resupinatum* Linn. E. B. Suppl. 2789.
 Heads hemispherical, at length globose, on stalks at first only about
 as long as the petiole. Corollas resupinate. Calyx, after flower-
 ing, membranous, reticulated, inflated, hairy, acute; two of the
 teeth longer and spreading. Leaflets obovate. Stem prostrate.
Hooker.

Meadows near Bristol. — Annual. *July*.

Page 83. MEDICAGO.

- 7.* *M. denticulata* Willd. E. B. Suppl. 2634.
 Annual, glabrous. Stipules deeply toothed. Pods spirally twisted,
 consisting of two or three rather distant turns, flat above and
 below, deeply reticulated, with a thin margin, more or less spinous;
 spines awl-shaped, diverging, usually hooked. *Bentham.*
M. apiculata Willd.
M. polycarpa Willd.
M. ciliaris Savi.
M. echinata Bouch.
M. distans Poir.
M. flexuosa Tenor.
M. polycephala Hort.

Sea coast. — Annual. *July, August.*

Page 84. VICIA.

I have considered *V. angustifolia* Willd. a mere variety of *V. sativa*.
 Mr. Forster, however, distinguishes it by the following cha-
 racter: —

- V. angustifolia* Willd. E. B. Suppl. 2614.
 Flowers in pairs, nearly sessile. Leaflets lanceolate; upper ones
 linear. Stipules with a pale depression beneath. Seeds orbicu-
 lar, smooth.

Page 87. 18.* ARTHROLOBIUM Desv.

Pod cylindrical; otherwise like *Ornithopus*.

1. *A. ebracteatum* Dec.
 Stem filiform. Peduncles 2-4-flowered, about equal to the leaves.
 Stipules very minute. Leaves pinnated; leaflets equal, ellip-
 tical, oblong, in many pairs, the lower very remote from the
 stem.

Guernsey. — Annual. *July, August.*

Page 90. CERASUS.

Mr. Leighton distinguishes two kinds of wild cherry, and gives the following as their distinctive marks : —

C. *avium* Linn.

Arborescent. Leaves ovate-lanceolate, drooping, downy beneath. Flowers sessile, lax, aggregate around the leaf-buds. Sepals somewhat pointed. Petals flaccid, a little connivent. *Bromfield.*

This is regarded as the parent of the *Heart* cherries of gardens. It does not produce suckers, and forms a large tree.

C. *austera* Leighton.

Fruticose. Leaves broadly ovate-lanceolate, firm, glabrous, not drooping. Umbels few-flowered, mostly scattered, erect or patent. Inner scales of the flower-buds leafy. Petals firm, widely spreading. Sepals obtuse. *Bromfield.*

From this, it is thought, have sprung the *Morello* and *Kentish* cherries of gardens. It forms a bush 6 or 8 feet high, and produces suckers abundantly.

Page 95. RUBUS.

For further and valuable observations upon this genus, the reader is referred to Mr. Leighton's excellent and very original *Flora of Shropshire*, p. 220.

Page 101. ROSA.

R. *Wilsoni* Hooker.

E. B. Suppl. 2723.

This seems one of the endless varieties of *R. mollis*, approaching *Doniana* in the presence of setæ on its branches; and proving, among other things, that *R. involuta*, *Doniana*, *Sabiniana*, &c., are all one and the same natural species.

Page 105. PYRUS.

Mr. Leighton distinguishes two distinct crab apples, which, if not species, are well-marked varieties. They are :

1. P. *acerba* Dec.

Young branches glabrous. Leaves glabrous on the under surface. Peduncles and calyx tube glabrous.

P. *Malus* E. B. t. 179.

Malus sylvestris Ray.

2. P. *Malus* Linn.

Young branches pubescent. Leaves more or less pubescent, or even woolly, on the under surface. Peduncles and calyx tube more or less pubescent or woolly.

Malus sativa Ray.

Page 110. Order 37.* ARALIACEÆ.

Here should be inserted *Adoxa*. See p. 67. and p. 322.

Page 120. CENANTHE.

In the British Flora, Dr. Hooker admits, under the name *Cenante apiifolia* of Brotero, a plant resembling *Cenante crocata*, from which it differs, among other things, in having no yellow poisonous juice; but, in the third edition of that work, the species is abandoned, upon the ground of such juice not being constantly present in *Cenante crocata* itself. Of course, it will not constantly be present in that plant more than in anything else, inasmuch as the presence of such secretions depends upon seasons and other circumstances; but, from what has been said about the supposed *Cenante apiifolia*, we recommend that plant to a new and more diligent investigation; it is said to grow about Plymouth.

Page 120. BUPLEURUM.

2.* *B. falcatum* Linn.

E. B. Suppl. 2763.

Lower leaves obovate, stalked; upper linear-lanceolate, sessile. Partial involucre of 5 lanceolate leaves, as long as the flowers; generally 1-5-leaved. Stem paniced, leafy. *Corder*.

Norton Heath, between Chelmsford and Ongar, Essex. — Perennial. *August*.

Page 138. VALERIANELLA.

3. *V. mixta* Dufr.

Fruit ovate, villous; with two barren very narrow cells. Limb of the calyx oblique, with three short teeth. Bracts adpressed, linear. Leaves oblong, quite entire. *Dec*.

Near Halesworth. — Annual. *June*.

4. *V. eriocarpa* Desv.

Fruit ovate, obsoletely ribbed, hispid, with two barren very narrow cells. Limb of the calyx obliquely truncate, campanulate, 6-toothed; with three front teeth erect, and shorter than the rest. Bracts adpressed, linear. Leaves oblong, linear, entire or toothed at the bases. *Dec*.

Ormeshead, Caernarvonshire. — Annual. *June*.

Dr. Hooker now considers the two preceding to be mere varieties of *V. dentata*; guided by the authority of Mr. W. Wilson, of Warrington.

5. *V. Auricula* Dec.

Fruit ovate, smooth; limb of the calyx obliquely truncate, nearly entire, acutely ear-shaped, with two barren cells broader than the fertile one. Bracts spreading, linear, smooth. Flowers in loose dichotomous corymbs. Leaves oblong, entire, or toothed at the base. *Dec.*

Cornwall. — Annual. *June, July.*

6. *V. carinata* Stev.

Fruit oblong, longitudinally boat-shaped on one side, or with a slit smooth keel; the two sterile cells compressed, curved, about as large as the fertile one. Limb of the calyx once-toothed, erect. Flowers in heads. Bracts oblong, spreading, somewhat sawed in a ciliate manner. Leaves oblong, somewhat obovate, quite entire. *Dec.*

Near Ongar, in Essex. — Annual.

Page 140.

COMPOSITÆ.

I have not thought it advisable to remodel the genera of this order, so as to limit them according to the modern arrangement of De Candolle. In my opinion, the true characters of Compositæ have still to be discovered; and I have no idea that all the modern changes among the genera can have a permanent existence. It is better to remain as we are, than to change only to change again.

Page 144. ANTENNARIA.

3. *A. hyperborea* D. Don.

E. B. Suppl. 2640.

Leaves uniform, spatulate, woolly on both sides. Scales of the female involucre strap-shaped, blunt. *D. Don.*

Isle of Skye. — Perennial.

Page 147. DORONICUM.

According to Mr. D. Don, there are two species of *Doronicum* in this country, of which the following are the names and characters: —

1. *D. Pardalianches* Linn.

E. B. Suppl. 2654.

Leaves cordate, toothed; radical and lower stem-leaves on naked stalks; intermediate or winged stalks with stem-clasping auricles; upper sessile, clasping the stem. *D. Don.*

Woods in Forfarshire and Fifeshire, &c. — Perennial. *June.*

2. *D. plantagineum* Linn.

E. B. 9. 630.

Leaves toothed; radical ones on naked stalks, ovate or slightly cordate, produced at the base; stem leaves sessile, except the lowest, which has a winged stalk with stem-clasping auricles; intermediate ones cordate, oblong; upper ovate acuminate. *D. Don.*

Mountains, meadows, or in pastures — Perennial. *May.*

Page 156. CARDUUS.

2.* *C. crispus* L.

Leaves decurrent, oblong, spiny, sinuate, or pinnatifid, woolly on the under side. Heads somewhat clustered, but often single on long stalks, and always nodding. Involucre hemispherical: scales subulate, mucronate, spreading, coloured at the point.

C. acanthoides Schkr.

Reigate Hill, in Surrey, Mr. W. C. Trevelyan. — Perennial. *June — July.*

This most distinct species has probably been overlooked as a variety of *C. acanthoides*, from which it differs in its long-stalked nodding heads and hemispherical involucre. Whether or not it is a perennial, while *C. acanthoides* is only a biennial, we do not know. We have compared our specimens from Mr. Trevelyan with others from Scania, transmitted by Fries, and we do not discern the most trifling difference.

Page 156. SONCHUS.

4. *S. oleraceus* Linn.

Of this a trifling variety, with smoother fruit and less deeply divided leaves, has been raised by some botanists into a species, under the name of *S. asper*. E. B. Suppl. 2765. and 2766.

Page 158. CREPIS.

See the next sentence.

Page 160. HIERACIUM.

11. *H. paludosum* Linn. and 12. *H. molle* Jacq. are now referred to *Crepis*; the latter by the name of *C. succisæfolia* Tausch.

Page 165. ECHINOSPERMUM Swartz.

Cal. and *Cor.* as in *Myosotis*. Nuts adnate to a central column, compressed, covered with hooks, not depressed, imperforate at the base.

1. *E. Lappula* Lehm.

Stem branching. Leaves lanceolate, ciliated, with close-pressed hairs. Corolla small, with an erect spreading limb. Prickles of the nuts barbed, arranged along the margin in a double row.

Southwold. Reverend Mr. Holmes. — Annual.

Page 166. MYOSOTIS.

6. *M. collina* Hoffm. is said by Mr. Borrer to be the same as *M. arvensis* Link, and E. B. 2558.

3. *M. intermedia* Link is pronounced by the same botanist to be the same as *M. arvensis* of Hoffm. It is figured in E. B. Suppl. 2629.

8. *M. repens* Don.

E. B. Suppl. 2703.

Fruit smooth. Calyx with straight adpressed bristles, deeply 5-cleft; when in fruit mostly connivent, shorter than the divergent pedicel. Limb of corolla flat, longer than tube; lobe somewhat emarginate. Pubescence of stem spreading. Borrer.

Boggy streamlets. — Perennial. *May, August.*

Page 168. CUSCUTA.

2. * *C. epilinum* Weihe.

Heads of about 5 fleshy flowers. Styles included. Corolla with a globose tube, scarcely longer than the spreading campanulate calyx. *Hooker.*

On flax. — Annual. *Aug. Sept.*

ORDER 49.* CUCURBITACEÆ *Juss.*

Flowers usually unisexual, sometimes hermaphrodite.

Calyx 5-toothed.

Corolla 5-parted, scarcely distinguishable from the calyx, very cellular, with strongly marked, reticulated veins.

Stamens 5, either distinct, or cohering in 3 parcels; *anthers* 2-celled, very sinuous.

Ovary inferior, 1-celled, with parietal placentæ; *style* short; *stigmas* very thick, velvety or fringed.

Fruit fleshy, more or less succulent, crowned by the scar of the calyx; 1-celled, with 3 parietal placentæ.

Seeds flat, ovate, enveloped in an arillus, which is either juicy, or dry and membranous; *testa* coriaceous, often thick at the margin; *embryo* flat, with no *albumen*; *cotyledons* foliaceous, veined; *radicle* next the hilum.

Roots annual or perennial, fibrous or tuberous. *Stem* succulent, climbing by means of tendrils formed by abortive leaves. *Leaves* palmated, very succulent, covered with numerous asperities. *Flowers* white, red, or yellow.

1. BRYONIA *Linn.*

Flowers monœcious or diœcious. *Petals* scarcely cohering at the base.

— *Males.* *Calyx* 5-toothed. *Stamens* in 3 parcels. — *Females.* *Styles* 3-fid. *Fruit* succulent, with small, ovate, compressed seeds, which are more or less bordered. — *Tendrils* simple.

1. *B. dioica* Jacq. Bryony.

E. B. 7. 439.

Leaves palmate, rough on both sides with callous points. Barren and fertile flowers on separate plants. *Smith.*

In hedges and thickets. — Perennial. *May — September.*

Page 170. ARMERIA.

2. *A. plantaginea* Allioni.

Leaves linear-lanceolate, 3—5-nerved. Scape simple, bearing a rounded head. Leaves of involucre cuspidate. Awns of the calyx long. *Hooker.*

Statice scorzonrifolia Willd.

Armeria alliacea Willd.

West side of Jersey. — Perennial. *June — August.*

Page 171. STATICE.

3. *S. spathulata* Desf.

E. B. Suppl. 2663.

Leaves spathulate, with a short mucro beneath the point, glaucous, 3-veined at the base. Scape branched from below the middle. Flowers compactly distichous, touching each other. Bracts obtuse. Ribs of calyx not reaching higher than the base of its divisions.

S. cordata G. C. Smith.*S. binervosa* Id.Sea coast. — Perennial. *August*.

I concur with Dr. Hooker in considering this plant the *S. spathulata* of Continental botanists; it is perfectly distinct from *S. globulariæfolia* both in habit and the arrangement of its flowers, &c.

Page 174. ERICA.

3. *E. vagans*.

I am informed by Dr. Goodenough, the Dean of Wells, that this plant is confined to the serpentine in Cornwall. It grows in the greatest abundance all over that part of the country where the serpentine rises, but nowhere else.

5. *E. mediterranea* Linn.

E. B. Suppl. 2274.

Stem tall, woody. Anthers without awns, and, as well as the style, exserted. Corolla narrow, urceolate. Bracts about the middle of the peduncle. Calyx coloured. Flowers axillary. Leaves 4 in a whorl. *Hooker*.

Gypsocallis mediterranea D. Don.Mountains, Cunnemara. — Shrub. *April*.5.* *E. carnea* Linn.

Stem very dwarf, scarcely woody. Anthers without awns, and, as well as the style, much exserted. Corolla nearly cylindrical. Bracts about the middle of the peduncle. Calyx coloured. Flowers in leafy racemes. Leaves 4 in a whorl, linear.

E. herbacea Linn.Mountains of Galway. — Under-shrub. *November — February*.5.** *E. Mackaii* Hooker.

Anthers included, with 2 acute awns at the base. Corolla ovate, a little shorter than the style. Leaves 4 in a whorl, ovate, ciliated, glabrous above, almost white beneath. Flowers capitate. *Hooker*.

Mountains of Cunnemara. — Shrub. *August — September*.

Page 175. PYROLA.

Add the following specific characters: —

1. *P. rotundifolia*.

Leaves obovate, rounded, slightly crenelled.

2. *P. media*.

Leaves ovate, rounded, crenelled.

3. *P. minor*.

Leaves ovate, rounded, crenelled. Stigma large and radiated, quite enclosed within the corolla.

Page 184. LYSIMACHIA.

5. *L. punctata* Linn.

Erect, downy. Leaves ovate-lanceolate, whorled, stalked. Peduncles 1-flowered, whorled, axillary. *Hooker.*

Banks of Skerne, north of Darlington, both above and below the railway bridge.
— Perennial. *July.*

Page 186. PINGUICULA.

4. *P. alpina* Linn.

E. B. Suppl. 2747.

Spur conical, slightly curved, shorter than the segments of the corolla; lower lip retuse. Capsule conical. Scape nearly smooth.
Graham.

P. flavescens Schrad.

P. alpestris Pers.

North of Scotland. — Perennial. *June, September.*

Page 189. VERONICA.

14. * *V. polita* Fries.

E. B. 11. 783.

Leaves all stalked, cordate-ovate, inciso-serrate, shorter than the flower stalks. Segments of calyx ovate, acute. Stem procumbent. Capsule of two turgid lobes; cells many-seeded. *Hooker.*

Fields and waste places, common. — Annual. *April — September.*

14 ** *V. Buxbaumii* Tenore.

E. B. Suppl. 2769.

Leaves all stalked, cordate-ovate, inciso-serrate, shorter than the flower stalks. Segments of calyx lanceolate, acute. Stem procumbent. Capsule obcordate, of two turgid divaricated lobes, which are compressed upwards and sharply keeled; cells about 8-seeded. *Hooker.*

V. filiformis Johnst.

Fields and cultivated places. — Annual. *June — September.*

Page 194. OROBANCHE.

5. *O. caryophyllacea* Smith.

E. B. Suppl. 2639.

Stem simple. Tube of corolla inflated, especially above; limb spreading, 2-lipped; upper lip broad, emarginate, lower with 3 lobes; all the segments obtuse, wavy. Stamens hairy, especially at the base within. Style downy; stigma dark purple. *Hooker.*

O. Galii Duby.

On the roots of *Galium Mollugo*, *Rubus fruticosus*, &c. — Perennial.

Page 204. LAMIUM.

4. * *L. intermedium* Fries.

Leaves orbicular, cut, crenate, the floral sessile. Teeth of calyx subulate, longer than the tube. Corolla with a straight tube, and a very indistinct hairy ring within lateral lobe of the lower lip with a short tooth. *Hooker.*

Waste ground. — Annual. *March — June.*

Page 210. RUMEX.

- 2.* *R. alpinus* Linn. Monk's Rhubarb. E. B. Suppl. 2694.
 Flowers monœcious. Enlarged sepals heart-shaped, netted, obscurely toothed at the margin; one bearing a small grain. Leaves broadly heart-shaped, ample. Whorls leafless, crowded. *Hooker.*
R. cordifolius Hornem.
 Scotch lakes. — Perennial. *July.*

- 2.** *R. aquaticus* Linn. E. B. Suppl. 2698.
 Flowers perfect. Enlarged sepals broadly heart-shaped, netted, without tubercles. Leaves lanceolate, the lower one heart-shaped, oblong, crisped and wavy. Whorls crowded, mostly leafless. *Hooker.*
 Near Ayr. — Perennial. *July.*

Page 211. 8.* *R. pratensis* Mert. & Koch. E. B. Suppl. 2757.
 Flowers mostly perfect. Enlarged sepals unequal, toothed at the base, with an entire triangular point; one principally tuberculated. Leaves oblong-lanceolate, wavy. Clusters nearly leafless. Whorls distinct. *Borrer.*
R. cristatus Wallr.

Marshes, rivers, and road-sides. — Perennial. *June, July.*

Page 212. POLYGONUM.

- 2.* *P. laxum* Reichenbach.
 Hexandrous, semi-digynous. Stem ascending. Leaves lanceolate, slightly wavy. Stipules with slender ciliæ. Those of the flowers horned. Thyrses slender, crowded. Peduncles and petioles hispid. *Borrer.*
 Watery places. — Annual.

- 4.* *P. mite* Schrank.
 Hexandrous. Flowers without glands. Styles forked. Leaves lanceolate. Stipules hairy, with long fringes. Spikes lax, fusiform, drooping. *Hooker.*
 Sides of ditches. — Annual. *August.*

- 13.* *P. dumetorum* Linn.
 Leaves cordate, sagittate. Stem twining, striated. Sepals with a membranous wing. Fruit smooth and shining.
 Woods. — Annual. *September.*

9. *P. Roberti* Loiseleur. E. B. Suppl. 2805.
 Flowers axillary. Leaves distant, elliptic-lanceolate. Stipules much shorter than the internodes, at length torn, with few indistinct nerves. Stems procumbent, herbaceous. Fruit quite smooth.
P. Raii Babington.
P. acetosum Hooker.
 Sea coast. — Annual. *August, September.*

Page 219. RESEDA.

3. *R. fruticulosa* Linn. E. B. Suppl. 2628.
 Leaves all pinnated, wavy, glaucous. Calyx in 5 segments, Petals
 5, nearly equal, trifold. *Hooker*.
 Hedges, Cornwall, &c. — Perennial. *June*.

N. B. For *Involucrum*, in the specific characters of the other two
 species, read *Calyx*.

Page 221. EUPHORBIA.

- 4.* *E. pilosa* Linn. E. B. Suppl. 2787.
 Umbel of 3–5 principal rays, with several scattered inferior ones.
 Bracts broadly oval, entire, and, as well as the elliptical finely
 serrated leaves, hairy or glabrous. Glands of involucre 4, trans-
 versely oval, with intermediate rounded lobes. Capsule warted
 or smooth, hairy or glabrous. Seeds glossy, smooth. *Hooker*.
E. epithymoides *Babington*.
 Lanes and woods. — Perennial. *July*.

Page 240. QUERCUS.

It is extremely important that the proprietors of our English woods
 should be disabused of a most serious error, into which they
 have been led by I know not what bad authority, namely, that
 the quality of the wood of *Quercus sessiliflora* is inferior to that of
Q. pedunculata. Upon this subject see (*Hort. Trans.* vol. 1. n. s.)
 a most important paper by Mr. W. Atkinson, an architect of
 great experience, who has paid particular attention to the subject,
 and who has ascertained that the fact is the very reverse of the
 popular belief: *Q. sessiliflora* being as far superior to *Q. pedun-*
culata in the quality of its timber, as it is in its beauty and vigour
 of growth.

The *Durmast* appears to be merely a downy variety of *Q. sessili-*
flora. It is certainly not *Q. pubescens* of the Continent. It is
Q. atrovirens of Smith in Rees's Cyclopædia. A supposed new
 species, called *Q. intermedia*, has been introduced into Mr. Leigh-
 ton's excellent Shropshire Flora, upon the authority of Dr. Graham
 and Professor Don; but I see nothing to distinguish it essentially
 from *Q. sessiliflora*, which, like all oaks, has many varieties, al-
 though most truly distinct from *Q. pedunculata*.

Page 249. POTAMOGETON.

- 4.* *P. acutifolius* Linn. E. B. Suppl. 2909.
 Leaves all submersed, linear, acuminate, with 3 principal, and
 numerous close parallel intermediate, nerves occupying the whole
 surface. Spikes oval, compact, about equal in length to the short
 peduncle. *Hooker*.
 Marsh ditches, Sussex. Perennial.

7.* *P. prælongus* Wulff.

Leaves oblong, obtuse; 8-nerved from the base, reticulated, semi-amplexicaul. Peduncles long. Spikes cylindrical, many-flowered.

Lakes and pools, Scotland. — Perennial. *May*.

Page 252. 3. SPIRODELA Schleiden.

Stamens 2. *Filaments* recurved at the base. *Ovules* 2, erect. — Spiral vessels abundant. Young plants with two membranous stipules.

1. *S. polyrhiza* Schleiden. E. B. 35. 2458.

Plants roundish above, convex beneath. Roots clustered.

Lemna polyrhiza Linn.

In ditches and standing pools. — Annual.

Page 255. CROCUS.

Three additional species are admitted into our Flora by Dr. Hooker; viz: —

1. *C. biflorus*; which is *C. minimus* Redouté and *præcox* Haw. in E. B. Suppl. 2645.2. *C. aureus* Sm. E. B. Suppl. 2646.3. *C. speciosus*. E. B. Suppl. 2752.

Of these the first two are such notorious outcasts from gardens, that it is impossible to grant them admission among our native species; and the third is nothing but a large-flowered state of *C. nudiflorus*. The relative length of the stamens and style, unless the difference between them is excessive, is of no importance in the genus *Crocus*.

Page 257. SPIRANTHES.

2. *S. æstivalis* Rich.

Radical and cauline leaves both linear-lanceolate. Flowers spiral. Bracts smooth, ovate, longer than the ovary. Lip oblong, smooth. Tubercles fusiform.

3. *S. gemmipara* is so like *Sp. Romanzoviana* that no means exist of deciding in what the difference consists.

Page 260. ORCHIS.

6. *O. macra*.

I have no doubt of this plant, which is the *O. tephrosanthos* of Bicheno, being altogether distinct from the species so called by Continental writers. It is very true that *O. militaris* and *tephrosanthos* are so variable in the form of their lip, that it is a matter of some doubt whether they are distinct from each other; but the characteristic marks of *O. macra* are quite of another kind. Independently of its far more slender habit, narrow few-flowered spikes, and bluntish leaves, it is quite remarkable for the exceedingly large cells of the tissue of its lip, which project and have a watery appearance, as if the whole surface were covered with crystalline warts; the lip is, moreover, destitute of the hispid line

which invariably runs through its centre in all the varieties of either *O. militaris* or *tephrosanthos* I have had an opportunity of examining. I have not met with this species among Continental collections.

Page 261. PLATANThERA.

1. *β. P. bifolia* var. *brachyglossa*.

Anther emarginate. Lip somewhat shorter. Leaves obtuse, very much tapering to the base.

P. brachyglossa *Rchb.*

With the last.

2. *P. chlorantha* *Cust.*

E. B. 1. 22.

Knobs of root oval, taper-pointed. Lip ovate-lanceolate, green, but little longer than the petals. Anther very broad, with diverging lobes. Spur cylindrical, compressed at the point, twice as long as the lip. Leaves on the stem lanceolate, at its base obovate. Flowers scentless.

Orchis virescens *Gaudin.*

In groves and thickets. — Perennial. *June.*

This has always been confounded with the last, from which it is most undoubtedly quite distinct. Its large greenish flowers mark it at first sight; and the peculiar form of its anther affords a certain mark of recognition. The English Botany figure (1. 22.) is characteristic.

Page 268. ALLIUM.

5.* *A. sphærocephalum* *Linn.*

Scape leafy below. Spathe 2-valved. Umbel globular, without bulbs. Stamens twice as long as the sepals; alternate ones 3-cleft.

Sea coast, Jersey. — Perennial. *June, July.*

Page 279. CYPERACEÆ.

The following is the arrangement of the British species of this order, according to the recent investigations of Professor Nees von Esenbeck.

I. CYPEREÆ.

Hermaphrodite. Spikelets imbricated in two rows, 1- or many-flowered, generally naked, occasionally collected in a regular imbricated spike, each under a single scale. Perianth 0, or setaceous, like a cup. Interior scalelets adnate to the rachis, or wanting. Caryopsis not beaked with a distinct style, pointless, or occasionally having a beak-like point.

- I. *Cyperus* 1. *longus*. 2. *fuscus*.

II. SCIRPEÆ.

Hermaphrodite. Spikelets imbricated in all directions. Scalelets of the perianth either wanting, or separate, narrow, bristle-like, or filiform, surrounding the floret, or forming a short membranous cup.

a. *Perianth 0.*

II. *Isolepis*. Style trifid, nearly equal at base, deciduous. Caryopsis three-cornered, or plano-convex.

1. *Isolepis setacea*.

2. ——— *Holoschœnus* = *Holoschœnus vulgaris*, p. 283.

III. *Heleogiton*. Style bifid, continuous with the point at the base, leaving a little point after its fall. Caryopsis compressed, stalked. Spikelet solitary, terminal.

1. *Heleogiton fluitans*.

b. *Perianth like threads, bristles, or hairs.*

IV. *Blysmus*. Divisions of the perianth thread-like, soft, downy, permanent. Style bifid. Spikelets supported by a scale.

1. *Blysmus compressus*.

2. ——— *rufus* = *Schœnus rufus*, p. 280.

V. *Eriophorum*. Divisions of the perianth very numerous, permanent, capillary, very long, collected at the base into bundles, and forming a long silky plume. Style trifid.

All the species.

VI. *Scirpus*. Divisions of the perianth stiff permanent bristles. Style 2-3-fid, equal, deciduous. Caryopsis double-convex, or plano-convex, with a little point.

All the species.

VII. *Scirpidium*. Divisions of the perianth 1-3 slender, stiffish, fugacious bristles. Style 3-fid, with a bulbous permanent base. Caryopsis double-convex, smooth. Spikelet solitary, terminal.

1. *Scirpidium aciculare* = *Heliocharis acicularis*, p. 280.

VIII. *Heliocharis*. Divisions of the perianth stiff permanent bristles. Style trifid or bifid, with a corky, wrinkled, bulbous base, which is permanent in the fruit. Caryopsis obovate, double-convex. Spikelet solitary, terminal.

1. *Heliocharis palustris*.

2. ——— *multicaulis*.

3. ——— *cæspitosa*.

4. ——— *pauciflora*.

III. RHYNCHOSPOREÆ.

Hermaphrodite, or with different sexes in the same spikelet. Spikelets two-rowed, very rarely with more florets than one; the lower empty scales smaller. Perianth generally present and permanent, in the form of bristles or a cup. Caryopsis beaked, regularly sculptured; the rostrum, in most species, separate.

IX. *Rhynchospora* 1. *alba*.

————— 2. *fusca*.

IV. CLADIÆ.

Hermaphrodite. Spikelets two-rowed, or imbricated in three or four rows, containing one only, or a small number of florets; the lower scales empty. Perianth either absent, or like a cup, or in the form of bristles. Caryopsis nut-like, smooth or wrinkled irregularly, pointless, or with one uninterrupted beak.

a. Scales in 2 or 3 rows.

X. *Schœnus*. Perianth 0. Style trifid. Nut either pointless or with a very little point.

1. *Schœnus nigricans*.

b. Scales in many rows.

XI. *Cladium*. Perianth 0. Style bifid, with its arms bifid or trifid. Nut pointleted, with a shell which is thickened and corky towards the point. Seed smooth.

1. *Cladium germanicum* = *Cladium Mariscus*, p. 283.

V. ELYNEÆ.

Florets unisexual. Spikelets compound, with the scales imbricated, either in two rows, or equally, covering a single unisexual floret, or two monœcious ones, which are generally valvular. Perianth 0. Caryopsis mostly beaked. Style trifid.

XII. *Kobresia*. Spikelets aggregate, monœcious. Scales of the female floret two, of the male absent.

1. *Kobresia caricina*.

VI. CARICEÆ.

Monœcious. Caryopsis entirely enclosed within an envelope.

XIII. *Carex*, all the species.

Page 281. SCIRPUS.

1.* *S. pungens* Vahl.

Stems triquetrous. Spikes 1-3, sessile, lateral. Glumes smooth, pointed, emarginate, slightly fringed: their lobes acute. Stigmas 2. Apex of the anthers subulate and ciliated. Root creeping. *Babington*.

S. Rothii Gaud.

S. tenuifolius Dec.

S. triqueter β. *Smith*.

Wet sandy banks, Jersey. — Perennial. *July*.

Page 284. CAREX.

- 4.* *C. VahlII* Schkuhr. E. B. Suppl. 2666.
 Spikes 3-4, roundish or oblong, aggregated; the terminal one with barren flowers at its base. Stigmas 3. Fruit obovate, scabrous above, with minute crystalline prickles, shortly beaked, longer than the ovate-obtuse glume. Stem triangular, rough at the edges. *Greville*.
 Scotch mountains. — Perennial. *August*.

- 4.** *C. rupestris* Allioni.
 Spikes linear, with a few fertile lax flowers at the base. Fruit obovate, triquetrous, rostrate, appressed, with an entire orifice scarcely larger than the obtuse or cuspidate scale. *Hooker*.
C. petræa Wahl.
C. attenuata R. Br.
 Glen Callader. — Perennial. *August*.

- 5.* *C. leporina* Linn.
 Spikelets 3, rarely 4, ovate, contiguous. Fruit elliptic, rostrate, plano-convex, smooth-nerved; with a scarious bidentate, finally entire, orifice, scarcely longer than the ovate obtuse scales, which are scarious at the margin. *Hooker*.
C. Lachenalii Schk.
C. lagopina Wahl.
C. approximata Hoppe.
C. parviflora Gaud.
 Loch-na-gar. — Perennial. *July*.

Page 288. 28. *C. speirostachya*. E. B. Suppl. 2770.Page 289. 35.* *C. canescens* Linn.

- Spikelets 3-5, terminal one barren at the base, fertile sessile except the lowest, which is on a short stalk and sub-remote. Fruit oblong, oval, obtuse, triquetrous, nerved, bidentate, pellucidly rough, shorter than the ovate cuspidate scales. *Hooker*.
C. Buxbaumii Wahl.
C. polygama Schk.
 Ireland, Lough Neagh. — Perennial. *July*.

- 42.* *C. punctata* Gaudin.
 Barren spike 1, rarely 2, with obtuse ferruginous scales. Florets 3, rarely 4, cylindrical, erect, stalked, with sheathing bracts. Fruit ovate, tumid, glabrous, shining, pellucidly punctate, diverging, of a light green, obvolutely nerved except at the margins, with a linear bidentate bract, larger than the ovate, short, aristate scales, which are pale ferruginous with a green nerve. *Boott*.
C. helvetica Schleich.
 North Wales. — Perennial. *June*.

Page 291. 51.* *C. aquatilis* Wahlenb. E. B. Suppl. 2758.
Fertile spikes 3-4, linear, elongated, attenuated downwards, somewhat distant; the lower ones stalked. Stigmas 2. Bracts long, leafy; sheaths none. Fruit roundish, obovate, with a very short entire point. Stem smooth, obtusely triangular. Sheaths of the leaves never fibrous. *Greville*.

Clova mountains. — Perennial.

Page 292. 60. *C. stictocarpa*. E. B. Suppl. 2772.
This is reduced to a variety of *C. recurva* by Mr. D. Don.

61. *C. angustifolia*.

Mr. Don reduces this to *C. cæspitosa*.

Page 298. SPARTINA.

1.* *Sp. alterniflora* Loisel.

Spikes numerous. Glumes glabrous. Rachis much produced into a zigzag awnlike point. Leaves as long or longer than the spikes.

Sp. lævigata Link.

Sp. glabra Muhl.

Itchin ferry, Southampton. — Perennial. *August*.

Page 299. DIGITARIA.

2. *D. humifusa* Pers. E. B. Suppl. 2613.

Leaves and sheaths glabrous. Florets ovate, downy. *Hooker*.

Sandy fields. — Annual. *July, August*.

Page 304. CALAMAGROSTIS.

2.* *C. lapponica* Hartm.

Panicle erect, close. Glumes lanceolate, broad, acute, roughish on the keel. Palea as long as the glumes, equal in height to the awn, which is inserted near the base.

Ireland. — Perennial. *June, July*.

Page 310. AVENA.

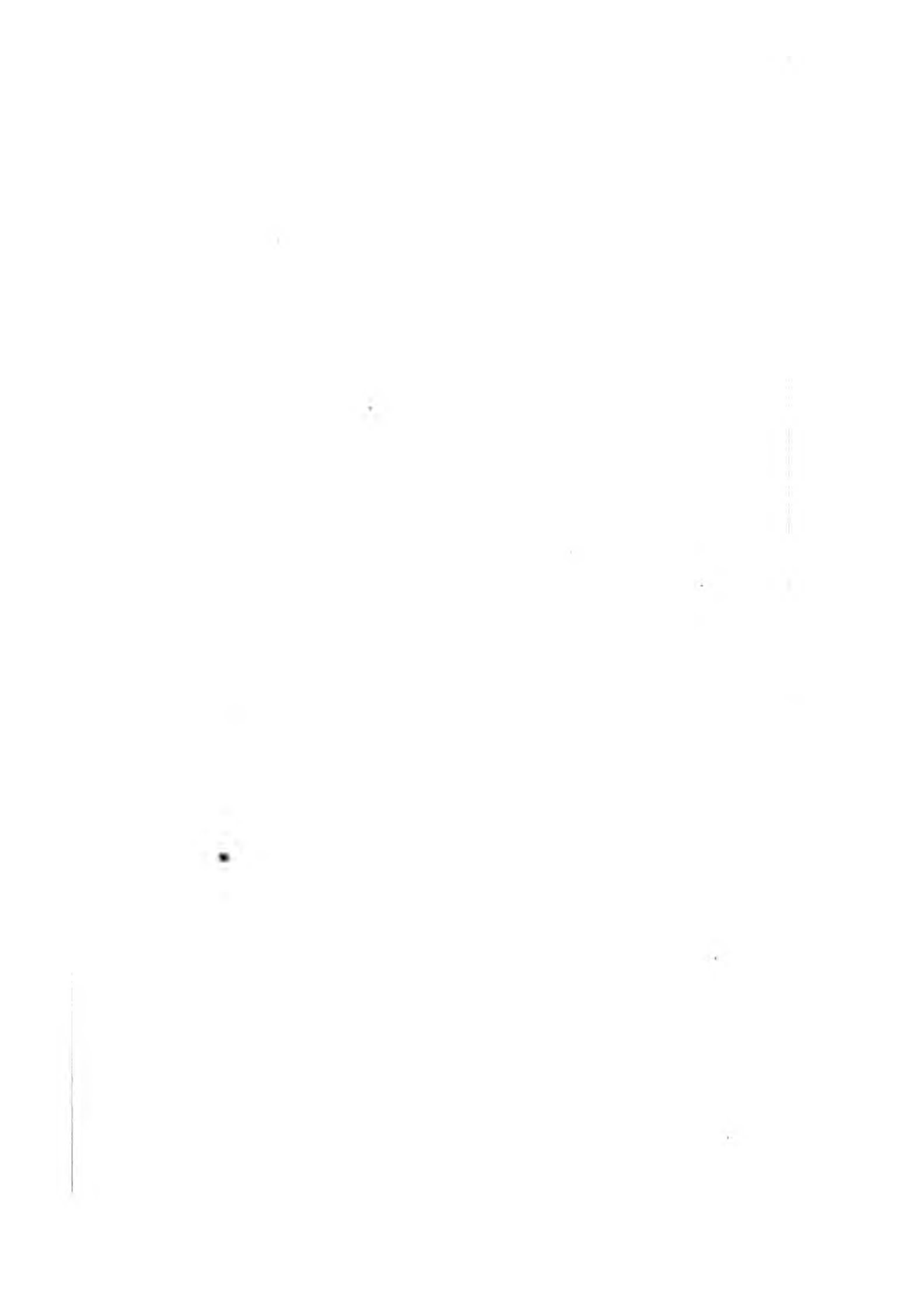
5. *A. planiculmis* Schrad.

E. B. Suppl. 2684.

Panicle erect, compound. Spikelets erect, linear, oblong, of from 5 to 7 florets, much longer than the glumes. Leaves rough, broadly linear, suddenly acute, minutely serrated. Sheaths sharply keeled, rough. Lower part of the stem slightly compressed, 2-edged. *Hooker*.

A. latifolia Hort.

Isle of Arran. — Perennial. *July*.



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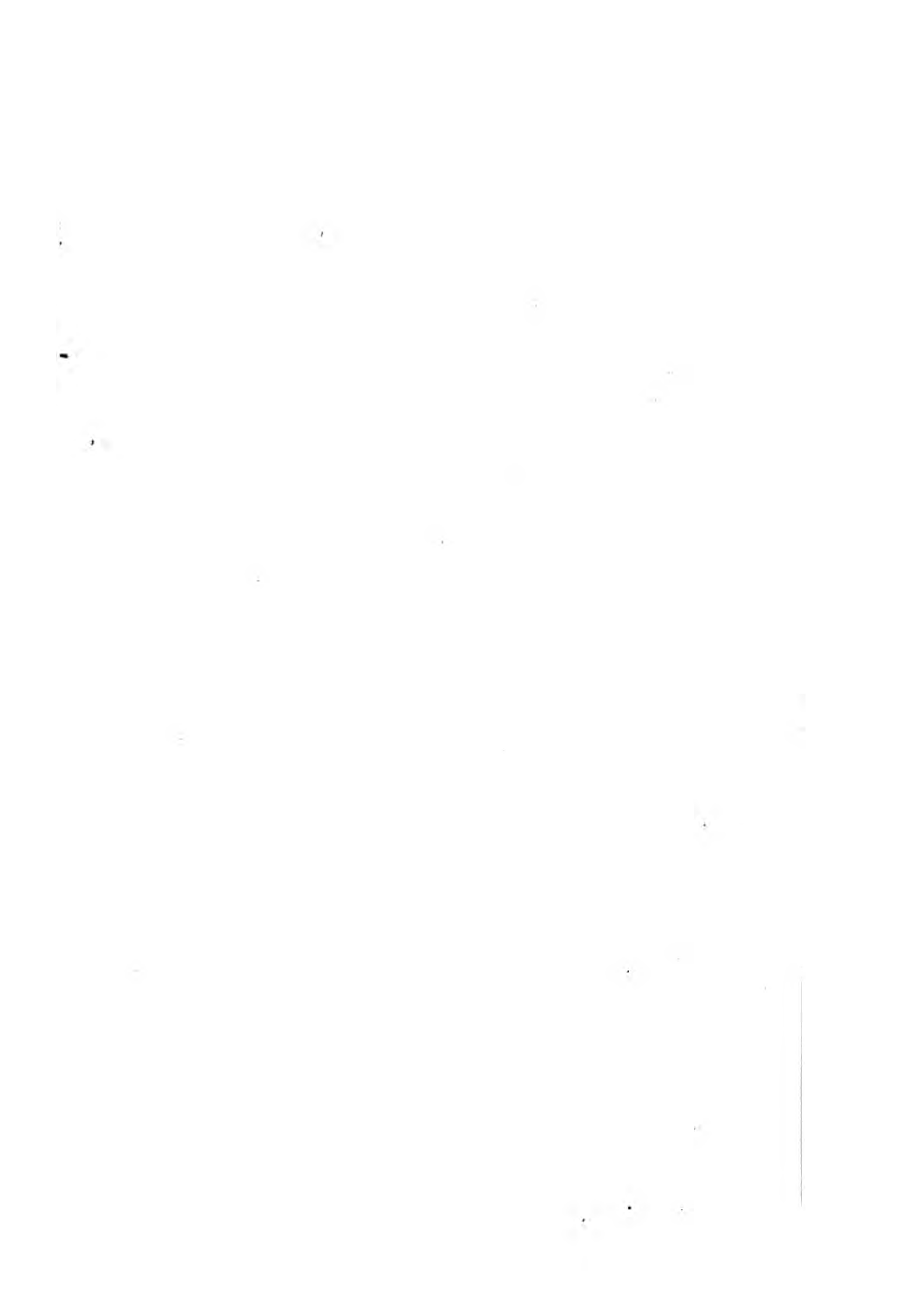
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