

BRITISH
WILD FLOWERS
BY NATURAL ANALYSIS
—
MESSER

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BRITISH WILD FLOWERS
BY NATURAL ANALYSIS.



A NEW AND EASY METHOD
OF STUDYING
BRITISH WILD FLOWERS
BY NATURAL ANALYSIS;
BEING A COMPLETE SERIES OF
ILLUSTRATIONS
OF THEIR NATURAL ORDERS AND GENERA
Analytically Arranged.

BY
FREDERICK A. MESSER.



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INTRODUCTION.

THIS work has grown out of a want, which was much felt by the author, of some method which would simplify the study of our native plants, by placing before the student the characteristic distinctions of their Natural Orders and Genera in a clearer and more striking manner than is possible by means of verbal description alone; and which would at the same time possess in itself the principles and advantages of analytical arrangement.

In botanical letter-press description, the recurrence of numerous technical terms, unaided by illustrations, is always a difficulty, and frequently a source of discouragement to beginners; the usual method of acquiring a knowledge of these terms being very laborious; and the consequence is, that the attempt to master it is often abandoned.

And even when the description is accompanied by full illustrations of the individual plant, there is the danger of undue attention being devoted to the latter, to the neglect of the descriptions of the Ordinal and Generic features. The student is too often satisfied if he can apparently identify his specimens by a general resemblance to the illustrations, even though he may gain little or no knowledge of the reasons for their classification.

With a view to obviate these objections, and to supply the

want referred to, the author has adopted a new method of utilizing illustrative figures. These figures represent the separate parts or dissections, characteristic of the Orders and Genera, and are disposed in harmony with verbal analytical arrangement: they form in fact a series of illustrated analytical tables; the application of this principle to the figures, and the combination of verbal and pictorial analysis being the special features of this work.

That illustrations are a more powerful, as well as a more alluring and ready means of imparting knowledge, than letter-press alone, will not be doubted. As the eye travels rapidly over the illustrated page, it takes in at one view the contents, and there is presented to the mind a comprehensive idea of the subject. So with regard to this work, a few references to an illustrated analytical table will go far to familiarize the mind with the relationship which exists between the various parts of the plants; and the impression produced will soon deepen and become fixed on the memory. This pictorial method resembles, more closely than any other, the natural process, or that which is intuitively followed in the comparative examination of the parts of the plants themselves.

For a full explanation of any of the figures, the student will refer to the complete description, formed on the principle of the usual analytical method, which accompanies each illustrated page.

It will, on the first occasion of consulting an analysis, be advantageous to refer freely to both pages, in order that the exact meaning of the illustrations may be acquired.

With regard to the variations in form, which exist in the corresponding parts of plants of the same Order or Genus, it must be borne in mind that a form which appears to be the most typical has been chosen for illustration. As the figures given are typical of Orders and Genera only, the student must not necessarily expect to find strict identity, but may

have to seek for the form most nearly approaching that of the plant under examination; the judgment being allowed to range among the various forms most allied to the plant, without being limited to discovering one identical in all respects. As, for example, in the case of cross sections of seed vessels, which in a great many instances illustrate the general structure only.

A few symbolical illustrations, principally in the Divisional and Ordinal headings, have been introduced; these are fully explained in the list given at page 12, but they are in most instances so characteristic of the parts they represent, as to speak for themselves. In cases where an illustration includes a considerable variation of outline, the symbolical figure is used: where the form is of importance, the typical configuration is given. This mingling of symbolical with typical forms leads to no perplexity, the symbolical being readily distinguished as representatives only of the parts.

The course to be taken in tracing a plant through the illustrated divisional spaces may be explained as follows. The characters of any one illustrated space are common to the Orders or Genera which are found directly to the right of that space. In testing a plant, therefore, after finding that its parts agree generally with those under a particular heading, compare it with the illustrations in the uppermost space of the first column, then with those in the space immediately beneath, and so on down the column, taking the spaces in consecutive order, until one be found whose contents most closely agree with the corresponding part of the plant. Then, passing to the uppermost of the spaces which are immediately to the right of the last found space, compare the illustrations with the specimen, and proceed in like manner down the whole of those spaces, until one be met with whose contents correspond most closely with the plant. From this last-named space proceed to the next column, and so on, until the Order or Genus be reached.

Take, as an example, the common corn poppy : beginning at the analysis of Classes, at page 14, it is there found to be a flowering plant, and that it belongs to Class I., Exogens. Passing to the analysis of Divisions, at page 16, it is seen that it comes under Division I. ; turning to the analysis of Orders, which commences at page 18, observe at page 20 the second heading, with some of the characters in which, it will be seen that the plant agrees. Then, testing the specimen by the analysis beneath this heading, it is found to coincide (1) with the contents of the second space of the first column ; (2) with those in the lowest space of the second column ; (3) with the figure in the second of the five spaces in the third column, adjoining the space last named ; and (4) with the figure in the space to the right of the one last referred to. The conclusion, therefore, is that the plant belongs to Order 4, Papaveraceæ.

On referring to this Order in the analysis of Genera, at page 42, and comparing the specimen with the heading and with the analysis beneath it, it is seen that it accords with the figures in the uppermost spaces in the first, second, and third columns, thus showing that it belongs to the Genus *Papaver*, or Poppy.

A chart, at page 124, illustrating by the length of a black line the number of species in each order, furnishes the student with a comparative view of the relation which the Orders bear to each other in this respect.

To enable him to ascertain what species are included under each Order or Genus, a catalogue in accordance with the classification followed in this work is given at page 125 : the arrangement corresponds closely with Professor Babington's 'Manual of British Botany,' and in the selection of species it nearly coincides with Sir J. D. Hooker's 'Student's Flora.' Sub-species are not given, their introduction being foreign to the object with which the catalogue has been prepared.

In carrying out this work the British Genera alone have been taken into consideration, and for the purpose of discrimination any prominent or characteristic feature has been selected. The illustrations simply indicate the form, and have no relation to the actual or relative size of the parts.

To his friend Mr. G. S. Penson, of Plumstead, the author returns his sincere thanks for many valuable suggestions made during the progress of the work, and for revising the manuscript and proof-sheets.

GLOSSARY.



A compound word, such as "ovate-lanceolate," means a form intermediate between the two.

- ACCUMBENT; having the edges of the cotyledons applied to the radicle.
 ACHENE; a dry, simple, indehiscent fruit.
 ACUMINATE; tapering to a point.
 ADNATE; united throughout its length to another organ.
 ALBUMEN; the nutritious matter contained in a seed for the sustenance of the young plant arising therefrom in its first stage of growth.
 ALTERNATE; attached to opposite sides, but not opposite to each other.
 ANGULAR; with angles or edges more or less projecting.
 ANTHUR; the part of the stamen which contains the pollen.
 APEX; the extremity furthest from the point of attachment.
 ASCENDING; curved upwards.
 AWN; a long bristle-like midrib, as the beard of Barley.
 AXIL; the angle formed by the union of the stem and leaf.
 AXILLARY; growing from the axil.
- BEAK; a pointed projection.
 BEARDED; having a long tuft of hairs like a beard.
 BERRY; a fleshy or pulpy fruit containing several seeds.
 BIFID; cleft half-way down.
 BIPARTITE; cleft nearly to the base.
 BRACTS; small leaves on the inflorescence.
 BRISTLES; stiff hairs.
 BULB; underground leaf-buds with fleshy scales.
- CALYX; the outer whorl of floral leaves, usually green, the separate pieces of which are called sepals.
 CAMPANULATE; bell-shaped.
 CAPITATE; growing in heads or very close clusters.
 CAPSULE; a dry, dehiscent, seed-vessel; generally many-seeded.
 CARPEL; a modified leaf; one of the segments of an ovary or capsule.
 An ovary may consist of one carpel only.
 CATKIN; a unisexual spike of crowded flowers in bracts.
 CHANNELLED; grooved like a gutter.
 CIRCINATE; rolled up like a crosier.
 CLAW; the long narrow lower portion of the petal of some flowers.
 CLAWED; (petal) having a long narrow base.
 CLEFT; deeply divided, nearly to the midrib.
 CLUSTER; an apparently promiscuous collection of similar parts; in Ferns the patches of capsules.
 COHERING; united together.
 COMMISSURE; the inner sides of the carpels of Umbelliferae, in contact with each other.
 COMPRESSED; flattened laterally.
 CONDUPLICATE; folded lengthwise.
 CONE; the fruit of a Fir-tree.
 CONICAL; shaped like a sugar-loaf.
 CONNATE; when two like parts (as leaves) are connected at their bases.
 CONVERGING; the ends or points gradually approaching.

- CORDATE** ; heart-shaped, with the point of attachment between the lobes.
COBOLLA ; the whorl of floral leaves between the calyx and stamens, usually coloured, the separate pieces of which are called petals.
CORYMB ; a raceme in which the stalks of the flowers are so proportioned in length that the flowers all come to nearly the same level.
CORYMBOSE ; having the form of a corymb.
COTYLEDONS ; the seed lobes; the rudimentary leaves of an embryo which develop into the first leaves of the young plant.
CRENATE ; with convex marginal teeth.
CYLINDRICAL ; terete; in the form of a cylinder. Example, the stems of Grasses.
CYME ; a form of inflorescence in which the central flowers open first, and the others in succession; usually in appearance like an umbel, but with branched stalks, as in the Elder.
- DECIDUOUS** ; falling off; said of organs which ultimately detach themselves after fulfilling their functions.
DENTATE ; toothed.
DICHOTOMOUS ; forked; branching in pairs.
DIDYMOUS ; twin; growing in pairs. Example, the fruit of the Galium.
DIDYNAMOUS ; having 4 stamens, 2 of which are longer than the others.
DIOECIOUS ; having the male and female flowers produced on different plants.
DISK ; the thickened or fleshy part to which the stamens and pistils are attached; or the annular or scaly elevation between them; the central part of a head in Compositæ, consisting of tubular florets.
DISSEPIMENTS ; divisions in the ovary; septa.
DORSAL ; belonging to the back.
DRUPE ; a fleshy fruit, superior, containing a 1- or 2-seeded stony nut.
- ELLIPTIC** ; oval, but with more acute ends.
EMARGINATE ; notched at the end.
EMBRYO ; the rudimentary plant contained in the seed.
ENTIRE ; having no marginal lobes or teeth.
ERECT ; standing perpendicular from its base.
EXSTIPULATE ; without stipules.
- FAMILY** ; (= Order) a group of plants composed of allied genera.
FIBRE ; a thread-like kind of structure.
FIBROUS ; composed of fibres.
FILAMENT ; the stalk of an anther.
FILIFORM ; slender, like a thread.
FLORETS ; the individual flowers contained in the head of a Composite flower, or in the spikelet of a Grass or Sedge.
FOLLICLE ; a fruit formed of a single carpel; 1-celled, opening on one side only, and containing many seeds.
FORKED ; divided like the prongs of a fork.
FREE ; unconnected except at the base.
FROND ; the leaf-like part of a Fern.
FRUIT ; the matured seed-vessel.
- GIBBOUS** ; swollen.
GLABROUS ; having a smooth surface, without hairs or other appendages.
GLAND ; a wart-like secreting swelling.
GLANDULAR ; having glands.
GLAUCCOUS ; covered with a bloom like the grape.
GLOBOSE ; } spherical, or nearly so.
GLOBULAR ; }
GLUMES ; the exterior series of the bracts which constitute the flower of a Grass, i. e. the bracts enclosing the spikelets of flowers; the imbricated bracts enclosing the flowers of Sedges.
GRANULATED ; having a rough surface, as if formed of grains.

HASTATE; in the form of a halbert; having two diverging lobes, one on each side of the base of the leaf.

HEAD; a close collection of flowers surrounded by an involucre.

HERB; a plant with an annual stem.

HERMAPHRODITE; having both sexes (stamens and pistils) in the same flower.

HOODED; arched like a cowl.

HYPOGYNOUS; attached below the base of the ovary, and not on the calyx.

IMBRICATE; overlapping each other, like the tiles of a roof.

INCUMBENT; said of an embryo when the radicle is folded down upon the back of the cotyledons.

INDUSTIUM; a thin membrane covering the clusters of capsules in Ferns.

INFERIOR; a calyx, corolla, or perianth is said to be inferior when it is attached below the ovary and free from it. The ovary is said to be inferior when it is attached below the flower, which latter, therefore, stands upon the ovary.

INFLEXED; curved inwards.

INFLORESCENCE; the general arrangement of the flowers.

INSERTED; attached to, growing upon.

INVOLUCRE; the ring of bracts at the base of a head or umbel; or below the calyx in a simple flower. A partial involucre is the involucre at the base of a partial umbel; a general involucre is the involucre at the base of a general umbel.

IRREGULAR; having the lobes unequal; wanting regularity or symmetry in form.

KEEL; a prominent ridge. In the Pea-flower the two connected petals.

LABIATE; an irregular monopetalous corolla, with two lips and an open throat.

LANCEOLATE; narrowly elliptical and tapering at each end.

LEAFLET; one of the divisions of a compound leaf.

LEGUME; a 1-celled seed-vessel, with two valves and the seeds attached to the ventral suture.

LINEAR; very long and narrow, with the sides parallel, or nearly so.

LIPS; the principal lobes or portions of a corolla or a calyx.

LOBES; the large segments of a leaf, or the segments of a corolla or calyx.

N.B.—In this work, when the word "lobe" is applied to the free parts or divisions of the floral leaves composing a calyx, corolla, or perianth, it includes those free parts or divisions without regard to the length they may bear to the whole length of the organ of which they form part.

LYRATE; a pinnatifid leaf with one large terminal lobe and several smaller lateral lobes.

MEMBRANOUS; thin and pliant; semi-transparent.

MONILIFORM; like a string of beads.

MONOPETALOUS; having the petals united at their bases so as to be in one piece.

MUCRONATE; abruptly terminating in a short point.

MUCUS; a viscid fluid.

NUT; a hard, dry, 1-seeded superior fruit; or a hard, dry, 1- or few-seeded fruit (indehiscent) seated in an involucre. Example, Hazel-nut.

OB; in composition means that the thing signified is inverted, as an *obcordate* leaf is a cordate leaf attached by its narrow end, like the leaflets of the white clover.

OBLIQUE; unequal sided.

OBLONG; a long obtuse ellipse.

OPPOSITE; leaves in pairs placed opposite to each other, or in a flower, the organs of a different whorl placed the one in front of the other.

ORBICULAR; circular, or nearly so.

OVARY; the seed-vessel in a young or immature state.

OVATE; egg-shaped (flat), attached by its broader end.

OVOID; egg-shaped (solid).

PALEA; the scales in a Grass immediately enclosing the stamens, pistils, and hypogynous scales.

PALMATE; a leaf or a tuber with its lobes disposed or spreading in the manner of the fingers of a hand.

PANICLE; a raceme with branched pedicels.

PAPILIONACEOUS; butterfly-shaped, like the flower of a Pea.

PAPPUS; the hairs or scales which crown the fruit of Composite plants.

PARASITE; a plant that grows upon, and receives its nourishment from, another plant.

PARIETAL (placenta); when the ovules or seeds are attached to the inner surface or lining of an ovary or seed-vessel.

PATENT; spreading widely.

PECTINATE; pinnatifid, with the segments very narrow and parallel.

PEDICEL; the branch of a peduncle; the particular stalk of each flower.

PELTATE; a leaf circular or nearly so in outline, with its stalk attached at or near the centre.

PENDULOUS; seeds hanging from the top of an ovary or seed-vessel.

PERFOLIATE; when the leaf surrounds the stem so that the latter appears to pass through it.

PERIANTH; the floral whorl in which the calyx and corolla are not readily distinguished the one from the other.

PERIGYNOUS; having the corolla and stamens attached to the calyx, but free from the ovary.

PERSISTENT; not falling off, even when withered.

PERSONATE; an irregular monopetalous 2-lipped corolla, with its lips close compressed.

PETALS; the separate pieces or divisions of a corolla.

PETIOLE; the stalk of a leaf.

PINNE; the segments of a pinnate leaf.

PINNATE; when the leaflets are arranged on opposite sides of a common stalk. A leaf is 2- or 3-pinnate when its first and second divisions are pinnate.

PINNATIFID; when the leaf is deeply cleft in a pinnate manner, but not divided quite to the midrib.

PINNULE; the segments of a bipinnate leaf.

PISTIL; the female organ of flowering plants, usually consisting of ovary, style, and stigma.

PLACENTA; the part of the ovary or seed-vessel to which the ovules or seeds are attached.

POD; a 1-celled, 2-valved seed-vessel, with the seeds attached along the ventral suture.

POLYGAMOUS; having male, female, and hermaphrodite flowers on the same plant.

POLYPETALOUS; having the corolla composed of separate petals.

POME; an apple or similar fruit.

PORES; small roundish openings or holes.

PRICKLES; sharply-pointed conical elevations arising from the epidermis, not from the wood.

PRICKLY; having prickles.

PUBESCENCE; closely adpressed short and soft hairs.

PUBESCENT; having the surface covered with short and soft hairs.

QUADRANGULAR; (stem) 4-angled or 4-sided.

QUINATE; having the parts arranged in fives.

RACEME; an inflorescence in which the flowers are arranged singly on distinct pedicels along a common axis, as in the Red Currant; a spike with stalked flowers.

RACHIS; the central stalk of some kinds of inflorescence; in Grasses, the main stalk to the spikelets; the midrib above the lowest pinnae in the fronds of Ferns.

RADIATE; having the parts diverging like rays.

RADICAL; (leaves) springing from the crown of the root.

RAMOSE; stem or branch divided into many branches.

RAYS; parts diverging from a centre, and forming a circular outline like the spokes of a wheel.

RECURVED; curved gradually backwards.

REFLEXED; bent quite back.

RENIFORM; kidney-shaped.

REVOLUTE; rolled back.

RHIZOME; a prostrate rooting stem, growing more or less underground.

RIBS; prominent veins.

RINGENT; a term applied to an irregular 2-lipped gaping corolla.

ROOTSTOCK; a rhizome or tuber.

RUNCINATE; a pinnatifid leaf, with the lateral lobes pointing backward toward the base.

SACCATE; having a bag or pouch.

SAGITTATE; shaped like an arrow-head.

SALVER-SHAPED; a monopetalous corolla with a flat limb and a long tube.

SAMARA; a dry indehiscent winged fruit.

SCARIOUS; thin, dry, and semi-transparent.

SECUND; all turned in one direction.

SEED; the reproductive body containing the embryo of the new plant.

SEPALs; the separate pieces or divisions of the calyx.

SERRATE; toothed like a saw, teeth pointing forward.

SESSILE; without a stalk.

SETACEOUS; bristle-like.

SHEATH; the lower part of a leaf or its stalk which wraps round the stem.

SIMPLE; in one piece; not compound nor branched.

SINUATE; } having a waved outline like an oak leaf.

SINUOUS; }

SORI; the patches or clusters of capsules on the back of the fronds of Ferns.

SPADIX; a succulent spike enclosed in a spathe.

SPATHE; a large bract enclosing an inflorescence.

SPATHULATE; battledore-shaped.

SPIKE; a long simple peduncle, with sessile flowers.

SPIKELET; the secondary spike of Grasses.

SPINE; a stiff, sharp, woody thorn.

SPINOUS; having spines.

SPUR; a tubular horn-shaped projection from the lower part of a petal or monopetalous corolla or calyx.

STAMEN; the male organ of a flower containing the pollen.

STIGMA; that part (generally the upper portion) of the style to which the pollen adheres.

STIPE; the stalk of Ferns.

STIPULES; more or less leaf-like appendages at the base of a leaf-stalk.

STRIPES; the vittæ of Umbellifers; the oil receptacles in the fruit.

STYLE; the portion of the pistil between the ovary and the stigma; when absent the stigma is sessile.

SUB; a prefix, meaning a near approach to.

SUBULATE; awl-shaped, tapering from the base to a fine point.

SUPERIOR; above another part; a calyx is superior when its tube is wholly attached to the ovary; a corolla or a perianth is superior when it is attached to the upper part of the ovary; an ovary is superior when it is free within the flower, the latter being attached beneath it.

SUTURE; the line of junction of two similar parts or organs.

TENDRIL; a twining, slender, thread-like organ by which some plants support themselves.

TETRETE; circular in cross section, or nearly so.

TERMINAL; at the end.

TERNATE; arranged in threes.

THORN; an abortive branch, differing from the prickle by being in continuity with the wood of the stem.

THROAT; the mouth of the tube of a corolla or calyx.

TRIANGULAR; (stem) 3-angled and 3-sided.

TRUNCATE; with an abrupt end, as if cut off.

TUBE; (corolla) the tubular part of a monopetalous corolla.

TUBER; a swollen underground part of the stem.

TUBERCLES; warts.

TUBEROUS; like a tuber.

TUNIC; a flask-shaped loose covering.

TURBINATE; top-shaped.

UMBEL; an inflorescence in which the pedicels proceed from the same point and the flowers all reach about the same level.

UNILATERAL; directed to one side.

URCEOLATE; pitcher-shaped.

VALVATE; touching each other by the margins only.

VALVES; the distinct portions of a seed-vessel which open like doors.

VERNATION; the disposition of the leaves in the bud.

VERSATILE; swinging freely from its point of attachment.

VILLOUS; covered with soft hair.

VITTE; oil ducts or canals in the fruit of Umbellifers.





























WEDGE-SHAPED; (leaf) when like a wedge and attached at its point.

WHORL; a ring of similar organs around an axis.

WHORLED; arranged in whorls.

WINGED; (seed) a membranous border; (stem) a deep ridge or border.

SYMBOLICAL ILLUSTRATIONS.

| | | | |
|---|--------------------------------------|---|--------------------------------|
|  | — Style. |  | — Calyx. |
|  | — Stamen. |  | — Superior ovary. |
|  | — Petal. |  | — Inferior ovary. |
|  | — Corolla-lobe. |  | — Dry fruit, 1- or 2-celled. † |
|  | — Sepal. |  | — Succulent fruit, 2-celled. |
|  | — Calyx-lobe. |  | — Herb. |
|  | — Perianth-lobe. |  | — Shrub. |
|  | { Regular * polypetalous corolla. |  | — Tree. |
|  | { Irregular polypetalous corolla. |  | — Male. |
|  | { Regular * monopetalous corolla. |  | — Female. |
|  | { Irregular monopetalous corolla. |  | — Hermaphrodite. |
|  | { Regular * corolla-like † perianth. |  | — Monœcious. |
|  | { Irregular corolla-like perianth. |  | — Dioecious. |
|  | — Calyx-like † perianth. |  | — Water. |

ABBREVIATIONS.

The abbreviations may stand either for the singular or plural.

| | | |
|----------------------------|----------------------------|---------------------------------------|
| Alt. . Alternate. | Gl. . Glume. | Rad. Radical. |
| Bct. . Bract. | Inv. . Involucre. | Recept. . . . Receptacle. |
| Ber. . Berry. | L. . Leaf. | Rud. Rudiment. |
| Cal. . Calyx. | Low. . Lower. | Sacc. Saccate. |
| Cap. . Capsule. | Opp. . Opposite. | Sec. Section. |
| Cor. . Corolla. | Out. . Outer. | Seg. Segment. |
| Crim. . Crimson. | Ovy. . Ovary. | Stam. Stamen. |
| Exstip. Exstipulate. | P. Inv. Partial Involucre. | Stip. Stipule. |
| Fl. . Flower. | Pal. . Palea. | Succu ^t Succulent. |
| Fr. . Fruit. | Pet. . Petal. | Up. Upper. |
| Fruct. Fructification. | Prth. . Perianth. | Var. Various. |
| G. Inv. General Involucre. | Purp. . Purple. | Yell. Yellow. |

* In the analysis of Divisions (page 16) and the headings of the analysis of Orders (pp. 18 to 38), where the regular or irregular form of the flower is not under consideration, the illustration for the regular form is used.

† A perianth is said to be corolla-like when it is more or less bright-coloured; and calyx-like when it is green or dull-coloured.

‡ Dotting indicates that the part thereby represented may or may not be present.

NATURAL ORDERS OF BRITISH PLANTS.

FLOWERING PLANTS.

CLASS I. EXOGENS.

- | | | |
|---------------------|--------------------|----------------------|
| 1. RANUNCULACEÆ. | 28. TAMARISCACEÆ. | 54. BORAGINACEÆ. |
| 2. BERBERIDACEÆ. | 29. ONAGRACEÆ. | 55. SOLANACEÆ. |
| 3. NYMPHEACEÆ. | 30. HALORAGACEÆ. | 56. OROBANCHACEÆ. |
| 4. PAPAVERACEÆ. | 31. CUCURBITACEÆ. | 57. SCROPHULARIACEÆ. |
| 5. FUMARIACEÆ. | 32. PORTULACEÆ. | 58. LABIATÆ. |
| 6. CRUCIFERÆ. | 33. PARONYCHIACEÆ. | 59. VERBENACEÆ. |
| 7. RESEDACEÆ. | 34. CRASSULACEÆ. | 60. LENTIBULARIACEÆ. |
| 8. CISTACEÆ. | 35. RIBESIACEÆ. | 61. PRIMULACEÆ. |
| 9. VIOLACEÆ. | 36. SAXIFRAGACEÆ. | 62. PLUMBAGINACEÆ. |
| 10. DROSERACEÆ. | 37. UMBELLIFERÆ. | 63. PLANTAGINACEÆ. |
| 11. FRANKENIACEÆ. | 38. HEDERACEÆ. | 64. AMARANTHACEÆ. |
| 12. POLYGALACEÆ. | 39. CORNACEÆ. | 65. CHENOPODIACEÆ. |
| 13. ELATINACEÆ. | 40. LORANTHACEÆ. | 66. POLYGONACEÆ. |
| 14. CARYOPHYLLACEÆ. | 41. CAPRIFOLIACEÆ. | 67. ELÆAGNACEÆ. |
| 15. MALVACEÆ. | 42. RUBIACEÆ. | 68. THYMELACEÆ. |
| 16. TILIACEÆ. | 43. VALERIANACEÆ. | 69. SANTALACEÆ. |
| 17. HYPERICACEÆ. | 44. DIPSACACEÆ. | 70. ARISTOLOCHIACEÆ. |
| 18. ACERACEÆ. | 45. COMPOSITÆ. | 71. EMPETRACEÆ. |
| 19. GERANIACEÆ. | 46. CAMPANULACEÆ. | 72. EUPHORBIACEÆ. |
| 20. BALSAMINACEÆ. | 47. ERICACEÆ. | 73. CERATOPHYLLACEÆ. |
| 21. OXALIDACEÆ. | 48. AQUIFOLIACEÆ. | 74. CALLITRICHACEÆ. |
| 22. LINACEÆ. | 49. JASMINACEÆ. | 75. URTICACEÆ. |
| 23. CELASTRACEÆ. | 50. APOCYNACEÆ. | 76. CANNABINACEÆ. |
| 24. RHAMNACEÆ. | 51. GENTIANACEÆ. | 77. ULMACEÆ. |
| 25. LEGUMINOSÆ. | 52. POLEMONIACEÆ. | 78. AMENTACEÆ. |
| 26. ROSACEÆ. | 53. CONVOLVULACEÆ. | 79. CONIFERÆ. |
| 27. LYTHRACEÆ. | | |

CLASS II. ENDOGENS.











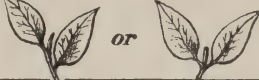

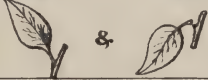
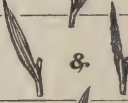




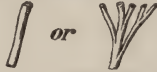

- | | | |
|----------------------|-------------------|----------------------|
| 80. TRILLIACEÆ. | 87. ASPARAGACEÆ. | 93. ARACEÆ. |
| 81. DIOSCOREACEÆ. | 88. LILIACEÆ. | 94. LEMNACEÆ. |
| 82. HYDROCHARIDACEÆ. | 89. MELANTHACEÆ. | 95. POTAMOGETONACEÆ. |
| 83. ORCHIDACEÆ. | 90. JUNCACEÆ. | 96. NAIADACEÆ. |
| 84. IRIDACEÆ. | 91. ERIOCAULACEÆ. | 97. CYPERACEÆ. |
| 85. AMARYLLIDACEÆ. | 92. TYPHACEÆ. | 98. GRAMINEÆ. |
| 86. ALISMACEÆ. | | |

FLOWERLESS PLANTS.

CLASS III. AROGENS.

- | | | |
|-----------------|--------------------|---------------|
| 99. EUISETACEÆ. | 101. LYCOPODIACEÆ. | 103. FILICES. |
| 100. CHARACEÆ. | 102. MARSILEACEÆ. | |

PHÆNOGAMEÆ. (♂ ♀ EITHER OR BOTH PRESENT.)

| | CLASS I. EXOGENÆ | CLASS II. ENDOGENÆ |
|----|---|---|
| 1 |  |  |
| 2 |  |  |
| 3 |  ♂ 2, 5, or their multiples. |  ♀ 3 or its multiples. |
| 4 |  |  |
| 5 |  |  |
| 6 |  |  |
| 7 |  |  |
| 8 |  |  |
| 9 |  |  |
| 10 |  |  |

CRYPTOGAMEÆ. (♂ ♀ BOTH ABSENT.)

CLASS III. ACROGENÆ










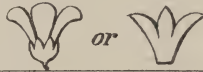


FLOWERING PLANTS. (STAMENS AND PISTILS EITHER OR BOTH PRESENT.)

| | CLASS I. EXOGENS: | CLASS II. ENDOGENS. |
|----|--|---|
| 1 | Stem, when perennial, formed of bark, wood, and pith; having medullary rays; and increasing externally by concentric layers. | Stem without distinct bark, wood, and pith; consisting of cellular tissue with vascular bundles embedded irregularly in it. |
| 2 | Embryo with 2 (or more) cotyledons. | Embryo with 1 cotyledon. |
| 3 | Sepals, petals, and stamens, 2, 5, or their multiples. | Perianth-lobes and stamens 3 or its multiples. |
| 4 | Leaves net-veined. | Leaves parallel-veined. |
| 5 | Leaves either entire, toothed, lobed, pinnate, or variously divided. | Leaves entire. |
| 6 | Leaves alternate or opposite. | Leaves alternate. |
| 7 | Leaves articulated with the stem and deciduous. | Leaves in one with the stem and persistent. |
| 8 | Leaves with or without stipules. | Leaves without stipules. |
| 9 | Herbs, shrubs, or trees. | Herbs. |
| 10 | Stem simple or branched. | Stem simple. |

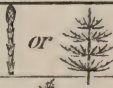
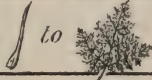
FLOWERLESS PLANTS. (STAMENS AND PISTILS BOTH ABSENT.)

CLASS III. ACROGENS.

PHÆNOGAMEÆ.

| CLASS I. EXOGENÆ. | | DIV. |
|--|---|------|
|  |  | II |
| |  | III |
| |  | IIII |
| |  | IV |
|  | | V |
| CLASS II. ENDOGENÆ. | | |
|  |  | VII |
|  |  | VIII |
| |  | VIII |
| |  | IX |

CRYPTOGAMEÆ.

| CLASS III. ACROGENÆ. | | |
|----------------------|---|----|
| Leaves none. Stem |  | X |
| Leaves |  | XI |

FLOWERING PLANTS.

| CLASS I. EXOGENS. | | | Div. |
|--|---|--|-------|
| Flowers with both calyx and corolla (mono- or poly-petalous). | Corolla polypetalous, inferior .. | | I. |
| | Do. superior .. | | II. |
| | Corolla monopetalous, superior .. | | III. |
| | Do. inferior .. | | IV. |
| Flowers with corolla-like* or calyx-like* perianth, or naked | | | V. |
| CLASS II. ENDOGENS. | | | |
| Leaves net-veined .. | Flowers with corolla-like or calyx-like perianth, or naked | | VI. |
| Leaves parallel-veined | Flowers with calyx and corolla, or corolla-like perianth | | VII. |
| | Flowers with calyx-like perianth, or naked .. | | VIII. |
| | Flowers in imbricated bracts | | IX. |

* A perianth is said to be corolla-like when it is more or less bright-coloured; and calyx-like when it is green or dull-coloured.

FLOWERLESS PLANTS.

| CLASS III. ACROGENS. | | |
|---|--|-----|
| Leaves none. Stem simple or with whorled branches | | X. |
| Leaves (or fronds) varying from simple to 2- or 3-pinnate | | XI. |

PHÆNOGAMEÆ.

CLASSI. EXOGENÆ.

| DIV. I. | | 1 ST LY | | OR | |
|---------|--|--------------------|--|----|-------------------|
| ♂:♀ | | | | | 71. EMPETRACEÆ. |
| ♂:♀ | | | | | 24. RHAMNACEÆ. |
| ♀ | | | | | 24. DO. |
| | | | | | 23. CELASTRACEÆ. |
| | | | | | 28. TAMARISCACEÆ. |
| ♀ | | | | | 2. BERBERIDACEÆ. |
| ♀ | | | | | 18. ACERACEÆ. |
| | | | | | 25. LEGUMINOSÆ. |
| | | | | | 17. HYPERICACEÆ. |
| | | | | | 15. MALVACEÆ. |
| ♀ | | | | | 8. CISTACEÆ. |
| | | | | | 16. TILIACEÆ. |
| | | | | | 26. ROSACEÆ. |
| | | | | | 26. DO. |
| | | | | | 26. DO. |










FLOWERING PLANTS.

CLASS I. EXOGENS.

DIV. I.


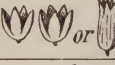


















Flowers with both calyx and corolla.
Corolla polypetalous, inferior.
1stly Trees or Shrubs.

| | FAMILY. |
|---|-----------------------------|
| <p>Diœcious. Stamens 3. Style 1, stigma 9-rayed. Leaves linear-oblong. Petals 3. Sepals 3. Ovary 9-celled, cells 1-seeded. Berry 1-celled, many-seeded</p> | 71. Crowberry. |
| <p>Diœcious. Stamens 4. Styles 4, partly united. Leaves ovate, finely serrated. Sepals 4. Stamens 4, opposite the petals. Berry 4-celled, cells 1-seeded</p> | 24. Buckthorn. |
| <p>Stamens 4 or 5 (hermaphrodite). Leaves obovate, entire. Style 1. Stamens 5, opposite the petals. Berry 2-celled, cells 1-seeded</p> | 24. Do. |
| <p>Leaves ovate-lanceolate or pinnate, toothed. Styles 1 or 2. Stamens 4 or 5, alternating with the petals. Capsule 2- or 4-celled, 4-seeded..</p> | 23. Spindle-tree. |
| <p>Leaves minute, scale-like. Styles 3, thick. Stam. 5. Cap. 1-celled, many-seeded</p> | 28. Tamarisk. |
| <p>Stamens 6. Leaves obovate, sharply toothed. Stamens opposite to the petals; anthers opening by valves attached to the top. Berry oblong, 2- or 3-seeded</p> | 2. Barberry. |
| <p>Stamens about 8. Leaves lobed, opposite. Fruit winged, 2-celled, cells 1- or 2-seeded</p> | 18. Maple. |
| <p>Stamens 10, in one set. Leaves awl-shaped, lanceolate, or ternate. Flowers irregular, papilionaceous. Fruit a legume, with the placenta on the upper suture</p> | 25. Peaflower. |
| <p>Stamens many, in 3 or 5 sets. Leaves varying from linear to ovate; entire, opposite. Styles 3 or 5. Flowers yellow. Capsule 3- or 5-celled, cells many-seeded</p> | 17. St. John's Wort. |
| <p>Stamens many, in 1 set. Leaves lobed, stipulate, alternate. Sepals valvate in the bud. Styles many, partly united. Fruit 8- to 20-celled, cells 1-seeded</p> | 15. Mallow. |
| <p>Stamens many, filaments free. Leaves varying from linear to ovate; entire, opposite. Calyx of 3 large and 2 or 0 small sepals. Capsule imperfectly 3-celled, seeds several</p> | 8. Rock-rose. |
| <p>Leaves obliquely cordate, with deciduous stipules. Sepals valvate in the bud. Flowers on a bract. Ovary 6-celled, cells 2-seeded. Fruit 1- or 2-seeded</p> | 16. Lime. |
| <p>Leaves varying from lanceolate to ovate, toothed, with deciduous stipules. Fruit a drupe (a cherry or plum)</p> | 26. Rose. |
| <p>Leaves ternate or quinate, toothed, stipulate. Fruit, granulated, consisting of many small drupes</p> | 26. Do. |
| <p>Leaves pinnate, toothed, stipulate; leaflets 5 to 9. Fruit many hairy nuts enclosed in a fleshy calyx-tube</p> | 26. Do. |

| Div. I.  2 ^{NDLY}  OR  OR  OR  OR  OR  OR  | | | | |
|---|--|---|---|-----------------------------------|
|  | Stem. 5  coherent | 5   Spur |  | 9. VIOLACEÆ. |
| |  | 2 or 0 Pet. 4   |  or  | 5. FUMARIACEÆ. |
| | 10 all or 9 united  | Pet. 5  |  | 25. LEGUMINOSÆ. |
| | many  | Fl. yellowish green or white Fl. blue or purp. |   | 7. RESEDACEÆ. 1. RANUNCULACEÆ. |
|  | Succulent plants  | 3-40  3-20 |  | 34. CRASSULACEÆ. |
| |  |  |  | 2. BERBERIDACEÆ. |
| |  |  (See Nos 16-33) |  L.  | 10. DROSERACEÆ. |
| |  |   |  | 36. SAXIFRAGACEÆ. |
| |  |   |  | 6. CRUCIFERÆ. |
| |  |   |  | 11. FRANKENIACEÆ. |
| | many  |    |  | 3. NYMPHÆACEÆ. |
| | | Cal.  |  | 4. PAPAVERACEÆ. |
| | | Cal.   3 2 or 0 |  | 8. CISTACEÆ. |
| | |  L. stip. | Fr. 1 or more  or  | 26. ROSACEÆ. |
|  L. exstip. | | Do. | 1. RANUNCULACEÆ. | |

DIV. I. { Flowers with both calyx and corolla. Corolla polypetalous, inferior. 2^{ndly} Herbs. Ovaries many, each bearing a style; or solitary with 1 or more placentas, parietal or on the dissepiments, not forming a central axis.

| Corolla irregular. | FAMILY. |
|--|-----------------------|
| Stamens 5, cohering, 2-spurred. Sepals 5, saccate at base. Petals 5, lower one spurred. Capsule with 3 placentas, many-seeded | 9. Violet. |
| Stamens 6, diadelphous, anthers 4 1-celled and 2 2-celled. Sepals 2 or none. Petals 4, parallel, 1 gibbous or spurred. | 5. Fumitory. |
| Fruit a 1-seeded nut, or a several-seeded pod .. | 25. Peaflower. |
| Stamens 10, all or 9 united. Corolla papilionaceous (peaflower shape). Fruit a legume, long or short; placenta on the upper suture | 7. Mignonette. |
| Stamens many. Flowers yellowish-green or white. Fruit with 3 placentas, many-seeded | 1. Buttercup. |
| Flowers blue or purple. Fruit 1 to 5 follicles, seeds many | |
| Corolla regular. (See No. 45.) | |
| Succulent plants. Stamens 3 to 40, inserted at the base of the sepals. Sepals 3 to 20. Fruit 3 to 10 follicles | 34. Stonecrop. |
| Stamens 4. Petals 4. Stamens opposite to the petals; anthers opening by valves attached to the top | 2. Barberry. |
| Stamens 5. Petals 5. (See Nos. 1 and 33.) Styles 3, bifid. Leaves with a circinate vernation, covered with glandular hairs | 10. Sundew. |
| Stigmas 4, sessile. Scales 5, bearing glandular bristles | 36. Saxifrage. |
| Stamens 6, 4 longer than the 2 others. Petals 4. Sepals 4. Ovary 2-celled by false septum | 6. Crucifer. |
| Stamens 6, equal. Petals 5. Calyx tubular, with 5 teeth. Capsule with 3 placentas, many-seeded | 11. Sea-heath. |
| Stamens many. Petals many, passing gradually into stamens. Water plants, leaves floating | 3. Water-lily. |
| Calyx of 2 sepals. Petals 4 | 4. Poppy. |
| Calyx of 3 large and 2 or 0 small sepals. Petals 5 | 8. Rock-rose. |
| Stamens perigynous (inserted at the base of the sepals). Leaves stipulate. Fruit 1 or more nuts or follicles | 26. Rose. |
| Stamens hypogynous (attached below the ovary). Leaves exstipulate. Fruit 1 or more nuts or follicles | 1. Buttercup. |

| DIV. I. | |  | 3 ^{RDLY} |  |  TO  |
|---|---|--|---|--|--|
|  |  | <i>Calyx</i>  |  5 | | 33. PARONYCHIACEÆ. |
| |  |  |  3 or 5 | | 32. PORTULACEÆ. |
| |  |  or  |  10 5 or 4 |  L to | |
|  |  | <i>FL.</i>  | <i>Stam.</i>  | | 12. POLYGALACEÆ. |
| |  |  |  6 to 12 |  or  | 27. LYTHRACEÆ. |
|  |  |  |  10 |  | 36. SAXIFRAGACEÆ. |
| |  |  |  |  3 many 2 or 0 | 8. CISTACEÆ. |
|  |  |  |  | <i>Fl. yell.</i>  | 17. HYPERICACEÆ. |
| |  |  |  6 |  | 13. ELATINACEÆ. |
|  |  |  (see p. 80) |  8 |  | 13. Do. |
|  |  |  |  5 or 10 | <i>L opp. stip.</i>  | 19. GERANIACEÆ. |
| |  | <i>FL.</i>  Spur | <i>Stam. 5</i>  | <i>Succul. covering placis</i>  | 20. BALSAMINACEÆ. |
| |  | <i>L.</i>  |  3 3 4 5 |  | 21. OXALIDACEÆ. |
| |  | <i>L. none. (Scales)</i> |  8 or 10 |  | 47. ERICACEÆ. |
|  |  |  to  |  4 or 5 |  | 47. Do. |
| |  |  |  |  | 22. LINACEÆ. |
|  |  | <i>Low L.</i>  Lobes var. <i>margin. lobes</i> |  |  | 15. MALVACEÆ. |

DIV. I.

Flowers with both calyx and corolla. Corolla poly-petalous, inferior. ^{3rdly} Herbs. Ovary solitary, 1- to 20-celled; placenta central (*i. e.* forming a central axis).

FAMILY.

- | | |
|---|---|
| <p>Ovary 1-celled. Cell 1-seeded. Calyx of 5 sepals. Stamens 5</p> <p>Cell 3-seeded. Calyx of 2 sepals. Stamens 3 or 5</p> <p>Cell many-seeded. Calyx of 4 or 5 sepals, or tubular. Stamens 10, 5, or 4. Leaves opposite, entire; varying from linear to ovate</p> <p>Ovary 2-celled. Cells 1-seeded. Flowers irregular. Stamens 8 in 2 clusters. Anthers opening by pores</p> <p>Cells many-seeded. Style 1. Stamens 6 to 12. Calyx tubular or bell-shaped, with teeth between the lobes</p> <p>Styles 2. Stamens 10. Calyx of 5 sepals</p> <p>Ovary 3-celled. Cells many-seeded. Style 1. Stamens many. Calyx of 3 large and 2 or 0 small sepals</p> <p>Styles 3. Stamens many, in 3 sets. Flowers yellow</p> <p>Stamens 6. Submerged water-plants</p> <p>Ovary 4-celled. Cells many-seeded. Styles 4. (See No. 80.) Stamens 8. Submerged water-plants</p> <p>Ovary 5-celled. Cells 1-seeded. Fruit with a long beak. Stamens 5 or 10, monadelphous. Leaves opposite, stipulate</p> <p>Cells many-seeded (sometimes only 2- or 3-seeded). Flowers irregular, spurred. Stamens 5; anthers cohering. Succulent plants</p> <p>Leaves ternate, stipulate. Stamens 5 long and 5 short. Styles 5</p> <p>Leaves none, scales. Stamens 8 or 10; anthers opening by a transverse fissure. Stigma peltate</p> <p>Leaves roundish or ovate. Stamens 10; anthers opening by pores. Stigma 5-lobed</p> <p>Ovary with 4 or 5 complete, and 4 or 5 incomplete dissepiments. Cells (spurious) 1-seeded. Leaves varying from linear to obovate. Stamens 4 or 5. Styles 4 or 5</p> <p>Ovary 8- to 20-celled. Cells 1-seeded. Sepals valvate in the bud. Leaves alternate, stipulate; lower variously lobed. Stamens many, in 1 set. Styles many, united at the base</p> | <p>33. Paronychia.</p> <p>32. Purslane.</p> <p>14. Pink.</p> <p>12. Milkwort.</p> <p>27. Loosestrife.</p> <p>36. Saxifrage.</p> <p>8. Rock-rose.</p> <p>17. St. John's Wort.</p> <p>13. Waterwort.</p> <p>13. Do.</p> <p>19. Geranium.</p> <p>20. Balsam.</p> <p>21. Wood-sorrel.</p> <p>47. Heath.</p> <p>47. Do.</p> <p>22. Flax.</p> <p>15. Mallow.</p> |
|---|---|

| DIV. III. | | | | |
|-----------|------------|----|----|-------------------|
| | Stam. 4 | | | 40. LORANTHACEÆ. |
| | 4 | | | 39. CORNACEÆ. |
| | 5 | | | 38. HEDERACEÆ. |
| | | | | 35. RIBESIACEÆ. |
| | many | or | or | 26. ROSACEÆ. |
| | 8 | | | 30. HALORAGACEÆ. |
| | 2 or 2 | | or | 29. ONAGRACEÆ. |
| | 5 | | | 37. UMBELLIFERÆ. |
| | 10 | | | 36. SAXIFRAGACEÆ. |

(See N^o 39)

| DIV. IIII. | | | | | |
|------------|---------|---------|-----|--------------------|----------------|
| | 4 or 5 | L. opp. | or | 41. CAPRIFOLIACEÆ. | |
| | 8 or 10 | L. alt. | or | 47. ERICACEÆ. | |
| | 1 or 3 | or | | 43. VALERIANACEÆ. | |
| | 4 | | | 44. DIPSACACEÆ. | |
| | | | | 42. RUBIACEÆ. | |
| | 5 | to | | 46. CAMPANULACEÆ. | |
| | | | FL. | or | 46. Do. |
| | | | FL. | | 45. COMPOSITÆ. |
| | Stam. | | | 31. CUCURBITACEÆ. | |





























(See N^o 41)

DIV. II. { Flowers with both calyx and corolla.
Corolla polypetalous, superior.

| | FAMILY. |
|--|-------------------------|
| Shrubs, parasitical on trees, diœcious. Stamens 4; anthers sessile, many-celled. Stigma 1, sessile. Berry 1-seeded | 40. Mistletoe. |
| Shrubs (not parasitical). Stamens 4. Style 1. Drupe with a 2-celled nut, cells 1-seeded | 39. Dog-wood. |
| Stamens 5. Styles united in one. Flowers in globose umbels. Berry 3- to 5-seeded | 38. Ivy. |
| Style 2- or 4-cleft. Berry many-seeded, filled with pulp; placentas 2, parietal | 35. Currant. |
| Stamens many. Fruit a 1- to 5-celled pome; or several small nuts enclosed in the fleshy calyx-tube | 26. Rose. |
| Herbs; submerged water-plants, monœcious. Stamens 8. Styles 4, villose. Fruit separating into 4 nuts .. | 30. Mare's-tail. |
| Herbs (terrestrial). (See No. 39.) Stamens 8 or 2. Style 1. Capsule 4-celled, cells many-seeded; or 1- or 2-celled, cells 1-seeded | 29. Willow-herb. |
| Stamens 5. Styles 2. Ovary 2-celled, cells 1-seeded | 37. Umbellate. |
| Stamens 10. Styles 2. Capsule 2-celled, cells many-seeded .. | 36. Saxifrage. |















































DIV. III. { Flowers with both calyx and corolla.
Corolla monopetalous, superior.

| | FAMILY. |
|--|-------------------------|
| Shrubs. Stamens 4 or 5. Leaves opposite. Fruit generally fleshy, 1- to 5-celled, cells 1- (rarely many-) seeded | 41. Honeysuckle. |
| Stamens 8 or 10; anthers opening by pores, often awned. Leaves alternate. Berry 4- or 5-celled, cells many-seeded | 47. Heath. |
| Herbs. (See No. 41.) Stamens 1 or 3. Fruit 1-celled, 1-seeded; or 3-celled, 1 fertile and 2 empty | 43. Valerian. |
| Stamens 4. Flowers in heads. Fruit 1-celled, 1-seeded | 44. Teasel. |
| Leaves in whorls of 4 to 10 leaflets. Fruit didymous (rarely succulent), cells 1-seeded | 42. Madder. |
| Stamens 5, free. (See No. 42.) Capsule 2- to 5-celled, cells many-seeded | 46. Bell-flower. |
| Stamens 5; anthers united into a tube. Flowers in racemes. Capsule 2- or 3-celled, cells many-seeded | 46. Do. |
| Flowers in heads. Fruit 1-celled, 1-seeded | 45. Composite. |
| Stamens 5, sinuous, in 3 bundles. Plant with lobed leaves and tendrils. Diœcious. Berry 3- to 6-seeded | 31. Gourd. |

| DIV. IV. | |  | | |
|---|---|--|---|----------------------|
|  | φ_2 | Cor.  |  | 49. JASMINACEÆ. |
| | $\varphi_{4\text{ or }5}$ | Cor.  <small>(see p. 27)</small> |  | 48. AQUIFOLIACEÆ. |
| | $\varphi_{8\text{ or }10}$ |  pores |  | 47. ERICACEÆ. |
|  | Stam.  | Sep.  |  | 12. POLYGALACEÆ. |
| | φ_3 | Cal.  |  | 32. PORTULACEÆ. |
| | φ_2 | Cor.  |  | 60. LENTIBULARIACEÆ. |
| |  | L. none (scales) |  | 56. OROBANCHACEÆ. |
| |  | Fl.  |  | 59. VERBENACEÆ. |
| |  | Stem L. opp. |  | 58. LABIATÆ. |
| |  $\varphi_{2\text{ or }5}$ | L. alt. or opp. |  | 57. SCROPHULARIACEÆ. |
| |  | $\varphi_{4,5\text{ or }7}$ |  | 61. PRIMULACEÆ. |
| |  <small>(L. var.)</small> |  |  | 63. PLANTAGINACEÆ. |
| |  <small>(L. var.)</small> | φ_5  |  | 62. PLUMBAGINACEÆ. |
|  |  <small>(L. var.)</small> | φ_5  |  | 50. APOCYNACEÆ. |
| | $\varphi_{4,5\text{ or }8}$ |  |  | 51. GENTIANACEÆ. |
| | φ_5 | γ or γ |  | 53. CONVULVULACEÆ. |
| | φ_5 |  |  | 52. POLEMONIACEÆ. |
| | φ_5 |  |  | 54. BORAGINACEÆ. |
| | φ_5 | γ or γ |  | 55. SOLANACEÆ. |
| | φ_{10} |  |  | 34. CRASSULACEÆ. |

DIV. IV. { Flowers with both calyx and corolla.
Corolla monopetalous, inferior.

| | FAMILY. |
|---|--|
| Trees or shrubs. | |
| Stamens 2. Corolla valvate in the bud. Berry 2-celled, cells 1- or 2-seeded | 49. Jessamine. |
| Stamens 4 or 5. Corolla imbricate in the bud. (See No. 47.) Fruit fleshy; seeds stony, 4 (or 5) | 48. Holly. |
| Stamens 8 or 10. Anthers opening by pores, with or without awns. Fruit a 3- to 5-celled capsule, or a 4- to 5-celled berry; cells many- (rarely 1-) seeded | 47. Heath. |
| Herbs. Corolla irregular. Stamens 8, in 2 clusters. Sepals irregular, 2 inner large, petal-like. Capsule 2-celled, cells 1-seeded | 12. Milkwort. |
| Stamens 3. Calyx of 2 sepals. Capsule 1-celled, 3-seeded | 32. Purslane. |
| Stamens 2. Corolla spurred. Capsule 1-celled, many-seeded; placenta, free, central | 60. Butterwort. |
| Stamens 4, didynamous (2 longer than the 2 others). Leaves none (scales). Capsule 1-celled, many-seeded; placentas 2, parietal | 56. Broomrape. |
| Style from the top of the 4-lobed ovary. Flowers in a slender spike. Capsule separating into 4 1-seeded nuts | 59. Vervain. |
| Stamens 4, didynamous, or 2 or 5. Style from the base of the 4-lobed ovary. Stem square. Leaves opposite. Capsule separating into 4 1-seeded nuts | 58. Labiate. |
| Style terminal. Leaves alternate or opposite. Capsule 2-celled, cells many- or 2-seeded | 57. Figwort. |
| Herbs. Corolla regular. Stamens opposite to the lobes of the corolla. Stamens 4, 5, or 7. Style 1, stigma capitate. Capsule 1-celled, many- (or few-) seeded; placenta, free, central | 61. Primrose. |
| Leaves radical (various). Stamens 4, corolla 4-lobed. Style 1. Capsule 1- to 4-celled, cells 1-seeded; or 2-celled, cells 4- to 8-seeded | 63. Plantain. 62. Thrift. |
| Stamens 5. Styles 5. Capsule 1-celled, 1-seeded Leaves opposite (various). Stamens 5, filaments bent. Stigma capitate, with a ring at the base. Follicles 2, several-seeded | 50. Periwinkle. |
| Stamens 4, 5, or 8. Capsule 1- or 2-celled, by the inflexed margin of valves; many-seeded | 51. Gentian. |
| Stamens 5. Style 1, stigmas 2; or styles 2. Capsule 4-seeded, 1- or 2-celled | 53. Convolvulus. |
| Style 1, stigmas 3. Stamens unequal. Capsule 3-celled, many-seeded | 52. Jacob's Ladder. |
| Style 1, from the base of the 4-lobed ovary. Capsule separating into 4 1-seeded nuts | 54. Borage. |
| Style 1, stigma simple or capitate. Berry or capsule, 2-celled, many-seeded | 55. Nightshade. |
| Stamens 10. Styles 5. Fruit 5 follicles, many-seeded | 34. Stonecrop. |

| DIV. V. | |  OR  OR 0 | | 1 <u>STLY</u> |  OR  | |
|---|---|---|---|---|--|------------------|
| ♂ or ♀ | ♂ in  & ♀ in  | (♂♀) 0 ² ♂:♀ 0 ⁴⁻⁶ |  | L.  evergreen | 79. CONIFERÆ. | |
| | | (♂♀) 1 ⁴⁻¹² ♂:♀ 1 ⁷⁻³⁰ |  | L. not  deciduous | 78. AMENTACEÆ. | |
| | ♂ only in  | (♂♀) 1 ⁵⁻²⁰ |  | Do. | 78. Do. | |
| | | ♂♀  |  | L.  evergreen | 79. CONIFERÆ. | |
| | Fl. not in  | (♂♀) 1 ⁴ |  |  | 72. EUPHORBIACEÆ. | |
| | | 1 ³ |  |  | 71. EMPETRACEÆ. | |
| | | 1 ⁴ |  |  | 67. ELÆAGNACEÆ. | |
| | | ♂♀ 1 ⁴ |  |  |  | 40. LORANTHACEÆ. |
| | | 1 ⁴ |  |  | 24. RHAMNACEÆ. | |
| | ♀ | 1 ² |  |  |  | 49. JASMINACEÆ. |
| 1 ⁴ or 1 ⁵ | |  |  |  | 24. RHAMNACEÆ. | |
| | |  |  |  | 38. HEDERACEÆ. | |
| | |  |  |  | 77. ULMACEÆ. | |
|  | |  |  |  | 68. THYMELACEÆ. | |
| 1 ⁸ | |  |  |  | 18. ACERACEÆ. | |

DIV. V.

Flowers with corolla-like or calyx-like perianth,
or naked.
1stly Trees or shrubs.

Flowers male or female.

Males in catkins, and females in catkins.

Monœcious: Anther-cells 2 (in each scale). Dio-
cious: Anther-cells 4 to 6 (in each scale).

Style none. Leaves linear or subulate, entire,
evergreen

Monœcious: Stamens 4 to 12. Dioecious: Stamens
1 to 30.

Styles 2 (simple or bifid) or 4. Leaves neither
linear nor subulate, deciduous

79. Pine.

78. Catkin.

Males only in catkins.

Monœcious: Stamens 5 to 20.

Styles 2 to 6. Leaves various

Dioecious: Stamens many, clustered; anthers 3- to
8-celled.

Styles none. Leaves linear, entire, evergreen ..

78. Do.

79. Pine.

Flowers not in catkins.

Monœcious.

Stamens 4.

Styles 3. Leaves ovate-oblong

Dioecious.

Stamens 3.

Style 1; stigmas rayed. Leaves linear-oblong,
covered with a scaly scurf

Stamens 4; filaments shorter than the anthers.

Style 1. Leaves linear-lanceolate

Stamens 4; anthers sessile, many-celled.

Style 1; stigma sessile blunt.

Leaves obovate-lanceolate obtuse

Stamens 4; filaments longer than the anthers.

Styles 4, partly united.

Leaves ovate-acuminate, finely toothed ..

71. Crowberry.

67. Sallow-thorn.

40. Mistletoe.

24. Buckthorn.

Flowers hermaphrodite.

Stamens 2.

Fruit compressed, leaf-like at end (a samara).

Style 1; stigma thickened. Fruit 1- or 2-celled,
cells 1-seeded

49. Jessamine.

Stamens 4 or 5.

Stamens alternating with the sepals.

Style 1, short. Berry 2-celled, cells 1-seeded ..

24. Buckthorn.

Flowers in globular umbels.

Styles (5) united into one. Fruit 3- to 5-seeded,
a berry

38. Ivy.

Fruit winged all round (a samara).

Styles 2. Fruit 1-celled, 1-seeded

77. Elm.

Stamens 8, in 2 rows.

Perianth tubular, lobes 4 spreading.

Style 1; stigma capitate.

Fruit a 1-seeded berry









































68. Daphne.

Stamens 8 (in 1 row).

Fruit winged.

Stigmas 2. Fruit 2-celled, cells 1- or 2-seeded

18. Maple.

| IDIV. V. | | OR | | OR 0 | | 2 NDLY .. |  |
|--|---|--|---|---|---|----------------------|---|
| |  | (♂ ♀) |  |  |  | 94. LEMNACEÆ. | |
|  |  | ♀ or (♂ ♀) |  |  |  | 30. HALORAGACEÆ. | |
| |  | (♂ ♀) |  |  |  | 73. CERATOPHYLLACEÆ. | |
| |  | (♂ ♀) |  |  |  | 74. CALLITRICHACEÆ. | |
| | <i>L. none</i> <i>Stem succus</i>  | ♀ |  |  |  | 65. CHENOPODIACEÆ. | |
| <i>Stip.</i>  | ♀ |  |  |  | 66. POLYGONACEÆ. | | |
| <i>L. stip.</i> |  | ♂ ♀ or ♀ |  |  |  | 26. ROSACEÆ. | |
| |  | ♂ ♀ or ♀ |  |  |  | 75. URTICACEÆ. | |
| | | ♀ |  |  |  | 33. PARONYCHIACEÆ. | |
| | | ♂ ♀ |  |  |  | 76. CANNABINACEÆ. | |

DIV. V. { Flowers with corolla-like or calyx-like perianth,
or naked.
2ndly Herbs.

| | FAMILY. |
|---|----------------------------------|
| Water plants, submerged or floating. Fronds leaf-like, sub-globular, obovate, or lanceolate. Monœcious. Stamens 1 or 2, with or without filaments. Fruit 1-celled, 1- to 7-seeded | 94. Duckweed. |
| Leaves in whorls; 6 to 12 entire, or 3 to 5 pectinate. Hermaphrodite or Monœcious. Stamens 1 or 8. Styles 1 or 4. Fruit 1-celled, 1-seeded; or separating into 4 1-seeded nuts | 30. Mare's-tail. |
| Leaves in whorls 2- or 3-forked. Monœcious. Stamens 12 to 20, sessile. Style 1. Fruit 1-celled, 1-seeded | 73. Hornwort. |
| Leaves opposite (not in whorls) entire. Monœcious. Stamen 1. Styles 2. Fruit separating into 4 1-seeded nuts | 74. Water Star- wort. |
| Leaves none. Stem succulent, jointed. Hermaphrodite. Stamens 1 or 2. Styles 2. Fruit 1-celled, 1-seeded | 65. Goosefoot. |
| Leaves stipulate. Stipules sheathing the stem. Hermaphrodite. Stamens 5 to 8. Styles 2 or 3. Fruit 1-celled, 1-seeded, usually triangular .. | 66. Dock. |
| Stipules adnate to the petiole (attached by one edge to leaf-stalk), and more or less toothed. Male, female, or hermaphrodite. Stamens 1 to 4, or 20 to 30. Style 1; stigma capitate or tufted. Fruit containing 1 to 5 nuts | 26. Rose. |
| Stipules free (edges not attached to leaf-stalk), entire. Male, female, or hermaphrodite. Stamens 4. Stigma tufted, sessile or on a style. Perianth 2- or 4-lobed. Fruit 1-celled, 1-seeded | 75. Nettle. |
| Hermaphrodite. Stamens 5. Styles, or sessile stigmas 2 or 3. Perianth 5-lobed. Fruit 1-celled, 1-seeded | 33. Paronychia. |
| Dicœcious. Stamens 5. Styles 2. Male: Perianth 5-lobed. Female: Catkins. Fruit 1-celled, 1-seeded | 76. Hop. |

| DIV. V. | | OR OR 0 | | 2 ^{NDLY} (CONTINUED) |
|---------|---|---|----------------------------|-------------------------------|
| ♂ or ♀ | (See N° 75) | | <i>Stam.</i> | 93. ARACEÆ. |
| | | | $\overline{\text{P}}_{36}$ | 72. EUPHORBIACEÆ. |
| | | | $\overline{\text{P}}_3$ | 64. AMARANTHACEÆ. |
| | | | $\overline{\text{P}}_5$ | 65. CHENOPODIACEÆ. |
| | | | <i>Stam.</i> | 31. CUCURBITACEÆ. |
| | | | $\overline{\text{P}}_6$ | 81. DIOSCOREACEÆ. |
| | $\overline{\text{P}}_4$ | | 63. PLANTAGINACEÆ. | |
| | $\overline{\text{P}}_4$ or $\overline{\text{P}}_{10}$ | | 14. CARYOPHYLLACEÆ. | |
| | $\overline{\text{P}}_5$ | | 61. PRIMULACEÆ. | |
| | | | 65. CHENOPODIACEÆ. | |
| | $\overline{\text{P}}_6$ | | 27. LYTHRACEÆ. | |
| | $\overline{\text{P}}_8$ | | 80. TRILLIACEÆ. | |
| | $\overline{\text{P}}_{\text{many}}$ | or 3-10 | 1. RANUNCULACEÆ. | |
| | $\overline{\text{P}}_6$ or $\overline{\text{P}}_{12}$ | | 70. ARISTOLOCHIACEÆ. | |
| | $\overline{\text{P}}_4$ | | 29. ONAGRACEÆ. | |
| | | | 69. SANTALACEÆ. | |
| | $\overline{\text{P}}_5$ | | 37. UMBELLIFERÆ. | |
| | | | 36. SAXIFRAGACEÆ. | |
| | | $\overline{\text{P}}_{10}$, or $\overline{\text{P}}_5$ 2 5 | | 33. PARONYCHIACEÆ. |
















DIV. V.

































Flowers with corolla-like or calyx-like perianth,
or naked.
2^{dly} Herbs (continued).

| | FAMILY. |
|---|-------------------------|
| Flowers male or female. (See No. 75.) | |
| Flowers in a spathe. Spadix with male fl. above female. | |
| Stamen 1, anther sessile. Stigma sessile. | |
| Berry 2- to 4-seeded | 93. Arum. |
| Perianth 3-lobed; or a perianth-like involucre, cup-shaped, 4- or 5-lobed. | |
| Stamens 7 to 36. Styles 2 or 3. | |
| Capsule 2- or 3-celled, cells 1-seeded | 72. Spurge. |
| Perianth 3-lobed. | |
| Stamens 3. Styles 3. | |
| Capsule 1-celled, 1-seeded | 64. Amaranth. |
| Perianth 5-lobed in male, 2-lobed in female flowers. | |
| Stamens 5. Styles 2. | |
| Fruit 1-celled, 1-seeded | 65. Goosefoot. |
| Perianth 5-lobed. | |
| Stamens 5, sinuous, in 3 bundles. Style 3-fid, stigmas 2-lobed. | |
| Berry 3- to 6-seeded | 31. Gourd. |
| Perianth 6-lobed. | |
| Stamens 6. Styles or stigmas 3, reflexed. | |
| Berry imperfectly 3-celled, cells 2-seeded | 81. Yam. |
| Ovary superior. | |
| Stamens 4. | |
| Perianth 4-lobed, scarious. Style 1. | |
| Capsule 1- to 4-celled, cells 1-seeded; or 2-celled, cells 4- to 8-seeded | 63. Plantain. |
| Stamens 4 or 10. | |
| Perianth 4- or 5-lobed. Styles 3 or 4. | |
| Capsule 1-celled, many- (or few-) seeded | 14. Pink. |
| Stamens 5. | |
| Perianth bell-shaped 5-lobed. Style 1. | |
| Capsule 1-celled, about 10-seeded | 61. Primrose. |
| Perianth 5-lobed. Styles 2 or 3. | |
| Fruit 1-celled, 1-seeded, dry or fleshy | 65. Goosefoot. |
| Stamens 6. | |
| Perianth with 6 broad and 6 narrow lobes. Style short. | |
| Capsule 2-celled, cells many-seeded | 27. Loosestrife. |
| Stamens 8. | |
| Perianth 8-lobed, 4 narrower than the others. Styles 4. | |
| Berry 4-celled, cells 6- to 8-seeded | 80. Herb-Paris. |
| Stamens many. | |
| Fruits many 1-seeded, or 3 to 10 many-seeded | 1. Buttercup. |
| Ovary inferior. | |
| Style 1; stigma radiate. | |
| Stamens 6 or 12. | |
| Capsule 6-celled, cells many-seeded | 70. Birthwort. |
| Style 1. | |
| Stamens 4. | |
| Capsule 4-celled, cells many-seeded | 29. Willow-herb. |
| Stamens 5. | |
| Fruit 1-celled, 1-seeded | 69. Sandalwood. |
| Styles 2. | |
| Stamens 5. | |
| Fruit 2-celled, cells 1-seeded | 37. Umbellate. |
| Stamens 8. | |
| Cap. 1-celled, many-seeded; placentas 2, parietal | |
| Stam. 10 perfect, or 5 with anthers and 5 without. | 36. Saxifrage. |
| Fruit 1-celled, 1-seeded | 33. Paronychia. |

PHÆNOGAMÆÆ. (CONT'D)

CLASS II. ENDOGENÆ.

| DIV. VII. | |  |  OR  OR 0 | |
|---|--|---|---|-------------------|
|  | Fl.  |  3 |  | 80. TRILLIACEÆ. |
|  | Fl.  ♂: ♀ |  6 |  | 81. DIOSCOREACEÆ. |
|  | Fl.  |  ♂ ♀ |  | 93. ARACEÆ. |

| DIV. VIII. | |  |  OR  | |
|---|---|---|---|----------------------|
|  |  | ♂: ♀  9-20 |  | 82. HYDROCHARIDACEÆ. |
| |  |  or |  | 83. ORCHIDACEÆ. |
| |  |  3 |  | 84. IRIDACEÆ. |
|  6 | |  | 85. AMARYLLIDACEÆ. | |
|  |  | ♂  or ♀  20 to 30 | 3-6  or many  | 86. ALISMACEÆ. |
| |  |  6 or  |   | 87. ASPARAGACEÆ. |
| | | (See Ord. 89, Gen. 1) |   | 88. LILIACEÆ. |
| | (See N° 86) |  6 or  |   | 89. MELANTHACEÆ. |

FLOWERING PLANTS. (CONT^D)





























CLASS II. ENDOGENS.














Div. VI. { Leaves net-veined. Flowers with corolla-like or calyx-like perianth, or naked.

| | FAMILY. |
|---|------------------------|
| Leaves 4 in a whorl, ovate. Flowers solitary. Stamens 8. Berry 4-celled, cells several-seeded | 80. Herb-Paris. |
| Leaves alternate, cordate, plant twining. Flowers in a raceme. Dioecious. Stamens 6. Berry imperfectly 3-celled, cells 2-seeded | 81. Yam. |
| Leaves radical, sagittate. Flowers in a spathe. Spadix with male fl. above female. Berry 1-celled, 2- to 4-seeded | 93. Arum. |

Div. VII. { Leaves parallel-veined. Flowers with calyx and corolla, or corolla-like perianth.

| | FAMILY. |
|---|----------------------------|
| Fruit inferior. Flowers with calyx and corolla, polypetalous. Dioecious. Stamens 9 to 20. Water plants | 82. Frog-bit. |
| Flowers with corolla-like perianth, irregular. Stamens 1 or 2, on the style. Capsule 1-celled, many-seeded; placentas 3, parietal | 83. Orchis. |
| Flowers with corolla-like perianth, regular. Stamens 3, anthers facing outwards. Capsule 3-celled, cells many-seeded | 84. Iris. |
| Stamens 6, anthers facing inwards. Capsule 3-celled, cells many-seeded | 85. Daffodil. |
| Fruit superior. Flowers with calyx and corolla, polypetalous. Hermaphrodite: Stamens 6 or 9. Monoecious: Stamens 20 to 30. Ovaries 3 to 6, 1- or 2-seeded; or many 1-seeded | 86. Water-Plantain. |
| Flowers with corolla-like perianth. (See No. 86.) Stamens 6. Style 1; stigmas 1 or 3. (See Order 89, Genus 1.) Rhizome creeping. Berry with 1 or 2 1-seeded cells, or 3 2-seeded cells | 87. Asparagus. |
| Bulbous (or rarely root of fleshy fibres). Capsule 3-celled, cells many-seeded | 88. Lily. |
| Stamens 6. Styles 3, very long or short. Capsule 3-celled, separating into 3 many-seeded carpels | 89. Meadow-saffron. |

| DIV. VIII. | |  | | |  OR O |
|---|--|---|---|---|--|
|  | $\begin{matrix} \sigma \\ \text{or} \\ \text{3} \end{matrix} \text{♀}$ |  |  |  | 90. JUNCACEÆ. |
| | $\begin{matrix} \sigma \\ \text{6} \\ \text{♀} \end{matrix}$ |  |  |  | 93. ARACEÆ. |
| | | $\begin{matrix} \sigma \\ \text{or} \\ \text{♀} \end{matrix}$ |  |  |  |
|  | $\begin{matrix} \sigma \\ \text{4} \\ \text{or} \\ \text{♀} \end{matrix}$ |  |  |  | 91. ERIOCAULACEÆ. |
| | $\begin{matrix} \sigma \\ \text{or} \\ \text{2} \\ \text{♀} \end{matrix}$ $\begin{matrix} \sigma \\ \text{1} \\ \text{or} \\ \text{♀} \end{matrix}$ |  |  |  | 95. POTAMOGETONACEÆ. |
|  | $\begin{matrix} \sigma \\ \text{or} \\ \text{3} \\ \text{or} \\ \text{♀} \end{matrix}$ |  |  |  | 92. TYPHACEÆ. |
| <i>Prih. O.</i> | $\begin{matrix} \sigma \\ \text{1} \\ \text{or} \\ \text{♀} \end{matrix}$ $\begin{matrix} \sigma \\ \text{or} \\ \text{♀} \end{matrix}$ | $\begin{matrix} \sigma \\ \text{or} \\ \text{♀} \end{matrix}$ |  |  | 96. NAIADACEÆ. |
| | $\begin{matrix} \sigma \\ \text{2} \\ \text{or} \\ \text{♀} \end{matrix}$ $\begin{matrix} \sigma \\ \text{1} \\ \text{or} \\ \text{♀} \end{matrix}$ |  |  |  | 94. LEMNACEÆ. |

| DIV. IX. | | L.  | | |  |  |
|---|--|--|---|---|---|---|
|  | $\begin{matrix} \sigma \\ \text{3} \end{matrix}$ |  |  |  |  | 97. CYPERACEÆ. |
|  | $\begin{matrix} \sigma \\ \text{3} \end{matrix}$ |  |  |  |  | 98. GRAMINEÆ. |









DIV. VIII. { Leaves parallel-veined. Flowers with calyx-like perianth, or naked.

| | FAMILY. |
|---|---------------------|
| Perianth 6-lobed. Stamens 6 or 3. Hermaphrodite. Style 1; stigmas 3. Capsule 3- or 1-celled, many- or 3-seeded. Flowers in panicles, heads, or umbels | 90. Rush. |
| Stamens 6. Hermaphrodite. Style 0; stigma sessile. Berry 3-celled, cells many-seeded. Flowers in a dense spike, spathe long | 93. Arum. |
| Style 0; stigmas 3 or 6, sessile. Cap. separating into 3 or 6 1- or 2-seeded carpels. Flowers in spikes or racemes | 86. Water-Plantain. |
| Perianth 4-lobed, or none. Stamens 4. Monœcious. Style short; stigmas 2, long. Capsule 2-lobed, 2-celled, cells 1-seeded. Flowers in heads | 91. Pipewort. |
| Stamens 4 sessile, or 2 with filaments; hermaphrodite. Stamen 1; monœcious. Style 0; stigmas sessile. Fruit 4 drupes or 4 nuts, each 1-seeded. Flowers in spikes, clusters, or axillary | 95. Pondweed. |
| Perianth 3-lobed, or none. Stamens 3, on one filament, or separate. Monœcious. Style simple. Fruit 1-celled, 1-seeded. Flowers in spikes or globular heads | 92. Bulrush. |
| Perianth none. Stamen 1, with or without a filament. Monœcious or dioecious. Style 1; stigmas 2 or 3 (rarely 4). Fruit 1-celled, 1-seeded. Flowers on a leaf-like peduncle, enclosed in a leaf-like sheath; or axillary | 96. Naiad. |
| Stamens 2 or 1, with or without filaments. Monœcious. Style simple. Fruit 1-celled, 1- to 6-seeded. Floating or submerged plants, with leaf-like fronds | 94. Duckweed. |

DIV. IX. { Leaves parallel-veined. Flowers in imbricated bracts.

| | FAMILY. |
|--|------------|
| Each flower in the axil of 1 bract. Stamens 3; anthers erect, entire at the apex. Style 1; stigmas 2 or 3. Embryo within the albumen. Stem solid, triangular, or round. Sheath of leaf entire | 97. Sedge. |
| Each flower enclosed in 2 bracts. Stamens 3, rarely 2; anthers versatile, notched at both ends. Styles 2, feathery. Embryo outside the albumen. Stem hollow, round, knotted. Sheath of leaf split | 98. Grass. |

CRYPTOGAMEÆ.
CLASS III. ACROGENÆ.

| | | | | | |
|---|---|---|---|---|---|
| <p>Div. X.</p> | | <p>LEAVES NONE. STEM</p> | |  | <p>OR</p>  |
|  |  |  | <p>Sheath</p>  | <p>99. Equisetaceæ.</p> | |
|  | |  | | <p>100. Characeæ.</p> | |

| | | | | | |
|---|---|---|---|---|--|
| <p>Div. XI.</p> | | <p>LEAVES</p> | |  | <p>TO</p>  |
|  |  |  |  |  | <p>101. Lycopodiaceæ.</p> |
|  | |  | | <p>102. Marsileaceæ.</p> | |
|  |  |  |  |  | <p>103. Filices.</p> |

FLOWERLESS PLANTS.

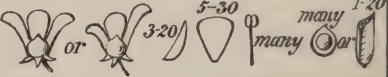















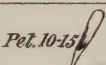







CLASS III. ACROGENS.

| | |
|--|---|
| <p>DIV. X. { Leaves none. Stem simple, or with whorled branches.</p> | |
| <p>Stem simple or branched, jointed.</p> <p>Joints surrounded by toothed sheaths</p> | <p>FAMILY.</p> <p>99. Horsetail.</p> |
| <p>Stem branched. Submerged aquatic plants.</p> <p>Joints without sheaths</p> | <p>100. Chara.</p> |

| | |
|---|--|
| <p>DIV. XI. { Leaves (or fronds) varying from simple to 2- or 3-pinnate.</p> | |
| <p>Plants aquatic, submerged, stemless, leaves subulate; or terrestrial with scale-like imbricated leaves</p> | <p>FAMILY.</p> <p>101. Club-moss.</p> |
| <p>Plants aquatic, submerged, rootstock creeping, leaves setaceous, circinate when young</p> | <p>102. Pillwort.</p> |
| <p>Plants terrestrial, with simple or variously divided leaves (fronds) circinate when young</p> | <p>103. Fern.</p> |

PHÆNOGAMEÆ.

CLASS. EXOGENÆ.

| 1. RANUNCULACEÆ.  | | | | |
|--|--|--|--|--|
|  |  | Pet. 4 white | FL.  | 1. ACTÆA. |
| Fr. many  | Only, petal-like. | 4-5 white |  | 2. CLEMÁTIS. |
| | | 4-5 yell. or purp. | Fr.  | 3. THALÍCTRUM. |
| | | 5-20 white or purp. |  | 4. ANEMÓNE. |
| | ∩ & ∪ | Pet. 5 yell.-green |  | 5. MYOSÚRUS. |
| | | Pet. 5-8 crim. | L.  | 6. ADÓNIS. |
| | | Pet. 5    | 8-10 Yell. or white | 7. RANÚCULUS. |
| | Fr. 1 or more  | Fl. crim. | 5 green | Pet. 5-10  |
| Fl. yell. | | 5 yell. | Pet. none | 9. CALTHA. |
| | | 5-8 yell. | Pet. 5-8  | 10. ERÁNTHIS. |
| | | 10-15 yell. | Pet. 10-15  | 11. TROLLÍUS. |
| Fl. green | | 5 green | Pet. 8-10  | 12. HELLEBÓRUS. |
| Fl. blue | |  spur | Fruit  | 13. DELPHINIUM. |
| Fl. purp. | | Pet. 5  | 5  | 14. AQUILÉGIA. |
| | |  hood | 3  | 15. ACONITUM. |

FLOWERING PLANTS.

CLASS I. EXOGENS.

1. BUTTERCUP FAMILY. {

Corolla regular or irregular, polypetalous, inferior.
 Sepals 3 to 20. Petals 5 to 30. Stamens many. Fruits
 (achenes) many, 1-seeded; or 1 to 20 follicles, many-
 seeded.

Fruit a berry, many-seeded.

Sepals 4. Petals 4, small, white. Flowers in racemes

1. { Bane-berry,
 Herb Christop-
 her.

Fruits (achenes) many, 1-seeded, short.

Flowers with sepals only, petal-like.

Sepals 4 or 5, white. Style bearded. Stem climb-
 ing, leaves opposite, pinnate

2. Traveller's Joy.
 3. Meadow-rue.

Sepals 4 to 5, yellow or purple. Fruit beardless ..

Sepals 5 to 20, white or purple. Flower stem with
 an involucre of 3 lobed or pinnate leaves

4. Anemone.

Flowers with both sepals and petals.

Petals 5, linear, with tubular claws, yellow-green.
 Stamens 5. Fruits on a long spike

5. Mousetail.
 6. Pheasant's-eye.

Petals 5 to 8, crimson. Leaves finely divided ..

Petals 5, or 8 to 10, with a pore at the base, yellow
 or white

7. { Buttercup,
 Crowfoot.

Fruits (follicles) 1 or more, many-seeded, long.

Flowers crimson.

Sepals 5, green. Petals 5 to 10

8. Pæony.

Flowers yellow (both sepals and petals).

Sepals 5 (petal-like), yellow. Petals none

9. Marsh Marigold.

Sepals 5 to 8 (petal-like), yellow. Petals small,
 linear, with a long claw

10. Winter Aconite.

Sepals 10 to 15 (petal-like), yellow. Petals 10 to 15,
 small, linear, clawed

11. Globe-flower.

Flowers green (both sepals and petals).

Sepals 5 (petal-like). Petals 8 to 10, tubular,
 2-lipped, clawed

12. { Hellebore,
 Bear's-foot.

Flowers blue (both sepals and petals).

Flowers irregular; upper sepal with a spur. Fruit
 1 follicle

13. Larkspur.















Flowers purple (both sepals and petals).










Flowers regular; petals 5, horn-shaped.
 Fruits 5 follicles

14. Columbine.










Flowers irregular; upper sepal of a hood-form.
 Fruits 3 follicles

15. { Monk's-hood,
 Wolfsbane.

| | | | | |
|--|---|---|---|---------------|
| 2. BERBERIDACEÆ.       | | | | |
|  |  |  |  Red | 1. BERBERIS. |
|  |  Let |  |  | 2. EPIMÉDIUM. |

| | | |
|---|---|-------------|
| 3. NYMPHÆACEÆ      | | |
|  Green outside |  many, white. | 1. NYMPHÆA. |
|  Yellow |  many, yellow. | 2. NÚPHAR. |

| | | | |
|---|--|--|-----------------|
| 4. PAPAVERACEÆ.       | | | |
|  4-20 |  or  |  Red or white | 1. PAPÁVER. |
| |  |  Yellow | 2. MECONÓPSIS. |
|  |  |  Violet | 3. ROEMÉRIA. |
| |  |  Yellow | 4. CHELIDÓNIUM. |
|  |  |  Yell. or red | 5. GLAÚCIUM. |

| | | | |
|---|---------------------|---|---------------|
| 5. FUMARIACEÆ.      or  | | | |
|  Corolla | Fl. purple |  | 1. FUMÁRIA. |
| | Fl. white or yellow |  | 2. CORYDÁLIS. |

| | |
|--|--|
| 2. BARBERRY FAMILY. | { Corolla regular, polypetalous, inferior. Sepals 6 or 4. Petals 6 or 4. Stamens 6 or 4, opposite the petals; anthers opening by valves attached to top. Fruit a 2- or 3-seed berry or pod. Shrubs or herbs. |
| Shrubs, with 3-forked spines and ovate leaves. Stamens 6. Fruit a 2- or 3-seeded berry, red | 1. Barberry. |
| Herbs, with compound leaves, leaflets ovate-cordate. Stamens 4. Fruit a many-seeded capsule | 2. Barrenwort. |

| | |
|--|--|
| 3. WATER-LILY FAMILY. | { Corolla regular, polypetalous, inferior. Sepals 4 or 5. Petals many, passing into stamens. Stamens many. Berry many-celled, many-seeded. Leaves floating, falsely peltate. |
| Sepals 4 green outside. Petals many, white | 1. { White Water-lily. |
| Sepals 5 yellow. Petals many, yellow | 2. { Yellow Water-lily, Brandy-bottle. |

| | |
|--|--|
| 4. POPPY FAMILY. | { Corolla regular, polypetalous, inferior. Sepals 2. Petals 4. Stamens many. Capsule 1- or 2-celled; placentas 2 to 20, many-seeded. |
| Capsule 1-celled; placentas 4 to 20 (forming imperfect cells). | |
| Capsule globular or oblong. Petals red or white | 1. Poppy. |
| Capsule obovate. Petals yellow | 2. Welsh Poppy. |
| Capsule 1-celled; placentas 2. | |
| Capsule linear, bristle-pointed. Petals violet | 3. Røemeria. |
| Capsule linear, smooth-pointed. Petals yellow | 4. Celandine. |
| Capsule 2-celled; placentas 2. | |
| Capsule very long, curved. Petals yellow or red | 5. Horned Poppy. |

| | |
|--|---|
| 5. FUMITORY FAMILY. | { Corolla regular, polypetalous, inferior. Sepals 2. Petals 4. Stamens 6, diadelphous; anthers, four 1-celled and two 2-celled. Fruit a 1-seeded nut or a several-seeded pod. |
| Corolla ringent, gibbous or spurred. Flowers purple. Fruit a nut, 1-seeded | 1. Fumitory. |
| Flowers white or yellow. Fruit a pod, 2-valved, many-seeded | 2. Corydal. |

| 6. CRUCIFERÆ. | |  |  |  |  |  |  | |
|--|---|---|---|---|---|---|---|--|
| |  |  |  | See <i>SE</i> | »» | 1. CRAMBE | | |
| |  |  |  | | | 2. ISÁTIS. | | |
| |  |  |  | | = | 3. CAKÍLE. | | |
| |  |  |  | No veins | = | 4. ARMORÁCIA. | | |
| | |  | 1 vein | = | 5. COCHLEÁRIA. | | | |
| |  |  |  | L. | | 6. CAMELÍNA. | | |
| | |  | Yellow | L. | = | 24. NASTURTIUM. | | |
| Pod to  |  |  |  | Pod | = | 7. ALYSSUM. | | |
| |  |  |  | | = | 8. DRÁBA. | | |
| | |  |  | Wing | = | 9. IBERIS. | | |
| |  |  |  | | | 10. SENEBIÉRA. | | |
| | | |  | Wing | or | | 11. LEPIDIUM. | |
| |  |  |  | | = | 12. TEESDÁLIA. | | |
| | | |  |  | | = | 13. HUTCHÍNSIA. | |
| |  | <i>L.</i> / all root |  | | | 14. SUBULÁRIA. | | |
| | | <i>Root L.</i> |  |  | | | 15. CAPSELLA. | |
| | |  |  | Wing | = | 16. THLASPI. | | |

6. CRUCIFER FAMILY.

Corolla regular, polypetalous, inferior. Sepals 4. Petals 4. Stamens 6, tetradynamous (4 longer than the 2 others). Fruit 2- (rarely 1-) celled; placentas parietal. Pod short or long.

Pod short, length from 1 to 3 breadths.

Pod without vertical division, fertile cells 1-seeded.

Pod globose, with 1 fertile and 1 barren cell, 2-jointed. Petals white

Pod compressed, pendulous, with fertile cell only. Petals yellow

Pod angular, with one or both cells fertile. Petals purple

Pod 2-celled, globose (with vertical division); cells many-seeded.

Petals white.

Valves (of the pod) without veins

Valves with 1 vein

Petals yellow.

Leaves mostly lanceolate-sagittate

Leaves mostly lyrate or pinnatifid, toothed ..

Pod 2-celled, dorsally compressed (viz. division in its broadest diameter); cells 1- or 2-seeded.

Stem leafy (leaves ovate-lanceolate).

Pods orbicular

Pod 2-celled, dorsally compressed; cells many-seeded. Stem naked, leaves radical tufted.

Pod oblong or ovate

Pod 2-celled, laterally compressed (viz. division in its narrowest diameter); cells 1-seeded.

Petals 4, 2 larger than the 2 others.

Pod ovate or orbicular, notched and winged ..

Petals 4, all equal.

Pod broader than long, wrinkled

Pod orbicular or oblong, notched or entire, keeled or winged

Pod 2-celled, laterally compressed; cells 2-seeded. Petals 4, 2 larger than the 2 others.

Stamens with a scale at the base of each. Pod orbicular notched

Petals 4, all equal.

Stamens without scales.

Pod oval

Pod 2-celled, laterally compressed; cells many-seeded. Leaves awl-shaped, all radical.

Pod oval-oblong

Root leaves mostly pinnatifid.

Pod triangular-cordate

Root leaves obovate or oval.

Pod orbicular, notched, and winged

1. Sea-kale.

2. Woad.

3. Sea Rocket.

4. Horse-radish.

5. Scurvy-grass.

[sure.

6. Gold of Plea-

24. Watercress.

7. Alyssum.

8. Whitlow-grass.

9. Candy-tuft.

10. Wart-cress.

11. Pepperwort, Cress.

12. Teesdalia.






























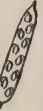









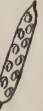

































13. Hutchinsia.

14. Awl-wort.













15. Shepherd's Purse.













16. Penny Cress.

N.B.—The position of radicle with respect to cotyledons is symbolized as follows:—Incumbent OII. Accumbent, O= . Con- duplicate, O > > .










| | | | | | | | |
|---|---|---|---|---|---|---|-------------------------|
|  <i>Lilac or purp.</i> See Nos 20 & 22 |  |  <i>Root L.</i> |  <i>Stigma</i> |  <i>No Veins</i> |  See XB | 17. <i>DENTÁRIA.</i> | |
| | |  <i>Root L.</i> |  <i>Stigma</i> |  <i>No Veins</i> |  See XB | 18. <i>MATTHÍOLA.</i> | |
| | |  <i>Root L.</i> |  <i>Stigma</i> |  <i>3 faint Veins</i> |  See XB | 19. <i>HESPERIS.</i> | |
|  <i>White</i> See Nos 24 & 27 |  |  <i>Root L.</i> |  <i>Stigma</i> |  <i>No Veins</i> |  See XB | 20. <i>CARDAMÍNE.</i> | |
| | |  <i>Root L.</i> |  <i>Stigma</i> |  <i>1 Rib & 2 Veins</i> |  See XB | 21. <i>ALLIÁRIA.</i> | |
| | |  <i>Root L.</i> |  <i>Stigma</i> |  <i>1 Rib Many Veins</i> |  See XB | 22. <i>ARÁBIS.</i> | |
|  <i>Pod</i> |  |  <i>Stem L.</i> |  <i>Calyx</i> |  <i>1 Rib</i> |  See XB | 22. <i>DO.</i> | |
| | |  <i>Root L.</i> |  <i>Calyx</i> |  <i>1 Rib</i> |  See XB | 23. <i>DIPLOTÁXIS.</i> | |
| |  <i>Yellow</i> |  |  <i>Root L.</i> |  <i>Calyx</i> |  <i>No Veins</i> |  See XB | 24. <i>NASTURTIUM.</i> |
| | | |  <i>Root L.</i> |  <i>Calyx</i> |  <i>1 Rib</i> |  See XB | 25. <i>CHEIRANTHUS.</i> |
| | |  |  <i>Root L.</i> |  <i>Calyx</i> |  <i>1 Rib</i> |  See XB | 26. <i>ERYSIUM.</i> |
| | | |  <i>Root L.</i> |  <i>Calyx</i> |  <i>Fl. white yellow or lilac</i> |  See XB | 27. <i>RAPHANUS.</i> |
|  |  <i>Root L.</i> |  <i>Calyx</i> |  <i>3-5 Veins</i> |  See XB | 28. <i>SINÁPIS.</i> | | |
| | |  <i>Calyx</i> |  <i>1 Vein</i> |  See XB | 29. <i>BRASSICA.</i> | | |
| |  <i>Root L.</i> |  <i>Calyx</i> |  <i>1 Rib</i> |  See XB | 30. <i>BARBARÉA.</i> | | |
| | |  <i>Root L.</i> |  <i>Calyx</i> |  <i>3 Veins</i> |  See XB | 31. <i>SISYMBRIUM.</i> | |










| | |
|--|-------------------------------------|
| Pod long, from 4 to many times its breadth. | |
| Petals lilac or purple. (See Nos. 20 and 22.) | |
| Seeds in a single row. | |
| Root leaves pinnate; leaflets few; bulbs in axils. | |
| Stigma a disk. Pod compressed; valves veinless. | 17. Coralwort. |
| Root leaves lanceolate entire, or oblong sinuate. | |
| Stigma with 2 gibbous lobes. Pod orbicular or compressed | 18. Stock. |
| Root leaves ovate-lanceolate, toothed. | |
| Stigma with 2 ovate lobes. Pod terete; valves with 3 faint veins | 19. Dame's Violet. |
| Petals white. (See Nos. 24 and 27.) | |
| Seeds in a single row. | |
| Root leaves pinnate (leaflets various). | |
| Pod compressed; valves flat veinless | 20. Bitter-cress. |
| Root leaves reniform or cordate, crenate. | |
| Pod terete; valves with 1 rib and 2 veins .. | 21. {Sauce-alone, Hedge-garlic. |
| Root leaves obovate, elliptic, or pinnatifid. | |
| Pod compressed; valves with 1 rib or many veins. (In <i>A. Thaliana</i> the cotyledons are incumbent.) | 22. Rock-cress. |
| Petals yellow. | |
| Seeds in a double row. | |
| Stem leaves oblong, arrow-shaped, entire. | |
| Calyx erect. Pod compressed; valves with 1 rib | 22. Tower-mustard. |
| Root leaves lobed, pinnatifid, lyrate, or pinnate. | |
| Calyx spreading. | |
| Pod compressed; valves with 1 vein | 23. Rocket. |
| Pod terete; valves veinless | 24. Watercress. |
| Seeds in a single row. | |
| Root leaves lanceolate, acute, entire. | |
| Lobes of stigma spreading. | |
| Pod compressed or 2-edged; valves with 1 rib | 25. Wallflower. |
| Root leaves lanceolate, slightly toothed; or obovate, entire, | |
| Stigma simple. Pod 4-edged; valves with 1 rib | 26. {Worm-seed, Treacle-mustard. |
| Root leaves lobed, pinnatifid, lyrate, or pinnate. | |
| Pod moniliform, divided into 1-seeded cells, | |
| Petals yellow, white, or lilac | 27. Radish. |
| Pod with a short or long conical beak. | |
| Calyx spreading. Valves with 3 to 5 veins | 28. Mustard. |
| Calyx erect. Valves with 1 vein | 29. Cabbage. |
| Pod with a simple pointed or capitate style. | |
| Pod terete; valves with 1 rib | 30. Wintercress. |
| Pod terete; valves with 3 veins | 31. Hedge-mustard. |













| | | | |
|---|--|--|------------|
| 7. RESEDACEÆ.  4-6  4-6  Stam. 10-20    | | | |
| Fl.  or  |  Greenish yell. or white | L.  or  or  | 1. RESÉDA. |

| | | | |
|---|--|---|------------------|
| 8. CISTACEÆ.  3  &  2 or 0  5  many   or  | | | |
| Fl.  |  Yellow or white | L.  or  | 1. HELIANTHEMUM. |

| | | | |
|---|--|---|-----------|
| 9. VIOLACEÆ.  5  5  Stam. 5 cohering   L. stip. | | | |
| Fl.  |  Blue purp yell or white | L.  or  | 1. VIOLA. |

| | | | |
|--|---|---|-------------|
| 10. DROSERACEÆ.  5  5  5   L. stip. | | | |
| Fl.  |  White | L. all rad.  or  | 1. DRÓSERÁ. |

| | | | |
|--|--|--|---------------|
| 11. FRANKENIACEÆ.   5  6   L. stip. | | | |
| Fl.  or  |  Pink | L.  | 1. FRANKÉNIA. |

| | | | |
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| 12. POLYGALACEÆ.  2  &  3  3  Stam.   | | | |
| Fl.  or  |  Blue pink or white | L.  or  | 1. POLYGÁLA. |

| | | | |
|---|---|--|-------------|
| 13. ELATINACEÆ  3-4  3-2  6 or 8  or   or  | | | |
| Fl.  |  Red |  or  | 1. ELATÍNE. |

| | | |
|---|---|--|
| 7. MIGNONETTE FAMILY. | } | Corolla irregular, polypetalous, inferior. Sepals 4 to 6. Petals 4 to 6. Stamens 10 to 20, on a one-sided disk. Capsule 1-celled, with 3 (rarely 4 to 6) parietal placentas, many-seeded, open at the top. |
| Flowers in spikes or racemes. Petals greenish-yellow or white. Leaves entire, pinnatifid, or pinnate | | 1. Mignonette. |

| | | |
|--|---|--|
| 8. ROCK-ROSE FAMILY. | } | Corolla regular, polypetalous, inferior. Sepals 3 large, and 2 or 0 small. Petals 5. Stamens many. Style simple. Capsule imperfectly 3-celled, seeds several. Herbs or shrubs. |
| Flowers in racemes. Petals yellow or white. Leaves opposite, linear-oblong or ovate | | 1. Rock-rose. |

| | | |
|---|---|--|
| 9. VIOLET FAMILY. | } | Corolla irregular, polypetalous, inferior. Sepals 5, saccate at the base. Petals 5. Stamens 5, cohering, 2 spurred. Style with a hooded stigma. Capsule 1-celled, with 3 parietal placentas, seeds many. Leaves with stipules. |
| Flowers spurred (solitary). Petals blue, pink, yellow, or white. Leaves cordate or ovate with pinnatifid stipules .. | | 1. {Violet, Pansy, Heartsease. |

| | | |
|--|---|---|
| 10. SUNDEW FAMILY. | } | Corolla regular, polypetalous, inferior. Sepals 5. Petals 5. Stamens 5. Styles 3, deeply bifid. Capsule 1-celled, with 3 parietal placentas in the middle of valves; seeds many. Leaves circinate in bud. |
| Flowers in racemes. Petals white. Leaves all radical, orbicular or obovate-lanceolate, covered with glandular hairs | | 1. Sundew. |

| | | |
|---|---|--|
| 11. SEA-HEATH FAMILY. | } | Corolla regular, polypetalous, inferior. Calyx tubular, with 5 teeth. Petals 5. Stamens 6. Style 3-fid. Capsule 1-celled, with 3 parietal placentas, seeds many. |
| Flowers terminal, or from the forks of the stem, sessile. Petals pink. Leaves oblong (with reflexed edges), clustered | | 1. Sea-heath. |

| | | |
|---|---|---|
| 12. MILKWORT FAMILY. | } | Corolla irregular, polypetalous, inferior. Sepals 2 large (coloured) and 3 small. Petals 3. Stamens 8, in two clusters. Style 1, curved. Capsule 2-celled (compressed), cells 1-seeded. |
| Flowers with the 2 inner sepals large and petal-like; in racemes. Petals blue, pink, or white. Leaves obovate or oblong-lanceolate | | 1. Milkwort. |

| | | |
|---|---|--|
| 13. WATERWORT FAMILY. | } | Corolla regular, polypetalous, inferior. Sepals 3 or 4. Petals 3 or 4. Stamens 6 or 8. Styles 3 or 4. Capsule 3- or 4-celled, cells many-seeded. |
| Flowers solitary, stalked, or sessile. Petals red. Leaves opposite, obovate. Stem rooting, water plants. | | 1. Waterwort. |

| 14. CARYOPHYLLACEÆ. | | | | |
|---------------------|--|------------------------|---------------------|-------------------------|
| | | <i>Calyx</i> | <i>Capsule</i> | 1. <i>DIANTHUS</i> . |
| | | | | 2. <i>SAPONARIA</i> . |
| | | | | 3. <i>SILÉNE</i> . |
| | | | | 4. <i>LYCHNIS</i> . |
| | | <i>Petals none</i> | | 5. <i>CHERLÉRIA</i> . |
| | | | | 6. <i>STELLÁRIA</i> . |
| | | | <i>Fl.</i> | 7. <i>HOLÓSTEUM</i> . |
| | | | <i>L. stip.</i> | 8. <i>POLYCARPON</i> . |
| | | | <i>L. stip.</i> | 9. <i>SPERGULÁRIA</i> . |
| | | | <i>Cap.</i> | 10. <i>HONKENÉYA</i> . |
| | | | | 11. <i>ALSÍNE</i> . |
| | | | | 12. <i>ARENÁRIA</i> . |
| | | | <i>Cap.</i> | 13. <i>MŒNCHIA</i> . |
| | | | | 14. <i>SAGÍNA</i> . |
| | | | <i>L.</i> | 14. <i>DO.</i> |
| | | | <i>L. stip.</i> | 15. <i>SPEŔGULA</i> . |
| | | | <i>Cap.</i> | 16. <i>CERÁSTIUM</i> . |

14. PINK FAMILY.

Corolla regular, polypetalous, inferior. Sepals 4 or 5, distinct, or united into a tubular calyx. Petals 4, 5, or 0. Stamens 4, 5, or 10. Styles 2 to 5. Capsule 1-celled, many-seeded; placenta central. Leaves opposite, entire, varying from linear to ovate.

Sepals united, forming a tubular calyx.

Styles 2.

Calyx with 2 or more scales at the base.

Capsule with 4 valves

1. {Pink and Carnation.

Calyx without scales at the base.

Capsule with 4 valves

2. Soapwort.

Styles 3.

Capsule more or less 3-celled, with 6 valves ..

3. Catchfly.

Styles 5.

Capsule 1- or partly 5-celled, with 5 or 10 valves

4. Campion.

Sepals 4 or 5, distinct.

Styles 3.

Petals none.

Capsule with 3 valves

5. Cyphel.

Petals 5, bifid.

Capsule with 6 valves

6. Stitchwort.

Petals 5, jagged or toothed.

Flowers 3 to 8, umbellate

7. Holosteum.

Petals 5, emarginate.

Leaves obovate, upper ones 4 in a whorl, stipulate

8. Polycarp.

Petals 5, entire.

Leaves linear, stipulate. Petals purple

9. Sand Spurry.

Capsule 3- to 5-seeded, valves 3

10. Sea Purslane.

Capsule many-seeded, valves 3

11. Sandwort.

Capsule many-seeded, valves 6

12. Do.

Styles 4.

Petals 4, entire. Capsule with 8 valves

13. Mœnchia.

Petals 4, entire, or none. Capsule with 4 valves

14. Pearl-wort.

Styles 5.

Petals 5, entire.

Leaves opposite, without stipules

14. Do.









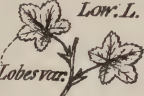






Leaves whorled, with stipules











15. Spurry.











Petals 5, bifid.

Capsule with 10 valves













16. Mouse-ear.

| | | | |
|---|---|--|---------------------|
| <p>15. MALVACEÆ.   Inner  Outer  5  5    8-20 Cells</p> | | | |
| <p><i>Low. L.</i> </p> |  | <p>Outer calyx</p>  | <p>1. LAVATÉRA.</p> |
| <p>Inner Calyx</p>  |  |  | <p>2. MALVA.</p> |
| | |  | <p>3. ALTHÉA.</p> |

| | | | |
|---|---|---|------------------|
| <p>16. TILIACEÆ.   5  5  many   </p> | | | |
| <p>Fl. </p> |  <i>Straw colour</i> |  | <p>1. TILIA.</p> |

| | | | |
|--|---|---|----------------------|
| <p>17. HYPERICACEÆ.   5  5  many in 3 or 5 sets   3 or 5 cells </p> | | | |
|  |  <i>Yellow</i> |  <i>to</i> | <p>1. HYPERICUM.</p> |

| | | | |
|--|---|---|-----------------|
| <p>18. ACERACEÆ.   5  5  8   </p> | | | |
| <p>Fl.  <i>or</i></p> |  <i>Greenish</i> |  <i>opp.</i> | <p>1. ACER.</p> |

| | | | |
|--|---|---|---------------------|
| <p>19. GERANIACEÆ.   5  5  Stam. 5 or 10   <i>L. opp slip.</i></p> | | | |
|  10 |  |  <i>or</i> | <p>1. GERANIUM.</p> |
|  5 & 15 |  |  <i>or</i> | <p>1. ERÓDIUM.</p> |









| | |
|---|-------------------------|
| 15. MALLOW FAMILY. { Corolla regular, polypetalous, inferior. Inner sepals 5, valvate in the bud. Outer sepals 3 or 6. Petals 5. Stamens many, united at the base. Styles many, united at the base. Fruit 8- to 20-celled, cells 1-seeded. | |
| Leaves alternate, stipulate, lower variously lobed. Inner calyx of 5 sepals. | |
| Shrubs. | |
| Outer calyx of 3 ovate sepals | 1. Tree Mallow. |
| Herbs. | |
| Outer calyx of 3 lanceolate sepals | 2. Mallow. |
| Outer calyx of 6 lanceolate sepals | 3. Marsh-mallow. |










| | |
|---|---------------------------|
| 16. LIME FAMILY. { Corolla regular, polypetalous, inferior. Sepals 5, valvate in the bud. Petals 5. Stamens many. Style simple. Ovary 5-celled, cells 2-seeded. Fruit 1-celled, 1- or 2-seeded. Trees. | |
| Flowers on a bract. Petals straw colour. | |
| Leaves alternate, obliquely cordate, stipulate | 1. Lime or Linden. |






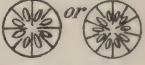








| | |
|---|----------------------------|
| 17. ST. JOHN'S WORT FAMILY. { Corolla regular, polypetalous, inferior. Sepals 5. Petals 5. Stamens in 3 (rarely 5) bundles. Styles 3 or 5. Capsule with 3- or 5-cells, cells many-seeded. (Herbs or shrubs.) | |
| Sepals mostly with glandular dots. | |
| Petals yellow. Leaves opposite, entire, linear to ovate | 1. St. John's Wort. |











| | |
|--|------------------|
| 18. MAPLE FAMILY. { Corolla regular, polypetalous, inferior. Calyx-lobes 5. Petals 5. Stamens usually 8 (on an hypogynous disk). Styles 2. Ovary 2-celled, cells 1- or 2-seeded. Fruit winged. Trees. | |
| Flowers in pendulous racemes, or erect corymbs. | |
| Petals greenish. Leaves opposite, lobed | 1. Maple. |










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| 19. GERANIUM FAMILY. { Corolla regular, polypetalous, inferior. Sepals 5. Petals 5. Stamens 5 or 10, united at the base. Fruit 5-celled, cells 1-seeded. Fruit with a long beak. Leaves opposite, stipulate. (Stem swollen at the nodes.) | |
| Stamens 10. | |
| Awns of carpels not bearded internally; ultimately recurved. | |
| Leaves divided palmately, or into 3 pinnate segments | 1. Crane's-bill. |
| Stamens, 5 fertile, with scales at the base, and 5 sterile. | |
| Awns of carpels bearded; ultimately spirally twisted. | |
| Leaves pinnate; or ovate, lobed | 2. Stork's-bill. |

| | | | |
|--|-------------------------------------|---|----------------------|
| 20. BALSAMINACEÆ.       | | | |
| <i>Lower sepal</i>  | <i>Fl. yellow or orange spotted</i> |  | 1. IMPATIENS. |

| | | | |
|--|--|---|-------------------|
| 21. OXALIDACEÆ.       | | | |
| <i>Fl. or</i>  |  <i>White or yellow</i> |  | 1. OXALIS. |

| | | | |
|---|--|---|--------------------|
| 22. LINACEÆ.       | | | |
|   |  <i>White</i> |  | 1. RADÍOLA. |
|   |  <i>Blue or white</i> |  | 2. LINUM. |

| | | | |
|---|--|---|----------------------|
| 23. CELASTRACEÆ.       | | | |
|   |  <i>Yellowish white</i> |  | 1. EUONYMUS. |
|   |  <i>Greenish white</i> |  | 2. STAPHYLÉA. |

| | | | |
|---|--|---|--------------------|
| 24. RHAMNACEÆ.       | | | |
| <i>Fr.</i>  <i>Black or purp.</i> |  <i>Greenish or white</i> |  | 1. RHAMNUS. |




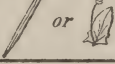
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| 20. BALSAM FAMILY. | } | Corolla irregular, polypetalous, inferior. Sepals 3, yellow. Petals 3. Stamens 5, anthers cohering. Ovary 5-celled, cells many-seeded. Succulent plants. |
| Lower sepals spurred, horn-shaped. Flower yellow or orange, spotted. Leaves alternate, ovate, serrate | | 1. Balsam. |

| | | |
|--|---|--|
| 21. WOOD-SORREL FAMILY. | } | Corolla regular, polypetalous, inferior. Sepals 5. Petals 5. Stamens 5 long and 5 short. Styles 5. Ovary 5-celled, cells few-seeded. |
| Flowers solitary or in scant umbels. Petals white or yellow. Leaves ternate, stipulate | | 1. Wood-sorrel. |

| | | |
|---|---|---|
| 22. FLAX FAMILY. | } | Corolla regular, polypetalous, inferior. Sepals 4 or 5. Petals 4 or 5. Stamens 4 or 5. Styles 4 or 5. Capsule with 4 complete and 4 incomplete, or with 5 complete and 5 incomplete dissepiments. |
| Stamens 4. Styles 4. Petals 4, white. Sepals 4 | | 1. All-seed. |
| Stamens 5. Styles 5. Petals 5, blue or white. Sepals 5 | | 2. Flax. |

| | | |
|---|---|---|
| 23. SPINDLE-TREE FAMILY. | } | Corolla regular, polypetalous, inferior. Sepals 4 or 5. Petals 4 or 5. Stamens 4 or 5. Styles 1 or 2. Ovary 4-celled, cells 1-seeded; or 2-celled, cells 2-seeded. Shrubs or trees. |
| Stamens 4. Style 1. Petals 4, yellowish-white. Leaves ovate-lanceolate, minutely serrate | | 1. Spindle-tree. |
| Stamens 5. Styles 2. Petals 5, greenish-white. Leaves pinnate, leaflets 5 to 7. Stipules deciduous | | 2. Bladder-nut. |

| | | |
|--|---|--|
| 24. BUCKTHORN FAMILY. | } | Corolla regular, polypetalous, inferior. Calyx-lobes 4 or 5, valvate in bud. Styles 1, or 4 partly united. Petals 4 or 5. Stamens 4 or 5 opposite the petals. Fruit a 4- or 2-celled berry, cells 1-seeded. Shrubs or trees. |
| Fruit a black or purple berry. Petals small greenish-white. Leaves obovate, entire; or oval, serrate | | 1. Buckthorn. |

| 25. LEGUMINOSÆ. | |  |  |  |  | |
|---|---|---|---|---|---|--|
|  |  | <i>Calyx</i>  | <i>Fl. yellow</i> | 1. <i>ULEX.</i> | | |
| |  |  | <i>Fl. yellow</i> | 2. <i>GENIŒTA.</i> | | |
| |  |  | <i>Stip.</i> <i>Fl. yell.</i> | 3. <i>SAROTHAMINUS.</i> | | |
| | |  | <i>Stip.</i> <i>Fl. rose</i> | 4. <i>ONÓNIS.</i> | | |
|  |  | <i>Pod</i>  | <i>Fl.</i>  | 5. <i>MEDICÁGO.</i> | | |
| |  | <i>Seeds</i> 1-4 | <i>Fl.</i>  | 6. <i>TRIFÓLIUM.</i> | | |
| |  | <i>Seeds</i> 1-4 | <i>Fl.</i>  | 7. <i>MELILÓTUS.</i> | | |
| |  | <i>Seeds</i> 6-8 | <i>Fl.</i>  | <i>Stip.</i>  | 8. <i>TRIGONÉLLA.</i> | |
| |  | <i>Bract</i>  | <i>Stip.</i>  | 9. <i>LÓTUS.</i> | | |
| |  | <i>Do.</i>  | <i>Fl.</i>  | 10. <i>ANTHYLLIS.</i> | | |
| |  | <i>Fl.</i>  | <i>Rose streaked</i> | 11. <i>ONÓBRYCHIS.</i> | | |
| |  | <i>Stip.</i>  | <i>Keel</i>  | 12. <i>OXYTROPIS.</i> | | |
| |  | <i>Stip.</i>  | <i>Keel</i>  | 13. <i>ASTRAGÁLUS.</i> | | |
| |  | <i>Bct.</i>  | <i>Fl. rose streaked</i> | 14. <i>ORNITHÓPUS.</i> | | |
| |  | <i>Bct. 0</i>  | <i>Fl. 2-5 yell.</i> | 15. <i>ARTHROLÓBIUM.</i> | | |
| |  | <i>Bct. 0</i>  | <i>Fl. 3-8 yell.</i> | 16. <i>HIPPOCRÉPIS.</i> | | |
| | (See No. 29) |  | <i>Style</i>  | <i>Fl.</i>  | 17. <i>ORÓBUS.</i> | |
| |  |  | <i>Stem</i>  | <i>Stip.</i>  | 18. <i>VIÇIA.</i> | |
| | |  | <i>Stem.</i>  | <i>Stip.</i>  | 19. <i>LATHÝRUS.</i> | |
| |  |  | <i>Style</i>  | 19. <i>DO.</i> | | |

25. PEAFLOWER FAMILY. {

Corolla irregular (papilionaceous), polypetalous, inferior. Calyx-lobes 5. Petals 5. Stamens 10, all or 9 united. Style 1. Fruit a long or short legume.

Shrubs, or under-shrubs.

Leaves simple, awl-shaped.

Calyx of 2 sepals, with 2 bracts. Flowers yellow

Leaves simple (mostly lanceolate or obovate).

Calyx with 5 teeth, the 2 upper longer than the others. Flowers yellow

Leaves simple or ternate. (Leaves and leaflets mostly oblong or obovate.)

Calyx 2-lipped, lips short.

Stipules free from leaf-stalk. Flowers yellow ..

Calyx 5-cleft, segments narrow.

Stipules adnate to leaf-stalk. Flowers rose ..

Herbs.

Leaves ternate. (Leaflets mostly linear, lanceolate, obovate or obcordate.)

Pod variously curled, or spirally twisted.

Flowers in scant racemes or heads

Pod short, seldom longer than the calyx; seeds 1 to 4.

Flowers in heads or umbels

Pod short, sub-globose, longer than the calyx; seeds 1 to 4.

Flowers in long racemes

Pod compressed, truncate, seeds 6 to 8.

Flowers 2 or 3 together. Stipules small, not leaf-like

Pod long.

Bracts ternate. Stipules large, leaf-like

Leaves pinnate, with 2 or more pairs of leaflets, and an odd terminal one. (Leaflets mostly linear, lanceolate, oblong, oval, or obovate.) (See No. 9.)

Pod enclosed in inflated calyx, 1-seeded.

Bracts leaf-like. Flower heads 2 (or 3) together

Pod twice as long as calyx, prickly, 1-seeded.

Flowers in dense racemes, rose streaked

Pod much longer than the calyx, upper suture inflexed.

Stipules adnate to the leaf-stalk. Keel acute ..

Pod much longer than the calyx, lower suture inflexed. Stipules free from leaf-stalk. Keel blunt

Pod many-jointed, contracted at the joints.

Bracts leaf-like. Flowers rose streaked

Pod many-jointed, not contracted at joints.

Bracts none. Flowers 2 to 5 together, yellow ..

Pod many-jointed, joints crescent-shaped.

Bracts none. Flowers 5 to 8 together, yellow ..

Leaves pinnate, with 2 or more pairs of leaflets, and a terminal stump. (Leaflets mostly lanceolate or oblong.)

Style flattened, hairy on the inner side only.

Flowers in racemes

Leaves pinnate, with 2 or more pairs of leaflets, and a tendril. (Leaflets mostly linear, lanceolate, or ovate.)

Style filiform, hairy on the outside or all round.

Stem angular, and stipules mostly half-sagittate or ovate (not leaf-like)

Style flattened, hairy on the inner side only. Stem winged, or stipules broad, leaf-like, hastate ..

Leaves pinnate, with a single pair of leaflets and a tendril (leaflets mostly linear, lanceolate, or obovate); or a single lanceolate leaf-like bract; or a hastate bract, with a tendril.

Style flattened, hairy on the inner side only

- 1. { Furze,
Whin,
Gorse.
- 2. { Dyer's Green-
weed,
Needle Whin.

3. Broom.

4. Rest-harrow.

5. Medick.

6. { Clover,
Trefoil.

7. Melilot.

8. { Trigonal,
Fenugreek.

9. { Bird's-foot
Trefoil.

10. { Lady's Finger,
Kidney-vetch.

11. { Sainfoin,
Cock's-head.

12. Oxytrope.

13. Milk-vetch.

14. Bird's-foot.

15. { Yellow Bird's-
foot.














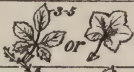








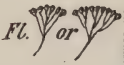





















16. { Horseshoe
Vetch.

17. Bitter Vetch.

18. Vetch, Tare.

19. { Vetchling,
Everlasting
Pea.

19. Do.

| 26. ROSACEÆ. | | | | | | | |
|--|--|--|---|---|---|-----------------|-----------------|
| |  | or |  | 4-10 | | | |
| | | |  | 5. 4 or 8 | | | |
| | | |  | many | | | |
| | | |  | many | | | |
| | | |  | or 1-3 | | | |
| | | | | Fr. var. L. stip. | | | |
|  or  |  |  |  | 5-9 | 1. RÓSA. | | |
| |  |  |  | 3-5 | 2. RÚBUS. | | |
| |  |  | or |  | to | 3. PRÚNUS. | |
| |  1-5 Cells | Fl. & Cal. |  |  | Carpels bony | 4. MEŚPILUS. | |
| | | Fl. & Cal. |  |  | Do. | 5. COTONEÁSTER. | |
| | | Fl. or |  |  | Do. | 6. CRATÉGUS. | |
| | | | |  | Carp. horny | 7. PÝRUS. | |
|  | None | ♀ 1-4 |  | Green | 8. ALCHEMIŁŁA. | | |
| | | |  | Purple | 9. SANGUISORĒBA | | |
| | Calyx | Fl. | ♂ ♀ 20-30 |  | ♂ ♀ | 10. POTÉRIUM. | |
| | | | |  |  | ♂ 5-12 | 11. SPIRĒA. |
| |  or  | Fl. | ♂ ♀ |  | ♂ 1-2 | 12. AGRIMÓNIA. | |
| | | | |  |  | 8 | White |
| | |  or  | 5 | White |  | | 14. FRAGÁRIA. |
| | | | | |  | | 15. POTENTIŁŁA. |
| 5-8 | | | Yellow | many |  | many | 15. DO. |
| | | | | |  | many | 16. GÉUM. |
| 5 | Purple | 5 |  | | 17. SIBBALDÍA. | | |
| | | |  | | 18. CÓMARUM. | | |

26. ROSE FAMILY. {

Corolla regular, polypetalous, inferior or superior. Calyx-lobes 4 to 10. Petals 5, 4, or 8. Stamens many, perigynous (inserted at the base of the sepals). Ovaries many, or 1 to 5. Fruit various. Leaves stipulate.

Trees or shrubs.

Fruit many hairy nuts in a fleshy calyx-tube.

Petals large, notched. Leaves pinnate, stipules adnate to petiole; leaflets 5 to 9; stem prickly

Fruit granulated, consisting of many small drupes.

Petals entire. Leaves ternate or quinate, or rarely simply lobed; stem prickly

Fruit a fleshy drupe.

A cherry or plum. Leaves toothed, varying from lanceolate to obovate

Fruit a thick fleshy calyx-tube, a pome with 1 to 5 cells, cells 1- to 2-seeded.

Flowers solitary. Calyx segments long, leaf-like.

Leaves lanceolate. Carpels bony

Flowers 1 to 4 together. Calyx with short lobes.

Leaves roundish ovate. Carpels bony

Flowers in compound cymes.

Leaves deeply lobed (stem thorny). Carpels bony

Leaves variously toothed, lobed, or pinnate.

Carpels horny

Herbs.

Petals none.

Hermaphrodite. Stamens 1 to 4.

Calyx of 8 segments in 2 rows, green; alternate segments smaller

Calyx of 4 segments in 1 row, purple

Polygamous. Stamens 20 to 30.

Male flowers with long delicate stamens.

Female flowers with a tufted style

Calyx of 5 segments in 1 row.

Flowers in compound cymes.

Fruit 5 to 12 follicles

Flowers in long spikes.

Fruit 1 to 2 nuts in a turbinate calyx armed with hooked bristles

Calyx of 8 segments in 1 row.

Petals 8, white.

Fruit many small nuts with hairy styles.

Receptacle flat, dry

Calyx of 10 or 8 segments in 2 rows, the outer segments usually smaller.

Petals 5, white.

Fruit many small nuts, on a large succulent deciduous receptacle

Fruit many small nuts, on a large flattish dry receptacle

Petals 5 or 4, yellow.

Stamens many. Fruit many small nuts, on a flattish dry receptacle

Stamens many. Fruit many small nuts, with jointed hooked styles, on an elongated dry receptacle

Stamens 5. Fruit many small nuts, on a flattish dry receptacle

Petals 5, purple.

Fruit many small nuts, on an ultimately large spongy receptacle

1. Rose.

{ Bramble,
2. Blackberry,
Raspberry.

3. { Plum,
Cherry.

4. Medlar.

5. Cotoneaster.

{ Hawthorn,
6. May,
Whitethorn.
7. { Pear, Apple,
Service, &c.

8. Lady's Mantle.

9. Great Burnet.

10. Lesser Burnet.

11. { Meadow-sweet,
Dropwort, &c.

12. Agrimony.

13. { Mountain
Avens.

14. Strawberry.



15. Cinque-foil.











15. Do.






16. Avens.

17. Sibbaldia.









18. { Marsh Cinque-
foil.

| | | | | |
|---|---|--|---|-------------|
| 27. LYTHRACEÆ.  4-6  4-6  4-6  6-12   | | | | |
|  |  |  4-6 Purple |  | 1. LYTHRUM. |
|  |  |  6 or 0 Reddish |  | 2. PEPLIS. |

| | | | | |
|---|---|--|---|-------------|
| 28. TAMARISCACEÆ.  5  5  5    | | | | |
| Fl.  |  Pink or white | Seed  |  L | 1. TAMARIX. |

| | | | | |
|--|--|---|---|---------------|
| 29. ONAGRACEÆ.  2-4  2, 4, or 0  2, 4, or 8    | | | | |
|  2 |  2 |  2 Pale Pink |   | 1. CIRCEÆA. |
|  4 |  4 |  None |   | 2. ISNARDIA. |
| |  8 |  4 Yellow |   | 3. CENOTHERA. |
| | |  4 Pinkred, or white |   | 4. EPILÓBIUM. |

| | | | | |
|---|---|---|--|------------------|
| 30. HALORAGACEÆ.  2 or 4  (hard)  1 or 3  or   or   | | | | |
| ♀ |  1  |  |  6-12 | 1. HIPPIRIS. |
| (♂ ♀) |  8  |  |  3-5 | 2. MYRIOPHYLLUM. |

| | | | | |
|---|--|--|---|-------------|
| 31. CUCURBITACEÆ.  ♂ ♀  5  5  Stam.   | | | | |
| Stamens  |  greenish white | Fl.  Red or black |  | 1. BRYONIA. |

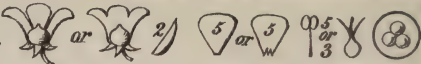




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| 27. LOOSESTRIFE FAMILY. { Corolla regular, polypetalous, inferior. Calyx-lobes 4 to 6 large and 4 to 6 small. Petals 4 to 6. Stamens 6 to 12. Style 1. Capsule 2-celled, cells many-seeded. | |
| Calyx tubular. Style long, filiform. Petals 4 to 6 purple. Plant upright | 1. Purple Loosestrife. |
| Calyx bell-shaped. Style short. Petals 6 (minute) reddish, or none. Plant prostrate creeping | 2. Water-Purslane. |

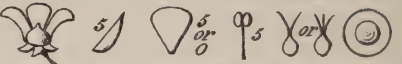













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| 28. TAMARISK FAMILY. { Corolla regular, polypetalous, inferior. Calyx-lobes 5. Petals 5. Stamens 5. Styles 3, thick. Capsule 1-celled, many-seeded. Shrubs. | |
| Flowers in spikes. Petals pink or white. Seeds hairy. Leaves minute scale-like | 1. Tamarisk. |

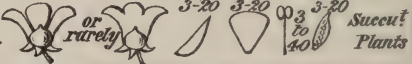






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|---|-----------------------------------|
| 29. WILLOW-HERB FAMILY. { Corolla regular, polypetalous, superior. Calyx-lobes 2 to 4. Petals 2, 4, or 0. Stamens 2, 4, or 8. Style 1. Capsule 1- or 2-celled, cells 1-seeded; or 4-celled, cells many-seeded. | |
| Calyx-lobes 2. Stamens 2. Petals 2, pale-pink. Capsule hairy, 1- or 2-celled, cells 1-seeded | 1. Enchanter's Nightshade. |
| Calyx-lobes 4. Stamens 4. Petals none. Capsule short, 4-celled, cells many-seeded | 2. Isnardia. |
| Stamens 8. Petals 4, yellow. Capsule linear, short, 4-celled, cells many-seeded, seeds glabrous | 3. Evening Primrose. |
| Petals 4, pink, red, or white. Capsule linear, long, 4-celled, cells many-seeded. Seeds hairy | |


| | |
|---|--------------------------|
| 30. MARE'S-TAIL FAMILY. { Corolla regular, polypetalous, superior; or none. Calyx-lobes 2 or 4. Petals 4, or (usually) none. Stamens 1, or in male flowers 8. Style 1, or in female flowers 4. Fruit 1-celled, 1-seeded; or separating into 4 1-seeded nuts. Water plants. | |
| Hermaphrodite. Stamen 1. Style 1 acute. Fruit a 1-celled nut. Leaves linear, 6 to 12 in a whorl | 1. Mare's-tail. |
| Monœcious. Stamens 8. Styles 4 villous. Fruit separating into 4 1-seeded nuts. Leaves pinnate, 3 to 5 in a whorl | 2. Water Milfoil. |

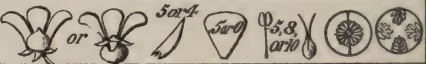






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| 31. GOURD FAMILY. { Corolla regular, monopetalous, superior. Diœcious. Calyx-lobes 5. Corolla-lobes 5. Stamens 5, sinuous, in 3 bundles. Style 3-fid, stigmas 2-lobed. Fruit a 3- to 6-seeded berry. | |
| Stamens 5, sinuous, in 3 bundles. Corolla veined, greenish-white. Fruit red or black. Stem climbing, with tendrils, leaves lobed | 1. Bryony. |

| | | | |
|---|-------------|--|----------------------|
| 32. PORTULACACEÆ.  | | | |
|  <i>White</i> | φ_3 |  | 1. <i>MONŦIA.</i> |
|  <i>White</i> | φ_5 | <i>Stem L.</i>  | 2. <i>CLAYTÓNIA.</i> |

| | | | | |
|--|---|--|---|------------------------|
| 33. PARONYCHIACEÆ.  | | | | |
|  | <i>Petals none</i> | <i>Calyx</i>  | <i>Leaves</i>  | 1. <i>SCLERANŦHUS.</i> |
| |  |  |  | 2. <i>HERNIÁRIA.</i> |
| |  |  |  | 3. <i>ILLECÉBRUM.</i> |
|  |  |  |  | 4. <i>CORRIGÍOLA.</i> |

| | | | | |
|--|---|---------------------------|---|------------------------|
| 34. CRASSULACEÆ.  <i>or rarely</i>  <i>Succul Plants</i> | | | | |
| φ_{3or4} | <i>Pet.</i> \int_{3or4} | <i>Follicles</i> \int_3 | <i>Leaves</i>  | 1. <i>TILLÉA.</i> |
| $\varphi_{8,10}$ <i>or 12</i> | <i>Cor.</i>  | \int_5 |  | 2. <i>COTYLÉDON.</i> |
| | <i>Pet.</i> \int_{4-6} | \int_{4-6} |  | 3. <i>SÉDUM.</i> |
| φ_{12-40} | <i>Pet.</i> \int_{6-20} | \int_{6-20} |  | 4. <i>SEMPERVÍVUM.</i> |

| | | | | |
|--|--|------------------|--|------------------|
| 35. RIBESIACEÆ.  | | | | |
| <i>Fl.</i>  <i>or</i>  | <i>Fr.</i>  | <i>Fl. Green</i> |  <i>3-5 lobes</i> | 1. <i>RÍBES.</i> |

| | | | | |
|---|----------------|---|---|---------------------------|
| 36. SAXIFRAGACEÆ.  | | | | |
| <i>Calyx</i>  | φ_3 | <i>None</i> <i>Yellow</i> |  | 1. <i>CHRYSOSPLÉNÍUM.</i> |
|  | φ_5 | <i>Scales</i>  |  | 2. <i>PARNÁSSIA.</i> |
| | φ_{10} |  |  | 3. <i>SAXIFRAGA.</i> |

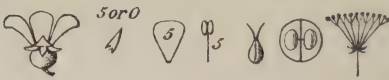

































































| | | |
|---|--|---|
| 32. PURSLANE FAMILY. { | | Corolla regular, polypetalous or monopetalous, inferior. Sepals 2. Petals 5, or corolla-lobes 5. Stamens 5 or 3. Stigmas 3. Capsule 1-celled, 3-seeded. |
| Corolla 5-lobed, split, white; 2 lobes longer than the other 3. | Stamens 3. Leaves opposite, spatulate, entire .. | 1. Blinks. |
| Petals 5, white. | Stamens 5. Stem leaves orbicular concave, perfoliate | 2. Claytonia. |

| | | |
|---|---|--|
| 33. PARONYCHIA FAMILY. { | | Corolla regular, polypetalous, inferior. Sepals 5. Petals 5 or 0. Stamens 5. Styles (or stigmas) 2 or 3. Fruit 1-celled, 1-seeded. |
| Stigmas or styles 2. | Petals none. Calyx vase-shaped. | |
| Leaves linear, opposite | | 1. Knawel. |
| Petals setaceous. Calyx of 5 sepals. | Leaves opposite, obovate | 2. Rupture-wort. |
| Petals subulate. Calyx of 5 sepals, horned at back. | Leaves obovate | 3. Illecebrum. |
| Stigmas or styles 3. | Petals oval or oblong. Calyx of 5 sepals. | |
| Leaves oblong, tapering at base, alternate | | 4. Strapwort. |

| | | |
|---|---|--|
| 34. STONECROP FAMILY. { | | Corolla regular, polypetalous, or rarely monopetalous, inferior. Sepals 3 to 20. Petals 3 to 20. Stamens 3 to 40. Follicles 3 to 20. Succulent plants. |
| Stamens 3 or 4. | Petals 3 or 4. Follicles 3. | |
| Leaves opposite, oblong, blunt, connate | | 1. Tillæa. |
| Stamens 8, 10, or 12. | Corolla tubular, 5-cleft. Follicles 5. Root leaves peltate | 2. Navelwort. |
| Petals 4 to 6. | Follicles 4 or 6. Leaves subterete, ovate or oblong; or flat obovate or toothed | 3. {Stonecrop, Orpine. |
| Stamens 12 to 40. | Petals 6 to 20. Follicles 6 to 20. Leaves obovate, thick | 4. Houseleek. |

| | | |
|---|--|---|
| 35. CURRANT FAMILY. { | | Corolla regular, polypetalous, superior. Calyx-lobes 5. Petals 5. Stamens 5. Style 2- or 4-cleft. Berry many-seeded, filled with pulp; placentas 2, parietal. Shrubs. |
| Flowers in racemes, or 1 to 3 together. | Berry crowned with persistent calyx. Flowers green.} | 1. {Currant, Gooseberry. |
| Leaves 3- to 5-lobed | | |

| | | |
|---|--|---|
| 36. SAXIFRAGE FAMILY. { | | Corolla regular, polypetalous, inferior or superior. Calyx-lobes 5 or 4. Petals 5 or 0. Stamens 5, 8, or 10. Styles 2. Capsule 2-celled, cells many-seeded; or rarely 1-celled, with 2 to 4 parietal placentas. |
| Calyx 4-lobed. | Stamens 8. Petals none. Calyx-lobes yellow. | |
| Ovary with 2 parietal placentas | | 1. {Golden Saxi- frage. |
| Calyx 5-lobed. | Stamens 5. Scales 5 with glandular bristles. | |
| Ovary with 4 parietal placentas | | 2. {Grass of Parnassus. |
| Stamens 10. Styles 2. | Ovary 2-celled, cells many-seeded | 3. Saxifrage. |

| 37. UMBELLIFERÆ  | | | | | | |
|--|--|--|---|--|---|---------------------------|
| 1 <u>STLY</u>  FRUIT BRISTLY. HAIRY, OR SCALY. | | | | | | |
| <i>Lower L</i>  | <i>G. Inv. bct.s</i>  |  <i>White</i> | <i>Fr.</i>  |  | 1. <i>SANICULA.</i> | |
|  | <i>Fl.</i>  |  <i>Blue</i> |  |  | 2. <i>ERYNGIUM.</i> | |
|  |  <i>6-70 Rays</i> |  <i>Pink</i> |  |  | 36. <i>TORQUILINGIUM.</i> | |
| |  <i>2-5 Rays</i> |  <i>Rose</i> |  |  | 3. <i>CAULOCALIS.</i> | |
|  |  <i>3-4 Rays</i> |  |  |  | 3. <i>Do.</i> | |
| | <i>G. Inv. none</i> <i>(See No 4)</i> |  <i>4-8 Rays</i> |  |  |  | 23. <i>CHIEROPHYLLUM.</i> |
| |  <i>G. Inv.</i> |  <i>1-10 Rays</i> |  | <i>G. Inv. bct.s.</i>  |  | 4. <i>TORILIS.</i> |
| | |  <i>10-20 Rays</i> |  | <i>G. Inv. bct.s.</i>  |  | 5. <i>DAUCUS.</i> |
| | |  <i>20-30 Rays</i> |  |  |  | 6. <i>SESELI.</i> |
| | | | | | | |
| 2 <u>NDLY</u>  FRUIT GLABROUS, MORE OR LESS LATERALLY COMPRESSED. | | | | | | |
|  | <i>Fl.</i>  |  <i>Pinkish</i> |  |  | 7. <i>HYDROCOTYLE.</i> | |
| <i>Lower L.</i>  | <i>Stem L.</i>  | <i>L. Veins parallel</i> |  <i>Yell.</i> |  | 8. <i>BUPLEURUM.</i> | |
|  | <i>F. Inv.</i>  <i>15-20 Bct.s.</i> | ♂ ♀ ♀ |  |  | 9. <i>ASTRANTIA.</i> | |
|  |  <i>8-12 Rays</i> |  <i>Yell.-green</i> | <i>L. l-ets</i>  |  | 10. <i>SMYRNIUM.</i> | |
| |  <i>12-20 Rays</i> |  <i>White</i> | <i>L. l-ets</i>  |  | 11. <i>ÆGOPODIUM.</i> | |

37. UMBELLATE FAMILY. {

Corolla regular, polypetalous, superior. Calyx with 5 or 0 teeth. Petals 5. Stamens 5. Styles 2. Ovary 2-celled, cells 1-seeded. Flowers in umbels.

1STLY FRUIT BRISTLY, HAIRY, OR SCALY.

Lower leaves palmate.

General involucre bracts 3-lobed. Petals erect, obovate, point long, inflexed, white. Fruit sub-globose, with hooked spines, nearly circular in transverse section. Ridges obscure; stripes (or vittæ) solitary

1. Sanicle.

Lower leaves roundish or plaited.

Flowers in heads. Petals erect, oblong, point long, inflexed, blue. Fruit covered with chaffy scales and crowned with calyx teeth, nearly circular in transverse section. Carpels with obscure ridges and slender solitary stripes

2. Eryngo.

Lower leaves simply pinnate.

Umbels of 6 to 10 rays. Petals obcordate, point inflexed, pink. Fruit hairy, much dorsally compressed, margin thickened.

36. Hartwort.

Carpels with slender ridges. Stripes 1 to 3

Umbels of 2 to 5 rays. Petals obcordate, point inflexed, rose. Fruit prickly, slightly laterally compressed.

3. Hen's-foot.

Carpels deeply furrowed on the inner side. Stripes solitary

Lower leaves 2- or 3-pinnate.

General Involucre none. (See No. 4.)

Umbels of 3 or 4 rays.

Stem not swollen below the nodes. Fruit prickly, slightly laterally compressed, beak inconspicuous. Carpels deeply furrowed on the inner side; stripes solitary

3. Do.

Umbels of 4 to 8 rays.

Stem swollen below the nodes. Fruit with hooked prickles, laterally compressed, beak smooth upright. Carpels deeply furrowed on the inner side; without stripes

23. Chervil.

General involucre present.

Umbels of 1 to 10 rays.

General involucre bracts entire. Fruit very prickly, laterally compressed. Carpels furrowed; ridges and spaces prickly; stripes solitary

4. Hedge-parsley.

Umbels of 10 to 20 rays.

General involucre bracts pinnatifid. Fruit prickly, dorsally compressed; stripes solitary

5. Carrot.

Umbels of 10 to 30 rays.

Fruit with delicate hairs, slightly dorsally compressed. Carpels furrowed; stripes solitary

6. Seseli.

2NDLY FRUIT GLABROUS, MORE OR LESS LATERALLY COMPRESSED.

Leaves peltate.

Flowers in one head; or two heads one above the other. Stem creeping. Petals ovate, entire, pinkish. Fruit laterally flattened; ridges filiform; stripes (or vittæ) none

7. { Penny-wort,
White-rot.

Lower leaves simple and entire; ovate, elliptic, or linear-lanceolate.

Stem leaves perfoliate, lanceolate or linear, with parallel veins. Petals entire, with an involute broad point; yellow. Carpels with prominent ridges; stripes none or solitary, or in threes

8. Hare's-ear.

Lower leaves palmately cleft.

Partial involucre of 15 to 20 bracts. Flowers polygamous. Fruit ridges toothed. Stripes none

9. Astrantia.

Leaves ternately compound.














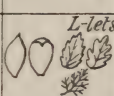

















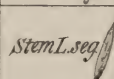



















Umbels of 8 to 12 rays. Petals elliptic, entire, yellowish-green. Leaflets broadly ovate. Carpels deeply furrowed; ridges prominent; stripes many

10. Alexanders.

















































Umbels of 12 to 20 rays. Petals obovate, notched, white.

Leaflets ovate-lanceolate. Carpels solid; ridges prominent; stripes none

11. { Gout-weed,
Bishop's-weed.

| | | | | | |
|---|---|--|--|---|---------------------------|
|  |  <i>P. Inr. 0</i> |  3-9 Rays |  <i>Up. L. seg.</i> |  | 12. <i>APIUM.</i> |
| | |  10-15 Rays |  <i>Up. L. seg.</i> or |  | 13. <i>PIMPINELLA.</i> |
| |  <i>P. Inr.</i> |  2-8 Rays <i>unequal.</i> |  <i>Pet. Stem</i> <i>wiry</i> |  | 14. <i>PETROSELINUM.</i> |
| | |  2-8 Rays <i>equal</i> |  <i>L-lets</i> |  | 15. <i>HELOSCIADIMUM.</i> |
| | |  10-15 Rays |  <i>Up. L. seg.</i> |  | 16. <i>SISON.</i> |
|  |  <i>G. Inr.</i> |  <i>P. Inr. 0</i> |  <i>L-lets</i> |  | 18. <i>TRINIA.</i> |
| | |  |  5-10 Rays |  | 19. <i>CARUM.</i> |
| |  <i>G. Inr.</i> |  |  <i>L. seg. Fr.</i> |  | 20. <i>CONIUM.</i> |
| | |  |  <i>Stem L. seg.</i> |  | 21. <i>PHYSOSPERMUM.</i> |
| |  <i>G. Inr. 0</i> |  2-3 Rays |  <i>P. Inr. bct.</i> |  | 22. <i>SCANDIX.</i> |
| | |  Yell. |  15-20 Rays |  | 14. <i>PETROSELINUM.</i> |
| | |  |  |  | 23. <i>CHÆROPHYLLUM.</i> |
| | |  <i>P. Inr. bct.</i> |  |  | 23. <i>Do.</i> |
| | |  <i>L-lets</i> |  |  | 24. <i>CICUTA.</i> |
| | | Plant <i>aromatic</i> |  |  | 25. <i>MYRRHIS.</i> |

| | |
|---|--|
| Leaves simply pinnate. | |
| Partial involucre none. | |
| Umbels of 3 to 9 rays. | |
| Segments of upper leaves wedge-shaped. Carpels with filiform ridges; stripes solitary | 12. Celery. |
| Umbels with 10 to 15 rays. | |
| Segments of upper leaves linear, or ovate-serrate. Carpels with filiform ridges; stripes 3 or more | 13. { Pimpinell, Burnet-Saxi- frage. |
| Partial involucre present. | |
| Umbels of 2 to 8 unequal rays. | |
| Petals roundish, point inflexed. Stem wiry. | |
| Carpels with filiform ridges; stripes solitary | 14. Parsley. |
| Umbels of 2 to 8 equal rays. | |
| Petals ovate, entire, with straight or inflexed points. Leaflets ovate, toothed, lobed, or in capillary segments. | |
| Carpels with prominent ridges; stripes solitary | 15. Marsh-wort. |
| Petals broadly obovate, deeply notched, points inflexed. Segments of upper leaves entire. Carpels with filiform ridges; stripes solitary, clavate | 16. Stonewort. |
| Umbels of 10 to 15 rays. | |
| Petals obovate, points inflexed. Segments of upper leaves oblong or lanceolate, toothed. Carpels with filiform ridges; stripes 3 or more together | 17. Water-parsnip. |
| Leaves 2- or 3-pinnate. | |
| Flowers diceious. | |
| Partial involucre none. | |
| Leaflets linear or subulate. Carpels with filiform ridges, and a solitary stripe beneath them .. | 18. Honewort. |
| Leaf-segments all linear. (See No. 22.) | |
| Petals obovate, point inflexed. | |
| Umbels of 5 to 10 rays, with or without a general involucre. Carpels with filiform ridges; stripes 1 to 3 together | 19. { Caraway, Pig-nut, Earth-nut. |
| General involucre present. | |
| Stem spotted. | |
| Segments of leaves ovate, toothed. Fruit ridges crenate. Carpels deeply furrowed; stripes none | 20. Hemlock. |
| Stem without spots. | |
| Segments of stem leaves linear-lanceolate. Carpels furrowed, nearly globular; stripes solitary | 21. Bladder-seed. |
| General involucre none (sometimes present in first umbels or young ones). | |
| Umbels of 2 or 3 rays. | |
| Partial involucre bracts, 2- or 3-lobed. Fruit beak very long. Carpels deeply furrowed; ridges blunt; stripes none | 22. { Shepherd's Needle. Venus's Comb. |
| Petals roundish, entire, points inflexed. | |
| Umbels 15 to 20 rays. Fruit ovoid. Carpels with filiform ridges; stripes solitary | 14. Parsley. |
| Stem spotted, hairy, swollen at the joints. | |
| Fruit oblong. Carpels deeply furrowed; ridges blunt; stripes solitary | 23. Chervil. |
| Partial involucre bracts ciliate. | |
| Fruit oblong. Carpels furrowed; ridges only apparent at top; stripes none | 23. Do. |
| Leaflets linear-lanceolate, acutely toothed. | |
| Fruit ovoid. Carpels with broad, flattened ridges; stripes solitary | 24. { Water Hem- lock, Cowbane. |
| Plant aromatic. | |
| Fruit oblong. Carpels with prominent hollow ridges; stripes solitary | 25. Sweet Cicely. |












| 3 <small>ROLY</small>  FRUIT GLABROUS, CIRCULAR OR NEARLY SO IN TRANSVERSE SECTION. | | | | | |
|--|--|--|--|---|------------------------|
| <i>Low L.</i>  |  <i>G. Inv.</i> | <i>Fl. White</i> | <i>L. lets</i>  |  | 26 <i>LIGUSTICUM.</i> |
|  |  <i>G. Inv.</i> | <i>Fl. Yellowish</i> | <i>L. seg.</i>  10-15 Rays |  | 27. <i>MEUM.</i> |
| | | | <i>L. seg.</i>  5-10 Rays |  | 28. <i>SILVUS.</i> |
| | | <i>Fl. White</i> | <i>L. seg.</i>  15-20 Rays |  | 29. <i>CRITHMUM.</i> |
| | | |  3-5 Rays |  | 30. <i>ÆNANTHE.</i> |
| |  <i>G. Inv. 0.</i> | <i>Fl. White</i> | <i>P. Inv.</i>  5-10 bracts |  | 30. <i>Do.</i> |
| | | | <i>Do.</i>  3 short bracts |  | 31. <i>CORIANDRUM.</i> |
| | | <i>Do.</i>  3 long bracts |  | 32. <i>ÆTHUSA.</i> | |
| | | <i>Fl. Yellow</i> | <i>P. Inv. 0.</i>  |  | 33. <i>FÆNICULUM.</i> |
| 4 <small>THLY</small>  FRUIT GLABROUS, DORSALLY COMPRESSED, WINGED. | | | | | |
| <i>Low L.</i>  |  <i>White</i> | <i>Up. L.</i>  (see p. 708) | <i>Fr.</i>  |  | 34. <i>HERACLEUM.</i> |
|  |  <i>Yell.</i> |  <i>G. Inv. 0.</i> | <i>Stem L. seg.</i>  |  | 35. <i>PASTINACA.</i> |
| |  <i>Pink</i> |  <i>G. Inv.</i> | <i>Stem L. seg.</i>  |  | 36. <i>TORDYLIVM.</i> |
|  |  <i>Pink</i> | <i>L. lets</i>  | <i>Fr. 2-winged</i>  |  | 37. <i>ANGELICA.</i> |
| |  <i>White or Yell.</i> | <i>L. seg.</i>  | <i>Fr. 1-winged</i>  |  | 38. <i>PEUCEDANUM.</i> |







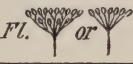



3RDLY FRUIT GLABROUS, CIRCULAR, OR NEARLY SO, IN TRANSVERSE SECTION.

- | | |
|---|---|
| <p>Lower leaves 2-ternate, with large leaflets. General involucre present. Flowers white. Leaflets ovate or 3-lobed. Carpels with many prominent ridges; stripes (or vittæ) many ..</p> | <p>26. Lovage.</p> |
| <p>Lower leaves 2- or 3-pinnate. General involucre present. Flowers yellowish. Umbels 10 to 15 rays. Leaf-segments linear, fine. Carpels with prominent ridges; stripes many Umbels 5 to 10 rays. Leaf-segments lanceolate. Carpels with prominent ridges; stripes many</p> | <p>27. { Meu, Spignel, Bald-money. 28. { Sulphur-wort, Pepper Saxi- frage.</p> |
| <p>Flowers white. Umbels 15 to 20 rays. Leaf-segments lanceolate, fleshy. Carpels with sharply elevated ridges; stripes many Umbels 3 to 15 rays. Styles long sub-erect. Carpels more or less corky; ridges blunt; stripes solitary</p> | <p>29. Samphire.</p> <p>30. { Water Drop- wort.</p> |
| <p>General involucre none. Flowers white. Partial involucre of 5 to 10 bracts. Carpels more or less corky; ridges blunt; stripes solitary</p> | <p>30. Do.</p> |
| <p>Partial involucre of 3 short bracts. Carpels with secondary ridges conspicuous; commissure with 2 stripes</p> | <p>31. Coriander.</p> |
| <p>Partial involucre of 3 long bracts. Carpels with prominent ridges; stripes solitary</p> | <p>32. Fool's Parsley.</p> |
| <p>Flowers yellow. Partial involucre none. Carpels with prominent blunt ridges; stripes solitary</p> | <p>33. Fennel.</p> |




































4THLY FRUIT GLABROUS, DORSALLY COMPRESSED, WINGED.

- | | |
|--|---|
| <p>Lower leaves pinnate, with 3 or more large broad rough leaflets. Petals obovate, points inflexed, white. Upper leaves with a greatly dilated petiole. (See No. 38.) Fruit with a dilated margin. Carpels with club-shaped stripes (or vittæ) half-way down; ridges slender</p> | <p>34. { Cow-parsonip, Hog-weed.</p> |
| <p>Lower leaves simple pinnate. Petals roundish, entire, points inflexed, yellow. General involucre none. Segments of stem leaves ovate. Carpels with slender ridges</p> | <p>35. Parsnip.</p> |
| <p>Petals obovate, points inflexed, pink. General involucre present. Segments of stem leaves lanceolate. Carpels hairy, with a thickened margin; ridges slender; stripes 1 to 3 together</p> | <p>36. Hartwort.</p> |
| <p>Lower leaves 2- or 3-pinnate. Petals broadly lanceolate, entire, incurved, pink. Leaflets lanceolate or ovate. Fruit 2-winged on each side. Carpels with 3 thickened ridges; stripes solitary</p> | <p>37. Angelica.</p> |
| <p>Petals obovate, or ovate, points inflexed, yellow or white. Leaf-segments linear or lanceolate, entire; or ovate or 3-lobed, toothed. Fruit 1-winged on each side. Carpels with 3 dorsal and 2 inconspicuous lateral ridges; stripes solitary, or 1-3 together</p> | <p>38. Hog's-fennel.</p> |

| | | | | | | | | | |
|---|--|---|----------------|---|---|---|---|---|---|
| 38. HEDERACEÆ. | | | |  |  |  |  |  |  |
|  Fl. <i>Pale green</i> |  <i>Black</i> |  <i>or</i>  <i>or</i>  | <i>HEDERA.</i> | | | | | | |

| | | | | | | | | | |
|---|---|---|-------------------|---|---|---|---|---|---|
| 39. CORNACEÆ. | | | |  |  |  |  |  |  |
|  Fl. <i>or</i>  |  <i>Black or red</i> |  | <i>1. CORNUS.</i> | | | | | | |

| | | | | | | | | | |
|--|---|--|---|---|---|---|---|---|--|
| 40. LORANTHACEÆ. | | | |  |  |  |  |  | |
|  ♂:  ♀ |  ♂  |  ♀ <i>White</i>  |  <i>Pale green</i> | <i>1. VIS'UM.</i> | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 41. CAPRIFOLIACEÆ. | | | |  |  |  |  |  |  |  |
|  ♀ ₂ &  ♀ ₂ |  Fl.  |   |  | <i>1. LINNÆA.</i> | | | | | | |
| |  Fl. <i>or</i>  |   |  <i>or</i>  | <i>2. LONICÆRA.</i> | | | | | | |
|  ♀ ₅ |  Fl. |   |  <i>or</i>  | <i>3. VIBURNUM.</i> | | | | | | |
| | |   |  <i>5 to 11</i> | <i>4. SAMBUCUS.</i> | | | | | | |
|  ♀ _{8 or 10} |  Fl. <i>Pale green</i> |  <i>or</i>  |  Root L.  | <i>5. ADOXA.</i> | | | | | | |

38. IVY FAMILY. { Corolla regular, polypetalous, superior. Petals 5, valvate in the bud. Stamens 5. Styles (5) united into one. Fruit a 3- to 5-seeded berry. Climbing shrubs.

Flowers in umbels, pale green.
Fruit a black berry. Leaves ovate, or 3- or 5-lobed

1. Ivy.

39. DOG-WOOD FAMILY. { Corolla regular, polypetalous, superior. Petals 4, valvate in the bud. Stamens 4. Style 1. Fruit a drupe, with a 2-celled nut, cells 1-seeded. Shrubs or herbs.

Flowers in cymes or umbels.
Berry black or red. Leaves opposite, ovate

1. Dog-wood.

40. MISTLETOE FAMILY. { Corolla regular, polypetalous, superior. Petals 4. Stamens 4; anthers sessile, many-celled. Ovary with a sessile stigma. Fruit a 1-seeded berry. Parasitical shrubs on trees.

Diœcious. Male: Anthers adnate to petals, many-celled.
Female: Berry white, 1-seeded, crowned with calyx.
Leaves opposite, obovate-lanceolate

1. Mistletoe.

41. HONEYSUCKLE FAMILY. { Corolla regular or irregular, monopetalous, superior. Corolla-lobes 4 or 5. Stamens 4, 5, 8, or 10. Styles 1 to 5. Fruit usually succulent, 1- to 5-celled, cells 1- (rarely many-) seeded. Shrubs or herbs. Leaves opposite.

Stamens 4, 2 long and 2 short.
Flowers in pairs, drooping.
Style 1, filiform, stigma capitate. Corolla campanulate. Leaves broadly ovate

1. Linnæa.

Stamens 5.
Flowers in heads or pairs.
Style 1, filiform, stigma capitate. Corolla ringent. Leaves ovate, distinct or connate

**2. {Honeysuckle,
Woodbine.**

Flowers in cymes.
Stigmas 3, sessile. Berry 1-seeded. Leaves ovate or 3- (sometimes 5-) lobed
Stigmas 3, sessile. Berry 3- or 4-seeded. Leaves pinnate, leaflets 5 to 11

**3. {Guelder-rose,
Wayfaring-tree.**
4. Elder.

Stamens 8 or 10.
Flowers in a head, pale green.
Styles 4 or 5. Root leaves ternate 3-lobed

5. Moschatel.

| | | | | |
|---------------|--|--|---------------|--|
| 42. RUBIACEÆ. | | | | |
| | | | 1. RÚBIA. | |
| | | | 2. GÁLIUM. | |
| | | | 3. ASPERÚLA. | |
| | | | 4. SHERARDIA. | |


























































| | | | | |
|-------------------|--|--|-------------------|------------------|
| 43. VALERIANACEÆ. | | | | |
| | | | Fl. red or white | 1. CENTRANTHUS. |
| | | | Fl. pink or white | 2. VALERIANA. |
| | | | Fl. lilac or pink | 3. VALERIANELLA. |

| | | | | |
|-----------------|--|--|---------------|--|
| 44. DIPSACACEÆ. | | | | |
| | | | 1. DIP'SACUS. | |
| | | | 2. SCABIOSA. | |
| | | | 3. KNAUTIA. | |

| | |
|--|-------------------------|
| 42. MADDER FAMILY. { Corolla regular, monopetalous, superior. Corolla-lobes 4 or 5. Stamens 4 or 5. Styles 1, stigmas 2. Fruit didymous (dry or rarely succulent), cells 1-seeded. Leaves in a whorl of 4 to 10 leaflets. | |
| Stamens 5. Corolla rotate, 5-lobed. Fruit didymous, succulent | 1. Madder. |
| Stamens 4. Corolla rotate, 4-lobed. Fruit didymous, dry | 2. Bedstraw. |
| Corolla funnel-shaped. Fruit didymous, dry | 3. Woodruff. |
| Corolla funnel-shaped, tube long. Fruit didymous, crowned with calyx teeth | 4. Field Madder. |

| | |
|---|---|
| 43. VALERIAN FAMILY. { Corolla regular, monopetalous, superior. Corolla-lobes 5. Stamens 1 or 3. Style 1 entire, or bifid. Fruit 1-celled, 1-seeded; or with 1 fertile and 2 abortive cells. | |
| Stamen 1. Corolla spurred. Fruit crowned with a feathery pappus. Flowers red or white | 1. {Red Valerian, Spur Valerian. |
| Stamens 3. Corolla gibbous. Fruit crowned with a feathery pappus. Flowers pink or white | 2. Valerian. |
| Corolla obconic (neither spurred nor gibbous). Fruit crowned with a cup-shaped border. Flowers lilac or pink | 3. {Corn-salad, Lamb's Lettuce. |

| | |
|---|---------------------------|
| 44. TEASEL FAMILY. { Corolla regular, monopetalous, superior. Flowers in heads. Corolla-lobes 4 or 5. Stamens 4, anthers free. Style simple. Fruit 1-celled, 1-seeded. | |
| Receptacle with spinous scales. Calyx-limb entire, cup-shaped. Involucre bracts linear, prickly or toothed and ciliate | 1. Teasel. |
| Receptacle scaly. Calyx-limb with 4 or 5 bristles. Involucre bracts lanceolate or linear, hairy | 2. Scabious. |
| Receptacle hairy. Calyx-limb with about 8 teeth. Involucre bracts broad, leafy, hairy | 3. Field Scabious. |

| 45. COMPOSITÆ. | | | | |
|---|--|--|---|--------------------------|
|      | | | | |
| 1 ST LY  FLOWER-HEADS WITH ALL THE FLORETS LIGULATE. | | | | |
| <i>Fruit</i>  | <i>Fl.</i>  <i>yell.</i> | <i>Involuteure</i>  | <i>Low LS</i>  | 1. <i>LAPSA</i> NA. |
|  | <i>Fl.</i>  <i>yell.</i> |  | <i>L. rad.</i>  | 2. <i>ARNO</i> SERIS. |
|  | <i>Fl.</i>  <i>blue</i> |  | <i>L.</i>  | 3. <i>CICH</i> ORIUM. |
|  |  |  <i>or</i>  |  30-60 | 4. <i>TARAX</i> ACUM. |
| |  |  <i>or</i>  |  5-20 | 5. <i>LACT</i> UCA. |
| | |  |  30-60 | 6. <i>CR</i> EPIS. |
|  | <i>Section of Fr.</i>  |  |  | 6. <i>Do.</i> |
| | <i>Plant watery</i> |  |  | 7. <i>HIER</i> ACIUM. |
| | <i>Section of Fr.</i>  | <i>Fl. blue</i> | <i>Bristly</i>  | 8. <i>MULG</i> EDIUM. |
| | <i>Plant milky</i> | <i>Fl. yell.</i> | <i>Silky</i>  | 9. <i>SON</i> CHUS. |
|  | <i>Scaly</i>  |  |  <i>or</i>  | 10. <i>HYP</i> OCHEIRIS. |
| | <i>Naked</i>  |  | <i>L.</i>  | 11. <i>TRAG</i> OPOGON. |
| | |  | <i>L.</i>  | 12. <i>HELM</i> INTHIA. |
|  | <i>Hairs</i> <i>or</i> YYY | <i>Outer row</i>  <i>inner rows</i>  |  | 13. <i>THR</i> INICIA. |
| | | <i>Smooth</i>  |  <i>or</i>  | 14. <i>LEO</i> NTODON. |
| | <i>Bristles</i> YYY <i>or</i> SST | <i>Wrinkled</i>  |  | 15. <i>P</i> ICRIS. |


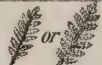










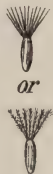























45. COMPOSITE FAMILY.

Corolla regular, monopetalous, superior. Flowers consisting of many ligulate or tubular florets, collected together in heads of all ligulate florets, or all tubular, or both ligulate and tubular florets; surrounded by a common involucre. Stamens 5; anthers united into a tube. Style simple, bifid. Fruit 1-celled, 1-seeded, an achene.

1STLY FLOWER-HEADS WITH ALL THE FLORETS LIGULATE.






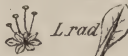




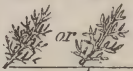

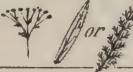

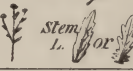


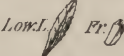





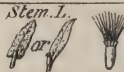









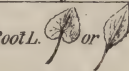





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|--|--|
| <p>Fruit without either scales or pappus. Flower-heads in panicles; stem leafy. Flowers yellow. Involucre of 1 row of bracts, and a few short ones at base. Lower leaves lyrate Fruit crowned with an elevated ridge, angular. Flower-heads on slightly branched leafless stalks. Flowers yellow. Involucre of 1 row of bracts, and a few short ones at base. Leaves radical, obovate or oblong, toothed Fruit crowned with 2 to 5 stiff bristles. Flower-heads in pairs, nearly sessile. Flowers blue. Involucre of 2 rows of bracts, the outer one half the length of the inner. Lower leaves runcinate Fruit with a hairy stalked pappus. (See N.B.) Flower-heads on simple stalks. Involucre of 2 rows of bracts, the outer spreading or erect. Florets 30 to 60 Flower-heads on branched stalks. Involucre imbricated in several series, or of 1 row of bracts and a few short ones at base. Flowers 5 to 20 Involucre of 2 rows of bracts, the outer ones short and more or less lax. Florets 30 to 60 Fruit with a hairy sessile pappus. Section of fruit circular. Plant watery. Involucre of 2 rows of bracts, the outer one short and more or less lax. Fruit tapered upwards .. Involucre of many imbricated bracts. Fruit truncate, not beaked Section of fruit elliptic. Flowers blue. Fruit with a bristly pappus Flowers yellow. Fruit with a silky pappus Fruit with a feathery stalked pappus. Receptacle scaly. Involucre bracts imbricated in several series. Stem leafless, branched or simple Receptacle naked (not scaly). Involucre simple. Leaves grass-like, dilated at the base Involucre of 2 rows of bracts, outer ones broad, leaf-like, and bristly. Leaves lanceolate, rough with hooked bristles from tubercular bases Fruit with a feathery sessile pappus. Plants with hairs, simple or forked. Outer row of fruits with a short scaly pappus. Inner rows of fruits with a feathery pappus. Stem simple Fruit smooth, all with a feathery pappus. Stem simple or branched, leafless Plants with bristles, forked or hooked. Fruit wrinkled in upper parts, all with a feathery pappus. Stem branched, leafy</p> | <p>1. Nipplewort. 2. Swine's Succory, Dwarf Nipplewort. 3. Chicory. 4. Dandelion. 5. Lettuce. 6. Hawk's-beard. 6. Do. 7. Hawkweed. 8. Blue Sowthistle. 9. Sowthistle. 10. Cat's-ear. 11. Goat's-beard. 12. Ox-tongue. 13. Thrincia. 14. Hawkbit. 15. Picris.</p> |
|--|--|

N.B.—As soon as the flowers are expanded, indications of the growth of a stalk to the pappus may generally be detected.

| 2 ^{HOLY} | | FLOWER-HEADS WITH ALL THE FLORETS TUBULAR. | | | | | |
|---|----------------------------|---|--|--|--|---|---|
|  | <i>L. glabrous</i> | <i>Fl. yell.</i> |  or  |  | 16. <i>TANACÉTUM.</i> | | |
| | <i>L. cottony</i> | <i>Fl. yell.</i> |  |  | 17. <i>DIÓTIS.</i> | | |
| <i>Fl. yell. or brown</i> | |  |  | 18. <i>ARTEMISÍA.</i> | | | |
|  | <i>L. opp.</i> | <i>Fl. yell.</i> |  or  |  | 19. <i>BIDENS.</i> | | |
|  or  | <i>L. without prickles</i> | <i>Fl. yell. or brown</i> |  |  ♂ ♀ | 20. <i>FILÁGO.</i> | | |
| | | | |  ♂ ♀ | 21. <i>GNAPHÁLÍUM.</i> | | |
| | | | |  ♂:♀ | 22. <i>ANTENNÁRIA.</i> | | |
| | | | |  | <i>Fl. yell.</i> | 23. <i>LINOSÝRIS.</i> | |
| | <i>L. without prickles</i> | <i>Fl. purp. lilac or rose</i> | <i>L. rad.</i> |  |  <i>Stem L.</i> | 24. <i>PETASÍTES.</i> | |
| | | | | |  | 25. <i>ARCTÍUM.</i> | |
| | | | | |  |  5-6 | 26. <i>EUPATÓRIUM.</i> |
| | | | | |  |  | 27. <i>SERRÁTULA.</i> |
| | | | | |  |  | 28. <i>SAUSSÚREA.</i> |
| | | | | |  |  | 29. <i>CENTAÚREA.</i> |
| | | | | | <i>Fl. yell.</i> |  |  |
| | <i>L. prickly</i> | <i>Fl. purp. or white</i> |  |  | 31. <i>SILÝBUM.</i> | | |
| | | | |  | 32. <i>CÁRDUS.</i> | | |
|  | | | | 33. <i>ONOPÓRDUM.</i> | | | |

2^{NDLY} FLOWER-HEADS WITH ALL THE FLORETS TUBULAR.

| | |
|--|--------------------------|
| Fruit naked or crowned with an elevated ridge. | |
| Leaves glabrous. | |
| Flowers yellow. Leaves 1- or 2-pinnatifid. | |
| Flower-heads corymbose | 16. Tansy. |
| Leaves cottony. | |
| Flowers yellow. Leaves oblong, blunt, densely cottony. Receptacle scaly | 17. Cotton-weed. |
| Flowers yellow or brown. Leaves linear, or 1- or 2-pinnatifid, segments linear or lanceolate. | |
| Flower-heads in a loose panicle or leafy raceme .. | 18. Wormwood. |
| Fruit crowned with 2 to 5 stiff bristles. | |
| Leaves opposite. | |
| Flowers yellow. Leaves lanceolate, or 2- to 5-cleft, toothed. Outer bracts of involucre leafy, spreading | 19. Bur-Marigold. |
| Fruit with a hairy or feathery pappus. | |
| Leaves without prickles or stiff bristles. | |
| Flowers yellow or brown. (See Nos. 29, 43, and 46.) | |
| Leaves linear, lanceolate, or obovate, cottony. | |
| Receptacle conical, scaly at the margin. Heads hermaphrodite | 20. Cudweed. |
| Receptacle flat or slightly convex, not scaly. | |
| Heads hermaphrodite | 21. Do. |
| Receptacle convex, not scaly. Heads sub-dicacious | 22. Everlasting. |
| Leaves linear, glabrous. | |
| Flower-heads in a terminal corymb, yellow .. | 23. Goldilocks. |
| Flowers purple, lilac, or rose. (See No. 22.) | |
| Leaves radical, roundish-cordate. | |
| Flower-heads in terminal oblong panicles. | |
| Flowers before leaves. Stem leaves with greatly dilated stalks | 24. Butterbur. |
| Leaves ovate-cordate, very large. | |
| Involucre bracts hooked | 25. Burdock. |
| Leaves opposite, deeply divided into 3 to 5 lanceolate, toothed, lobes. | |
| Flower-heads in compact corymbs. | |
| Florets 5 or 6 in a head | 26. {Hemp-Agri- mony. |
| Lower leaves pinnatifid, toothed. Stem leaves pinnatifid at base, toothed. | |
| Involucre imbricate, bracts glabrous unarmed | 27. Saw-wort. |
| Lower leaves ovate-lanceolate, cottony beneath. | |
| Involucre imbricate. Flower-heads few, in a dense corymb | 28. Saussurea. |
| Lower leaves linear-lanceolate, ovate, lyrate or pinnatifid. | |
| Involucre bracts fringed or thorny | 29. Knapweed. |
| Leaves with prickles. | |
| Flowers yellow. | |
| Receptacle with bristly scales. | |
| Outer involucre bracts leaf-like; inner bracts linear (yellow) | 30. Carline Thistle. |
| Flowers purple or white. | |
| Receptacle with bristly scales. | |
| Involucre bracts with strong thorns. | |
| (Leaves milky veined) | 31. Milk Thistle. |
| Involucre bracts prickly. | |
| (Pappus hairy or feathery, deciduous) .. | 32. Thistle. |
| Receptacle honeycombed. | |
| Involucre bracts prickly. | |
| (Pappus rough, deciduous) | 33. Cotton Thistle. |

| 3 RDLY | | FLOWER-HEADS WITH BOTH TUBULAR & LIGULATE FLORETS | |
|--|--|--|---|
|  |  White ray | Receptacle  |  34. GALINSÓGA. |
| | |  |  L. rad. 35. BELLIS. |
| | |  |  or 36. MATRICÁRIA. |
| |  White or yell. ray |  |  or 37. ANTHÉMIS. |
| | |  |  or 38. ACHILLÉA. |
| | |  |  Stem L. or 39. CHRYSÁNTHEMUM. |
|  Yell. ray | Involucre  | Low L. Fr.  40. ÍNULA. | |
| |  | L.  40. Do. | |
| |  | L. or fleshy  40. Do. | |
| |  | Stem L.  or 41. PULICÁRIA. | |
| | (See No 40)  | Stem L.  5-12 42. SOLIDÁGO. | |
| |  | L. var.  43. SENÉCIO. | |
| |  | or  43. Do. | |
| | 1 Row  | L. colony  44. TUSSILÁGO. | |
| | 2-3 Rows  | Root L.  or 45. DORONÍCUM. | |
| |  Purp. or blue ray |  1 Row | L. or hairy  46. ERIGÉRON. |
|  Many rows | | L. glabrous  47. ÁSTER. | |

3RD-LY FLOWER-HEADS WITH BOTH LIGULATE AND TUBULAR FLORETS.

| | |
|---|----------------------------------|
| Fruit naked, or crowned either with a ridge or with scales. | |
| Flower-head with a white ray. | |
| Receptacle conical, scaly. | |
| Fruit crowned with scales, hispid. Leaves opposite, ovate, toothed | 34. Galinsoga. |
| Receptacle ultimately conical, naked (not scaly). | |
| Flower-head solitary. Leaves radical, spatulate | 35. Daisy. |
| Leaves 2- or 3-pinnate with capillary segments, or simply pinnate with broad segments | 36. Feverfew. |
| Flower-head with a white or yellow ray. | |
| Receptacle convex or conical, scaly. | |
| Leaves 2-pinnate with capillary segments, or pinnatifid with linear-lanceolate segments | 37. Chamomile. |
| Receptacle nearly flat, scaly. | |
| Flower-heads in a terminal corymb. Leaves linear-lanceolate, finely toothed; or 2-pinnatifid with a lanceolate outline, and linear segments | 38. { Yarrow, Millefoil. |
| Receptacle semi-convex. | |
| Stem branched, flower-heads solitary. Stem leaves oblong, blunt, toothed or lobed | 39. Ox-eye Daisy. |
| Fruit with a hairy or feathery pappus. | |
| Flower-head with a yellow ray. | |
| Involucre imbricated in many rows of broadly ovate leafy bracts. | |
| Lower leaves stalked, elliptic-oblong. Fruit quadrangular | 40. Elecampane. |
| Involucre imbricated in many rows of bracts reflexed at point. | |
| Leaves ovate-lanceolate, toothed. Flowers in corymbs | 40. Spikenard. |
| Involucre imbricated in many rows of erect bracts. (See No. 46.) | |
| Leaves linear, blunt or 3-pointed, fleshy | 40. { Golden Saphire. |
| Leaves oblong, with a cordate or narrow clasping base. | |
| Pappus in 2 rows, the outer short toothed | 41. { Fleawort, Fleabane. |
| Leaves lanceolate, recurved. Flower-heads of 5 to 12 florets | 42. Golden-rod. |
| Involucre 1 row of equal bracts, with small scales at base. | |
| Leaves various; lanceolate, lyrate, or variously pinnatifid | 43. Ragwort. |
| Involucre 1 row of equal bracts. | |
| Lower leaves broadly lanceolate, toothed; or oblong and nearly entire | 43. Do. |
| Leaves roundish-cordate, angular, toothed, cottony beneath. Flower-heads solitary | 44. Colt's-foot. |
| Involucre 2 or 3 rows of equal bracts. | |
| Root leaves cordate or ovate, toothed, on long stalks | 45. { Leopard's-bane. |
| Flower-heads with a purple or blue ray. | |
| Ligulate florets in 1 row. | |
| Leaves linear or lanceolate, hairy | 46. Fleabane. |
| Ligulate florets in many rows. | |
| Leaves linear, lanceolate, glabrous | 47. Starwort. |

| | | | | |
|-------------------|------|------------|------------------|--|
| 46. CAMPANULACEÆ. | | | | |
| | Cor. | Fl. ♂ | 1. LOBÉLIA | |
| | | | 2. JASÍONE. | |
| | | Fl. ♂ or ♀ | 3. PHYTEÚMA. | |
| | | Fr. | 4. CAMPANŪLA. | |
| | | | 5. WAHLENBERGIA. | |
| | | | 6. SPECULÁRIA. | |

| | | | | | |
|------------------------|--|-----------|--------|----------------|--------------------|
| 47. ERICACEÆ. | | | | | |
| | | ♂ 8 or 10 | | Black or red | 1. VACCINIŪM. |
| | | Cal. | Cor. | L. | 2. CALLŪNA |
| | | | Cal. | | 3. ERICA. |
| | | ♂ 5 | Cor. | L. | 4. MENZIÉSIA. |
| | | | Cal. | | 5. AZÁLEA. |
| | | ♂ 10 | | L. | 6. ARBŪTUS. |
| | | | | L. | 7. ARCTOSTAPHÝLOS. |
| | | | | L. | 8. ANDROMÉDA. |
| (See N ^o 2) | | | L. | 9. MONOTRŪPA. | |
| | | ♂ 8 or 10 | L. O | Fl. Dull yell. | 10. PÝROLA. |
| | | ♂ 10 | Scales | Fl. ♂ or ♀ | White or pink |

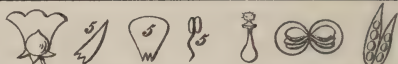



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| 48. AQUIFOLIACEÆ. | | | | |
| Fl. | Ber. | L. | 1. ILEX. | |

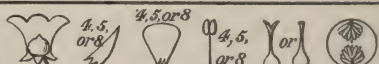
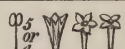
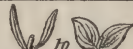


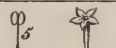
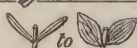
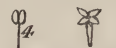

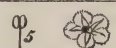
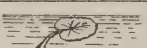
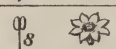
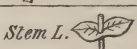
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| <p>46. BELL-FLOWER FAMILY. }</p> | <p>Corolla regular or irregular, monopetalous, superior. Corolla-lobes 5. Stamens 5, anthers cohering or free. Style 1, stigmas 2 or 3. Capsule 2- to 5-celled, cells many-seeded.</p> |
| <p>Stamens 5, anthers cohering. Corolla irregular, 2-lipped, 5-lobed. Flowers in racemes</p> <p>Corolla regular, with 5 long lobes. Flowers in heads</p> <p>Stamens 5, anthers free. Corolla somewhat 2-lipped, with 5 long linear lobes. Flowers in heads, or in dense spikes</p> <p>Corolla bell-shaped, with 5 broad lobes. Capsule inferior Capsule half superior</p> <p>Corolla rotate, with 5 broad lobes. Capsule linear-oblong</p> | <p>1. Lobelia.</p> <p>2. Sheep's-bit.</p> <p>3. Rampion.</p> <p>4. Bell-flower.</p> <p>5. Wahlenbergia.</p> <p>6. Specularia.</p> |





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| <p>47. HEATH FAMILY. }</p> | <p>Corolla regular, monopetalous or polypetalous, inferior; or monopetalous, superior. Calyx-lobes 4 or 5. Corolla-lobes 4 or 5. Stamens 8, 10, or 5; anthers opening by pores, often awned. Fruit a 4- or 5-celled berry, or a 2- to 5-celled capsule; cells many- (rarely 1-) seeded. Shrubs or herbs.</p> |
| <p>Shrubs. Corolla monopetalous. Ovary inferior. Stamens 8 or 10, with or without awns. Corolla globular, bell-shaped or rotate. Berry black or red Ovary superior. Stamens 8, with or without awns. Calyx 4-lobed. Calyx longer than corolla, surrounded by 4 green bracts. Leaves very small, closely imbricated in 4 rows ..</p> <p>Calyx much shorter than the ovoid corolla. Leaves 4 in a whorl, or 3 in a whorl and clustered Leaves clustered</p> <p>Stamens 5, awnless. Calyx 5-lobed. Corolla bell-shaped. Leaves opposite, revolute. Capsule 2- or 3-celled ..</p> <p>Stamens 10, awned. Calyx 5-lobed. Tall shrubs. Berry granulated, 5-celled, cells many-seeded</p> <p>Low-creeping shrubs. (See No. 4.) Berry smooth, 5-celled, cells 1-seeded Leaves lanceolate, revolute. Fruit a capsule, 5-celled, cells many-seeded</p> <p>Herbs. Corolla polypetalous. Ovary superior. Stamens 8 or 10, anthers opening transversely. Stigma peltate. L. none, scales. Fl. in racemes, dull yellow ..</p> <p>Stamens 10, anthers opening by pores. Stigma 5-lobed. Leaves orbicular or ovate. Flowers in racemes or solitary, white or pink</p> | <p>1. { Bilberry, Cranberry.</p> <p>2. Ling.</p> <p>3. Heath.</p> <p>4. Menziesia.</p> <p>5. Azalea.</p> <p>6. { Strawberry- tree.</p> <p>7. Bearberry.</p> <p>8. { Wild Rose- mary.</p> <p>9. { Yellow Bird's- nest.</p> <p>10. Winter-green.</p> |

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| <p>48. HOLLY FAMILY. }</p> | <p>Corolla regular, monopetalous, inferior. Calyx-lobes 4 or 5. Corolla-lobes 4 or 5. Stamens 4 or 5. (Stigmas minute 4 or 5.) Fruit fleshy, seeds stony 4 (or 5). Shrubs or trees.</p> |
| <p>Flowers in axillary clusters. Berry globular, scarlet. Leaves nearly entire or spinous</p> | <p>1. Holly.</p> |

| | | | | |
|---|---|---|----------------------|--|
| 49. JASMINACEÆ.  | | | | |
|  <i>Cor.</i>  |  |  | 1. <i>LIGUSTRUM.</i> | |
|  <i>Cor. none</i> |  |  | 2. <i>FRAXINUS.</i> | |

| | | | | |
|--|---|---|------------------|--|
| 50. APOCYNACEÆ.  | | | | |
|  <i>Blue or purp.</i> |  | <i>L.</i>  | 1. <i>VINCA.</i> | |

| | | | | |
|--|---|--|-------------------------|--|
| 51. GENTIANACEÆ.  | | | | |
| <i>Fl. blue or purp.</i> |  |  | 1. <i>GENTIANA.</i> | |
| <i>Fl. pink or red</i> <i>(See N° 4)</i> |  |  | 2. <i>MENYANTHES.</i> | |
| |  |  | 3. <i>ERYTHRÆA.</i> | |
| <i>Fl. Yellow</i> |  |  | 4. <i>CICENDIA.</i> | |
| |  |  | 5. <i>LIMNANTHEMUM.</i> | |
| |  | <i>Stem L.</i>  | 6. <i>CHLÓRA.</i> | |

| | | | | |
|--|--|---|-----------------------|--|
| 52. POLEMONIACEÆ  | | | | |
|  <i>Blue or white</i> | <i>Fl.</i>  | <i>L.</i>  | 1. <i>POLEMONIUM.</i> | |

| | | | | |
|---|---|---|------------------------|--|
| 53. CONVULVULACEÆ  | | | | |
|  | <i>Cal. Bels.</i>  |  | 1. <i>CONVOLVULUS.</i> | |
|  | <i>Fl.</i>  | <i>L. none. Parasite</i> | 2. <i>CUSCÚTA.</i> | |

| | |
|---|---|
| 49. JESSAMINE FAMILY. | Corolla regular, monopetalous, inferior. Calyx-lobes 4 or 0. Corolla-lobes 4 or 0, valvate in the bud. Stamens 2. Style 1, stigma 2-lobed. Fruit a berry, 2-celled, cells 1- or 2-seeded; or a samara, 1- or 2-celled, cells 1-seeded. Shrubs or trees. |
| Shrubs. Corolla 4-lobed. Fruit a berry, 1- or 2-seeded. Leaves opposite, elliptic-lanceolate | 1. Privet. |
| Trees. Corolla none. Fruit a samara, 1- or 2-celled, cells 1-seeded. Leaves pinnate, leaflets 7 to 11, serrate | 2. Ash. |

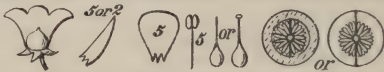


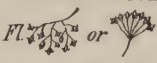



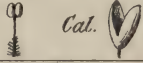






| | |
|---|--|
| 50. PERIWINKLE FAMILY. | Corolla regular, monopetalous, inferior. Calyx-lobes 5. Corolla-lobes 5. Stamens 5, filaments bent. Stigma capitate, with a ring at the base. Fruit 2 follicles. |
| Corolla salver-shaped, lobes oblique, blue or purple. Prostrate herbs with opposite leaves. Leaves lanceolate or ovate | 1. Periwinkle. |

| | |
|--|--|
| 51. GENTIAN FAMILY. | Corolla regular, monopetalous, inferior. Calyx-lobes 4, 5, or 8. Corolla-lobes 4, 5, or 8. Stamens 4, 5, or 8. Style 1, bifid or entire. Capsule 1- or 2-celled by inflexed margin of valves; many-seeded. |
| Flowers blue or purple. Stamens 5 or 4. Corolla funnel- or salver-shaped, 5- or 4-lobed. Leaves opposite, linear-lanceolate or ovate | 1. Gentian. |
| Flowers pink or red. (See No. 4.) Stamens 5. Corolla 5-lobed, hairy within. Water plants with ternate leaves | 2. {Buckbean, Bogbean. |
| Stamens 5. Corolla 5-lobed, tube long. Leaves opposite, varying from oblong to ovate | 3. Centaury. |
| Flowers yellow. Stamens 4. Corolla 4-lobed, tube long. Leaves opposite, linear-lanceolate | 4. Gentianella. |
| Stamens 5. Corolla 5-lobed, ciliated at the margin. Leaves orbicular-cordate, floating | 5. Limnanth. |
| Stamens 8. Corolla 8-lobed. Stem leaves connate | 6. Yellow-wort. |

| | |
|---|--|
| 52. JACOB'S LADDER FAMILY. | Corolla regular, monopetalous, inferior. Calyx-lobes 5. Corolla-lobes 5. Stamens 5, unequal. Style 3-fid. Capsule 3-celled, cells many-seeded. |
| Corolla rotate (tube very short), blue or white. Flowers in a terminal panicle. Leaves pinnate | 1. Jacob's Ladder. |

| | |
|---|---|
| 53. CONVULVULUS FAMILY. | Corolla regular, monopetalous, inferior. Sepals or calyx-lobes 5. Corolla-lobes 5 (platted in the bud). Stamens 5. Style 1, bifid, or 2. Capsule 4-seeded, 1- or 2-celled. (Twining herbs.) |
| Style 1. Bracts 2, close to or distant from calyx. Leaves ovate-sagittate, or sagittate with truncate lobes, or reniform | 1. {Convolvulus, Bindweed. |
| Styles 2. Flowers in globular clusters. Leaves none. Parasite | 2. Dodder. |

| 54. BORAGINACEÆ.  L.alt. | | | |
|--|---|--|------------------|
|  No scales in tube |  <i>Calyx</i> |  <i>Spotted</i> | 1. PULMONÁRIA. |
| |  |  <i>Fleshy glaucous</i> | 2. MERTENSIA. |
| |  |  <i>Blue</i> | 3. ÉCHIUМ. |
| |  |  <i>White, yell. blue, purp.</i> | 4. LITHOSPERMUM. |
|  Scales in tube |  <i>Corolla scale</i> | <i>Cor. yell.-white</i> | 5. SYMPHYTUM. |
| |  | <i>Corolla blue</i> | 6. BORÁGO. |
| |  | <i>Corolla blue</i> | 7. LYCÓPSIS. |
| |  |  <i>Fruit Calyx Pitted</i> | 8. ASPERÚGO. |
| | |  <i>Hooked prickles</i> | 9. CYNOGLOSÚM. |
| | |  <i>Wrinkl'd Fl.</i> | 10. ANCHÚSA. |
|  <i>Smooth Fl. viscid</i> | | 11. MYOSÓTIS. | |

| 55. SOLANACEÆ.  L.alt. | | | |
|---|---|--|----------------|
|  |  <i>Cor. Purp. or white</i> |  <i>Fl. or</i> | 1. SOLA'NUM. |
| |  <i>Purple</i> |  <i>Fl.</i> | 2. ATROPA. |
| |  <i>Bluish</i> |  <i>Cal.</i> | 3. LYCÍUM. |
|  |  <i>Greenish yellow</i> |  <i>Fl. Plant viscid</i> | 4. HYOSCYÁMUS. |
|  |  <i>White</i> |  <i>Fl. Cal.</i> | 5. DATÚRA. |

| | |
|--|--|
| <p>54. BORAGE FAMILY. {</p> | <p>Corolla regular, monopetalous, inferior. Calyx-lobes 5. Corolla-lobes 5. Stamens 5. Style 1, from the base of ovary. Ovary 4-lobed. Capsule separating into 4 1-seeded nuts. Leaves alternate.</p> |
| <p>Corolla with no scales in the tube.</p> <p> Calyx tubular, toothed.</p> <p> Leaves ovate-lanceolate, spotted</p> <p> Calyx deeply 5-cleft, segments ovate.</p> <p> Leaves ovate-acute, fleshy, glaucous</p> <p> Calyx deeply 5-cleft, segments linear or lanceolate.</p> <p> Corolla oblique, more or less irregular, blue ..</p> <p> Corolla regular, white, yellow, blue, or purple ..</p> <p>Corolla with scales in the tube.</p> <p> Corolla tubular, with 5 small teeth. Scales lanceolate-subulate.</p> <p> Corolla yellowish-white</p> <p> Corolla rotate; anthers forming a cone in the centre.</p> <p> Corolla blue</p> <p> Corolla funnel-shaped, with a slightly bent tube, and rather oblique.</p> <p> Corolla blue</p> <p> Corolla with a straight tube and regular spreading limb</p> <p> Fruit pitted. Calyx-lobes with small teeth between them</p> <p> Fruit depressed, covered with hooked prickles ..</p> <p> Fruit wrinkled. Flowers in spikes with bracts ..</p> <p> Fruit smooth. Flowers in racemes without bracts</p> | <p>1. Lungwort.</p> <p>2. Oyster Plant.</p> <p>3. { Viper's Bugloss.</p> <p>4. Gromwell.</p> <p>5. Comfrey.</p> <p>6. Borage.</p> <p>7. Bugloss.</p> <p>8. Madwort.</p> <p>9. { Hound's-tongue.</p> <p>10. Alkanet.</p> <p>11. { Forget-me-not, Scorpion-grass.</p> |


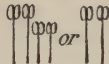




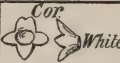
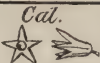




























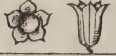









| | |
|---|---|
| <p>55. NIGHTSHADE FAMILY. {</p> | <p>Corolla regular, monopetalous, inferior. Calyx-lobes 5 or 2. Corolla-lobes 5. Stamens 5. Style 1; stigma simple or capitate. Fruit a 2-celled berry or capsule, many-seeded. Leaves alternate.</p> |
| <p>Fruit an oblong or roundish berry.</p> <p> Corolla rotate, purple or white; anthers close together.</p> <p> Flowers in drooping cymes, or in umbels</p> <p> Corolla bell-shaped, purple.</p> <p> Flowers solitary, axillary, on short stalks</p> <p> Corolla funnel-shaped; tube short; lobes patent; bluish.</p> <p> Anthers with woolly filaments. Calyx 2-lipped ..</p> <p>Fruit a smooth capsule, opening transversely; crowned with persistent calyx.</p> <p> Corolla funnel-shaped; tube short; lobes unequal; greenish-yellow, with purple veins</p> <p> Flowers in one-sided leafy spikes. Plant viscid.</p> <p>Fruit a prickly capsule, opening longitudinally; 4-valved, cells 2, partially bipartite. Calyx deciduous.</p> <p> Corolla funnel-shaped, angular, white.</p> <p> Flowers solitary. Calyx tubular</p> | <p>1. Nightshade.</p> <p>{ Dwale,</p> <p>2. Deadly Nightshade.</p> <p>3. Box-thorn.</p> <p>4. Henbane.</p> <p>5. Thorn-apple.</p> |

| | | | | |
|---|--|--|---------------|--------------------------|
| 56. OROBANCHACEÆ.  | | | | <i>L. note Parasites</i> |
| <i>Cal.</i>  | <i>Fl.</i>  | <i>Parasite on</i>  | 1. OROBANCHÆ. | |
| <i>Cal.</i>  | <i>Fl.</i>  | <i>Do. on</i>  | 2. LATHRÆA. | |

| | | | | |
|--|---|--|--|-------------------|
| 57. SCROPHULARIACEÆ.  | | | | |
|  | <i>Cal.</i>  | <i>Cor.</i>  | <i>Fl. blue or pink</i> | 1. VERONICA. |
|  |  |  | <i>Fl. yell. or white</i> | 2. VERBAS' CUM. |
|  |  |  <i>Pink or purp.</i> |  | 3. PEDICULARIS. |
| |  |  <i>Yell.</i> | <i>Capsule</i>  | 4. RHINAN'THUS. |
| |  |  <i>Yell. or purp.</i> |  | 5. MELAMPYRUM. |
| | |  <i>Yell. or purp.</i> |  | 6. BARTSIA. |
| | |  <i>White or pink</i> |  | 7. EUPHRASIA. |
| |  |  <i>Spur</i> | <i>Fl. blue purp. or yell.</i> | 8. LINARIA. |
| | |  <i>Gibbous</i> | <i>Fl. pink purp. or white</i> | 9. ANTIRRHINUM. |
| | |  <i>Dull purp. or yell.</i> | <i>Stem □, rarely ◇</i> | 10. SCROPHULARIA. |
| | |  <i>Red or White</i> | <i>Fl.</i>  <i>L.</i> | 11. DIGITALIS. |
| | |  <i>Yell.</i> |  | 12. MIMULUS. |
| | |  <i>Rose</i> |  | 13. LIMOSÉLLA. |
| | |  <i>Pink & yell.</i> |  | 14. SIBTHORPIA. |

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|--|--|
| 56. BROOMRAPE FAMILY. | Corolla irregular, monopetalous, inferior. Calyx-lobes 2 or 4. Stamens 4, didynamous. Style 1, stigma 2-lobed. Fruit capsular, 1-celled, with many minute seeds, placentas 2 (or more) parietal. Leaves none. Parasites. |
| Calyx deeply divided into 4 or 2 (rarely 5) lobes. Flowers in spikes. Parasite on herbs | 1. Broomrape. |
| Calyx with 4 broad short lobes. Flowers in one-sided racemes. Parasite on trees .. | 2. Toothwort. |










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|--|--|
| 57. FIGWORT FAMILY. | Corolla irregular, monopetalous, inferior. Calyx-lobes 4 or 5. Stamens 4, didynamous, or 2 or 5. Style 1, bifid. Fruit a capsule, 2-celled, cells many- or 2-seeded. |
| Stamens 2. Calyx 4- (rarely 5-) lobed. Corolla rotate, unequally 4-lobed, lower lobe the smallest. Flowers pink or blue.. .. | 1. Speedwell. |
| Stamens 5, 2 or more hairy. Calyx 5-lobed. Corolla rotate or concave, lobes 5, unequal. Flowers yellow or white | 2. Mullein. |
| Stamens 4, didynamous. Calyx with 2 to 5 irregular jagged lobes, unequal. Corolla ringent, upper lip laterally compressed, lower 3-fid, pink or purple. Leaves pinnatifid | 3. {Red Rattle, Lousewort. |
| Calyx inflated after flowering, 4-toothed. Corolla ringent, upper lip laterally compressed, lower lip 3-lobed, yellow. Capsule blunt, cells many-seeded | 4. Yellow Rattle. |
| Calyx 4-lobed, or 4-toothed. Corolla ringent, upper lip laterally compressed, lower lip 3-fid, yellow or purple. Capsule obliquely acuminate, cells 1- or 2-seeded Corolla ringent, upper lip not laterally compressed, yellow or purple. Capsule acuminate, cells many-seeded | 5. Cow-wheat. |
| Corolla tubular, 2-lipped, upper lip 2-lobed, lower lip 3-lobed, white or pink. Capsule blunt, cells many-seeded | 6. Bartsia. |
| Calyx 5-lobed, or 5-toothed. Corolla personate, spurred. Flowers blue, purple, or yellow | 7. Eye-bright. |
| Corolla personate, slightly gibbous at the base. Flowers pink, purple, or white | 8. Toad-flax. |
| Corolla globose, dull purple or yellow. Stem 4-angled, rarely 5-angled | 9. Snapdragon. |
| Corolla bell-shaped, oblique, red or white. Flowers in a terminal spike. Leaves ovate .. | 10. Figwort. |
| Corolla ringent, upper lip folded at the sides, yellow. Stem leaves roundish-ovate, veined, opposite .. | 11. Foxglove. |
| Corolla bell-shaped, lobes equal, rose coloured. Stem creeping. Leaves lanceolate-spathulate .. | 12. Monkey-flower. |
| Corolla rotate, lobes irregular, pink. Leaves roundish-reniform, with a few broad lobes | 13. Mudwort. |
| | 14. Moneywort. |
















| 58. LABIATÆ. | |  |  |  |  |  Stem L. opp |
|--|--|---|--|---|---|--|
|  |  <i>Cor.</i> White |  <i>Cal.</i> | <i>Nuts</i>  | 1. <i>LYCOPUS.</i> | | |
| |  <i>Blue</i> |  | <i>Bets.</i>  | 2. <i>SALVIA.</i> | | |
|  |  |  | <i>Fl. pink or purp.</i> | 3. <i>MENÞHA.</i> | | |
| |  | <i>Upper lip</i>  | <i>Smooth</i>  <i>Fl.</i>  | 4. <i>TEUCRIUM.</i> | | |
| | | <i>Do.</i>  | <i>Rough</i>  <i>Fl.</i>  | 5. <i>ASUGA.</i> | | |
| |  | <i>Cal.</i>  | <i>Fl. Purp.</i>  | 6. <i>ÞYMUS.</i> | | |
| | | | <i>Fl. White</i>  | 7. <i>MELISSA.</i> | | |
| | |  | <i>Bets.</i>  <i>Purp.</i> | 8. <i>ORIGANUM.</i> | | |
| (See N ^o 12) |  <i>Calyx</i> |  <i>Cal. 15 ribs</i> | <i>Fl. blue pink or white</i> | 9. <i>NEPETA.</i> | | |
|  |  | <i>Fl.</i>  | <i>Stalked</i>  | 10. <i>SCUTELLARIA.</i> | | |
| |  | <i>Fl.</i>  | <i>Stam.</i>  | 11. <i>PRUNELLA.</i> | | |
| |  <i>13 ribs</i> | <i>Lip</i>  | <i>Fl. blue purp. or pink</i> | 12. <i>CALAMINTHA.</i> | | |
| |  | <i>Lip</i>  | <i>Fl. large, white or pink</i> | 13. <i>MELITTIS.</i> | | |
| |  | <i>White</i>  | <i>Nuts</i>  | 14. <i>MARRUBIUM.</i> | | |
| |  | <i>Lip</i>  | <i>Nuts</i>  | 15. <i>BALLOTA.</i> | | |
| |  | <i>Hairy</i>  | <i>Fl. White pink or purp.</i>  | 16. <i>LAMIUM.</i> | | |
| | | <i>Glabrous</i>  | <i>Yellow</i>  | 16. <i>Do.</i> | | |
| | | | <i>Stem L.</i>  | 17. <i>LEONURUS.</i> | | |
| <i>Longitudinal valves</i>  | | <i>No scales</i>  | 18. <i>STACHYS.</i> | | | |
| | <i>Transverse valves</i>  | <i>Scales</i>  | 19. <i>GALEOPSIS.</i> | | | |


































58. LABIATE FAMILY.

Corolla irregular, monopetalous, inferior. Stamens 4, didynamous, or (rarely) 2. Style 1, stigma bifid. Fruit 4-lobed, separating into 4 1-seeded nuts. Leaves opposite. Stem square.

| | |
|---|--------------------------|
| Stamens 2. | |
| Corolla 4-lobed, nearly regular, white. | |
| Calyx regular, 5-toothed. Nuts flat on the top .. | 1. Gipsy-wort. |
| Corolla 2-lipped, lower lip 3-lobed. | |
| Calyx 2-lipped, upper lip 3-toothed, lower lip bifid. | |
| Bracts cordate, acuminate | 2. Sage. |
| Stamens 4 distinct (not in pairs), not under the upper lip of the corolla. (See No. 12.) | |
| Corolla 4-lobed, nearly regular. | |
| Calyx regular, 5-toothed. Flowers pink or purple | 3. Mint. |
| Corolla apparently with lower lip only. Upper lip very small. | |
| Upper lip distinctly bifid. Nuts smooth. | |
| Flowers more or less secund | 4. Germander. |
| Upper lip very short, 2-lobed. Nuts rough. | |
| Flowers not secund | 5. Bugle. |
| Corolla 2-lipped, the lower lip 3-lobed. | |
| Calyx 2-lipped, the upper lip 3-toothed, the lower bifid. | |
| Flowers capitate, purple | 6. Thyme. |
| Flowers in axillary secund whorls, white .. | 7. Balm. |
| Calyx with 5 nearly equal teeth. | |
| Bracts many, imbricated, purple | 8. Marjoram. |
| Stamens 4 in pairs, under the upper lip of the corolla, outer pair the shortest. | |
| Calyx with 5 nearly equal teeth. | |
| Calyx with 15 ribs. Flowers blue, pink, or white | 9. (Cat-Mint, |
| Stamens 4 in pairs, under the upper lip of corolla, outer pair the longest. (See No. 7.) | Ground-Ivy.) |
| Calyx 2-lipped, both entire, a concave scale on the upper lip. Flowers nearly sessile, opposite, in axillary pairs, secund. Nuts stalked | 10. Skull-cap. |
| Calyx 2-lipped, upper lip slightly 3-toothed, lower lip bifid. Flowers in a dense terminal spike. Filaments toothed below anther | 11. Self-heal. |
| Calyx 2-lipped, upper lip 3-toothed, lower lip bifid, 13 ribs. Lower lip of corolla 3-lobed. Flowers blue, purple, or pink | 12. (Calamint, |
| Calyx membranous, ample, 3-lobed, upper lip 2- to 3-toothed. Lower lip of corolla 3-lobed. Flowers large, white or pink | Basil.) |
| Calyx tubular, with 10 subulate hooked teeth. Stamens within the tube of the white corolla. Nuts flat at the top | 13. Bastard Balm. |
| Calyx funnel-shaped, with 5 spreading, ovate, finely-pointed, teeth. Lower lip of corolla 3-lobed, middle lobe obcordate. Nuts rounded at the top | 14. { White Hore- |
| Calyx with 5 nearly equal teeth. | hound. |
| Nuts flat on the top. | 15. { Black Hore- |
| Anthers hairy. | hound. |
| Lower lip of corolla 2-lobed, laterally toothed. | |
| Flowers white, pink, or purple | 16. Dead-nettle. |
| Anthers glabrous. | |
| Lower lip of corolla 3-lobed, upper lip long. | |
| Flowers yellow | 16. Weasel-snout. |
| Lower lip of corolla 3-lobed, upper lip flat, hairy. Stem leaves 3-lobed | 17. Motherwort. |
| Nuts rounded at the top. | |
| Anthers with longitudinal valves. | |
| Lower lip 3-lobed, no scales present | 18. Woundwort. |
| Anthers with transverse valves. | |
| Lower lip 3-lobed, with 2 scales | 19. Hemp-nettle. |

| | | | |
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| 59. VERBENACEÆ.       | | | |
| Fl.  | Cor.  Lilac |  | 1. VERBÉNA. |

| | | | |
|---|---|---|-----------------|
| 60. LENTIBULARIACEÆ        | | | |
| L. rad.  or  | Cal.  Cor.  | Fl.  blue or straw | 1. PINGUÍCULA. |
| L.  |   | Fl.  yellow | 2. UTRICULÁRIA. |

| | | | | | |
|---|---|--|--|---|----------------|
| 61. PRIMULACEÆ.       | | | | | |
| ♀ 4 |  |  Pink | Cap.  | 1. CENTUNCULUS. | |
| |  |  Luac | Fl.  | 2. HOTTÓNIA. | |
| |  |  White | Fl.  | 3. CYCLÁMEN. | |
| |  |  Yell. purp. lilac | Fl.  or  | 4. PRIMULA. | |
| | ♀ 5 |  |  White | Cap.  Bct. - 4 | 5. SAMOLUS. |
| | |  to  |  Cor. none | Cal.  pink | 6. GLAUX. |
| | | |  Yell. | Cap.  | 7. LYSIMÁCHIA. |
| | ♀ 7 |  5-6 |  Red pink or blue | Cap.  | 8. ANAGÁLLIS. |
| | | |  White | Fl.  | 9. TRIENTÁLIS. |

59. VERVAIN FAMILY.

Corolla irregular, monopetalous, inferior. Calyx-lobes 5. Corolla-lobes 5. Stamens didynamous (2 long and 2 short). Style 1, bifid, from the top of ovary. Capsule dividing into 4 1-seeded nuts.

Flowers in a slender spike. Corolla slightly irregular, lilac.

Leaves opposite, lobed or toothed

1. Vervain.

60. BUTTERWORT FAMILY.

Corolla irregular, monopetalous, inferior. Calyx-lobes 2 or 5. Stamens 2. Style short, thick; stigma 2-lipped, lips unequal. Capsule 1-celled, many-seeded; placenta central. Marsh or aquatic plants.

Leaves radical, oblong or ovate.

Calyx 2-lipped, upper lip 3-lobed, lower 2-lobed.

Corolla ringent, spurred. Fl. solitary, blue or straw-coloured

Leaves divided into capillary segments interspersed with small bladders. Aquatic plants, floating.

Calyx 2-lipped, upper entire, lower notched. Corolla personate, spurred. Flowers in racemes, yellow ..

1. Butterwort.

2. Bladderwort.

61. PRIMROSE FAMILY.

Corolla regular, monopetalous, inferior. Calyx-lobes 4, 5, or 7. Stamens 4, 5, or 7, opposite to the corolla-lobes. Style 1; stigma capitate. Capsule 1-celled, many- (or few-) seeded; placenta free, central.

Stamens 4.

Leaves alternate, ovate.

Corolla 4-lobed, pink. Capsule opening transversely

**1. {Bastard Pimpernel,
Chaffweed.**

Stamens 5.

Leaves pectinate, submerged.

Corolla-lobes salver-shaped, lilac. Flowers whorled

Leaves radical, cordate-ovate, angular, dentate; root-stock tuberous.

Corolla-lobes closely reflexed over the tube, white.

Flowers solitary

**2. {Water-violet,
Featherfoil.**

Leaves radical, ovate or oblong, often wrinkled.

Corolla salver-shaped, tube long, lobes notched; yellow, pink, or lilac. Flowers solitary or in umbels

3. Sow-bread.

4. Primrose.

Leaves alternate, obovate or roundish.

Corolla salver-shaped, with entire lobes and small scales interposed. Capsule half inferior, bract on pedicel

5. Brook-weed.

Leaves opposite, varying from lanceolate to ovate.

Corolla none. Calyx bell-shaped, pink, corolla-like

Corolla rotate, yellow. Capsule opening at the top vertically

**6. {Sea Milkwort,
Black Saltwort.**

7. Loosestrife.

Corolla rotate or funnel-shaped, red, pink, or blue.

Capsule opening transversely











8. Pimpernel.

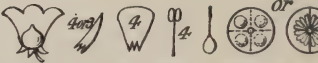









Stamens 7.

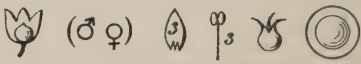



Upper leaves in an irregular whorl of 5 (or 6) obovate or lanceolate leaves.

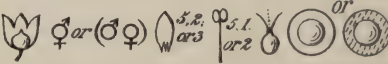
















Corolla rotate, 7-lobed. Flowers 3 or 4 together

**9. {Chickweed
Winter-green.**

| | | | |
|---|---|--|-------------|
| 62. PLUMBAGINACEÆ.  L.rad. | | | |
|  | L.  to  | Fl.  or  purp-blue | 1. STATÍCE. |
|  | L.  to  | Fl.  pink, sheath | 2. ARMÉRIA. |

| | | | |
|---|--|---|----------------|
| 63. PLANTAGINACEÆ.  L.rad. | | | |
| ♀  | Fl.  or  Pink? |   | 1. PLANTÁGO. |
| ♂  ♀  | Fl.  yellowish |  | 2. LITTORELLA. |

| | | | |
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| 64. AMARANTHACEÆ.  | | | |
| Prth.  | Fl.  green | L.  | 1. AMARANTHUS. |

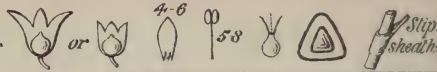














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|---|---|---|-----------------|
| 65. CHENOPODIACEÆ.  | | | |
| L. none |  1 or 2 | Stem  Succu? | 1. SALICORNIA. |
| L.   Sec? | Prth.  |  | 2. SUÉDA. |
| L.   Sec? |  |  | 3. SALSOLA. |
| L. Flat | ♂  ♀  | Fr.  | 4. ÁTRIPLEX. |
| | ♀  | Fr.  | 5. CHENOPÓDIUM. |
| | | Fr.  | 6. BÉTA. |






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|---|-----------------------------|
| 62. THRIFT FAMILY. { Corolla regular, monopetalous, inferior. Calyx tubular (plicate). Corolla-lobes 5. Stamens 5. Styles 5. Fruit 1-celled, 1-seeded. Leaves radical. | |
| Styles 5, glabrous. Leaves varying from lanceolate to ovate-spathulate. Flowers in secund or dichotomous panicles, purple-blue | 1. Sea Lavender. |
| Styles 5, hairy at the base. Leaves varying from linear to linear-lanceolate. Flowers in a head, with a sheath beneath, pink .. | 2. Thrift, Sea-pink. |


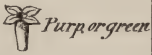


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|--|----------------------------------|
| 63. PLANTAIN FAMILY. { Corolla regular, monopetalous, inferior. Calyx-lobes 4 or 3. Corolla-lobes 4. Stamens 4. Style 1. Capsule 1- to 4-celled, cells 1-seeded; or 2-celled, cells 4- to 8-seeded. Leaves radical. | |
| Hermaphrodite: Calyx 4-lobed. Flowers in long or short spikes, pinkish. Capsule 2- to 4-celled, cells 1-seeded; or 2-celled, cells 4- to 8-seeded | 1. { Plantain, Rib-grass. |
| Male: Calyx 4-lobed. Female: Calyx 3-lobed. Flowers solitary, yellowish. Capsule 1-celled, 1-seeded | 2. Shore-weed. |

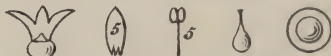




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| 64. AMARANTH FAMILY. { Perianth regular, calyx-like, inferior. Monocious. Perianth-lobes 3. Stamens 3. Stigmas 3. Capsule 1-celled, 1-seeded. | |
| Perianth 3-lobed. Flowers in dense spikes or clusters. Leaves ovate .. | 1. Amaranth. |

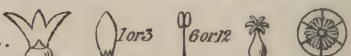
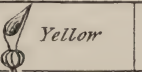


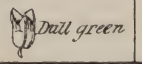


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| 65. GOOSEFOOT FAMILY. { Perianth regular, calyx-like, inferior. Hermaphrodite or monocious. Perianth-lobes 5, 2, or 3. Stamens 5, 1, or 2. Styles 2 or 3. Fruit 1-celled, 1-seeded, dry or fleshy. | |
| Leaves none. Stamens 1 or 2. Stem jointed, succulent.. .. | 1. { Glasswort, Marsh Sampire. |
| Leaves linear, nearly cylindrical in cross section. Perianth 5-lobed, unaltered in fruit | 2. Sea-blite. |
| Leaves subulate, prickly, semi-cylindrical in cross section. Perianth in fruit encircled by a scarious wing. Flowers solitary, sessile, in the axil of 3 floral leaves or bracts | 3. Saltwort. |
| Leaves flat. Male: Perianth 5-lobed. Female: Perianth 2-lobed. Perianth not fleshy in fruit | 4. Orache. |
| Hermaphrodite: Perianth 5-lobed. Perianth not fleshy in fruit | 5. Goosefoot. |
| Perianth fleshy in fruit, usually in pairs | 6. Beet. |

| | | | | |
|--|---|---|---|---------------|
| 66. POLYGONACEÆ.  | | | | |
|  Prth. |  | Fr.  | Fl.  | 1. RUMEX. |
|  |  | Fr.  | L.  | 2. OXYRIA. |
|  |  | Fr.  | Fl.  | 3. POLYGONUM. |
| |  |  | Fl.  | 4. FAGOPYRUM. |

| | | | | |
|---|---|---|--|--------------|
| 67. ELÆAGNACEÆ.  | | | | |
|  Prth. ♂ |  Prth. ♀ | Orange colour'd  | L.  Silvery | 1. HIPPOPHÆ. |

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|--|--|-------------------|---|------------|
| 68. THYMELACEÆ.  | | | | |
|  Purple or green |  | Red or blue-black | L.  | 1. DAPHNE. |

| | | | | |
|---|---|--|--|--------------|
| 69. SANTALACEÆ.  | | | | |
|  |  | Bct.  | L.  | 1. THÉSIIUM. |

| | | | | |
|--|---|--|------------------|--|
| 70. ARISTOLOCHIACEÆ.  | | | | |
|  Yellow |  | L.  | 1. ARISTOLÓCHIA. | |
|  Dull green |  | L.  | 2. ASÁRUM. | |









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|---|---|
| 66. DOCK FAMILY. { Perianth regular, corolla-like or calyx-like, inferior. Perianth-lobes 4 to 6. Stamens 5 to 8. Styles or stigmas 2 or 3. Fruit 1-celled, 1-seeded, usually triangular. Stipules sheathing the stem. | |
| Perianth 6-lobed, 3 inner lobes larger than the others. Stamens 6. Styles 3, tufted. Fruit triangular. Flowers in whorls | 1. Dock. |
| Perianth 4-lobed, 2 inner lobes larger than the others. Stamens 6. Fruit compressed, winged. Stigmas 2, tufted. Leaves reniform | 2. Mountain Sorrel. |
| Perianth 5-lobed, lobes equal. Stamens 5 to 8. Styles 2 or 3. Flowers in racemes or clusters | { Persicaria, Bistort, Knot-grass. |
| Stamens 8. Styles 3. Flowers in cymose panicles | |















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| 67. SALLOW-THORN FAMILY. { Perianth regular, calyx-like, inferior. Dioecious. Perianth-lobes 2. Stamens 4. Style 1. Fruit a 1-seeded nut, enclosed in a fleshy perianth. Shrubs. | |
| Male flowers: Perianth of 2 segments. Female flowers: Perianth tubular, cloven at the summit. Berry orange-coloured. Leaves linear-lanceolate, silvery | 1. { Sallow-thorn. Sea Buckthorn. |










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| 68. DAPHNE FAMILY. { Perianth regular, corolla-like or calyx-like, inferior. Perianth-lobes 4. Stamens 8, in 2 rows. Style short, stigma capitate. Fruit a 1-seeded berry. Shrubs. | |
| Perianth tubular, lobes 4-spreading, purple or green. Berry red or blue-black. Leaves lanceolate, narrowed below | 1. Mezereon. |







| | |
|---|--------------------------------|
| 69. SANDALWOOD FAMILY. { Perianth regular, corolla-like, superior. Perianth-lobes 5. Stamens 5. Style 1. Fruit 1-celled, 1-seeded. | |
| Perianth 5-lobed. Stamens 5, with a tuft of hairs. Bracts 3, the middle one longest. Leaves linear | 1. { Bastard Toad-flax. |







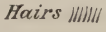






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| 70. BIRTHWORT FAMILY. { Perianth regular, corolla-like, superior. Perianth-lobes 1 or 3. Stamens 6 or 12. Style 1, stigma 6-rayed. Capsule 6-celled, cells many-seeded. | |
| Perianth tubular, oblique, yellow. Stamens 6. Leaves cordate | 1. Birthwort. |
| Perianth bell-shaped, 3-lobed, dull green. Stamens 12. Leaves reniform | 2. Asarabacca. |

| | | | | |
|---|---|---|---|--------------|
| 71. EMPETRACEÆ.  ♂:♀ $3/3$ \wp_3     | | | | |
| \wp_3 |  |  Black | Evergreen  | 1. EMPÉTRUM. |

| | | | | |
|---|--|---|---|-----------------|
| 72. EUPHORBIACEÆ.  ♂ ♀ $3-5$ $1-36$  or   or  or  | | | | |
|  | \wp_{9-12}  |  |  | 1. MERCURIÁLIS. |
|  or  | \wp_{7-36}  |  | Milky  | 2. EUPHORBIA. |
|   | \wp_4  |  | Evergreen  | 3. BUXUS. |

| | | | | |
|--|--|--|---|------------------|
| 73. CERATOPHYLLACEÆ.  (♂ ♀) $8-12$ Stam $12-20$     | | | | |
| Prth.  $8-12$ lobes | Stam.  $12-20$ | Fr.  | L.  | 1. CERATOPHYLUM. |

| | | | | |
|---|---|--|--|-----------------|
| 74. CALLITRICHACEÆ. Prth. 0. (♂ ♀) $Bets \frac{2}{0}$ \wp_1    | | | | |
| \wp_1 |  |  or  | | 1. CALLITRICHE. |

| | | | | |
|---|---|--|--|----------------|
| 75. URTICACEÆ.  or  ♂ ♀ or ♀ $2-4$ \wp_4  or   | | | | |
|  | Hairs  |  | | 1. PARIETARIA. |
| ♂  ♀  | Do.  |  or  | | 2. URTICA. |








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| 71. CROWBERRY FAMILY. | } | Perianth regular, like a corolla and calyx, inferior. Dioecious. Perianth-lobes like 3 sepals and 3 petals. Stamens 3. Style 1, stigma rayed. Fruit a 9-seeded berry. Shrubs. |
| Stamens 3. Stigma 9-rayed. Berry globose, black. Low evergreen shrubs | | 1. Crowberry. |















| | | |
|--|---|---|
| 72. SPURGE FAMILY. | } | Perianth or involucre regular, calyx-like, inferior. Male or female. Perianth-lobes or involucre-lobes 3 to 5. Stamens 1 to 36. Styles 2 or 3. Capsule 2- or 3-celled, cells 1-seeded; or 3-celled, cells 2-seeded. |
| Perianth 3-lobed. Stamens 9 to 12. Styles 2. Ovary 2-lobed, 2-celled, cells 1-seeded. Herbs (not milky) Perianth-like involucre 4- or 5-lobed. Stamens 7 to 36. Styles 3, bifid. Ovary 3-lobed, 3-celled, cells 1-seeded. Milky herbs Perianth of male: 3 sepals and 2 petals. Perianth of female: 4 sepals and 3 petals. Stamens 4. Styles 3. Ovary 3-celled, cells 2-seeded. Evergreen shrubs .. | | 1. Mercury. 2. Spurge. 3. Box. |





















































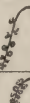




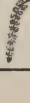




| | | |
|---|---|---|
| 73. HORNWORT FAMILY. | } | Perianth regular, calyx-like, inferior. Monœcious. Perianth-lobes 8 to 12. Stamens 12 to 20, sessile. Style 1. Fruit 1-celled, 1-seeded. Submerged herbs. |
| Perianth with 8-12 entire or notched lobes. Anthers 12 to 20, oblong. Fruit 1-seeded. Leaves whorled, forked | | 1. Hornwort. |

| | | |
|---|---|---|
| 74. WATER STARWORT FAMILY. | } | Perianth none. Monœcious. Bracts 2 or 0. Stamen 1. Styles 2. Ovary 4-lobed, 4-celled, cells 1-seeded, separating in fruit. Aquatic herbs. |
| Stamen 1. Styles 2. Leaves opposite, ovate or linear | | 1. Water Starwort. |

| | | |
|---|---|--|
| 75. NETTLE FAMILY. | } | Perianth regular, corolla-like or calyx-like, inferior. Male, female, or hermaphrodite. Perianth-lobes 2 or 4. Stamens 4. Stigma tufted, sessile, or on a style. Fruit 1-celled, 1-seeded. |
| Perianth 4-lobed. Hairs simple. Leaves alternate, entire Perianth of male 4-lobed, of female 2-lobed. Hairs glandular stinging. Leaves opposite, toothed | | 1. Pellitory. 2. Nettle. |

| | | | |
|---|---|--|-------------|
| 76. CANNABINACEÆ. ♂  ♀  ♂:♀  <i>L. Stip.</i> | | | |
| ♂  | ♀  |  or  | 1. HUMÚLUS. |





















| | | | |
|---|---|--|-----------|
| 77. ULMACEÆ.  or  ♀        | | | |
| <i>Fl.</i>  | <i>Prth.</i>  or  |  or  | 1. ULMUS. |

| | | | | | | |
|---|-------|--|---|---|---|---------------|
| 78. AMENTACEÆ. ♂  ♀  or  or  ¹⁻³⁰    or   | | | | | | |
| ♂ in & ♀ in | (♂ ♀) | ♀  |   | <i>Prth.</i>  |  | 1. ALNUS. |
| | | ♀  or  |   | <i>Do. O</i> |   | 2. BETULA. |
| | ♂:♀ |  |   | <i>Prth. Scale</i> <i>O.</i>  | <i>Seeds</i>  <i>L. Var.</i> | 3. SALIX. |
| | |  |   | <i>Prth. Scale</i> <i>O.</i>  |  | 4. MYRICA. |
| | |  |   | <i>Prth. Scale</i>   |   | 5. POPULUS. |
| ♂ only in | (♂ ♀) |  |   |  |  | 6. CORYLUS. |
| | |  |   |  |  | 7. CARPINUS. |
| | |  |   |  |  | 8. FAGUS. |
| | |  |   |  |  | 9. QUERCUS. |
| | |  |   |  |  | 10. CASTANEA. |

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| 76. HOP FAMILY. | { Male: Perianth regular, calyx-like. Female: Ovoid catkins. Dioecious. Perianth-lobes 5. Stamens 5. Styles 2. Leaves stipulate. (Twining plants.) |
| Male: Perianth 5-lobed, spreading. Female: Catkin ovoid, seed wrapped in scale-like perianth. Leaves heart-shaped or 3- or 5-lobed, rough, stipulate | 1. Hop. |










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| 77. ELM FAMILY. | { Perianth regular, corolla-like or calyx-like, inferior. Hermaphrodite. Perianth-lobes 4 or 5. Stamens 4 or 5. Styles 2. Fruit winged, 1-seeded. Trees. |
| Flowers clustered. Perianth bell-shaped, 4- or 5-lobed. Leaves unequal at the base, doubly serrate, with deciduous stipules | 1. Elm. |











| | |
|--|--|
| 78. CATKIN FAMILY. | { Male flowers in catkins. Female flowers in catkins, or clustered, or solitary. Stamens 1 to 30. Styles 2 to 6. Fruit 1-celled, 1- or several-seeded. Trees or shrubs. |
| Males in catkins, and females in catkins. Flowers monœcious. Female catkins ascending, ovate. Stamens 4. Styles 2. Perianth 4-lobed. Leaves roundish blunt Female catkins pendulous or ascending, cylindrical. Stamens 8 to 12. Styles 2. Perianth none. Leaves broadly ovate or orbicular, toothed Flowers diœcious. Catkins erect. Stamens 2 (or rarely 1 or 3 to 5). Styles 2, bifid. Perianth none. Scales entire and hairy. Seeds hairy. Leaves various, usually narrow .. Stamens 4 to 8. Stigmas 2. Perianth none. Scales entire, glabrous. Leaves lanceolate, toothed at top Catkins pendulous. Stamens 8 to 30. Styles 2, deeply bifid (rarely 3- to 4-lobed). Perianth oblique. Scales jagged. Leaves ovate, lobed, or broadly triangular Males only in catkins. Flowers monœcious. Catkins cylindrical. Stamens 8. Styles 2. Nuts in a jagged involucre. Leaves obovate-cordate Catkins loose. Stamens 5 to 14. Styles 2. Nuts small, in a 3-lobed scale. Leaves ovate-acute, doubly toothed Catkins globular. Stamens 8 to 15. Styles 3. Nuts enclosed in a prickly involucre. Leaves ovate, obscurely toothed Catkins slender, lax. Stamens 5 to 10. Style 3-lobed. Nuts (acorns) in a cup-shaped involucre. Leaves ovate-oblong, irregularly sinuate .. Catkins long. Stamens 8 to 20. Stigmas 6. Nuts enclosed in a prickly involucre. Leaves oblong-lanceolate, toothed | 1. Alder. 2. Birch. 3. Willow. 4. { Sweet-gale, Bog-myrtle. 5. Poplar. 6. Hazel. 7. Hornbeam. 8. Beech. 9. Oak. 10. Chestnut. |




















| | | | |
|--|---|--|----------------------|
| 79. CONIFERÆ. ♂  ♀  or    or  or  or  or  | | | |
| <i>L.</i>  | <i>Scale</i>  <i>Anthers</i>  | <i>Fr.</i>  <i>Seeds</i>  | 1. <i>PÍNUS.</i> |
|  | <i>Scale</i>  <i>Anthers</i>  |   | 2. <i>JUNÍPERUS.</i> |
|  | <i>Anthers</i>  <i>Scales</i>  |   | 3. <i>TAXUS.</i> |

PHÆNOGAMEÆ. (CONT'D)

CLASSII. ENDOGENÆ.

| | | | |
|---|---|---|------------------|
| 80. TRILLIACEÆ.   ♀     | | | |
|  <i>Yellowish green</i> |  <i>Bluish black</i> | <i>L.</i>  | 1. <i>PARÍS.</i> |

| | | | |
|--|--|---|------------------|
| 81. DIOSCOREACEÆ.   or  ♂: ♀     | | | |
|  <i>Yellow-green</i> |  <i>Scarlet</i> |  | 1. <i>TÁMUS.</i> |

| | | | |
|--|---|---|------------------------|
| 82. HYDROCHARIDACEÆ.  ♂: ♀     or   | | | |
| <i>L.</i>  |   |  | 1. <i>ANACHÁRIS.</i> |
|  |   |  | 2. <i>HYDROCHARIS.</i> |
|  |   |  | 3. <i>STRATIÓTES.</i> |

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|---|---|
| <p>79. PINE FAMILY. {</p> | <p>Male flowers in cones. Female flowers in cones or solitary, and berry-like in fruit. Anther-cells 2 to 6; or stamens many, clustered. Seeds winged, or 1 to 3 enclosed in a succulent involucre. Leaves subulate or linear. Trees or shrubs.</p> |
| <p>Leaves in pairs, subulate. Anther-cells 2, adnate to the scales. Fruit a cone. Seeds winged, in pairs</p> <p>Leaves in whorls of 3, linear subulate, mucronate. Anther-cells 4 to 7, inserted on the lower edge of scales. Fruit like a 2- or 3-seeded berry</p> <p>Leaves in 2 rows, crowded, linear acute. Stamens 8 to 10, in a cluster at the top of catkin; scales below. Fruit like a single-seeded berry</p> | <p>1. Pine, Fir.</p> <p>2. Juniper.</p> <p>3. Yew.</p> |

FLOWERING PLANTS. (CONT'D)

CLASS II. ENDOGENS.

| | |
|---|--|
| <p>80. HERB-PARIS FAMILY. {</p> | <p>Leaves net-veined. Perianth regular, calyx-like, inferior. Hermaphrodite. Perianth-lobes 8. Stamens 8. Styles 4. Fruit a 4-celled, many-seeded berry.</p> |
| <p>Perianth 8-lobed, 4 inner narrower than the others, yellowish-green. Berry globose, bluish-black. Leaves usually 4 in a whorl</p> | <p>1. Herb-Paris.</p> |

| | |
|--|--|
| <p>81. YAM FAMILY. {</p> | <p>Leaves net-veined. Perianth regular, corolla-like or calyx-like, superior. Dioecious. Perianth-lobes 6. Stamens 6. Style 1; stigmas 3. Fruit an imperfectly 3-celled berry, cells 2-seeded.</p> |
| <p>Perianth 6-lobed, yellowish-green. Berry ovoid, scarlet. Leaves cordate, shining. Flowers in axillary racemes</p> | <p>1. Black Bryony.</p> |

| | |
|---|--|
| <p>82. FROG-BIT FAMILY. {</p> | <p>Corolla regular, polypetalous, superior. Dioecious. Sepals 3. Petals 3. Stamens 9 to 20. Styles 3, feathery; or 6, bifid. Floating or submerged plants.</p> |
| <p>Leaves oval-oblong, 3 in a whorl, submerged. Stamens 9. Styles 3, feathery. Capsule 1-celled, few-seeded; placentas 3, parietal</p> <p>Leaves orbicular, floating. Stamens 9 to 12. Styles 6, bifid. Capsule 6-celled, cells several-seeded, seeds on the septa and immersed in mucus</p> <p>Leaves sword-shaped, prickly-serrate. Stamens 12 to 20. Styles 6, bifid. Berry 6-celled, cells several-seeded, seeds on the septa and immersed in mucus</p> | <p>1. Water-Thyme.</p> <p>2. Frog-bit.</p> <p>3. Water-soldier.</p> |

| 83. ORCHIDACEÆ. | | | | |  |  |  |  |
|--------------------------|---|---|---|---|---|---|---|---|
| <i>L. none (sheaths)</i> | <i>Fl.</i>  <i>Spur</i> | <i>Lip</i>  <i>above</i> | <i>Fl. pale yell.</i> | <i>Root</i>  | 1. <i>EPIPOGŪM.</i> | | | |
| | <i>Sep.</i>  | <i>Lip</i>  | <i>Fl. yell-green</i> |  | 2. <i>CORALLORHÍZA.</i> | | | |
| | <i>Sep.</i>  | <i>Lip</i>  | <i>Fl. brown</i> |  | 3. <i>NEOŪTIA.</i> | | | |
| <i>Fl. spurred</i> |  <i>Spur</i> | <i>Lip</i>  | <i>Fl. pink or purp.</i> |  | 4. <i>NEOTÍNEA.</i> | | | |
| |  <i>Spur</i> <i>Spur</i> | <i>Lips var.</i>  | <i>Fl. purp. rose pink or white</i> |  <i>or</i>  | 5. <i>ORŪCHIS.</i> | | | |
| |  <i>Spur</i> | <i>Lip</i>  | <i>Fl. rose or purp.</i> |  | 6. <i>GYMNADÉNIA.</i> | | | |
| |  <i>Spur</i> <i>Spur</i> | <i>Lips</i>  <i>or</i>  | <i>Fl. white or green</i> |  | 7. <i>HABENÁRIA.</i> | | | |
| <i>Lower lip entire</i> | <i>Orary</i>  | <i>Lip</i>  <i>sacc.</i> | <i>Fl.</i>  <i>Pink straight</i> |  | 8. <i>GOODYÉRA.</i> | | | |
| |  | <i>Lip</i>  <i>flät</i> | <i>Fl.</i>  <i>White twisted</i> |  | 9. <i>SPIRÁNTHES.</i> | | | |
| |  | <i>Lip</i>  <i>inflated</i> | <i>Fl. purp. & yell.</i> |  | 10. <i>CYPRIPÉDIUM.</i> | | | |
| |  | <i>Lip</i>  <i>above</i> | <i>Fl. green</i> |  | 11. <i>MALAXÍS.</i> | | | |
| |  | <i>Lip</i>  <i>yell.</i> | <i>L. 2 on stem</i> |  | 12. <i>LÍPARIS.</i> | | | |
| |  | <i>Cor.</i>  <i>green</i> | <i>L. 2 (or 3) on stem</i> |  | 13. <i>HERMINÍUM.</i> | | | |
| <i>Lower lip lobed</i> |  | <i>Green yell.</i> | <i>Fl.</i>  |  | 14. <i>ÁCERAS.</i> | | | |
| |  | <i>Lips</i>  <i>or</i>  | <i>Fl. white or purp.</i> |  | 15. <i>CEPHALANTHÉRA.</i> | | | |
| |  | <i>Lips</i>  <i>or</i>  | <i>Lips brown, spot & with yell or blue</i> |  | 16. <i>ÓPHRYS.</i> | | | |
| |  | <i>Yell-green</i> | <i>L. 2 on stem</i> |  | 17. <i>LÍSTERA.</i> | | | |
| |  | <i>Lip</i>  <i>or</i>  | <i>Fl. green purp or white</i> |  | 18. <i>EPIPÁCTIS.</i> | | | |

83. ORCHIS FAMILY. {

Perianth irregular, corolla-like, superior. Perianth-lobes 6. Stamens 1 or 2, on the style. Capsule 1-celled, with 3 parietal placentas; seeds very many, minute.

Leaves none (sheaths).

Flowers spurred.

Lip with the middle lobe above. Flowers few, pale yellow. Rootstock many fleshy branches

Sepals lanceolate, acute.

Lip with the middle lobe below. Flowers yellow-green. Rootstock many thick fleshy branches

Sepals broadly ovate, slightly acute.

Lip oblong, with 2 spreading lobes. Flowers brown. Rootstock a dense mass of thick fleshy fibres

Flowers spurred.

Spur very minute.

Lip 3-lobed, middle lobe broad; lateral lobe linear, acute. Flowers pink or purple. Rootstock 2 tubers with fibres above

Spur from about $\frac{1}{4}$ the length to about the length of the ovary.

Lips variously 3-lobed, rarely 1-lobed, lobes crenate or middle lobe notched. Flowers rose, purple, pink, or white. Rootstock 2 entire or palmate tubers with fibres above

Spur longer than the ovary.

Lip 3-lobed, lobes entire, obovate. Flowers rose or purple. Rootstock 2 palmate tubers with fibres above

Spur very short, or longer than the ovary.

Lips linear, entire, or 2- or 3-lobed. Flowers white or green. Rootstock 2 taper or palmate tubers with fibres above, or variously thickened fibres.. .. .

Lower lip entire (not spurred).

Ovary sessile.

Lip saccate.

Flowers pink on a straight spike. Rootstock creeping, with a few fibres

Lip flat, channelled, fringed.

Flowers white, on a twisted spike. Rootstock 2 (or 3) oblong tubers or cylindrical fibres.. .. .

Ovary stalked.

Lip inflated (above 1 inch long).

Stamens 2. Flowers purple and yellow. Rootstock fibrous

Lip above.

Flowers green. Rootstock bulbous; bulb above ground

Lip yellow, below or above.

Leaves 2 on stem. Rootstock bulbous; bulb at base

Lower lip lobed.

Ovary sessile, twisted. (See Nos. 4, 5, & 7.)

Corolla nearly regular, green; petals 3-toothed.

Leaves 2 (or 3) on stem. Rootstock one tuber with fibres above, and another tuber at the end of a fibre

Sepals converging, green. Lip 4-lobed, yellow.

Flowers in a leafless spike. Rootstock 2 tubers with fibres above

Lip contracted in the middle, or lobed at the sides.

Flowers white or purple. (Petals and sepals converging.) Rootstock fibrous

Ovary sessile, straight.

Lips variously lobed, velvety.

Lips brown, spotted with yellow or blue. Rootstock 2 tubers with fibres above

Ovary stalked, straight (stalk twisted).

Lips 2- to 4-lobed, yellow-green.

Leaves 2 on stem. Rootstock fibrous

Lips contracted in the middle.

Flowers green, purple, or white. Rootstock creeping, fibres fleshy

1. Epipogum.

2. Coralroot.

3. Bird's-nest.

4. Neotinea.

5. Orchis.

6. {Fragrant
Orchis.

7. Frog Orchis.

8. Goodyera.

9. Lady's-tresses.

10. Lady's-slipper.

11. Bog Orchis.

12. Fen Orchis.

13. Musk Orchis.

14. Man Orchis.

15. Cephalanthera.

16. Insect Orchis.

17. Tway-blade.

18. Helleborine.

| 84. IRIDACEÆ. | | | |
|---------------|-------------|------------------------|------------------|
| | Stigmas | Fl. red. | 1. GLADIÓLUS. |
| | | Fl. yell. or purp. | 2. ÍRIS. |
| | or | | 3. CRÓCUS. |
| | | L. sec. | 4. TRICHONÉMA. |
| | | Stam. Scape | 5. SISYRÍNCHIUM. |

| 85. AMARYLLIDACEÆ. | | | |
|--------------------|--|------------------------|---------------|
| or | | Fl. white or yell. | 1. NARCISSUS. |
| | | Fl. white | 2. GALÁNTHUS. |
| | | Fl. white | 3. LEUCÓJUM. |

| 86. ALISMACEÆ. | | | | |
|----------------|-------------|-----|----------|------------------|
| | (♂ ♀) Many | Fr. | L. | 1. SAGITTÁRIA. |
| | ♀ 6 | | | 2. ALÍΣMA. |
| | | | | 3. ACTINOCÁRPUS. |
| | 9 Fl. | | L. Sec. | 4. BÚTOMUS. |
| | 6 Fl. | | L. Sec. | 5. SCHEUCHZÉRIA. |
| | 6 Fl. | | J. Sec. | 6. TRIGLÓCHIN. |

84. IRIS FAMILY. {

Perianth regular, corolla-like, superior. Perianth-lobes 6. Stamens 3. Anthers facing outwards. Style 1, stigmas 3 dilated. Capsule 3-celled, cells many-seeded. Leaves linear.

- | | |
|---|---|
| Perianth irregular, sub-2-labiate, tube curved. Stigmas 3, widening upwards, fringed. Flowers in 1-sided spikes, red | 1. Gladiolus. |
| Perianth segments, 3 reflexed and 3 erect. Stigmas 3, large, petal-like, notched. Flowers 2, 3, or several, yellow or purple | 2. { Iris, Flag, Fleur de Lis. |
| Perianth tube longer than the segments. Stigmas 3, widening upwards, jagged or fringed. Anthers entire or nearly so at the apex | 3. Crocus. |
| Perianth tube very short. Stigmas 3, bifid, lobes slender. Leaves very narrow, channelled | 4. Trichonema. |
| Perianth tube very short, segments spreading. Stigmas 3, filiform, undivided, rolled inwards. Stamens united in a tube. Scape 2-edged | 5. Blue-eyed-grass. |

85. DAFFODIL FAMILY. {



Perianth regular, corolla-like, superior. Perianth-lobes 6. Stamens 6. Anthers facing inwards. Style 1, stigma simple or 3-lobed. Capsule 3-celled, cells many-seeded. Leaves linear.



















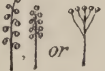














- | | |
|---|--|
| Perianth with a short or long crown within. Stigma 3-lobed. Flowers solitary or 2 together, white or yellow .. | 1. { Narcissus. Daffodil. |
| Perianth of 3 spreading segments, and 3 shorter, erect, notched. Anthers pointed at the apex. Flowers solitary, white | 2. Snowdrop. |
| Perianth of 6 equal segments. Anthers notched at the apex. Flowers 2 to 6 together, white | 3. Snowflake. |

86. WATER-PLANTAIN FAMILY. {

Corolla polypetalous, or perianth corolla-like or calyx-like; regular, inferior. Sepals 3 and petals 3, or perianth-lobes 6. Stamens 6, 9, or many. Ovaries 3, 6, or many.

- | | |
|---|--|
| Petals 3 pale purple, and sepals 3 green. Monocious. Stamens many. Fruit of many 1-seeded carpels, arranged in a head. Leaves sagittate | 1. Arrow-head. |
| Hermaphrodite. Stamens 6. Fruit of many 1-seeded carpels, in a ring or head. Leaves linear, lanceolate, or ovate | 2. Water-Plantain. |
| Fruit of 6 to 8 2-seeded carpels, connate at base. Leaves oblong-ovate, obtuse | 3. { Thrumwort, Star-fruit. |
| Perianth of 6 equal segments, rose-coloured. Stamens 9. Flowers in umbels. Fruit of 6 many-seeded carpels. Leaves linear, trigonous in cross section | 4. { Flowering Rush. |
| Perianth of 6 equal segments, green. Stamens 6. Flowers about 5 in a raceme. Fruit of 3 1- or 2-seeded carpels. Leaves linear, semi-cylindrical in cross section | 5. Scheuchzeria. |
| Stamens 6. Flowers in a spike or raceme. Fruit of 3 or 6 1-seeded carpels. Leaves linear, semi-cylindrical in cross section | 6. Arrow-grass. |

| 87. ASPARAGACEÆ | | | | |
|---|---|--|---|------------------------|
|  |  |  | L.  | 1. <i>RUSCUS.</i> |
|  |  |  | L. 2  | 2. <i>SMILACINA.</i> |
|  |  | Pure white  | L. 2  | 3. <i>CONVALLARIA.</i> |
|  |  | Stem  | L.  | 4. <i>ASPARAGUS.</i> |
| |  | Do.  | L. 10  | 5. <i>POLYGONATUM.</i> |

| 88. LILIACEÆ. | | | | | |
|---|---|---|--|--|--------------------------|
|  |  | White  | L.  | 1. <i>LLOYDIA.</i> | |
| |  | Yell.  | L.  | 2. <i>TULIPA.</i> | |
| |  | Purp.  | Prth. seg.  | pore  | 3. <i>FRITILLARIA.</i> |
|  |  | Yell.  | Fl.  | bcls. green | 4. <i>GAGEA.</i> |
| |  | Purp. pink or white  | Fl.  | bcls. scarious | 5. <i>ALLIUM.</i> |
|  |  | Blue  | Fl.  | | 6. <i>MUSCARI.</i> |
| |  | Blue or purp.  | Fl.  | | 7. <i>ENDYMION.</i> |
| |  | Purp.  | Fl.  | | 8. <i>LILIUM.</i> |
| |  |  | | Blue or purp. | 9. <i>SCIILLA.</i> |
|  |  |  | | White inside, green outside. | 10. <i>ORNITHOGALUM.</i> |
| |  |  | | White inside, purp. outside. | 11. <i>SIMETHIS.</i> |

87. ASPARAGUS FAMILY.

Perianth regular, corolla-like, inferior. Perianth-lobes 6 or 4. Stamens 6 or 4. Anthers facing inwards. Style 1, stigmas 1 or 3. Fruit a berry, with 1 or 2 1-seeded cells, or 3 2-seeded cells. Rhizome creeping.

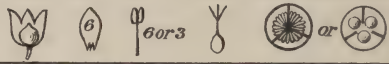

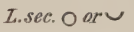


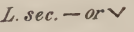

| | |
|---|--------------------------|
| Flowers on the leaves (really on the flattened shoots). Perianth of 6 spreading segments. Shrubby, branched. Leaves (so called) ovate, stiff, prickly | 1. { Butcher's Broom. |
| Flowers in racemes, pedicels usually clustered. Perianth of 4 spreading segments. Stamens 4. Leaves 2, ovate-cordate | 2. Smilacina. |
| Flowers in loose racemes, drooping. Perianth globose, bell-shaped, 6-toothed. Pure white. Leaves 2, ovate-lanceolate | 3. { Lily of the Valley. |
| Flowers 1, 2, 3, or 4 together, drooping. Perianth tubular, bell-shaped, of 6 segments. Stem branched. Leaves setaceous, clustered | 4. Asparagus. |
| Perianth tubular, 6-toothed. Stem simple. Leaves varying from lanceolate to ovate | 5. Solomon's Seal. |

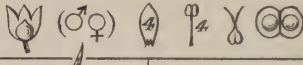





88. LILY FAMILY.

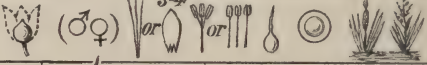






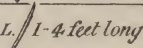
Perianth regular, corolla-like, inferior. Perianth-lobes 6. Stamens 6. Anthers facing inwards. Style 1, stigmas 1 or 3. Fruit a 3-celled capsule, cells many-seeded. Root-stock bulbous.

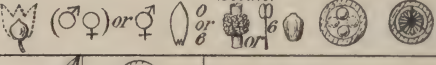









| | |
|---|--------------------------------|
| Flowers solitary. Perianth spreading, white (with reddish lines). Leaves filiform, semi-cylindrical | 1. Spiderwort. |
| Perianth bell-shaped, yellow. Leaves linear-lanceolate | 2. Tulip. |
| Perianth bell-shaped, chequered, purple. Segments with a pore at the base | 3. Fritillary. |
| Flowers in umbels or heads. Perianth spreading, yellow. Flowers 3 or 4 together, in umbels. Bracts green | 4. { Yellow Star of Bethlehem. |
| Perianth rather spreading, purple, pink, or white. Flowers many, in umbels or heads. Bracts scarious | 5. Garlic. |
| Flowers in lax or dense racemes, or in corymbs. Perianth globose, toothed, blue. Flowers in a dense raceme | 6. { Grape Hyacinth. |
| Perianth tubular, bell-shaped, blue or purple. Flowers in a drooping raceme | 7. { Wild Hyacinth, Blue-bell. |
| Perianth with reflexed segments, purple, spotted. Flowers few, drooping | 8. Lily. |
| Perianth with spreading segments. Blue or purple | 9. Squill. |
| White inside, green outside | 10. { Star of Bethlehem. |
| Flowers in panicles. Perianth with spreading segments. White inside, purple outside. Filaments woolly | 11. Simethis. |

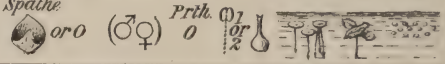
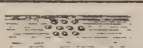






| | | | | |
|--|---|--|--|----------------|
| 89. MELANTHACEÆ.  | | | | |
|  |  |  Yell. |  Root | 1. NARTHÉCIUM. |
|  |  |  Yellow & white |  | 2. TOPIÉLDIA. |
| |  |  Purp. |  | 3. COLCHICUM. |

| | | | | |
|---|--|---|--|------------|
| 90. JUNCACEÆ.  | | | | |
|  L. |  L. sec. 3 or 4 |  | | 1. JUNCUS. |
|  L. |  L. sec. — or 4 |  | | 2. LÚZULA. |

| | | | | |
|--|---|--|--|----------------|
| 91. ERIOCAULACEÆ.  | | | | |
|  Fl.  Lead-pencil colour |  ♂  ♀ |  L. | | 1. ERIOCAULON. |

| | | | | |
|--|---|--|--|----------------|
| 92. TYPHACEÆ  | | | | |
|  Fl. |  |  L. 3-6 feet long | | 1. TÝPHA. |
|  Fl. or  |  |  L. 1-4 feet long | | 2. SPARGÁNIUM. |

| | | | | |
|---|--|--|---|------------|
| 93. ARACEÆ.  | | | | |
|  Spathe |  Spadix 3 |  Prth. 0 L. |  | 1. ARUM. |
|  Do. |  Do. |  Do.  L. |  | 2. ACÓRUS. |

| | | | | |
|---|---|---|--|-------------|
| 94. LEMNACEÆ.  | | | | |
|  |  Stam. 1 |  Spathe 0. | | 1. WOLFFIA. |
|  |  1 or 2 |  Do.  | | 2. LEMNA. |

| | |
|--|---|
| <p>89. MEADOW-SAFFRON FAMILY.</p> | <p>{ Perianth regular, corolla-like, inferior; lobes 6. Stamens 6. Styles 3 or 1. Fruit a 3-celled capsule; or separating into 3 1-celled follicles; cells many-seeded.</p> |
| <p>Stamens 6, filaments woolly. Style 1. Perianth spreading, yellow. Rootstock creeping</p> | <p>1. Bog-Asphodel.</p> <p>2. { Scottish Asphodel.</p> <p>3. Meadow-saffron.</p> |
| <p>Stamens 6, filaments glabrous. Styles 3, short. Perianth small, yellowish-white. Rootstock creeping</p> | |
| <p>Styles 3, very long. Perianth with a very long tube, purple. Corm coated</p> | |

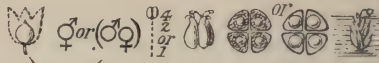
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|--|--|
| <p>90. RUSH FAMILY.</p> | <p>{ Perianth regular, calyx-like, inferior; lobes 6. Stamens 6 or 3. Style 1, stigmas 3. Capsule 3-celled, cells many-seeded; or 1-celled, with dissepiments, 3-seeded.</p> |
| <p>Leaves glabrous. Leaves in section circular or semicircular. Capsule 3-celled, cells many-seeded</p> | <p>1. Rush.</p> <p>2. Wood-rush.</p> |
| <p>Leaves hairy (rarely glabrous). Leaves in section flat or V-shaped. Capsule 1-celled, with dissepiments, 3-seeded</p> | |





| | |
|---|--|
| <p>91. PIPEWORT FAMILY.</p> | <p>{ Perianth regular, calyx-like, inferior. Monocious. Perianth-lobes 4. Stamens 4. Style short, stigmas 2, long. Capsule 2-lobed, 2-celled, cells 1-seeded. Marsh plants, with radical leaves.</p> |
| <p>Flowers in heads, leaden colour. Male: Perianth 4-lobed, 2 inner lobes united nearly to the top. Female: Perianth 4-lobed, deeply divided. Leaves subulate</p> | <p>1. Pipewort.</p> |

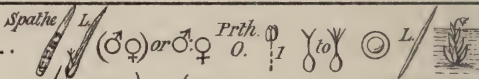
| | |
|--|---|
| <p>92. BULRUSH FAMILY.</p> | <p>{ Perianth none (reduced to hairs); or regular, calyx-like, inferior. Monocious. Perianth of 3 hairs, or 3 or 4 lobes. Stamens 3, united or free. Style 1. Fruit 1-celled, 1-seeded. Aquatic plants.</p> |
| <p>Flowers in cylindrical spikes. Stamens 3, united. Leaves linear, 3 to 6 feet long</p> | <p>1. { Bulrush, { Reed-mace, { Cat's-tail.</p> <p>2. Bur-reed.</p> |
| <p>Flowers in globular heads; inflorescence simple or branched. Stamens 3, free. Leaves linear, 1 to 4 feet long</p> | |





| | |
|---|---|
| <p>93. ARUM FAMILY.</p> | <p>{ Perianth none; or regular, calyx-like, inferior. Monocious or hermaphrodite. Perianth-lobes 0 or 6. Stamens many, crowded, sessile; or 6 with free filaments. Stigma sessile. Fruit a berry; 1-celled, 2- to 4-seeded; or 3-celled, cells many-seeded.</p> |
| <p>Spathe ventricose, contracted in the middle Spadix club-shaped; female flowers at base; male flowers a little above them. Perianth none. Leaves hastate. Berry 1-celled, 2- to 4-seeded.</p> | <p>1. { Cuckoo-pint, { Lords and Ladies.</p> <p>2. Sweet Flag.</p> |
| <p>Spadix long, leaf-like. Spadix dense, lateral. Perianth 6-lobed. Leaves long, linear. Berry 2- or 3-celled, cells many-seeded</p> | |

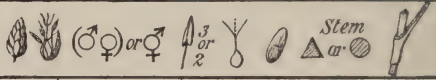
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| <p>94. DUCKWEED FAMILY.</p> | <p>{ Flowers with or without spathes. Monocious. Perianth none. Stamens 1 or 2, with or without filaments. Style 1. Floating or submerged plants, with leaf-like fronds.</p> |
| <p>Fronds very small, sub-globose, rootless. Stamen 1; anther 1-celled, sessile. Spathe none</p> | <p>1. Wolffia.</p> <p>2. Duckweed.</p> |
| <p>Fronds obovate or elliptic-lanceolate, with roots beneath. Stamens 1 or 2, anthers 2-celled, with filaments. Spathe urn-shaped</p> | |





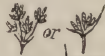













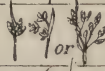

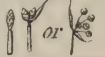


95. POTAMOGETONACEÆ. 

| | | | | |
|-------|----------------|---|---|------------------|
| (♂ ♀) | ♀ ₁ | Prth. ♀ Do. ♂ O. |  | 1. ZANNICHELLIA. |
| ♀ | ♂ ₂ | Prth. O. |  | 2. RUPPIA. |
| | ♂ ₄ | Do.  |  | 3. POTAMOGETON. |

96. NAIADACEÆ. 

| | | | | |
|---|--------|-----------------|--|-------------|
|  | ♂ or ♀ | Prth. ♀ O. 1 | L.  | 1. NAIAS. |
|  | ♂ | Prth. ♂ O. 1 | L.  | 2. ZOSTERA. |

97. CYPERACEÆ. 

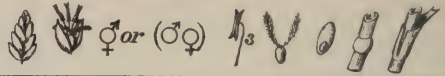
| | | | | |
|---|---|---|---|------------------|
| (♂ ♀) |  | 3 | ♂ or ♀ | 1. CAREX. |
| |  | Up. fl. ♂ | Low: fl. ♀ | 2. KOBRESIA. |
|  | Fl. 2-4 | Stem ○ |  | 3. SCHOENUS. |
| | Fl. many | Stem ▲ |  | 4. CYPERUS. |
|  |  | Fr.  |  | 5. ERIOPHORUM. |
| |  |  |  | 6. ELEOCHARIS. |
| | |  |  | 7. RHYNCHOSPORA. |
| | |  |  | 8. BLYSMUS. |
| |  |  |  | 9. SCIRPUS. |
| | |  |  | 10. ISOLEPIS. |
| | |  |  | 11. CLADIUM. |

| | |
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| 95. PONDWEED FAMILY. | Perianth regular, calyx-like, inferior; or none. Hermaphrodite or monœcious. Stamens 4, 2, or 1; with or without filaments. Ovaries 4, distinct, stigmas sessile. Fruit 4 drupes or 4 nuts, each 1-seeded. Aquatic plants. |
| Monœcious. Stamen 1. Perianth in female, oblique, cup-shaped, in male wanting. Flowers axillary, sessile Hermaphrodite. Stamens 2, anthers nearly sessile. Perianth wanting. Flowers usually 2, on an axillary peduncle Stamens 4, anthers sessile. Perianth 4-lobed. Flowers in spikes | 1. { Horned-Pondweed. 2. { Tassel-Pondweed. 3. Pondweed. |

































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| 96. NAIAD FAMILY. | Flowers in spathes or in the axils of the leaves. Monœcious or dioecious. Perianth none. Stamen 1, with or without a filament. Style 1, stigmas 2 to 4. Fruit 1-celled, 1-seeded. Leaves linear. Aquatic plants. |
| Stamen 1, filament ultimately elongating. Style 1, stigmas 3 or 4. Stamens and pistils solitary, in the axils of the leaves. Leaves ternate or opposite Stamen 1, sessile. Style 1, stigmas 2. Stamens and pistils in 2 rows, on a spadix. L. alternate | 1. Naiad. 2. Grass-wrack. |

| | |
|--|--|
| 97. SEDGE FAMILY. | Flowers arranged in spikelets of imbricated bracts (glumes). Each flower in the axil of one glume; monœcious or hermaphrodite. Stamens 3 or 2; anthers erect, entire at the apex. Style simple, bifid or trifid. Embryo enclosed within albumen. Stem solid, triangular or round. Sheath of leaf entire. |
| Flowers monœcious. Ovary enclosed in a vase-shaped tunic. Stamens 3. Style 1, stigmas 2 or 3 Ovary partially enclosed in a scale. Upper flowers male. Lower flowers female Glumes in each spikelet arranged in 2 opposite rows. Spikelets 2- to 4-flowered. Stem round. Spikelets in terminal heads Spikelets many-flowered. Stem triangular. Spikelets in compound or simple umbels Glumes in each spikelet imbricated all round the axis. Bristles ultimately far exceeding the glumes. Fruit trigonous. Spikelets solitary or umbellate Bristles not equalling the glumes. Base of style dilated. Spikelets terminal, solitary Spikelets in clusters Base of style filiform. Spikelets in a terminal spike, arranged in 2 opposite rows Spikelets in simple or compound clusters, umbels, or panicles Bristles none. Base of style filiform. Spikelets 1 or 2 together, or in clustered globular heads Base of style conical. Spikelets in compound panicles | 1. Sedge. 2. Kobresia. 3. Bog-rush. 4. Galingale. 5. Cotton-grass. 6. Spike-rush. 7. Beak-rush. 8. Blysmus. 9. Club-rush. 10. Do. 11. Twig-rush. |

98. GRAMINEÆ.



1STLY WITH 1 PERFECT FLOWER (OFTEN ACCOMPANIED BY 1 OR 2 RUDIMENTARY FLOWERS)

| |  | <i>Rachis</i> | <i>Gl.</i> | <i>Spike</i> | |
|--|---|---|---|---|-------------------|
| | |  |  |  | 1. LEPTÚRUS. |
| | | |  |  | 2. HORDEUM. |
| | |  |  |  | 3. LAGÚRUS. |
| | | |  |  | 4. POLYPÓGON. |
| | |  |  |  | 5. PHLEÚM. |
| | | |  |  | 5. DO. |
| | |  |  |  | 6. PHALÁRIS. |
| | | |  |  | 7. SETÁRIA. |
| | | |  |  | 8. PSANMA. |
| | | |  |  | 8. DO. |
| | |  |  |  | 9. ALOPECÚRUS. |
| | | |  |  | 10. ANTHOXÁNTHUM. |
| | | |  |  | 11. GASTRÍDIUM. |

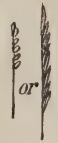





98. GRASS FAMILY.

Flowers arranged in spikelets composed of bracts (glumes and paleæ), imbricated in 2 opposite rows. Each flower enclosed in 2 bracts. Hermaphrodite or monœcious. Stamens usually 3 (rarely 1 or 6); anthers versatile, notched at both ends. Styles 2 (rarely 1 or 3), feathery. Embryo on the outside of albumen. Stem hollow and knotted. Sheath of leaf split.

1STLY SPIKELETS WITH 1 PERFECT FLOWER (OFTEN ACCOMPANIED BY 1 OR 2 RUDIMENTARY FLOWERS).


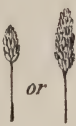
























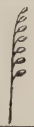





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|--|--|
| <p>Spikelets on a slender spike (not secund). Glumes* and lower (or outer) paleæ* both awnless. Spikelets quite imbedded in alternate sides of the rachis. Glumes equal. Spike cylindrical</p> <p>Spikelets in an ovoid or cylindrical dense spike or spike-like panicle (not secund). Glumes awned. Lower (or outer) paleæ awned. Glume awl-shaped or lanceolate. Spike sub-cylindrical Glume ending in a long fringed bristle. Lower palea ending in 2 long bristles, and a dorsal-bent awn. Panicle spike-like, ovoid Glume notched, awned beneath the tip. Lower palea notched, awned beneath the tip. Panicle spike-like, cylindrical or branched ..</p> <p>Lower (or outer) paleæ awnless. Glumes truncate with a short awn or seta. Panicle spike-like, ovoid or cylindrical</p> <p>Glumes awnless. Lower (or outer) paleæ awnless. Glumes lanceolate. Panicle spike-like, ovoid or cylindrical Glumes boat-shaped, strongly keeled. Panicle spike-like, ovoid Spikelet dorsally compressed, surrounded by an involucre of bristles. Panicle spike-like, cylindrical Lower palea with a very short awn, and hairs at the base. Panicle spike-like, both ends tapered</p> <p>Lower (or outer) paleæ awned. Lower palea with a very short awn, and hairs at the base. Panicle spike-like, both ends tapered</p> <p>Glumes equal, or nearly so; more or less connate below. Palea 1, awned at the back. Styles long, connate below. Panicle spike-like, oblong or cylindrical ..</p> <p>Glumes very unequal. Stamens 2. Panicle spike-like, tapering</p> <p>Glumes nearly equal, swollen and polished at the base. Panicle close spike-like</p> | <p>1. Hard-grass.</p> <p>2. Barley.</p> <p>3. { Hare's-tail- grass.</p> <p>4. Beard-grass.</p> <p>5. Cat's-tail-grass.</p> <p>5. Do.</p> <p>6. Canary-grass.</p> <p>7. Brittle-grass.</p> <p>8. Marram.</p> <p>8. Do.</p> <p>9. Fox-tail-grass.</p> <p>10. Vernal-grass.</p> <p>11. Nit-grass.</p> |
|--|--|

* The parts here called "glumes" are by some authors termed "barren glumes"; the "lower (or outer) paleæ," "flowering glumes"; and the "upper (or inner) paleæ," "paleæ."

| | | | | | | |
|---|---|--|--|---|---|-------------------|
|  |  | <i>Gl. none</i> |  | 12. NARDUS. | | |
| |  | <i>Gl.</i>  |  | 13. CHAMAGROSTIS. | | |
|  |  | <i>Gl.</i>  |  | 14. CYNODON. | | |
| |  | <i>Gl.</i>  |  | 15. DIGITARIA. | | |
|  |  | <i>Gl.</i>  |  | 16. SPARTINA. | | |
| |  | <i>Gl.</i>  |  | 17. ECHINOCHLOA. | | |
|  |  | <i>Gl. none</i> | <i>Pal.</i>  | 18. LEERSIA. | | |
| | | <i>Gl.</i>  | <i>Gl.</i>  | 19. MELICA. | | |
| |  | <i>Low. pal.</i> | <i>Gl.</i>  | <i>Gl.</i>  | 20. MILIUM. | |
| | | | | <i>Pal.</i>  | 21. DIGRAPHIS. | |
| |  | <i>Low. pal.</i> | <i>Gl.</i>  | <i>Pal.</i>  | 22. AGROSTIS. | |
| | | | | <i>Up. Gl.</i>  | <i>Low. Gl.</i>  | 22. Do. |
| | | | | <i>Up. Gl.</i>  | <i>Low. Gl.</i>  | 23. APERA. |
| |  | <i>Do.</i> | <i>Up. Gl.</i>  | <i>Low. Gl.</i>  | 24. CALAMAGROSTIS. | |





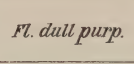






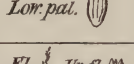

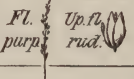




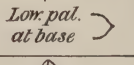

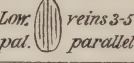







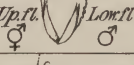
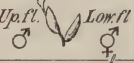


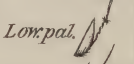




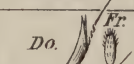

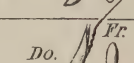



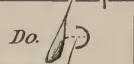


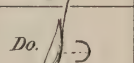
| | |
|--|---------------------------------|
| Spikelets secund (on one side of rachis). Spike simple. Palaë 2, lower tapering into a subulate point. Glume none. Style simple; stigma filiform, hairy | 12. Mat-grass. |
| Palaë 2 (or 1), scarious, very hairy. Glumes 2, blunt. Styles 2, long; stigmas slender, hairy | 13. Chamagrostis. |
| Spikelets secund. Spikes digitate. Spikelets in two rows, on one side of a convex rachis. Glumes nearly equal, patent. Styles separate .. | 14. { Dog's-tooth-grass. |
| Spikelets in unequally pedicelled pairs, on one side of the flattened rachis. Glumes very unequal, upper strongly veined, palea of sterile flower like upper glume. Styles terminal | 15. Finger-grass. |
| Spikelets secund. Spikes 2- to many-branched. Spikes 2 to 8, erect. Glumes unequal, pointed. Styles united below .. | 16. Cord-grass. |
| Spikes compound, secund in the whole, and in each part. Glumes very unequal, upper pointed or rigidly awned; lower or outer palea of sterile flower like upper glume. Styles separate | 17. Panick-grass. |
| Spikelets in a lax panicle. Lower (or outer) palea awnless. Glumes none. Palaë 2, like parchment, compressed, keeled .. | 18. Cut-grass. |
| Glumes as long as the flowers. Glumes nearly equal, purple | 19. Melick. |
| Glumes nearly equal, green | 20. Millet-grass. |
| Glumes longer than the flowers. Palaë nearly equal, hairs at base. Styles long .. | 21. Digraphis. |
| Palaë unequal, hairs at base. Styles short .. | 22. Bent-grass. |
| Lower (or outer) palea, awned. Lower palea with an awn once or twice its length. Upper glume smaller than the lower glume .. | 22. Do. |
| Lower palea with an awn 3 to 4 times its length. Upper glume larger than the lower glume .. | 23. Wind-grass. |
| Lower palea with an awn about $\frac{1}{2}$ its length, and hairs at the base. Upper glume nearly equal to the lower glume .. | 24. Small-reed. |

(Continued.)

| <p>2^{NDLY}  WITH 2 TO 20 FLOWERS (SOMETIMES ONLY 1 PERFECT AND 1 OR 2 MALE FLOWERS)</p> | | | | |
|---|--|--|--|--------------------------|
|  |  |  | <i>Bct.</i>  | 25. <i>SESLERIA.</i> |
| |  |  | <i>Bct.</i> 0 | 26. <i>KOELERIA.</i> |
| | |  | <i>Bct.</i>  | 27. <i>CYNOSURUS.</i> |
|  |  | <i>Fl.</i>  | <i>Bct.</i>  | 27. <i>Do.</i> |
| | | <i>Gl. 1</i>  | <i>Rachis</i>  | 28. <i>LOLIUM.</i> |
| |  | <i>Low. pal. veins parallel</i>  | 40. <i>SCLEROCHLOA.</i> | |
| | | <i>Low. pal. veins converg^d</i>  | 39. <i>FESTUCA.</i> | |
| |  | <i>Rachis</i> <i>Gl.</i>  |  | 29. <i>TRITICUM.</i> |
| | |  |  | 30. <i>BRACHYPODIUM.</i> |
|  | <i>Gl.</i>  |  | 31. <i>ELYMUS.</i> | |
|  |  <i>Fl. 2 1-2 rud.</i> | <i>Gl. purp.</i> | <i>Low. pal.</i>  | 19. <i>MELICA.</i> |
|  |  <i>Fl. 3-4</i> | <i>Gl. green.</i> | <i>Low. pal.</i>  | 32. <i>TRIODIA.</i> |

**2NDLY SPIKELETS WITH 2 TO 20 FLOWERS (SOMETIMES ONLY
1 PERFECT AND 1 OR 2 MALE FLOWERS).**

| | |
|--|---------------------------------|
| Spikelets clustered into an ovoid, or cylindrical, spike-like panicle. | |
| Styles long, filiform. | |
| Glumes nearly equal, toothed. Bracts rounded-heart-shaped | 25. Moor-grass. |
| Styles feathery. | |
| Glumes unequal. Bracts none | 26. {Crested Hair-grass. |
| Glumes nearly equal. Bracts comb-like | 27. {Dog's-tail-grass. |
| Spikelets sessile, or nearly so, in a simple spike. | |
| Spikelets one in each notch, set edgewise to rachis. | |
| Spike secund. | |
| Bracts comb-like | 27. Do. |
| Glume 1 only. | |
| Rachis deeply notched | 28. {Darnel, Rye-grass. |
| Glumes 2. | |
| Lower (or outer) palea veins parallel | 40. Sclerochloa. |
| Lower (or outer) palea veins converging | 39. Fescue-grass. |
| Spikelets one in each notch, set with their breadth to rachis. | |
| Glumes nearly equal. Rachis deeply notched. | |
| Spikelets ovate-lanceolate | 29. Wheat-grass. |
| Glumes unequal. Rachis not indented. Spikelets linear-lanceolate | 30. {False Brome-grass. |
| Spikelets 2 (or 3) in each notch of the rachis. | |
| Glumes equal, as long as the flowers | 31. Lyme-grass. |
| Spikelets in a secund raceme. | |
| Glumes as long as the flowers. Flowers 2, and 1 or 2 rudiments. | |
| Glumes purple. Lower (or outer) palea entire | 19. Melick. |
| Spikelets in a racemose panicle. | |
| Glumes as long as the flowers. Flowers 3 or 4. | |
| Glumes green. Lower (or outer) palea notched | 32. Heath-grass. |





| | | | | | | | |
|---|---|---|---|---|---|--------------------|---------|
|  |  |  |  |  | 33. PHRAGMITES. | | |
| |  |  |  |  | 34. HIEROCHLOE. | | |
| | |  |  |  | 35. CATABROSA. | | |
| | | |  |  |  | 36. MOLINIA. | |
| | |  |  |  |  | 37. POA. | |
| |  | | | |  | veins 3-5 parallel | 37. DO. |
| |  | | | | 38. BRIZA. | | |
| |  | | | | veins 3-5 convergent | 39. FESTUCA. | |
| |  | | | | veins 5 parallel faint | 40. SCLEROCHLOA. | |
| |  | | | | ribs 7 parallel strong | 41. GLYCERIA. | |
|  |  |  |  | Low fl. illustration | 42. ARRHENATHERUM. | | |
| | | |  | Low fl. illustration | 43. HOLCUS. | | |
| | | |  |  |  | 44. CORYNEPHORUS. | |
| | | |  |  | 45. AIRA. | | |
| |  |  |  |  | 46. AVENA. | | |
| | | |  |  | 47. TRisetum. | | |
| | | |  |  | 48. DACTYLIS. | | |
| | | |  | 49. FESTUCA. | | | |
|  |  |  | 49. BROMUS. | | | | |





(See N^o 46)









| | |
|--|--------------------------|
| Spikelets in a lax panicle. | |
| Lower (or outer) palea very long, with long hairs at the base. | |
| Palea very unequal. Glumes unequal. Flowers dull purple | 33. Reed-grass. |
| Lower (or outer) palea awnless. | |
| Glumes as long as the flowers. Spikelet with 3 flowers. | |
| Glumes equal. Upper flower hermaphrodite; stamens 2. Lower flowers 2, male; stamens 3 | 34. Holy-grass. |
| Glumes falling short of the flowers. Flowers 2 or 3. | |
| Glumes very unequal, blunt. | |
| Lower (or outer) palea truncate at top | 35. { Water-whorl-grass. |
| Glumes nearly equal. | |
| Flowers in a slender panicle, purple. | |
| Upper flower with a rudiment | 36. { Lavender-grass. |
| Lower (or outer) palea keeled at the base .. | 37. Meadow-grass. |
| Glumes falling short of the flowers. Flowers 4 to 20. | |
| Lower (or outer) palea keeled at the base. | |
| Lower (or outer) palea veins 3 to 5, parallel | 37. Do. |
| Lower (or outer) palea rounded at the base. | |
| Spikelets ovate or triangular | 38. Quaking-grass. |
| Lower palea veins 3-5 converging | 39. Fescue-grass. |
| Lower palea veins 5, parallel, faint | 40. Sclerochloa. |
| Lower palea ribs 7, parallel, strong | 41. Sweet-grass. |
| Lower (or outer) palea awned. | |
| Glumes as long as the flowers. Spikelet with 2 to 4 flowers. | |
| Flowers 2, hermaphrodite and male. | |
| Upper flower hermaphrodite, with a short awn. | |
| Lower flower male, with a long, bent, twisted awn | 42. Oat-grass. |
| Upper flower male, with a bent or curved awn. | |
| Lower flower hermaphrodite, awnless .. | 43. Soft-grass. |
| Flowers 2, both hermaphrodite. | |
| Lower palea with an awn jointed in the middle, hairy at the joint; lower part of awn twisted, upper part club-shaped | 44. { Gray's-hair-grass. |
| Lower palea truncate, jagged, with a short, straight, or bent and twisted awn; or bifid with a bent and twisted awn | 45. Hair-grass. |
| Flowers 2 to 4, all hermaphrodite. | |
| Lower palea ending in 2 acute teeth, with a long, bent, twisted awn. Fruit hairy at the top | 46. Oat. |
| Lower palea ending in 2 acute teeth, with a long, bent, twisted awn. Fruit glabrous at the top | 47. { Yellow Oat-grass. |
| Glumes falling short of the flowers. Spikelet 4 to 20 flowers. (See No. 46.) | |
| Sheath of leaves divided the whole way down. | |
| Styles at the top of ovary. | |
| Lower palea compressed, keeled, awned just below the tip. Spikelets crowded, in tufts, secund | 48. { Cock's-foot-grass. |
| Lower palea rounded at back, very acute, awn terminal (rarely below the tip) | 39. Fescue-grass. |
| Sheath of leaves divided half-way down. | |
| Styles below the tip of ovary. | |
| Lower palea rounded at back, awned below the tip | 49. Brome-grass. |





CRYPTOGAMEÆ.

CLASS III. ACROGENÆ.

| | | |
|--|---|----------------------|
| 99. EQUISETACEÆ. <i>L. none.</i> <i>Fruct.</i>  <i>Sheath</i>  | | |
| <i>Stem</i>  | <i>Cap.</i> 6-8  | 1. <i>EQUISETUM.</i> |

| | | |
|--|---|--|
| 100. CHARACEÆ. <i>L. none.</i> <i>Fruct.</i>  | | |
|  |  | <i>Fruct.</i>  1. <i>CHÁRA.</i> |

| | | |
|---|--|---|
| 101. LYCOPODIACEÆ. <i>Fruct.</i>  | | |
|  | <i>L.</i>  | <i>Cap.</i>  1. <i>ISOËTES.</i> |
|  | <i>L.</i>  or  | <i>Cap.</i>  2. <i>LYCOPÓDIUM.</i> |

| | | |
|---|---|--|
| 102. MARSILEACEÆ. <i>Fruct.</i>  | | |
| <i>L.</i>  | <i>Cap.</i>  |  1. <i>PILULÁRIA.</i> |

FLOWERLESS PLANTS.

























































CLASS III. ACROGENS.

| | |
|--|--|
| <p>99. HORSETAIL FAMILY. { Leaves none. Fructification in a terminal cone. Stem surrounded with toothed sheaths at the joints.</p> | |
| <p>Stem simple, or with whorled branches, simple or compound. Capsules 6-8 on the sides of peltate scales</p> | <p>1. {Horsetail, Paddock-pipes.</p> |

| | |
|--|------------------|
| <p>100. CHARA FAMILY. } Leaves none. Fructification axillary.</p> | |
| <p>Submerged aquatic herbs, with simple or compound whorled branches</p> | <p>1. Chara.</p> |

| | |
|---|----------------------|
| <p>101. CLUB-MOSS FAMILY. { Fructification in the axils of the leaves, or in the axils of the bracts of terminal spikes.</p> | |
| <p>Submerged aquatic herbs, stemless. Leaves linear, with enlarged bases. Capsules not opening</p> | <p>1. Quillwort.</p> |
| <p>Terrestrial plants with branched stems. Leaves scale-like, imbricated, entire or toothed, or toothed and long pointed. Capsules bursting</p> | <p>2. Club-moss.</p> |

| | |
|---|---------------------|
| <p>102. PILLWORT FAMILY. { Fructification axillary. Rootstock creeping. Leaves 1 to 3 together, circinate when young.</p> | |
| <p>Leaves slender, setaceous. Capsule globular, pubescent, 4-celled</p> | <p>1. Pillwort.</p> |

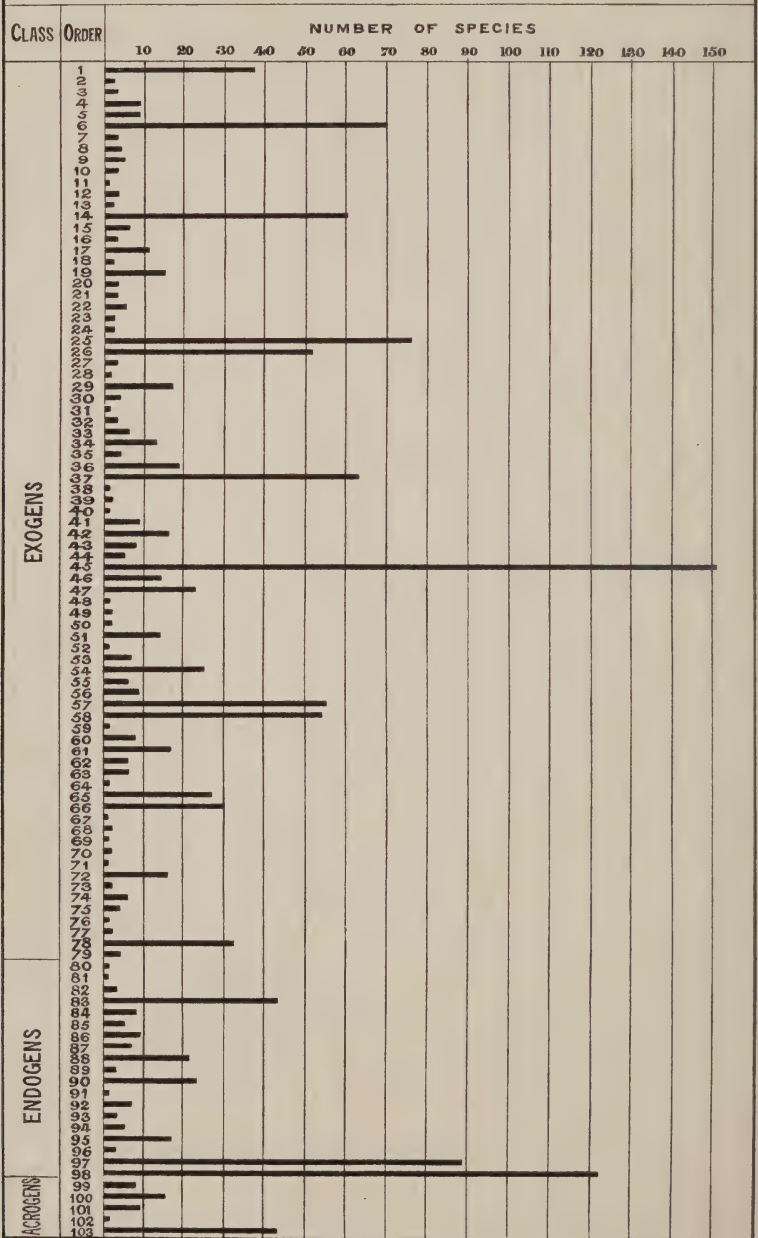
| 103. FILICES. | | | |
|---------------------------------------|---|---|---|
| Fructification terminal |  |  |  |
| |  |  |  |
| |  |  |  |
| Fructification in cupshaped involucre |  |  |  |
| |  |  |  |
| Fructification on margin |  |  |  |
| |  |  |  |
| | (See N. 9) |  |  |
| Fructification on veins |  |  |  |
| |  |  |  |
| |  |  |  |
| |  |  |  |
| |  |  |  |
| |  |  |  |
| Fructification on veins |  |  |  |
| |  |  |  |
| |  |  |  |
| |  |  |  |
| |  |  |  |

103. FERN FAMILY. {

Leaves (fronds) simple or variously divided; circinate when young. Fructification on the under side, margin, or end of frond.

- | | |
|---|--------------------|
| Fructification terminal. | |
| Capsules connate, in a simple spike. | |
| Stem simple, with a single frond. | |
| Fronds simple, ovate or lanceolate | 1. Adder's-tongue. |
| Capsules in a branched spike or panicle. | 2. Moonwort. |
| Fronds pinnate, solitary. Segments half-moon- or kidney-shaped. | |
| Capsules in a compound panicle. | 3. { Flowering- |
| Fronds 2-pinnate. | { fern, |
| Segments lanceolate or oblong | { Fern-royal. |
| Fructification in cup-shaped involucre. | |
| Involucre entire. | |
| Fronds 2- or 3-pinnate, triangular-lanceolate in outline. | 4. Bristle-fern. |
| Final segments oblong | |
| Involucre 2-lobed. | 5. Filmy-fern. |
| Fronds pinnate, ovate-lanceolate in outline. | |
| Final segments linear-oblong | |
| Fructification on margin of frond. | |
| Clusters (sori) oblong or roundish, covered by the reflexed margin. | |
| Fronds 2- or 3-pinnate, broadly ovate in outline. | 6. Maiden-hair. |
| Pinnules fan- or wedge-shaped, lobed | |
| Clusters continuous, covered by an indusium formed of the reflexed margin. | |
| Fronds 2- or 3-pinnate, broadly triangular in outline. | 7. { Brake, |
| Final segments of frond lanceolate, entire | { Bracken. |
| Clusters continuous, covered by a scarious indusium. | 8. Hard-fern. |
| Fronds pinnatifid or pinnate, narrow-lanceolate in outline. | |
| Segments lanceolate or linear | |
| Fructification on veins, clusters circular, or nearly so. | |
| Clusters naked, not covered by an indusium. | |
| Fronds 2- or 3-pinnate, ovate-triangular in outline. | |
| Pinnules of the fertile fronds oblong-lanceolate, sori ultimately confluent, covered by margin of pinnule. Pinnule of barren frond broad, toothed | 9. { Rock-brake, |
| Fronds 1- or 2-pinnate, lanceolate, ovate, or triangular in outline. | { Parsley-fern. |
| Final segments oblong to ovate, entire, crenate or toothed | 10. Polypody. |
| Clusters with an inferior capillary indusium. | |
| Fronds pinnate, lanceolate or oblong in outline. | 11. Woodsia. |
| Pinnae oblong or ovate, bluntly lobed | |
| Clusters covered by reniform indusium, attached by notch. | |
| Fronds 1- or 2-pinnate, lanceolate to ovate in outline. | 12. Shield-fern. |
| Final segments oblong or ovate, entire, or crenately or acutely toothed | |
| Clusters covered by a circular indusium, attached by centre. | |
| Fronds 1- or 2-pinnate, linear- or broadly-lanceolate in outline. | 13. Prickly-fern. |
| Final segments lanceolate to ovate, more or less auricled and curved, toothed | |
| Clusters covered by a hooded indusium, attached by one side. | 14. Bladder-fern. |
| Fronds 2- or 3-pinnate, lanceolate or triangular in outline. | |
| Final segments oblong or ovate, lobed, and bluntly toothed | |
| Fructification on veins, clusters oblong or linear. | |
| Clusters oblong, naked, not covered by an indusium. | |
| Fronds 1- or 2-pinnate, ovate or oblong in outline. | 15. Gymnogram. |
| Final segments obovate-cuneate, toothed | |
| Clusters oblong, covered by an oblong-reniform indusium. | |
| Fronds 2-pinnate, broadly lanceolate in outline. | 16. Lady-fern. |
| Pinnules oblong-lanceolate, pinnatifid toothed | |
| Clusters linear, covered by a linear indusium. | |
| Fronds 1-, 2-, or 3-pinnate, various in outline. | 17. Spleenwort. |
| Final segments ovate, lanceolate, obovate, or crenate | |
| Clusters linear, indusium (?), a very narrow ridge. | |
| Fronds pinnatifid, linear-lanceolate in outline. | 18. Rustyback. |
| Segments ovate-obtuse, covered with chaffy scales on the back | |
| Clusters linear, 2 together, indusia opening by a fissure along the centre. | |
| Fronds strap-shaped, base cordate. | 19. Hart's-tongue. |
| Clusters parallel, at right angles to the midrib | |

CHART SHOWING AT ONE VIEW THE NUMBER OF SPECIES IN EACH ORDER



F. A. MESSER DCLT

CATALOGUE OF BRITISH PLANTS.

1. Ranunculaceæ.

1. ACTÆA.
spicata.
2. CLEMATIS.
Vitalba.
3. THALICTRUM.
alpinum.
minus.
majus.
saxatile.
flavum.
4. ANEMONE.
Pulsatilla.
nemorosa.
5. MYOSURUS.
minimus.
6. ADONIS.
autumnalis.
7. RANUNCULUS.
aquatilis.
Lenormandi.
hederaceus.
sceleratus.
ophioglossifolius.
Flammula.
reptans.
Lingua.
auricomus.
acris.
repens.
bulbosus.
hirsutus.
chærophyllus.
parviflorus.
arvensis.
Ficaria.
8. PÆONIA.
Corallina.
9. CALTHA.
palustris.
10. ERANTHIS.
hyemalis.
11. TROLLIUS.
europæus.
12. HELLEBORUS.
viridis.
fetidus.
13. DELPHINIUM.
Ajacis.

14. AQUILEGIA.
vulgaris.
15. ACONITUM.
Napellus.

2. Berberidaceæ.

1. BERBERIS.
vulgaris.
2. EPIMEDIUM.
alpinum.

3. Nymphæaceæ.

1. NYMPHÆA.
alba.
2. NUPHAR.
lutea.
pumila.

4. Papaveraceæ.

1. PAPAVER.
somniaferum.
Rheas.
dubium.
Argemone.
hybridum.
2. MECONOPSIS.
cambrica.
3. RŒMERIA.
hybrida.
4. CHELIDONIUM.
majus.
5. GLAUCIUM.
luteum.

5. Fumariaceæ.

1. FUMARIA.
pallidiflora.
confusa.
muralis.
densiflora.
officinalis.
Vaillantii.
parviflora.
2. CORYDALIS.
lutea.
claviculata.

6. Cruciferæ.

1. CRAMBE.
maritima.
2. ISATIS.
tinctoria.
3. CAKILE.
maritima.
4. ARMORACIA.
rusticana.
5. COCHLEARIA.
officinalis.
danica.
anglica.
6. CAMELINA.
sativa.
7. ALYSSUM.
calycinum.
maritimum.
8. DRABA.
verna.
muralis.
incana.
rupestris.
aizoides.
9. IBERIS.
amara.
10. SENEBIERA.
didyma.
Coronopus.
11. LEPIDIUM.
latifolium.
ruderales.
sativum.
campestre.
Smithii.
Draba.
12. TEESDALIA.
nudicaulis.
13. HUTCHINSIA.
petraea.
14. SUBULARIA.
aquatica.
15. CAPSELLA.
Bursa-pastoris.
16. THLASPI.
arvense.
perfoliatum.
alpestre.

17. DENTARIA.
bulbifera.
18. MATTHIOLA.
sinuata.
incana.
19. HESPERIS.
matronalis.
20. CARDAMINE.
amara.
pratensis.
hirsuta.
sylvatica.
impatiens.
21. ALLIARIA.
officinalis.
22. ARABIS.
thaliana.
petraea.
stricta.
ciliata.
hirsuta.
Turrita.
perfoliata.
23. DIPLLOTAXIS.
tenuifolia.
muralis.
24. NASTURTIUM.
officinale.
sylvestre.
palustre.
amphibium.
25. CHEIRANTHUS.
Cheiri.
26. ERYSIMUM.
cheiranthoides.
27. RAPHANUS.
Raphanistrum.
maritimus.
28. SINAPIS.
arvensis.
alba.
nigra.
incana.
29. BRASSICA.
oleracea.
monensis.
campestris.
30. BARBAREA.
vulgaris.
præcox.
31. SISYMBRIUM.
officinale.
Sophia.
Irio.

7. Resedaceæ.

1. RESEDA.
lutea.
Luteola.
alba.

8. Cistaceæ.

1. HELIANTHEMUM.
guttatum.
canum.
vulgare.
polifolium.

9. Violaceæ.

1. VIOLA.
palustris.
odorata.
hirta.
canina.
tricolor.

10. Droseraceæ.

1. DROSERA.
rotundifolia.
anglica.
longifolia.

11. Frankeniaceæ.

1. FRANKENIA.
lævis.

12. Polygalaceæ.

1. POLYGALA.
vulgaris.
calcareæ.
amara.

13. Elatinaceæ.

1. ELATINE.
hexandra.
Hydropiper.

14. Caryophyllaceæ.

1. DIANTHUS.
Armeria.
deltoides.
cæsius.
plumarius.
prolifer.
Caryophyllus.
2. SAPONARIA.
officinalis.
3. SILENE.
inflata.
maritima.
conica.
anglica.
acaulis.
Otitis.
nutans.
noctiflora.
4. LYCHNIS.
vespertina.
diurna.
Flos-cuculi.
Viscaria.

alpina.
Githago.

5. CHERLERIA.
sedoides.
6. STELLARIA.
aquatica.
nemorum.
media.
Holostea.
glauca.
graminea.
uliginosa.
7. HOLOSTEUM.
umbellatum.
8. POLYCARPON.
tetraphyllum.
9. SPERGULARIA.
rubra.
marina.
10. HONKENEYA.
peploides.
11. ALSINE.
verna.
rubella.
tenuifolia.
uliginosa.
12. ARENARIA.
trinervis.
serpyllifolia.
norvegica.
ciliata.
13. MENCHIA.
erecta.
14. SAGINA.
maritima.
apetala.
ciliata.
procumbens.
saxatilis.
subulata.
nivalis.
nodosa.
15. SPERGULA.
arvensis.
16. CERASTIUM.
tetrandrum.
semidecandrum.
glomeratum.
triviale.
alpinum.
latifolium.
arvense.
trigynum.

15. Malvaceæ.

1. LAVATERA.
arboorea.
2. MALVA.
moschata.
sylvestris.
rotundifolia.

3. **ALTHÆA.**
 officinalis.
 hirsuta.

16. Tiliaceæ.

1. **TILIA.**
 grandifolia.
 intermedia.
 parvifolia.

17. Hypericaceæ.

1. **HYPERICUM.**
 Androsæmum.
 calycinum.
 perforatum.
 dubium.
 tetrapterum.
 humifusum.
 linariifolium.
 pulchrum.
 hirsutum.
 montanum.
 elodes.

18. Aceraceæ.

1. **ACER.**
 Pseudo-platanus.
 campestre.

19. Geraniaceæ.

1. **GERANIUM.**
 sanguineum.
 phæum.
 sylvaticum.
 pratense.
 pyrenaicum.
 molle.
 pusillum.
 rotundifolium.
 dissectum.
 columbinum.
 lucidum.
 Robertianum.
2. **ERODIUM.**
 cicutarium.
 moschatum.
 maritimum.

20. Balsaminaceæ.

1. **IMPATIENS.**
 Noli-me-tangere.
 fulva.
 parviflora.

21. Oxalidaceæ.

1. **OXALIS.**
 Acetosella.
 corniculata.
 stricta.

22. Linaceæ.

1. **RADIOLA.**
 millegrana.
2. **LINUM.**
 catharticum.
 perenne.
 angustifolium.
 usitatissimum.

23. Celastraceæ.

1. **EUONYMUS.**
 europæus.
2. **STAPHYLEA.**
 pinnata.

24. Rhamnaceæ.

1. **RHAMNUS.**
 catharticus.
 Frangula.

25. Leguminosæ.

1. **ULEX.**
 europæus.
 Gallii.
 nanus.
2. **GENISTA.**
 anglica.
 pilosa.
 tinctoria.
3. **SAROTHAMNUS.**
 scoparius.
4. **ONONIS.**
 spinosa.
 arvensis.
 reclinata.
5. **MEDICAGO.**
 sativa.
 sylvestris.
 falcata.
 lupulina.
 denticulata.
 maculata.
 minima.
6. **TRIFOLIUM.**
 subterraneum.
 pratense.
 medium.
 ochroleucum.
 maritimum.
 incarnatum.
 arvense.
 Bocconi.
 striatum.
 scabrum.
 glomeratum.
 suffocatum.
 strictum.
 hybridum.
 repens.
 fragiferum.

procumbens.
 minus.
 filiforme.
 stellatum.

7. **MEILOLOTUS.**
 officinalis.
 alba.
 arvensis.
8. **TRIGONELLA.**
 ornithopodioides.
9. **LOTUS.**
 corniculatus.
 major.
 angustissimus.
 hispidus.
10. **ANTHYLLIS.**
 vulneraria.
11. **ONOBRYCHIS.**
 sativa.
12. **OXYTROPIS.**
 Halleri.
 campestris.
13. **ASTRAGALUS.**
 alpinus.
 hypoglottis.
 glycyphylus.
14. **ORNITHOPUS.**
 perpusillus.
15. **ARTHROLOBIUM.**
 ebracteatum.
16. **HIPPOCREPIS.**
 comosa.
17. **OROBUS.**
 tuberosus.
 niger.
18. **VICIA.**
 hirsuta.
 tetrasperma.
 gracilis.
 Cracca.
 Orobus.
 sylvatica.
 sepium.
 lutea.
 sativa.
 lathyroides.
 bithynica.
19. **LATHYRUS.**
 Aphaca.
 Nissolia.
 hirsutus.
 pratensis.
 tuberosus.
 sylvestris.
 palustris.
 maritimus.

26. Rosaceæ.

1. **ROSA.**
 spinosissima.

- villosa.
- involuta.
- rubiginosa.
- hibernica.
- canina.
- arvensis.
- 2. RUBUS.
 - Idæus.
 - fruticosus.
 - cæsius.
 - saxatilis.
 - Chamæmorus.
- 3. PRUNUS.
 - communis.
 - Avium.
 - Cerasus.
 - Padus.
- 4. MESPILUS.
 - germanica.
- 5. COTONEASTER.
 - vulgaris.
- 6. CRATÆGUS.
 - Oxyacantha.
- 7. PYRUS.
 - torminalis.
 - Aria.
 - Aucuparia.
 - communis.
 - Malus.
- 8. ALCHEMILLA.
 - arvensis.
 - vulgaris.
 - alpina.
 - conjuncta.
- 9. SANGUISORBA.
 - officinalis.
- 10. POTERIUM.
 - Sanguisorba.
- 11. SPIRÆA.
 - salicifolia.
 - Ulmaria.
 - Filipendula.
- 12. AGRIMONIA.
 - Eupatoria.
 - odorata.
- 13. DRYAS.
 - octopetala.
- 14. FRAGARIA.
 - vesca.
 - elatior.
- 15. POTENTILLA.
 - Fragariastrum.
 - verna.
 - alpestris.
 - Tormentilla.
 - reptans.
 - anserina.
 - rupestris.
 - argentea.
 - fruticosa.

- 16. GEUM.
 - urbanum.
 - rivale.
- 17. SIBBALDIA.
 - procumbens.
- 18. COMARUM.
 - palustre.

27. Lythraceæ.

- 1. LYTHRUM.
 - Salicaria.
 - Hyssopifolia.
- 2. PEPLIS.
 - Portula.

28. Tamariscaceæ.

- 1. TAMARIX.
 - anglica.

29. Onagraceæ.

- 1. CIRCÆA.
 - lutetiana.
 - alpina.
- 2. ISNARDIA.
 - palustris.
- 3. OENOTHERA.
 - biennis.
 - odorata.
- 4. EPILOBIUM.
 - angustifolium.
 - hirsutum.
 - parviflorum.
 - montanum.
 - lanceolatum.
 - roseum.
 - tetragonum.
 - obscurum.
 - palustre.
 - alsinifolium.
 - anagallidifolium.
 - alpinum.

30. Haloragaceæ.

- 1. HIPPURIS.
 - vulgaris.
- 2. MYRIOPHYLLUM.
 - verticillatum.
 - spicatum.
 - alterniflorum.

31. Cucurbitaceæ.

- 1. BRYONIA.
 - dioica.

32. Portulacææ.

- 1. MONTIA.
 - fontana.
- 2. CLAYTONIA.
 - alsinoides.
 - perfoliata.

33. Paronychiaceæ.

- 1. SCLERANTHUS.
 - annuus.
 - perennis.
- 2. HERNIARIA.
 - glabra.
 - ciliata.
- 3. ILLECEBRUM.
 - verticillatum.
- 4. CORRIGIOLA.
 - littoralis.

34. Crassulaceæ.

- 1. TILLÆA.
 - muscosa.
- 2. COTYLEDON.
 - Umbilicus.
- 3. SEDUM.
 - Rhodiola.
 - Telephium.
 - villosum.
 - album.
 - dasyphyllum.
 - anglicum.
 - acre.
 - sexangulare.
 - reflexum.
 - rupestre.
- 4. SEMPERVIVUM.
 - tectorum.

35. Ribesiaceæ.

- 1. RIBES.
 - Grossularia.
 - alpinum.
 - rubrum.
 - nigrum.

36. Saxifragaceæ.

- 1. CHRYSOSPLENIUM.
 - oppositifolium.
 - alternifolium.
- 2. PARNASSIA.
 - palustris.
- 3. SAXIFRAGA.
 - oppositifolia.
 - nivalis.
 - stellaris.
 - Geum.
 - hirsuta.
 - umbrosa.
 - Hirculus.
 - aizoides.
 - tridactylites.
 - rivularis.
 - cernua.
 - granulata.
 - caespitosa.
 - sponhemica.
 - hypnoides.
 - hirta.

37. Umbelliferæ.

1. SANICULA. europæa.
2. ERYNGIUM. maritimum. campestre.
3. CAUCALIS. daucoides. latifolia.
4. TORILIS. infesta. Anthriscus. nodosa.
5. DAUCUS. Carota.
6. SESELL. Libanotis.
7. HYDROCOTYLE. vulgaris.
8. BUPLEURUM. rotundifolium. aristatum. tenuissimum. falcatum.
9. ASTRANTIA. major.
10. SMYRNIUM. Olusatrum.
11. ÆGOPodium. Podagraria.
12. APIUM. graveolens.
13. PIMPINELLA. Saxifraga. magna.
14. PETROSELINUM. sativum. segetum.
15. HELOSCIADIUM. nodiflorum. inundatum.
16. SISON. Amomum.
17. SIUM. latifolium. angustifolium.
18. TRINIA. vulgaris.
19. CARUM. verticillatum. Carui. Bulbocastanum. flexuosum.
20. CONIUM. maculatum.
21. PHYSOSPERMUM. cornubiense.
22. SCANDIX. Pecten-Veneris.
23. CHÆROPHYLLUM. Anthriscus.

- sativum. sylvestre. temulum.
24. CICUTA. virosa.
25. MYRRHIS. odorata.
26. LIGUSTICUM. scoticum.
27. MEUM. Athamanticum.
28. SILAUS. pratensis.
29. CRITHMUM. maritimum.
30. ENANTHE. fistulosa. pimpinelloides. silaifolia. Lachenalii. crocata. Phellandrium. fluviatilis.
31. CORIANDRUM. sativum.
32. ÆTHUSA. Cynapium.
33. FENICULUM. vulgare.
34. HERACLEUM. Sphondylium.
35. PASTINACA. sativa.
36. TORDYLIUM. maximum.
37. ANGELICA. sylvestris.
38. PEUCEDANUM. officinale. palustre. Ostruthium.

38. Hederaceæ.

1. HEDERA. Helix.

39. Cornaceæ.

1. CORNUS. suecica. sanguinea.

40. Loranthaceæ.

1. VISCUM. album.

41. Caprifoliaceæ.

1. LINNÆA. borealis.
2. LONICERA. Caprifolium. Periclymenum. Xylosteum.

3. VIBURNUM. Opulus. Lantana.
4. SAMBUCUS. nigra. Ebulus.
5. ADOXA. Moschatellina.

42. Rubiaceæ.

1. RUBIA. peregrina.
2. GALIUM. boreale. cruciatum. verum. erectum. Mollugo. saxatile. sylvestre. palustre. uliginosum. anglicum. Aparine. tricornis.
3. ASPERULA. odorata. cynanchica.
4. SHERARDIA. arvensis.

43. Valerianaceæ.

1. CENTRANTHUS. ruber.
2. VALERIANA. dioica. officinalis. pyrenaica.
3. VALERIANELLA. olitoria. carinata. Auricula. dentata.

44. Dipsacaceæ.

1. DIPSAcus. sylvestris. pilosus.
2. SCABIOSA. succisa. columbaria.
3. KNAUTIA. arvensis.

45. Compositæ.

1. LAPSANA. communis.
2. ARNOSERIS. pusilla.
3. CICHORIUM. Intybus.
4. TARAXACUM. officinale.

- | | | |
|---|---|--|
| 5. LACTUCA. virosa. Scariola. saligna. muralis. | 11. TRAGOPOGON. pratensis. porrifolius. | 30. CARLINA. vulgaris. |
| 6. CREPIS. foetida. taraxacifolia. setosa. virens. biennis. succisifolia. paludosa. | 12. HELMINTHIA. echioides. | 31. SILYBUM. Marianum. |
| 7. HIERACIUM. Pilosella. aurantiacum. dubium. melanocephalum. holosericeum. eximium. calenduliflorum. gracilentum. globosum. nigrescens. lingulatum. senescens. chrysanthum. anglicum. iricum. pallidum. lasiophyllum. Gibsoni. argenteum. nitidum. aggregatum. murorum. caesium. obtusifolium. flocculosum. vulgatum. maculatum. gothicum. tridentatum. prenanthoides. strictum. umbellatum. crocatum. rigidum. corymbosum. boreale. | 13. THRINZIA. hirta. | 32. CARDUUS. tenuiflorus. nutans. crispus. lanceolatus. eriphorus. palustris. tuberosus. pratensis. heterophyllum. acaulis. arvensis. |
| 8. MULGEDIUM. alpinum. | 14. LEONTODON. hispidus. autumnalis. | 33. ONOPORDUM. Acanthium. |
| 9. SONCHUS. oleraceus. asper. avensis. palustris. | 15. PICRIS. hieracioides. | 34. GALINSOGA. parviflora. |
| 10. HYPOCHÆRIS. glabra. radicata. maculata. | 16. TANACETUM. vulgare. | 35. BELLIS. perennis. |
| | 17. DIOTIS. maritima. | 36. MATRICARIA. Parthenium. inodora. Chamomilla. |
| | 18. ARTEMISIA. Absinthium. vulgaris. campestris. maritima. | 37. ANTHEMIS. Cotula. arvensis. nobilis. |
| | 19. BIDENS. cernua. tripartita. | 38. ACHILLEA. Millefolium. Ptarmica. |
| | 20. FILAGO. germanica. apiculata. spatulata. minima. gallica. | 39. CHRYSANTHEMUM. segetum. Leucanthemum. |
| | 21. GNAPHALIUM. uliginosum. luteo-album. sylvaticum. norvegicum. supinum. | 40. INULA. Helenium. Conyza. crithmoides. |
| | 22. ANTENNARIA. margaritaceum. dioicum. | 41. PULICARIA. dysenterica. vulgaris. |
| | 23. LINOSYRIS. vulgaris. | 42. SOLIDAGO. Virga-aurea. |
| | 24. PETASITES. vulgaris. | 43. SENECIO. vulgaris. sylvaticus. viscosus. squalidus. erucifolius. Jacobæa. aquaticus. saracenicus. paludosus. palustris. campestris. |
| | 25. ARCTIUM. majus. minus. intermedium. nemorosum. | 44. TUSSILAGO. Farfara. |
| | 26. EUPATORIUM. cannabinum. | 45. DORONICUM. Pardalianches. plantagineum. |
| | 27. SERRATULA. tinctoria. | |
| | 28. SAUSSUREA. alpina. | |
| | 29. CENTAUREA. nigra. Scabiosa. Cyanus. aspera. Calcitrapa. solstitialis. | |

46. ERIGERON.
canadensis.
acris.
alpinus.
47. ASTER.
Tripodium.

46. Campanulaceæ.

1. LOBELIA.
Dortmanna.
urens.
2. JASIONE.
montana.
3. PHYTEUMA.
orbiculare.
spicatum.
4. CAMPANULA.
glomerata.
Trachelium.
latifolia.
rapunculoides.
rotundifolia.
Rapunculus.
patula.
5. WAHLENBERGIA.
hederacea.
6. SPECULARIA.
hybrida.

47. Ericaceæ.

1. VACCINIUM.
Oxycoccus.
Vitis-idæa.
uliginosum.
Myrtillus.
2. CALLUNA.
vulgaris.
3. ERICA.
ciliaris.
Tetralix.
cinerea.
vagans.
mediterranea.
4. MENZIESIA.
polifolia.
cærulea.
5. AZALEA.
procumbens.
6. ARBUTUS.
Uredo.
7. ARCTOSTAPHYLOS.
alpina.
Uva-ursi.
8. ANDROMEDA.
polifolia.
9. MONOTROPA.
Hypopitys.
10. PYROLA.
rotundifolia.
media.

- minor.
secunda.
uniflora.

48. Aquifoliaceæ.

1. ILEX.
Aquifolium.

49. Jasminaceæ.

1. LIGUSTRUM.
vulgare.
2. FRAXINUS.
excelsior.

50. Apocynaceæ.

1. VINCA.
major.
minor.

51. Gentianaceæ.

1. GENTIANA.
Pneumonanthe.
verna.
nivalis.
Amarella.
campestris.
2. MENYANTHES.
trifoliata.
3. ERYTHRÆA.
latifolia.
littoralis.
Centaurium.
pulchella.
4. CICENDIA.
pusilla.
filiformis.
5. LIMNANTHEMUM.
nymphæoides.
6. CHLORA.
perfoliata.

52. Polemoniaceæ.

1. POLEMONIUM.
cæruleum.

53. Convolvulaceæ.

1. CONVULVULUS.
arvensis.
sepium.
Soldanella.
2. CUSCUTA.
Epilinum.
europæa.
Epithymum.
Trifolii.

54. Boraginaceæ.

1. PULMONARIA.
angustifolia.
officinalis.

2. MERTENSIA.
maritima.
3. ECHIUM.
vulgare.
plantagineum.
4. LITHOSPERMUM.
purpureo-cæruleum
officinale.
arvense.
5. SYMPHYTUM.
officinale.
tuberosum.
6. BORAGO.
officinalis.
7. LYCOPSIS.
arvensis.
8. ASPERUGO.
procumbens.
9. CYNOGLOSSUM.
officinale.
montanum.
10. ANCHUSA.
officinalis.
sempervirens.
11. MYOSOTIS.
cæspitosa.
palustris.
repens.
alpestris.
sylvatica.
arvensis.
collina.
versicolor.

55. Solanaceæ.

1. SOLANUM.
Dulcamara.
nigrum.
2. ATROPA.
Belladonna.
3. LYCIUM.
barbarum.
4. HYOSCYAMUS.
niger.
5. DATURA.
Stramonium.

56. Orobanchaceæ.

1. OROBANCHE.
cærulea.
major.
rubra.
caryophyllacea.
elatior.
Picridis.
Hedera.
minor.
2. LATHRÆA.
squamaria.

57. Scrophulariaceæ.

1. *VERONICA*.
hederifolia.
polita.
agrestis.
Buxbaumii.
triphyllos.
verna.
arvensis.
serpyllifolia.
alpina.
saxatilis.
spicata.
officinalis.
Chamædryas.
montana.
scutellata.
Anagallis.
Beccabunga.
2. *VERBASCUM*.
Thapsus.
pulverulentum.
Lychnitis.
nigrum.
virgatum.
Blattaria.
sylvatica.
3. *PEDICULARIS*.
palustris.
sylvatica.
4. *RHINANTHUS*.
Crista-galli.
major.
5. *MELAMPYRUM*.
cristatum.
arvense.
pratense.
sylvaticum.
6. *BARTSIA*.
Odontites.
viscosa.
alpina.
7. *EUPHRASIA*.
officinalis.
8. *LINARIA*.
Cymbalaria.
Elatine.
purpurea.
spuria.
Pelisseriana.
repens.
vulgaris.
minor.
supina.
9. *ANTI-RHINUM*.
majus.
Orontium.
10. *SCROPHULARIA*.
umbrosa.
nodosa.
Scorodonia.

vernalis.
aquatica.

11. *DIGITALIS*.
purpurea.
12. *MIMULUS*.
luteus.
13. *LIMOSELLA*.
aquatica.
14. *SIBTHORPIA*.
europæa.

58. Labiataæ.

1. *LYCOPUS*.
europæus.
2. *SALVIA*.
Verbenaca.
pratensis.
3. *MENTHA*.
rotundifolia.
alopecuroides.
sylvestris.
viridis.
Piperita.
hirsuta.
sativa.
arvensis.
aquatica.
Pulegium.
4. *TEUCRIUM*.
Botrys.
Scordium.
Chamædryas.
Scorodonia.
5. *AJUGA*.
reptans.
pyramidalis.
Chamæpitys.
6. *THYMUS*.
Serpyllum.
Chamædryas.
7. *MELISSA*.
officinalis.
8. *ORIGANUM*.
vulgare.
9. *NEPETA*.
Cataria.
Glechoma.
10. *SCUTELLARIA*.
galericulata.
minor.
11. *PRUNELLA*.
vulgaris.
12. *CALAMINTHA*.
Clinopodium.
Acinos.
Nepeta.
sylvatica.
officinalis.
13. *MELITTIS*.
Melissophyllum.
14. *MARRUBIUM*.
vulgare.

15. *BALLOTA*.
nigra.
16. *LAMIUM*.
amplexicaule.
intermedium.
incisum.
purpureum.
maculatum.
album.
Galeobdolon.
17. *LEONURUS*.
Cardiaca.
18. *STACHYS*.
Betonica.
germanica.
palustris.
sylvatica.
arvensis.
19. *GALEOPSIS*.
Ladanum.
versicolor.
Tetrahit.
dubia.

59. Verbenaceæ.

1. *VERBENA*.
officinalis.

60. Lentibulariaceæ.

1. *PINGUICULA*.
vulgaris.
grandiflora.
alpina.
lusitanica.
2. *UTRICULARIA*.
vulgaris.
neglecta.
minor.
intermedia.

61. Primulaceæ.

1. *CENTUNCULUS*.
minimus.
2. *HOTTONIA*.
palustris.
3. *CYCLAMEN*.
hederifolium.
4. *PRIMULA*.
vulgaris.
Veris.
elatior.
farinosa.
scotica.
5. *SAMOLUS*.
Valerandi.
6. *GLAUX*.
maritima.
7. *LYSIMACHIA*.
thysiflora.
vulgaris.

- Nummularia.
nemorum.
8. ANAGALLIS.
arvensis.
tenella.
9. TRIENTALIS.
europæa.

62. Plumbaginaceæ.

1. STATICE.
Limonium.
bahusiensis.
binervosa.
caspia.
2. ARMERIA.
maritima.
plantaginea.

63. Plantaginaceæ.

1. PLANTAGO.
major.
media.
lanceolata.
maritima.
coronopus.
2. LITTORELLA.
lacustris.

64. Amaranthaceæ.

1. AMARANTHUS.
blitum.

65. Chenopodiaceæ.

1. SALICORNIA.
herbacea.
radicans.
2. SUÆDA.
fruticosa.
maritima.
3. SALSOLA.
Kali.
4. ATRIPLEX.
littoralis.
patula.
angustifolia.
erecta.
deltoidea.
nitens.
Babingtonii.
arenaria.
portulacoides.
pedunculata.
5. CHENOPODIUM.
polyspermum.
olidum.
album.
ficifolium.
murale.
hybridum.
urbicum.

- rubrum.
botryoides.
glaucum.
Bonus Henricus.
6. BETA.
maritima.

66. Polygoneæ.

1. RUMEX.
conglomeratus.
sanguineus.
maritimus.
palustris.
pulcher.
obtusifolius.
acutus.
crispus.
aquaticus.
Hydrolapathum.
maximus.
alpinus.
Acetosa.
Acetosella.
2. OXYRIA.
reniformis.
3. POLYGONUM.
Convolvulus.
dumetorum.
aviculare.
Raii.
maritimum.
Hydropiper.
minus.
mite.
Persicaria.
lapathifolium.
maculatum.
amphibium.
Bistorta.
viviparum.
4. FAGOPYRUM.
esculentum.

67. Elæagnaceæ.

1. HIPPOPHÆ.
rhamnoides.

68. Thymelaceæ.

1. DAPHNE.
Mezereum.
Laureola.

69. Santalaceæ.

1. THESIUM.
humifusum.

70. Aristolochiaceæ.

1. ARISTOLOCHIA.
Clematitidis.

2. ASARUM.
europæum.

71. Empetraceæ.

1. EMPETRUM.
nigrum.

72. Euphorbiaceæ.

1. MERCURIALIS.
perennis.
annua.
2. EUPHORBIA.
Peplis.
Helioscopia.
platyphylla.
stricta.
hiberna.
amygdaloides.
Esula.
Cyparissias.
Paralias.
portlandica.
Peplus.
exigua.
Lathyris.
3. BUXUS.
sempervirens.

73. Ceratophyllaceæ.

1. CERATOPHYLLUM.
demersum.
submersum.

74. Callitrichaceæ.

1. CALLITRICHÆ.
verna.
obtusangula.
stagnalis.
hamulata.
truncata.
autumnalis.

75. Urticaceæ.

1. PARIETARIA.
diffusa.
2. URTICA.
dioica.
pilulifera.
urens.

76. Cannabinaceæ.

1. HUMULUS.
Lupulus.

77. Ulmaceæ.

1. ULMUS.
montana.
campestris.

78. Amentaceæ.

1. ALNUS,
glutinosa.
2. BETULA,
alba,
glutinosa,
nana.
3. SALIX,
pentandra,
fragilis,
alba,
triandra,
purpurea,
viminalis,
aurita,
caprea,
phylicifolia,
nigricans,
repens,
lanata,
Lapponum,
Sadleri,
Arbuscula,
Myrsinites,
herbacea,
reticulata.
4. MYRICA,
Gale.
5. POPULUS,
alba,
canescens,
tremula,
nigra.
6. CORYLUS,
Avellana.
7. CARPINUS,
Betulus.
8. FAGUS,
sylvatica.
9. QUERCUS,
Robur.
10. CASTANEA,
vulgaris.

79. Coniferæ.

1. PINUS,
sylvestris.
2. JUNIPERUS,
communis,
nana.
3. TAXUS,
baccata.

80. Trilliaceæ.

1. PARIS,
quadrifolia.

81. Dioscoreaceæ.

1. TAMUS,
communis.

82. Hydrocharidaceæ.

1. ANACHARIS,
Alsinastrum.
2. HYDROCHARIS,
Morsus-ranæ.
3. STRATIOTES,
aloides.

83. Orchidaceæ.

1. EPIPOGUM,
aphyllum.
2. CORALLORHIZA,
innata.
3. NEOTTIA,
Nidus-avis.
4. NEOTINEA,
intacta.
5. ORCHIS,
hircina,
pyramidalis,
ustulata,
purpurea,
militaris,
Simia,
Morio,
mascula,
laxiflora,
incarnata,
latifolia,
maculata.
6. GYMNADENIA,
conopsea.
7. HABENARIA,
viridis,
bifolia,
chlorantha,
albida.
8. GOODYERA,
repens.
9. SPIRANTHES,
autumnalis,
æstivalis,
gemmipara.
10. CYPRIPEDIUM,
Calceolus.
11. MALAXIS,
paludosa;
12. LIPARIS,
Loeselii.
13. HERMINIUM,
Monorchis.
14. ACERAS,
anthropophora.
15. CEPHALANTHERA,
rubra,
ensifolia,
grandiflora.
16. OPHRYS,
apifera,
aranifera.

arachnites,
muscifera.

17. LISTERA,
cordata,
ovata.
18. EPIPACTIS,
latifolia,
viridans,
rubiginosa,
palustris.

84. Iridaceæ.

1. GLADIOLUS,
illyricus.
2. IRIS,
foetidissima,
Pseudacorus,
tuberosa.
3. CROCUS,
vernus,
nudiflorus.
4. TRICHONEMA,
Columnæ.
5. SISYRINCHIUM,
Bermudiana.

85. Amaryllidaceæ.

1. NARCISSUS,
Pseudo-narcissus,
biflorus.
2. GALANTHUS,
nivalis.
3. LEUCOJUM,
æstivum,
vernum.

86. Alismaceæ.

1. SAGITTARIA,
sagittifolia.
2. ALISMA,
Plantago,
ranunculoides,
natans.
3. ACTINOCARPUS,
Damasonium.
4. BUTOMUS,
umbellatus.
5. SCHEUCHZERIA,
palustris.
6. TRIGLOCHIN,
palustre,
maritimum.

87. Asparagaceæ.

1. RUSCUS,
aculeatus.
2. SMILACINA,
bifolia.
3. CONVALLARIA,
majalis.

4. ASPARAGUS.
officinalis.
5. POLYGONATUM.
verticillatum.
multiflorum.
officinale.

88. Liliaceæ.

1. LLOYDIA.
serotina.
2. TULIPA.
sylvestris.
3. FRITILLARIA.
Meleagris.
4. GAGEA.
lutea.
5. ALLIUM.
Ampeloprasum.
Scorodoprasum.
sphaerocephalum.
vineale.
oleraceum.
Schenoprasum.
triquetrum.
ursinum.
6. MUSCARI.
racemosum.
7. ENDYMION.
nutans.
8. LILIUM.
Martagon.
9. SCILLA.
autumnalis.
verna.
10. ORNITHOGALUM.
nutans.
umbellatum.
pyrenaicum.
11. SIMETHIS.
bicolor.

89. Melanthaceæ.

1. NARTHECIUM.
ossifragum.
2. TOFIELDIA.
palustris.
3. COLCHICUM.
autumnale.

90. Juncaceæ.

1. JUNCUS.
trifidus.
castaneus.
triglumis.
biglumis.
acutus.
maritimus.
communis.
glaucus.

balticus.
filiformis.
obtusiflorus.
articulatus.
capitatus.
pygmaeus.
bufonius.
compressus.
squarrosus.

2. LUZULA.
Forsteri.
pilosa.
sylvatica.
campestris.
arcuata.
spicata.

91. Eriocaulaceæ.

1. ERIOCAULON.
septangulare.

92. Typhaceæ.

1. TYPHA.
latifolia.
angustifolia.
2. SPARGANIUM.
ramosum.
simplex.
affine.
minimum.
natans.

93. Araceæ.

1. ARUM.
maculatum.
italicum.
2. ACORUS.
Calamus.

94. Lemnaceæ.

1. WOLFFIA.
arhiza.
2. LEMNA.
trisulca.
minor.
gibba.
polyrhiza.

95. Potamogetonaceæ.

1. ZANNICHELLIA.
palustris.
2. RUPPIA.
maritima.
rostellata.
3. POTAMOGETON.
natans.
rufescens.
lanceolatus.

heterophyllus.
lucens.
prælongus.
perfoliatus.
crispus.
densus.
compressus.
obtusifolius.
pusillus.
trichoides.
pectinatus.

96. Naiadaceæ.

1. NATAS.
flexilis.
2. ZOSTERA.
marina.
nana.

97. Cyperaceæ.

1. CAREX.
dioica.
pulcaris.
rupestris.
pauciflora.
incurva.
divisa.
disticha.
arenaria.
teretiuscula.
paniculata.
vulpina.
muricata.
stellulata.
remota.
axillaris.
elongata.
canescens.
lagopina.
leporina.
alpina.
atrata.
Buxbaumii.
stricta.
acuta.
aquatilis.
vulgaris.
glauca.
limosa.
digitata.
onithopoda.
humilis.
montana.
pilulifera.
ericetorum.
præcox.
tomentosa.
pallescens.
panicea.
vaginata.
capillaris.

- pendula.
strigosa.
depauperata.
sylvatica.
lævigata.
binervis.
distans.
punctata.
frigida.
extensa.
flava.
filiformis.
hirta.
Pseudo-cyperus.
paludosa.
riparia.
ampullacea.
vesicaria.
pulla.
2. KOBRESIA.
caricina.
3. SCHÆNUS.
nigricans.
4. CYPERUS.
fuscus.
longus.
5. ERIOPHORUM.
alpinum.
vaginatum.
angustifolium.
gracile.
latifolium.
6. ELEOCHARIS.
acicularis.
palustris.
multicaulis.
pauciflora.
cæspitosa.
parvula.
7. RHYNCHOSPORA.
fusca.
alba.
8. BLYSMUS.
compressus.
rufus.
9. SCIRPUS.
lacustris.
triquetus.
pungens.
maritimus.
sylvaticus.
10. ISOLEPIS.
fluitans.
Savii.
setaceus.
Holoschœnus.
11. CLADIUM.
Mariscus.
- 98. Gramineæ.**
1. LEPTURUS.
filiformis.
2. HORDEUM.
sylvaticum.
pratense.
murinum.
maritimum.
3. LAGURUS.
ovatus.
4. POLYPOGON.
monspeliensis.
littoralis.
5. PHLEUM.
alpinum.
pratense.
Boehmeri.
arenarium.
6. PHALARIS.
canariensis.
7. SETARIA.
viridis.
8. PSAMMA.
arenaria.
baltica.
9. ALOPECURUS.
agrestis.
fulvus.
geniculatus.
bulbosus.
pratensis.
alpinus.
10. ANTHOXANTHUM.
odoratum.
11. GASTRIDIVM.
lendigerum.
12. NARDUS.
stricta.
13. CHAMAGROSTIS.
minima.
14. CYNODON.
Dactylon.
15. DIGITARIA.
humifusa.
16. SPARTINA.
stricta.
alterniflora.
17. ECHINOCHLOA.
Crus-galli.
18. LEERSIA.
oryzoides.
19. MELICA.
nutans.
uniflora.
20. MILIUM.
effusum.
21. DIGRAPHIS.
arundinaceæ.
22. AGROSTIS.
setacea.
canina.
alba.
vulgaris.
23. APERA.
Spica-venti.
interrupta.
24. CALAMAGROSTIS.
Epigeios.
lanceolata.
stricta.
25. SESLERIA.
cærulea.
26. KÆLERIA.
cristata.
27. CYNOSURUS.
cristatus.
echinatus.
28. LOLIUM.
perenne.
italicum.
temulentum.
29. TRITICUM.
caninum.
repens.
pungens.
acutum.
juncum.
30. BRACHYPODIUM.
sylvaticum.
pinnatum.
31. ELYMUS.
arenarius.
32. TRIODIA.
decumbens.
33. PHRAGMITES.
communis.
34. HIEROCHLOE.
borealis.
35. CATABROSA.
aquatica.
36. MOLINIA.
cærulea.
37. POA.
annua.
bulbosa.
alpina.
stricta.
laxa.
glauca.
nemoralis.
compressa.
pratensis.
trivialis.
38. BRIZA.
media.
minor.
39. FESTUCA.
uniglumis.
Myurus.
sciuroides.
ovina.
rubra.
duriuscula.
sylvatica.

- elatior.
 pratensis.
 gigantea.
 40. **SCLEROCHLOA.**
 maritima.
 distans.
 Borreri.
 procumbens.
 rigida.
 loliacea.
 41. **GLYCERIA.**
 fluitans.
 plicata.
 aquatica.
 42. **ARRHENATHERUM.**
 elatius.
 43. **HOLCUS.**
 mollis.
 lanatus.
 44. **CORYNEPHORUS.**
 canescens.
 45. **ATRA.**
 cæspitosa.
 uliginosa.
 flexuosa.
 caryophyllæa.
 præcox.
 46. **AVENA.**
 pubescens.
 pratensis.
 strigosa.
 fatua.
 47. **TRisetum.**
 flavescens.
 48. **DACTYLIS.**
 glomerata.
 49. **BROMUS.**
 asper.
 erectus.
 madritensis.
 maximus.
 sterilis.
 secalinus.
 racemosus.
 commutatus.
 mollis.
 arvensis.

99. Equisetaceæ.

1. **EQUISETUM.**
 arvense.
 pratense.
 maximum.

sylvaticum.
 palustre.
 limosum.
 hyemale.
 variegatum.

100. Characeæ.

1. **CHARA.**
 flexilis.
 syncarpa.
 translucens.
 mucronata.
 gracilis.
 tenuissima.
 glomerata.
 intricata.
 alopecuroides.
 crinita.
 fœtida.
 hispida.
 tomentosa.
 aspera.
 fragilis.

101. Lycopodiaceæ.

1. **ISOËTES.**
 lacustris.
 echinospora.
 Hystrix.
 2. **LYCOPodium.**
 clavatum.
 annotinum.
 alpinum.
 inundatum.
 Selago.
 Selaginoides.

102. Marsileaceæ.

1. **PILULARIA.**
 globulifera.

103. Filices.

1. **OPHIoglossum.**
 vulgatum.
 lusitanicum.
 2. **BOTRYCHium.**
 Lunaria.
 3. **OSMUNDA.**
 regalis.
 4. **TRICHOMANES.**
 radicans.

5. **HYMENOPHYLLUM.**
 tunbridgensis.
 unilaterale.
 6. **ADIANtUM.**
 Capillus-Veneris.
 7. **PTERIS.**
 aquilina.
 8. **BLECHNUM.**
 boreale.
 9. **CRYPTOGramME.**
 crispa.
 10. **POLYPODIUM.**
 vulgare.
 Phegopteris.
 Dryopteris.
 Robertianum.
 alpestre.
 11. **WOODSIA.**
 hyperborea.
 ilvensis.
 12. **LASTREA.**
 Filix-mas.
 rigida.
 cristata.
 spinulosa.
 dilatata.
 æmula.
 Thelypteris.
 Oreopteris.
 13. **POLYSTICHUM.**
 Lonchitis.
 aculeatum.
 angulare.
 14. **CYSTOPTERIS.**
 fragilis.
 montana.
 15. **GYMNOGRAMME.**
 leptophylla.
 16. **ATHYRIUM.**
 Filix-femina.
 17. **ASPLENIUM.**
 Ruta-muraria.
 germanicum.
 septentrionale.
 Trichomanes.
 viride.
 marinum.
 lanceolatum.
 Adiantum-nigrum.
 18. **CETERACH.**
 officinarum.
 19. **SCOLOPEnDRium.**
 vulgare.

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