Maurice Francis Yorke.
THE

FLORA OF OXFORDSHIRE,

AND ITS

CONTIGUOUS COUNTIES,

(COMPRISING THE FLOWERING PLANTS ONLY;)

ARRANGED IN EASY AND FAMILIAR LANGUAGE,

ACCORDING TO THE

LINNÆAN AND NATURAL SYSTEMS;

PRECEDED BY

AN INTRODUCTION TO BOTANY,

WITH ILLUSTRATIVE PLATES.

BY

RICHARD WALKER, B.D. F.L.S.

FELLOW OF MAGDALEN COLLEGE, OXFORD

"The love of Nature's works
Is an ingredient in the compound man,
Infused at the creation of the kind.
And, though th' ALMIGHTY MAKER has throughout
Discriminated each from each, by strokes
And touches of His hand, with so much art
Diversified, that two were never found
Twins at all points—yet this obtains in all,
That all discern a beauty in His works,
And all can taste them. Minds that have been form'd
And tutor'd, with a relish more exact,
But none without some relish, none unmoved."—Cowper's Task, B. IV.

OXFORD:

HENRY SLATTER, HIGH STREET.

LONGMAN, REES, ORME, BROWN, GREEN, AND LONGMAN; AND
WHITAKER, TREACHER, AND ARNOT, LONDON.

M DCCC XXXIII.
PRINTED BY J. MUNDAY, OXFORD.
TO

JOHN SHUTE DUNCAN, Esquire,
HONORARY L.L.D.
THE LATE CURATOR OF THE ASHMOLEAN MUSEUM,

AND TO

PHILIP BURY DUNCAN, Esquire,
THE PRESENT CURATOR OF THE ASHMOLEAN MUSEUM,

MEN
OF DIFFUSIVE BENEVOLENCE, AND CLASSIC TASTE,

TO WHOSE
LIBERALITY AND EXERTIONS,
NATURAL SCIENCE AND THE FINE ARTS,
IN THIS UNIVERSITY,
ARE PRE-EMINENTLY INDEBTED,

THE FOLLOWING WORK,
INTENDED TO FACILITATE A PLEASING,

AND,
AS CONNECTED WITH NATURAL THEOLOGY AND MEDICINE,
A HIGHLY IMPORTANT PURSUIT,

IS

WITH ALL RESPECT
DEDICATED BY THE COMPILER,

RICHARD WALKER.
PREFACE.

Many new arrangements have taken place, and various discoveries have been made in Botany, since the publication of Sibthorp's Latin Flora. Under these obvious circumstances, the present work was undertaken, in which will be found additions to the Oxfordshire flowering plants, and an enumeration and brief description of the native plants, growing in the contiguous counties. Sibthorp's Work, Mr. Purton's valuable Midland Flora, Mr. Perry's List of Plants, Turner and Dillwyn's Botanist's Guide, with the liberal communications of Mr. Baxter, Curator of the Botanic Garden, and those of other friends, form the principal authorities for stations of the rarer plants described, and mentioned.

The design of the present work is to furnish the Botanical Student, in the plainest language, with sufficient elementary instruction, to ascertain the name of any wild, flowering plant, he may discover, within the assigned limits of the work, and to point out to him any economical uses, medicinal virtues, or peculiarity of structure as bearing upon Natural Theology, in the plant made out.

1 Sibthorp's concise Flora Oxoniensis, creditable alike to the research and science of the author, was published in 1794.
Several Botanical Authors have been consulted: but in the amalgamation of materials, it was found almost impossible to refer every obligation to its respective claimant. The well-read Botanist will, however, easily perceive, that the descriptions and various observations are principally drawn from the classical works of Linnaeus, Sir James Edward Smith, Willdenow, Curtis, Withering, Hooker, and Greville; with such additions, or alterations, as the compiler deemed suitable to the plan, and execution of a work, intended chiefly for the English reader. The plain, botanical language here adopted, is, for the most part, that of Berkenhout, Martyn, Withering, and Sir James Edward Smith.

Throughout the volume, the Linnaean system has been chiefly kept in view. All Botanists are, I believe, agreed, that this artificial arrangement is most convenient for discovering the name of a plant, and I think that, notwithstanding its imperfections, the Linnaean system cannot, in the present state of science, be advantageously discarded. For, it will, in most cases, conduct the student to the required name of the plant; which name being obtained, the Student may be referred to a description and enucleation of the Natural Order, or Group, in which the plant is arranged by Jussieu, or by some one of his followers. The Natural System of Botany thus studied, in connexion with the Linnaean, will enable those persons, who are desirous of examining the natural affinities of plants, to acquire such knowledge, in a comparatively easy method. We lay considerable stress on the point of facility, in the acquisition of this branch of knowledge in regard to the affinities of plants, because the leisure and inclination of
most persons do not enable them, or dispose them, to apply much attention to microscopic Botany, and its minute dissections, as connected with the Natural System of Plants. To the busy Student the easiest mode, so far as is compatible with science, will be found the best. For example, the Medical Student, by uniting the Linnean with the Jussieu System, would readily detect the name of his plant; next, refer it to its Natural Group or Order, and afterwards learn, without difficulty, the qualities, attributed to such group, whether poisonous, or salutary, &c. Some artificial key appears necessary for Natural Systems, even in their present state of developement, and such a key is afforded by means of the Linnean System. To those, whom genius, or inclination prompts to devote time and attention to these minute and curious, and by no means, despicable investigations, in the scale of knowledge, we abandon the Natural System, by itself, without artificial aids. But, so long as the study of Botany is allowed to remain, as an elegant recreation for the leisure hours of nearly all classes of society, so long must the Linnean, or some other system equally manageable, continue in use. And, on these grounds, we have given the Linnean System the lead, referring for ample information on the Natural System of Plants, in the first instance to Richard's excellent book, and in the second, to Professor Lindley's learned and critical works.

In connection with the peculiarities of structure in the

1 "This work of Richard, (His Elements, &c.) contains an excellent Introduction to, and a Table of the Natural Orders, and ought to be in the hands of every one who desires information upon the subject."—Hooker.
parts of the vegetable kingdom, we particularly recommend to the reflecting mind, the perusal of Paley’s chapter on Plants, in his Natural Theology. Paley there shews, that the one great aim of nature in the structure of plants, seems to be the perfecting of the seed, and the preservation of that seed, until it is perfected. He shews, also, nature’s care to disperse the seeds, when matured: their admirable contrivance and constitution are also explained, their structure, germination, &c.

The varied, yet harmonious structure of plants must, indeed, ever excite the admiration of the philosophic mind; but our ignorance of the uses of their many minuter organs and contrivances, reminds us of the limited faculties of dependent human beings. The Almighty Maker of All has enabled man, by what he can trace and discover, through his own sagacity, to attain sufficient knowledge, even in the works of creation, to judge of infinite power and greatness; but, on the other hand, He has fixed certain boundaries to human knowledge, beyond which the mortal ken cannot pass, to keep man humble, and to make him irresistibly feel his own littleness.

Before I conclude these prefatory remarks, the introduction of a few observations on the utility of Botany, will not be deemed irrelevant.

Without insisting upon the advantages which arise in the pursuit—from its accustoming the student to the accurate use of words, through previous definition,—

¹ See Bishop Butler.
from its contributing to order, and regular disposition in our ideas, thereby enlarging the capacity, and strengthening the memory:—without dwelling upon the advantage arising from its easy exemplification of the Analytic method, in the processes exercised for discovering the name of any unknown plant:—without long considering the tendency, that a comparison and balancing of nice distinctions in this science possess, to sharpen the discriminative powers of the mind:—without enlarging upon the importance of the science, in connection with Vegetable Chemistry, which furnishes an analysis of the secretions of plants:—without dwelling long upon its connection with Comparative Anatomy, where the analogies of the animal and vegetable systems are laid open:—without enlarging on its connection—with Gardening, one of the purest of human pleasures;—with Medicine, in the various plants used in the Materia Medica, and as affording economical uses, subservient to the comfort and conveniences of social life:—without longadvert to the many pleasing associations in the study of Botany, connected with plants, alluded to by the poet:—without urging the utility of the science, as prompting to bodily exercise, and as rendering that exercise more healthful, by the grateful stimulus given to the mind, in pursuit of a favourite object, as an innocent recreation, affording an exhilarating change of ideas, after severer studies, and as tranquillizing the mind by a gentle exertion of the reasoning powers, on pleasing objects;—without viewing the science as an innocent succedaneum for boisterous pleasures, as a sort of antidote, in some cases, to heartless dissipation, which blunts
all moral feeling:—without insisting upon all these topics in favour of the study of Botany, we believe, that if this branch of knowledge be pursued, in reference to, and in connection with Natural Theology, that Botany at once, like other branches of Natural History, then rises into high importance. The student who traces the wisdom of the Almighty in the works of creation, can never be said to be alone. He who rambles into the fields to scan and examine the works of creation with a cheerful curiosity, chastised by lowly piety, ever keeping in view the Great Creator and Mighty Contriver of All, cannot be ill-employed. "The profound researches," observes Sir James Edward Smith, "of grammarians, the taste and erudition of critics, the sublime efforts of poets, justly demand and receive the homage of the world. They are conversant with the whole scope of human conception, and of intellectual power. But the Naturalist traces, in all humility, the counsels of the Eternal Mind. The laws, the principles, which he studies, are of Divine origin. While he discriminates or combines his ideas, he catches glimpses of Infinite Wisdom, and there is no boundary to his attainments, but the imperfection of his own nature. The study of language embraces all that ever has been, or can be communicated from one human mind to another; but, the study of Nature, like that of Truth and Virtue, leads man to acquaint himself with God." "And, in a moral view," observes Paley, "I shall not, I believe, be contradicted, when I say, that if one train of thinking be more desirable than another, it is that which regards the phenomena of Nature with a constant reference to a Supreme, Intelligent Author. To have made this the ruling,
habitual sentiment of our minds, is to have laid the foundation of every thing which is religious. The world thenceforth becomes a temple, and life itself one continued act of adoration."

In conclusion, I beg to offer my sincere acknowledgments to those friends who have encouraged the publication of this work, and to express my obligations to Professor Daubeney, for a specimen of a Botanico-Geological

1 "It is difficult to conceive that any man of taste or curiosity should despise the examination of that part of the creation, which meets his eye continually under the most beauteous and graceful forms, which administers innumerable supplies to his various wants, and abounds with the most admirable proofs of the wisdom and goodness of the Supreme Being. The physiological and the systematical part of Botany have each their advantages. The former is the best introduction to a knowledge of organised nature, exhibiting the first and plainest links of that vast chain which connects all living substances; the latter affords the most perfect specimen of classification, so that all that the Dialectic Art teaches respecting genus and species in general propositions, Botany demonstrates in a far more pleasant and intelligible way by actual examples. This study, besides the useful and agreeable exercise of the understanding, is adapted to infuse the purest tastes, prepares a fund of never-failing delight for every rural walk, and often forms a bond of union among cultivated and amiable minds: and if Religion ought to enter into the scheme of a well-conducted education;—if Natural Religion is the foundation of a just and enlightened faith in Divine Revelation;—then Botany may assume a still more dignified rank among the sciences; for certainly there is no branch of natural knowledge which affords proofs so clear, so accessible, so abundant and various, so striking and interesting and attractive, of the existence, attributes, and providence of the Great First Cause."—James Yates, F.L.S.
Index; and to Dr. Williams, Professor of Botany, in this University, for access to Herbaria, and for the liberal use of that noble Library¹ over which he so judiciously presides.

¹ The Radcliffe.

Maydalen College,
Oxford.
INTRODUCTION

TO

BOTANY,

INCLUDING A SKETCH OF THE PHYSIOLOGY, STRUCTURE, FUNCTIONS, AND NATURAL ARRANGEMENT OF PLANTS.

Of the Fructification.

Without dwelling upon the usual division of Plants into Trees, Shrubs, and Herbs, we will, at once, begin with the consideration of the Fructification of Plants. In the FRUCTIFICATION we include the flower and fruit. It consists of seven principal parts:—


The first four are properly parts of the flower. The fifth, sixth, and seventh, are parts of the fruit.

I. The CALYX, or Flower-cup, is formed of one or more green or yellow leaves, at a small distance from, or close to the blossom.

The kinds of Calyx are seven

1. Perianth, or Flower-cup close to the other parts of the flower, example, the *primrose*. See Plate, 109. b. 110, a.

1. It is called the perianth of the flower, when it includes the stamens, and not the germén', and, 2. the perianth of the fruit, when the germin is included, but not the stamens. 3. It is the perianth of the fructification, if it includes both the germén and the stamens.

1 See these terms explained further on.
2. **Involucre**, is the **Calyx** particularly of an **Umbel**, but applied to other kinds of inflorescence (see plate, 88.) placed at some distance from the flower: it is chiefly found in the umbelliferous, or parsley-like tribe. See Plate, 102.

1. The involucre is called *universal*, when placed under a *universal umbel*. See Plate, 89. a, the general involucre, with its umbels. b, the partial involucre with its partial umbels.

2. The involucre is termed *partial*, when placed under a *partial umbel*. See Plate, 89. b.

3. **Catkin**, or **Amentum**, consisting of a cylindrical common receptacle, beset with numerous scales, each scale accompanied by one or more stamens, or pistils, or both; example, the *hazel*. See Plate, 105.

4. The **Sheath**, or Spatha, opens lengthwise, and puts forth a kind of flower-stalk, called a spadix; example, the *snowdrop*, (galanthus,) the *cuckoo-pint*, (arum.) See Plate, 87.

5. **Husk**, or **Glume**, the chaffy calyx of grasses, with its dry leaves, called valves. See Plate, 116. Husks b. b. Awn (arista,) is the sharp point, or beard issuing from the husk or glume. See Plate, 96.

6. **Perichaetium**, is the scaly sheath of mosses.

7. **Volva**, is the wrapper, surrounding the stem of fun- guses, or mushrooms.

The **Calyx** of flowers, with respect to number, may be single, or one, double, or wanting.

II. With respect to *composition*, it may be—

1. Tiled, (imbricated,) that is, of various scales lying over each other: example, *hawk-weed*, (hieracium,) *sow-thistle*, (sonchus.) See Plate, 113, 114.

2. Wide-spreading, (squarrose,) of scales widely spreading, every way; example, *thistle*, (carduus,) *plume-thistle*, (cnicus.)

3. Augmented, that is, with a series of distinct leaves, shorter than its own, surrounding the outer part of the base; example, the *pink*, (dianthus.) See Plate, 100.

4. Many-flowered, that is, common to many florets; example, *scabious*, (scabiosa,) and plants of the class syngenesia, *daisy*, *dandelion*, &c.

III. The **Calyx**, with respect to *situation*, may be—
INTRODUCTION TO BOTANY.

1. Beneath the seed-vessel; example, the pea. See Plate, 140.
2. Above the seed-vessel; example, the rose. See Plate, 110.

IV. With respect to margin, the Calyx, may be—
1. entire. 2. saw-toothed, (serrate.) 3. fringed with hairs, (ciliated;) example (centaurée) knap-weed.

V. The Calyx at the top, may be—
1. acute or sharp. 2. prickly, (aculeated.) 3. blunt, (obtuse.) 4. lopped, (truncate,) that is, with one of its indentations, appearing as if cut off.

VI. With respect to duration, the Calyx may be—
1. caducous, that is, falling off at the first opening of the flower; example, poppy. 2. deciduous, falling off with the corolla. 3. persistent, continuing until the fruit arrives at maturity; example, plants of the class, didynamia, snap-dragon, mint, thyme, &c.

Corolla, or Blossom.

The leaves, generally coloured, of which the Corolla consists, are called petals.

The Corolla is either—

1. Monopetalous, that is, one-petalled, the whole in one petal. The one-petalled (monopetalous) Corolla, consists usually of two parts: the tube, or lower part, and the limb, or upper part, this latter usually spreads wider, (see Plate, 117. a. the tube, b. the limb.)

The Monopetalous Corolla, in figure is either—

1. Bell-shaped, (campanulate,) that is, bellying out, without any tube; example, bell-flower, (campánula,) deadly-night-shade, (Atropa.) See Plate, 120.
2. Funnel-shaped (infundibuliform,) that is, tubular in the lower, and conical in the upper part; for example, the tobacco plant, (nicotiana.) See Plate, 122.
3. Salver-shaped, (hypocrateriform,) that is, with a flat border, standing on a tube; for example, the primrose, (primula.) See Plate, 117.
4. Wheel-shaped, (rotate,) that is, expanded, flat, without any tube, or with a very short one; for example, borage,
INTRODUCTION TO BOTANY.

5. Gaping, (ringent,) an irregular corolla, usually divided into 1. an upper. 2. a lower lip: the first sometimes termed, the helmet, (gálea;) the second, the beard, (barba;) the opening of the tube is called the throat, (fáux;) the prominent swelling in the throat, (fáux,) is called the palate: the gaping or ringent corolla is exemplified in the class didynamia; for example, dead nettle, (lamium.) See Plate, 123.

6. Masqued, (personate,) a corolla closed between the lips by the palate; for example, snap-dragon, (antirrhinum.) See Plate, 124. The lips represented open.

2. Two-petalled (dipetalous.) 3. Many-petalled (poly-petalous,) each petal of which is usually furnished with a narrow part, or clax'o, by which it is fixed, and with a border (lámina) the upper part; for example, the rose, (rosa.) See Plate, 125. a. the calyx; b. the border or lámina.

The Polypetalous Corolla, is—

1. Cross-shaped, (cruciform,) of four-equal petals, spreading out in form of an equal sided cross; for example, wall-flower, (cheiranthus,) and stock-gilly-flower, (cheiranthus.) See Plate, 126.

2. Butterfly-shaped, (papilionaceous,) usually four-petalled, the lower petal is shaped like a boat, and is called the keel, (carina,) the back or upper petal, which spreads and rises upwards, is called the standard or banner, (vexillum;) the two side ones stand singly, being separated by the keel, and are called the wings, (alæ:) when the keel is split, the corolla is properly five-petalled; for example, the pea. These flowers form a natural class, papilionaceæ, or leguminósæ, the pea-tribe. See Plate, 129. the standard. 130. one of the wings. 131. the keel.

3. Rosaceous cor. that is, spreading like a rose. See Plate, 127. A many-petalled corolla, with the exception of those forms just mentioned, is named according to the number of petals of which it consists; for example, of six petals, (hexa-petalous,) &c.

I. The Corolla in shape may be waved, (undulate; for example, the horse-chestnut, (æsculus.) 2. folded, (plicate;
INTRODUCTION TO BOTANY.

for example, convolvulus. 3. rolled back, (revolute.) 4. twisted, (contorted,) the edge of one petal, lying over the next, in an oblique direction; for example, periwinkle, (vinca.)

II. With respect to margin, the Cor. may be—1. notched, (crenate.) 2. saw-toothed, (serrate.) 3. fringed, (ciliate;) for example, buck-bean, (menyanthes.) 4. toothed, (denticulate.)

III. In duration the Cor. may be—1. caducous, falling off as soon as the flower is blown. 2. deciduous, falling off before the fruit is ripe. 3. persistent, lasting till the fruit is ripe. 4. withering, (marcescent,) but not falling; for example, the orchis.

The honey-cup, (or nectary,) is an appendage to the corolla of some plants, for the secretion of honey. It may be a spur, or horn, (see plate, 132.) as in the larkspur, snap-dragon, (antirrhinum,) and columbine, (aquilegia:) a hollow cavity in the substance of the petals, in the crown-imperial, and crow-foot, (ranunculus:) in the narcissus it crowns the corolla, like a funnel: in the bee-ophrys, (ophrys apifera,) it is shaped like a bee: it is singularly beautiful in the grass of parnassus, (parnassia palustris.)

N. B. Petals and stamens in plants are ranged alternately: but the segments of the calyx and stamens answer to each other, in their arrangement.

III. STAMENS, are slender thread-like substances placed within the blossom, surrounding the pistil, (or pistils.) See Plate, 108, &c. Each stamen is usually made up of 1. the filament, or thread, supporting the anther. See Plate, 133. a. the filament. b. the anther, and of the anther, or summit, fixed upon the filament, containing the pollen, or anther dust. The pollen is a curious and beautiful microscopic object.

IV. The PISTIL, is in the centre of the flower, and receives the pollen. This is called the female part of the flower. See Plate, 136.

The pistil is divided into the (see plate, 136. a.) gerum, or lowest part. 2. the style, (see plate, 136. b.) which stands

1 Some stamens are without any filament.
upon the germen. 3. the stigma, or summit of the pistil. See Plate, 136, c.

Many flowers have the stigma situated immediately upon the germen: being without any style.

V. SEED-VESSEL, or PERICARP, (see plate, 137,) is the germen at maturity, and contains the seeds. Its kinds are—

1. The Capsule, a membranaceous, hollow, dry, seed-vessel opening in some determinate manner. See Plate, 137. Its parts are—1. the valves, or outer covering. See Plate, 173. 2. the seams, or sutures, the edges by which the valves are connected. See Plate, 173. 3. the cells, (loculaments,) that is, hollow places in which the seeds are situated. 4. partitions, (dissepiments,) which separate the cells from each other. See Plate, 173. 5. the column, (columella,) that is, an upright substance passing through the centre of some capsules, and connecting the several partitions and seeds. See Plate, 173.

2. The Nut, a seed covered by a hard, woody shell; for example, the hazel-nut. See Plate, 141.

3. The Stone-fruit, (drupe,) (see plate, 142.) is a pulpy seed-vessel, containing a nut or stone with a kernel; for example, plum, cherry.

4. The Berry, (see plate, 144.) is a pulpy fruit, containing naked and dispersed seeds; for example, gooseberry, strawberry, blackberry.

5. The Pome, or Apple-like fruit, (see plate, 143.) is a pulpy seed-vessel, containing a capsule. It includes all the moist fruits, with seeds lodged in a core; for example, apple, pear, quince, &c.

6. The Silique, or Pod, (see plate, 138.) is an oblong, membranaceous, two-valved seed-vessel, having the seeds fixed along both sutures or seams; for example, the common stock gilliflower, (cheiranthus.)

7. The Silicle, or Pouch, (see plate, 139.) is a two-valved seed-vessel, generally broader than long, with seeds fixed along both seams or sutures; for example, honesty, (lunaria,) shepherd's purse, (thlaspi bursa-pastoris,) in shape it may be round, egg-shaped, or flattened; entire, or notched at the end.

8. The Pod, (or legume,) is a seed-vessel of two valves, in
INTRODUCTION TO BOTANY.

which the seeds are fixed along one suture or seam only; it is usually membranaceous; for example, the pea. See Plate, 140.

9. The Cone, (strobile,) is a catkin, composed of woody scales, usually opening, and has a seed at the base of each scale; for example, the fir. See Plate, 146.

VI. The SEED. See its parts described in the physiological part of this Introduction further on.

VII. The RECEPTACLE, (see plate, 154, flat recept. 155, conical recept. :) it is the base by which the other six parts of fructification are connected. It is called 1. proper, that is, a peculiar recept., when it appertains to one fructification only; and this has the name of—

1. A receptacle of the fructification, when it is common to both flower and fruit, that is, embraces the corolla and germen.

2. Receptacle of the flower, when it is the base, to which the parts of the flower only, exclusive of the germen, are fixed.

3. Receptacle of the fruit, that is, that of the fruit only, distant from the receptacle of the flower.

4. Receptacle of the seeds, the base to which the seeds are fixed; for example, pheasant's-eye, (adonis.

5. A common receptacle, that is, one connecting several florets, or distinct fructifications, so that if any one of them be removed, an irregularity is occasioned; for example, in the umbel, cyme, compound flowers. The receptacle may be naked, that is, entirely smooth, or chaffy, bristly, &c.

Of the different kinds of Flowers.

I. Simple flowers have not any part of the fructification common to many florets: a simple flower is opposed to that, which is made up of several florets.

II. Aggregate flowers, may be thus explained: when several florets are so combined by the intervention of some part of the fructification, that taking away one of them destroys the uniformity of the whole.

Aggregate flowers are connected by the receptacle, or
INTRODUCTION TO BOTANY.

the calyx: the partial, or several small flowers of which they are composed, are called florets.

1. Aggregate flowers properly so called, have a common, undivided receptacle, the anthers all separate, and the florets usually on stalks; for example, Scabiosa, teasel, (dipsacus,) &c.

2. Compound flowers, contain several florets, inclosed in a common calyx, and seated on a common receptacle, with the anthers connected in a cylindrical form.

Compound flowers are—1. Strap-shaped, (ligulate,) that is, with flat florets, shaped like a fillet, expanded towards the outer side, with the base only tubular; for example, dandelion, (leontodon.) See Plate, 196.* 2. Tubulose, with all the florets tubular, that is, having a bell-shaped border, with five segments, rising from a tube, (tubulose,) is the same as floseculose; example, thistle, (carduus.) See Plate, 198.* 3. Radiate, when the florets of the middle part are tubulose, and those of the circumference of another form, that of a ray; for example, yarrow, (achilléa,) blue-bottle, (centauréa:) in Artemisia, the florets are nearly naked.

3. Glumose flowers, have a thread-shaped receptacle, with a common husk, or glume, at the base; for example, grasses.

Of the Linnaean Classification of Plants.

In the system of Linnaeus the stamens represent the male, the pistils, the female part of fructification. This artificial system consists of twenty-four classes, which are principally founded on the number, situation, and proportion of the stamens.

The classes are divided into orders, which are again divided into genera; and these last are divided into species, or individuals.¹

I. The characters of the classes are taken from the number, length, connexion, or situation of the stamens.

II. The characters of the orders are, for the most part, taken from the number of the pistils.

III. The characters of the genera are taken from the parts of the flower.

¹ See these terms explained further on, p. xxiv.
IV. the characters of the species are drawn chiefly from peculiarities in the *stem*, or *leaves*, the *flower*, and the *roots*. The leaves and flowers of plants vary from circumstances of soil and situation, and from other causes: hence arise *varieties* in plants.

**CLASSES.**

The first eleven classes are known by the number alone of stamens in each perfect flower.

I. **MONA'NDRIA.**—One *Stamen*.

II. **DIA'NDRIA.**—Two *Stamens*.

III. **TRIA'NDRIA.**—Three *Stamens*.

IV. **TETRA'NDRIA.**—Four *Stamens of equal length*.

V. **PENTA'NDRIA.**—Five *Stamens*.

VI. **HEXA'NDRIA.**—Six *Stamens*.

VII. **HEPTA'NDRIA.**—Seven *Stamens*.

VIII. **OCTA'NDRIA.**—Eight *Stamens*.

IX. **ENNEA'NDRIA.**—Nine *Stamens*.

X. **DECA'NDRIA.**—Ten *Stamens*.

XI. **DODECA'NDRIA.**—Twelve to Nineteen *Stamens*, fixed to the receptacle.

The two next classes depend upon the situation, or insertion of the stamens.

XII. **ICOSA'NDRIA.**—Stamens twenty or more, inserted into the calyx.

XIII. **POLYA'NDRIA.**—Stamens numerous, inserted into the receptacle. See *Flora*, for examples.

The XIV. and XV. Classes depend on the proportion of the stamens.

XIV. **DIDYNA'MIA.**—Stamens four, two long, and two short; flowers gaping, (ringent,) or masqued, (personate.)

XV. **TETRADYNA'MIA.**—Stamens six; four long, and two short; flowers cross-shaped, (cruciform.) See *Flora*, for examples.

The XVIth, XVIIth, XVIIIth, XIXth, and XXth, Classes are distinguished by some union of the stamens to each other, or to the pistil.

1 For numerous examples of the Classes and Orders, see the *Flora*.
XVI. MONADE'LPHIA.—Stamens combined by their filaments into a single tube. 17. DIADE'LPHIA, stamens combined by their filaments into two sets: the parcels of filaments are sometimes combined at their base: (see Plate, 129, 130,) butterfly-shaped, (papilionaceous.) 18. POLYADE'LPHIA, stamens united into more than two sets, by their filaments. 19. SYNGENES'SIA, stamens united by their anthers into a tube, flowers compound. See Flora, for examples. 20. GYNANDRIA, stamens inserted into the germen or style. See Flora, for examples. (Linnæan example, plate, 165.)

The 21st, 22nd, and 23rd Classes, are known by the stamens and pistils, being by themselves on separate flowers.

21. MONOE'CIA, stamens and pistils in different flowers, on the same plant. 22. DIOECIA; stamens and pistils in different flowers, on two separate plants. 23. POLYGAMA' MIA; stamens and pistils separate in some flowers, united in others, either on the same plant, or on two or three different ones. See Flora, for examples.

24. CRYPTOGA'MIA, fructification concealed, comprising the orders, ferns, mosses, liverworts (hepáticas,) lichens, flags, (algaes,) funguses.

ORDERS.

I. Those of the first thirteen classes, to Polyandria inclusive, are characterised by the number of the styles or stalkless stigmas: the titles end in gy'nia, as those of the classes in ándria.

1. Monogy'nia, one style, or stalkless stigma. 2. Digy'nia, two styles, &c. 3. Trigy'nia, three styles, &c. 4. Tetragy'nia, four styles, &c. 5. Pentagy'nia, five styles, &c. 6. Hexagy'nia, six styles, &c. 7. Heptagy'nia, seven styles, &c. 8. Octagy'nia, eight styles, &c. 9. Enmeagy'nia, nine styles, &c. 10. Decagy'nia, ten styles, &c. 11. Dodecagy'nia, about twelve pistils, or, &c. 12. Polygy'nia, many pistils, or, &c. See Plate, 166.

II. The orders of the fourteenth class are two, from the nature of the seeds. 1. Gymnospérmia, seeds apparently naked, usually four, never more. See Plate, 106. 2. Angios-
pernia, seeds in a capsule, mostly numerous: snapdragon, (Antirrhinum.)

III. The orders of the fifteenth class are distinguished by the shape of their seed-vessel. 1. Siliculósa, fruit, a pouch or silique. See Plate, 139. 2. Siliquósa, fruit, a siliqua, or lengthened pod. See Plate, 138.

In the classes Monadélphia, Diadélphia, Polyadélphia, and Gynándria, the orders are characterised by the number of the stamens; for example, Pentandria, &c.

IV. In the nineteenth class, Syngenesía, the orders are marked by the perfect, separated, barren, fertile, or abortive nature of the florets. 1st order—Polygámia equális; florets all perfect, and alike, each producing one seed. See Flora, for examples. 2nd. Polygámia superfúxa, florets of the disk, or centre, perfect; those of the margin or ray, furnished with pistils only, but both kinds of florets producing perfect seed. 3rd. Polygámia frustrándea, florets of the disk, or centre, perfect, that is, with stamens and pistils; those of the margin, with an abortive pistil only, or none at all. See Flora, for examples. 4th. Polygámia necessária, florets of the disk, or centre, with stamens only; those of the margin, with pistils only. See Flora, for examples. 5th. Polygámia segregáta, several flowers either simple, or compound, but with united anthers, and a proper or peculiar calyx, all included in one general or common calyx. No English plant, for an example.

V. The orders of the twentieth class, Gynándria, are distinguished by the number of their stamens; for example, Gynándria Monándria, &c. Those of the twenty-first and twenty-second are marked by the stamens also; including in their orders the classes Monadélphia, and Polyadélphia. See Flora, for examples, here and elsewhere.

VI. In the twenty-third class, Polygámia, are three orders, Monécia, Diécia, Triécia, of which last, there is no British plant known.

(The orders of the 24th class, Cryptogámia, have been already noticed.)

In the order 1. Monécia, the two or three different descriptions of flowers are all on the same plant. 2. In the
INTRODUCTION TO BOTANY.

order \textit{Diaccia}, the different descriptions of flowers are, on two separate plants.

We have given a brief explanation of the Linnaean Classes and Orders. We may next observe, that generic distinctions are founded on the fructification, that is to say, the flower and fruit. Hence plants agreeing in their parts of fructification, are placed under one genus or kind; and all such plants as differ in their parts of fructification are to be placed under different genera, or kinds. The characteristic mark of each genus is to be determined from the number, figure, proportion, and situation of all the parts of fructification. We also endeavour to fix upon some one single mark, that is constant in the flower, and we make it the essential generic character; for example, the pore in the claw of the petal in the genus (ranunculus,) cross-foot; the singular construction of the petal-form stigma, in the genus, iris.

Specific differences in plants arise from any circumstance, in which plants of the same genus are found to disagree; provided such circumstance be constant. Where plants agree in certain peculiarities of flower and fruit, they are placed under the same genus or kind, and have one common name, applicable to all the species or sorts, contained under a genus or kind; for example, the term rosa, or rose, is given to all the different sorts, or species of roses; for example, the dog-rose, (Rosa canina,) the briar-rose, (Rosa rubiginosa,) and so on; the term rose is applied to all species, or sorts of rose. The species, or different sorts of plants are distinguished by various marks, for example, by differences in the root, trunk, leaves, supports, (fulcræ,) thorns, prickles, bracteas, stipulas, modes of flowering, (inflorescence.) The parts of the flower and fruit, also furnish marks to distinguish one species from another.

The parts just mentioned upon which the specific differences depend shall next be described in order.

\textit{Parts on which Specific Differences chiefly depend: viz.---}

The Root, &c. The root may be spindle-shaped, (fusiform,)
that is, long, thick, and tapering; for example, the carrot, and radish. See Plate, 3. 2. branching, (ramose,) that is, divided into side branches, as in trees. 3. bulbous, that is, fleshy with fibres at the bottom: the bulb is 1. scaly; (see Plate, 8.) for example, lily. 2. solid; (see Plate, 6.) for example, crocus, turnip. 3. coated, (see Plate, 7.) (tunicated;) for example, the onion. 4. tuberous roots, that is, knobbed, (see Plate 4.) consisting of roundish, fleshy bodies, connected into a bunch by intervening threads or fibres; for example, potato, peony, dropwort, (spiraea filipendula.) 5. fibrous, (see Plate, 1.) that is, consisting wholly of slender threads or filaments; for example, most of the grasses. 6. granulated, or beaded root, (see Plate, 9.) consisting of several little fleshy knobs, or beads, resembling grains of corn, intermixed with the fibres; for example, white saxifrage, (saxifraga granulata.) 7. creeping, (repent,) (see Plate, 2.) where the root extends horizontally, and puts forth fibres at intervals; for example, mint. See Plate, 2. 8. bitten off, (premorse,) (see Plate, 5.) root, that is, not tapering, but ending blunt, as though it had been bitten off; for example, devil's bit scabious, (scabiósa sucida) See Plate, 5.

The herb or plant comprehends the I. Trunk. II. Leaves. III. Supports or props (fulcra.)

I. The Trunk, or main body of the vegetable produces the leaves and fructification; it is of several kinds: viz. 1. The stem, which bears and elevates from the root both the leaves and flowers: this in its growth may be—

1. Upright (erect,) that is, when it approaches to a perpendicular with the ground, for example, yellow centaury, (chória perfoliáta.) 2. Straight, (strictus,) that is, entirely perpendicular without any bending; for example, garden lilies. 3. Trailing, prostrate, or procumbent stem, that is, lying down, unable to support itself, resting on the ground, but without sending forth roots from itself. 4. Creeping, (repent,) that is, resting on the ground, and throwing out roots at intervals, (Plate, 11.) for example; Ivy-leaved crossfoot (ranúnculus hederácus.) 5. Rooting or clinging stem, (radicánt,) that is, clinging to any object for support, by means of fibres, which do not, perhaps, imbibe nourishment; for example, the ivy, (hédéra.) (See Plate, 12.) 6. Climbing, (scandent,) that is,
INTRODUCTION TO BOTANY.

weak, and requiring support in mounting; the clasper or tendril is the usual agent; for example, the pea, and many other leguminous (pea-like) plants. 7. the turning or twining stem ascends spirally round other plants. See Plate, 13. 8. loosely spreading, (diffuse and lax;) for example, biting stone-crop, sedum acre. 9. zigzag, (flexuous,) that is, changing its direction in a curve, from left to right, and the contrary. 10. repeatedly forked, (dichotomous,) continually and regularly dividing by pairs, or, in other words, repeatedly forked; for example, lamb's lettuce, (lactuca locust,.) misletoe, (viscum album. See Plate, 10. 11. proliferous, that is, putting forth new branches from the summits of the former ones; for example, fir-tree, (pinus.) 12. jointed, (see Plate, 14.)

A Stem, in shape, may be—

1. round. 2. angular. 3. winged, that is, with angles extended into flat, leafy-like borders; for example, everlasting pea, (lathyrus latifolius, &c.) See Plate, 167.

2. The Straw (or Culm,) is the stem of grasses, rushes, and such kind of plants.

3. The Scape, is a stalk rising from the root, supporting the flowers only, and not the leaves; for example, narcissus, primrose, hyacinth. See Plate, 19.

4. Flower-stalk or peduncle, a partial or smaller stem, supporting the flowers only, and not the leaves. The flower-stalk, (peduncle,) is 1. axillary, when proceeding from the bosom of the leaf; for example, between the leaf and the stem. See Plate, 156. 2. opposite to a leaf. 3. terminal, when it is at the end of a stem or branch; for example, tulip. 4. clustered, (aggregate,) when several flower-stalks grow together. 5. scattered, or dispersed irregularly, &c.

5. The Leaf-stalk, (or petiole,) is a partial or smaller stem supporting the leaf, but not the flowers.

6. In the frond, the branch and leaves are united together, for example, ferns.

7. A stipe is the stem of a frond.

II. The leaves of plants are considered as 1. Simple. 2. Compound. 3. Determinate. Simple leaves have one leaf only on a leaf-stalk. In shape they may be—1. round (orbiculate.) 2. roundish (subrotund,) that is, nearly circular.
INTRODUCTION TO BOTANY.

3. **egg-shaped** (ovate,) the shape of an egg cut through lengthways, that is, when the length is somewhat greater than the breadth, and the base rounded and wider than the other end. See Plate, 36. 4. **egg-shaped inversely** (ob-ovate) of the same shape as the last, but with the broader end uppermost; for example, primrose, daisy. 5. **oval or elliptic,** of like figure to egg-shaped, and somewhat egg-shaped, except its being of equal breadth at each end. See Plate, 37. 6. **oblong,** that is, much longer, than broad, and narrowed and rounded at the ends. 7. **spear-shaped,** (lanceolate,) here the figure is oblong, narrowing gradually towards each end. See Plate, 40. 8. **battledore-shaped,** (spatulate,) roundish, with a long, narrow, linear base. See Plate, 38. 9. **wedge-shaped,** (cuneiform,) broad and abrupt at the end, and narrowing gradually downwards; for example, wild celery, (apium graveolens,) rue-leaved saxifrage, (saxifraga tridactylites.) See Plate, 39. 10. **linear (strap-shaped,)** that is, nearly the same breadth throughout, long and narrow; for example, daffodil, rosemary, and most of the grasses. See Plate, 41. 11. **awl-shaped,** (subulate,) that is, linear at the bottom, and gradually tapering towards the end. See Plate, 72. 12. **needle-shaped,** (acerose,) linear and evergreen, mostly sharp and stiff; for example, juniper, yew, fir. 13. **kidney-shaped,** (réniform,) that is, roundish, and hollowed at the base without angles, resembling the section of a kidney; for example, ground-ivy, (glechóma.) See Plate, 43. 14. **heart-shaped,** (cordate,) that is, oval, or somewhat egg-shaped, hollowed at the base, the lower part without angles or sharp corners; for example, black-briony, (tamus communis.) See Plate, 44. 15. **crescent-shaped,** (lúnulate,) that is, round-shaped, and hollowed at the base, with angles at the hinder or lower part. 16. **triangular-shaped,** that is, with three sides nearly equal, and three angles or corners. See Plate, 42. 17. **trochel-shaped,** (deltoid,) triangularly spear-shaped, that is, having three angles, of which the end one is much further from the base, than the side ones, as in mercury, goose-foot, (chenopódium Bonus-Henricus.) 18. **arrow-shaped,** (sagittate,) like the

---

1 In such compound terms, as egg-shaped-heart-shaped, the latter term designates an approach to the latter shape.
head of an arrow, that is, triangular, hollowed at the base, with angles at the hinder part; for example, common arrow-head, (sagittaria sagittifolia. See Plate, 45. 19. halbert-shaped, (hastate,) like the head of a halbert, that is, triangular, hollowed at the base, and on the sides, with the angles spreading; for example, sheep's sorrel, (rumex acetosella.) See Plate, 46. 20. diamond-shaped, (rhomboid,) that is, approaching to a square-diamond: for example, black poplar, (populus nigra,) stinking goose-foot, (chenopodium ólidum.) 21. lobed, that is, divided to the middle into parts distant from each other, rounded at the margins; which last circumstance distinguishes the lobed, from the cleft or cloven, (fissum,) see Plate, 51.) leaves may be two-lobed, three-lobed, &c. See Plate, 52. 22. fiddle, or violin-shaped (panduriform,) that is, oblong, broader at the two extremities, and contracted in the middle; for example, fiddle-dock, (rumex pulcher.) 23. lyrate, or lyre-shaped, that is, divided into several segments or jags, the lower ones smaller and more distant, than the upper ones, which are of course larger; for example, yellow-rockets, (barbaréa vulgaris.) See Plate, 48. 24. runcinate, (from rúncina, a large saw,) that is, cut into several cross, sharp jags, pointing backwards; for example, dandelion, (leontodon taráxacum.) See Plate, 47. 25. hand-shaped, (palmate,) that is, divided beyond the middle into several lobes, that are nearly equal; for example, common passion flower, and red berried bryony, (bryónia dioíca. See Plate, 53. 26. wing-cleft, (pinnatifid,) that is, deeply divided by oblong, transverse, horizontal jags, not extending to the mid-rib. See Plate, 47. 27. doubly, or twice wing-cleft, (bipinnatifid,) that is, when the common leaf-stalk has wing-cleft leaves on each side of it; for example, long, rough-headed poppy, (papáver Argémone.) 28. comb-like, (pectinate,) a sort of wing-cleft leaf, in which the leaflets are parallel and very narrow, that is, toothed like a comb; for example, common water milfoil, (myriophyllum spicatum.) See Plate, 50. 29. jagged, (laciniate,) variously divided into lobes, and these again divided in an irregular manner; for example, long-stalked crane's bill, (gerándezium colúmbínus.) See Plate, 63. 30. partite, that is, simple, but divided almost down to the base: according to the number of divisions, the leaf may be—twice,
INTRODUCTION TO BOTANY.

31. sinuate, (hollowed out,) that is, having large, curved breaks, in the margin, resembling (sinus,) that is, bays; for example, oak. 32. unequal, when the halves are unequal in dimension, and their bases not parallel. 33. lopped, (truncate,) when the leaf appears, as if its tip had been cut off; for example, tulip tree, (liriodendron tulipifera.) See plate, 54.

34. jagged, (prae-morse,) that is, pointed, very blunt, with various irregular notches. See Plate, 63.

35. retuse, that is, ending in a blunt, shallow notch. See Plate, 55.

36. notched, (emarginate,) that is, with a notch at the end. See Plate, 56.

37. blunt, (obtuse.)

38. acute, sharp, that is, ending in an acute angle. See Plate, 57.

39. pointed, (acuminate,) that is, ending in an awl-shaped point; for example, common reed, (arundo Phragmites. See Plate, 58.

40. dagger-pointed, (mucronate,) sharp at the point, and tipped with a stiff thorn. See Plate, 59.

41. entire, that is, free from all kinds of teeth, notches, or incisions. See Plate, 36, 43.

42. saw-toothed, (serrated,) toothed like a saw, that is, having sharp notches about the edge, and these pointing towards the extremity of the leaf. (see Plate, 61.) leaves are sometimes doubly saw-toothed, that is, have the teeth again cut into other smaller teeth.

43. notched, (crenate,) that is, with rounded teeth, and those not directed towards either end of the leaf. See Plate, 62.

44. toothed, (dentate,) that is, having horizontal, and somewhat distant points, or teeth, of the same substance as the leaf; for example, corn blue bottle, (centauréa cy'anus. See Plate, 60.

45. wavy, (repand,) that is, having a border with numerous very small angles, and small segments of circles alternately; for example, fringed buck-bean, (menyanthes nymphaeoides.) See Plate, 55.

46. veiny, (venose,) with branched fibres on the surface.

47. curled, (crisp,) when the border of the leaf is more expanded than the middle part, so as to appear curled and twisted; for example, in the common garden parsley. 48. wrinkled, or rugged, (rugóse,) when the veins are tighter, than the surface between them, causing the veins to swell into inequalities; for example, common sage.

49. plaited, (plicate,) that is, folded like a fan; distinguished from waved, by the folds of the plaited being angular; for example, common mallow. See
Plate, 69. 50. waved, (undulate,) when the surface rises and falls in waves, or bluntly; not in angles: for example, curled pondweed, (potamogeton crispus,) wild mignonette, (reseda lutea,) 51. ribbed, (costate, nervose,) when the veins extend in simple lines from the base to the point of the leaf; for example, Solomon’s seal, (convallaria multiflora.) See Plate, 68.

52. sword-shaped, (ensiform,) that is, two-edged, tapering from the base to the point; for example, irises. 53. semi-cylindric, that is, flat on one side, and rounded on the other: semi-columnar, means the same; for example, broad-leaved garlic, (allium ursinum.) 54. tubular, that is, hollow. 55. fleshy, (succulent,) that is, of a thick, pulpy substance; for example, house-leek, (sedum.) 56. channelled, (canaliculate,) that is, having a deep furrow, from the base to the end of the leaf. See Plate, 70.

57. keeled, (carinate,) when the back is prominent lengthways; for example, two-flowered narcissus, (narcissus biflorus.) See Plate, 71. 58. furrowed, (sulcate,) that is, with deep lines running lengthways. 59. slightly furrowed, (striated,) or streaked. 60. cylindric, round one way, and long the other: columnar a better term. 61. tongue-shaped, (linguiform,) that is, linear, fleshy, blunt at the end, convex underneath, with usually a skinny border.

2. Compound Leaves, that is, such as have several leaves to one leaf-stalk: the component leaves are called leaflets; under compound leaves we have those of 1. two-leaflets, (binate,) that is, a simple leaf-stalk, connecting two leaflets at the top of it. See Plate, 74. 2. of three leaflets, (ternate;) that is, having three leaflets on one leaf-stalk, for example, trefoil, strawberry, bramble. See Plate, 75. 3. of five leaflets, (quinate,) on one stalk; for example, potentilla reptans. 4. fingered, (digitate,) when a simple or undivided leaf-stalk connects several distinct leaflets at the end of it. Linnaeus makes the binate, ternate, and quinate leaves species of the fingered, (digitate;) the horse-chestnut, is an example of a fingered leaf. See Plate, 73. 5. winged, (pinnate,) that is, where a simple leaf-stalk, has several leaflets fastened to each side of it. Winged (pinnate) leaves are of several kinds. 1. with one pair of leaflets, it is called conjugate. 2. with two pair, (bijugate, &c.) 3. unequally winged, that
INTRODUCTION TO BOTANY.

is, terminated with an odd one, or single leaflet; for example, elder, rose, &c. See Plate, 77, 80, 84. 4. abruptly winged, that is, not terminated by a leaflet or tendril. See Plate, 79. 5. oppositely winged, that is, having the leaflets placed over against each other in pairs. See Plate, 79. 6. alternately winged, that is, having the leaflets alternate, along the common leaf-stalk. See Plate, 80. 7. interruptedly winged, that is, having smaller leaflets interposed between the principal ones; for example, silver-weed, (potentilla anserina,) dropwort, (spiræa filipendula.) 8. winged, running down the stem, (decursively winged,) that is, when the leaflets run into one another along the common leaf-stalk. 9. twice-winged, or doubly winged, (bipinnate,) that is, when the common leaf-stalk has winged leaves on each side of it. See Plate, 83. 10. doubly ternate, or doubly three-leaved, (biteminate,) that is, when a leaf-stalk has three ternate leaves, that is, three leaflets of three, or nine leaflets; for example, gout-weed, (egotodium podagraria,) any one of the clusters of all the nine leaflets in Plate, 170. 11. a triply-three-fold-leaf, or thricetermate, that is, when a leaf-stalk has three, doubly ternate leaves, or three times nine leaflets, or twenty-seven leaflets, in three groups of nine leaflets in each; for example, yellow fumitory, (fumaria lutea.) Plate, 170. 12. bird-footed, (pedate,) leaf, that is, a leaf divided into three, with its side leaflets, compounded in their fore part; for example, common passion-flower, stinking hellebore, (helléborus foetidus.) See Plate, 76.

3. Determinate Leaves.—By the determination of leaves is meant their character, derived from situation, insertion, or direction.

In respect to determination leaves may be—

1. seed ones, (seminal,) that is, the first which appear; example, in the radish. 2. stem-leaves, (cauline.) See Plate, 23, 24. 3. target-shaped, (peltate,) when the leaf-stalk is inserted into the disk or middle of the leaf, or nearly so; for example, nasturtium, navel-wort, (cotyledon umbilicus.) See Plate, 35. 4. erect, when the angle, they form with the stem is very small; for example, smooth tower-mustard, (turritis glabra.) 5. spreading, i. e. in a direction between upright,
and horizontal. 6. horizontal, that is, at right angles with the stem. 7. root-leaves, (radical,) such as proceed immediately from the root; for example, cowslip. See Plate, 19. 8. depressed, that is, where the root-leaves are pressed close to the ground; for example, hoary plantain, (plantago media.) 9. floating, (natant.) 10. under water, (demersed.)

11. growing partly above the water, (emersed;) for example, common arrow-head, (sagittaria sagittifolia.) 12. stalkless, (sessile,) that is, without a leaf-stalk. See Plate, 23, &c. 13. running down the stem, (decurrent,) when the base of a stalkless leaf extends itself downwards along the stem; for example, in several species of thistles. See Plate, 34. 14. stalk-embracing, (amplexicaul,) that is, clasping the stem by its base, (see Plate, 30;) when leaves go only half round, they are called half-embracing, (semi-amplexicaul. 15. perfoliate, as if the stem had been driven through the middle of the leaf; having the base of the leaf entirely surrounding the stem; for example, thorough-wax, (bupleurum rotundifolium.) See Plate, 32. 16. growing together, (connate,) when two opposite leaves are so united at their bases, as to resemble one leaf; for example, garden honey-suckle, lonicera Caprifolium. See Plate, 31. 17. sheathing, (vaginant,) when a leaf invests the stem or branch by its base, in the form of a tube; for example, polygonum, dock, most of the grasses. See Plate, 16. 18. equitant, folding over each other, when the sides of a leaf tend to converge towards one point in nearly parallel lines, so that the inner leaves are inclosed by the outer ones; for example, Iris, Acornus, Carex, Lancashire asphodel, (narthéciurn ossifragum.) See Plate, 33. 19. starry, (stellate,) or whorled, (verticillate,) when the stalk is surrounded by leaves, radiating from the stem, like the spokes of a wheel; for example, goose-grass, (gálium aparine,) (see Plate, 26;) these leaves, more than two, seldom fewer than four, may also be three, (tern,) four, (quatern,) five, (quine,) six, (sene,) &c. 20. opposite, growing in pairs, opposite to each other. See Plate, 21, 23. 21. alternate, when the leaves themselves not being opposite, grow out regularly one above another, on the opposite sides of the stem. See Plate, 22. 22. chaffy, (acerosa,) that is, needle-shaped, linear, and permanent; for example, fir, yew.
tiled, (imbricated,) lying over each other, like tiles on a roof; for example, common heath, (calluna vulgaris.) See Plate, 28.

24. bundled, or tufted, (fasciculated,) growing in bunches from nearly the same point; for example, the larch. See Plate, 27.

25. cross-paired, (decussate,) growing in pairs, which alternately cross each other at right angles. See Plate, 29.

26. two-ranked, (distiched,) spreading in two directions, and yet not regularly opposite at the insertion; for example, yew, (taxus.)

Supports, Props, (fulcra:) those parts which serve to give strength and support to plants. Linnaeus reckons seven kinds of these. 1. stipula, a scale or small leaf, on each, or on one side at the base of the leaf-stalk, or flower-stalk. See Plate, 84. 2. bractea, or floral-leaf, a leaf differing from the other leaves in shape and colour; generally situated on the flower-stalk, and often so near the corolla, as to be mistaken for the calyx, at first sight. The bractea is generally more permanent than the calyx: the last withers, when the fruit is ripe; example of bracteas in lime-tree, (tilia,) sage, (salvia.) See Plate, 85, a. 86, a.

3. thorn, (spine,) a sharp process growing from the woody part of a plant. See Plate, 91. 4. prickle, (aculeus,) a sharp process or projection, fixed into the bark only; for example, rose, &c. See Plate, 92. 5. claspor, (tendril,) a thread-shaped, spiral band by which a plant is fastened to some other body, or supports itself on other plants; for example, vine, pea, &c. See Plate, 78, 90. 6. gland, a small tumour, serving for the excretion, or discharge of some kind of fluid: it is usually found on the leaves, leaf-stalks, flower-stalks, or stipulas; example of glands, moss-rose. 7. hair or down.

Inflorescence; the various modes in which flowers are fastened to the plant, by means of the flower-stalk. Under inflorescence we may class the—1. whorl, (verticillus,) where the almost stalkless flowers surround the stem in a kind of ring: the flowers, in some cases, are not inserted on all sides of the stem. See Plate, 93. 2. bunch, cluster, or raceme, consists of one common flower-stalk, with many somewhat distant flowers, each on its own proper stalk, from the side of the common flower-stalk. See Plate, 98. 3. spike, where d
stalkless or nearly stalkless flowers are scattered along a common, simple flower-stalk; for example, lavender, plantain. See Plate, 94, 95. Spikelet in grasses, a smaller spike, or sub-division of the spike. See Plate, 96. 4. corymb, where the partial flower-stalks are gradually longer as they stand lower on the common stalk, all forming nearly an even surface at top; for example, cuckoo-flower, (cardamine pratensis.) See Plate, 99. 5. bundle, (fasciculus,) where several upright, parallel approaching flowers, variously inserted and forming a top of the same height, are collected in a close bundle; for example, sweet-william, (dianthus barbatus.) See Plate, 100. 6. head, or tuft, bears the flowers stalkless, (sessile,) in a kind of ball; for example, thrift, (static armèria,) clover. See Plate, 101. 7. umbel, has several flower-stalks, or rays, nearly equal in length, spreading from one common centre, the summit forming a level, convex, globular, or concave surface; for example, parsley, &c. See Plate, 89, 102. 8. cyme, in appearance resembles an umbel, but differs from it, in having the stalks variously and alternately sub-divided; for example, elder, guelder-rose. See Plate, 103. 9. panicle, where the flowers or fruits are scattered on stalks variously divided, in a sort of loose cluster; for example, London-pride, (saxifraga umbrósa,) common oats. See Plate, 104. 10. thyrsus, (close-bunch,) that is, a panicle contracted into an egg-shaped form, more or less; for example, butter-bur, (tussilago Petasites.) Plate, 172.
PHYSIOLOGY, STRUCTURE, FUNCTIONS, AND NATURAL ARRANGEMENT

OF

PLANTS,

(Extracted and condensed, chiefly from Richard's Nouveaux Éléments, 8vo. translated by Clinton.)

It is difficult to draw precisely the line of demarcation between the vegetable and animal. We may, however, find well-marked differences between animals and vegetables. In the animal, is a system of contractile fibres, whose state of relaxation or of tension determines the motion of the animal; these are the muscular fibres, wanting in the vegetable. In vegetables, there is properly speaking no circulation; the nutritious fluids are diffused through the vegetable, but they want that agent of impulse, the heart, which, in animals, is the point from which the blood takes its departure, and to which it finally returns.

It may be observed, that vegetables are composed of simple and similar elementary parts, which, combined in various ways, constitute organs.

The Elementary Parts of Vegetables.

The internal organization of a vegetable is composed of cells with thin, transparent partitions, (or walls,) extremely minute, and of various forms, sometimes regular, sometimes irregular, and of cylindrical tubes, either scattered, or united in bundles. These two forms of the elementary parts of vegetables, have received the names of 1. cellular tissue, and of 2. vascular tissue. See Plate, 11. fig. 163, cellular tissue.
A vegetable in its perfection consists of a root, stem, leaves, flowers, pistil, stamens, corolla, calyx, fruit; which last is composed of the pericarp, and of the seed.

The pericarp, or seed-vessel, is the full grown germin, in which were contained the ovules, (rudimental seeds,) now become perfect seeds. It is composed of three parts; of 1. the epicarp, or outer membrane. 2. of the endocarp, or membrane, which lines its inner cavity, and 3rdly. of the sarcocarp, a parenchymatous substance, situated and contained between the two former mentioned membranes. See Plate 12, and explanation.

The seeds contained in a pericarp, are attached to it by the trophosperm, or placenta: this is formed of vessels, which convey nourishment to the seeds.

The hilum, or umbilicus, (eye, or navel,) is the point on the surface of the seed to which the trophosperm is attached. See Plate, 178. a.

The arillus, or coat, of the seed, is a peculiar prolongation of the trophosperm, which instead of stopping at the circumference of the hilum, is more or less continued over the seed, so as even to cover it completely.

The seed essentially consists of two distinct parts, 1. episperrn, that is, its proper membrane or covering; and 2. its kernel, or the body contained in the episperrn.

The kernel is essentially composed of the embryo, that is to say, that which tends to be developed and to produce a vegetable similar to that which gave it birth. The kernel sometimes contains another body, to which the embryo is applied, or within which it is entirely concealed: this is called the endosperm, perisperm, or albumen: see Plate 12, and Explanation. The embryo is the essential part of the vegetable: it is composed of three parts; one inferior or the radicular body, which in germinating gives rise to the root; another superior, or the gemmule, produces the stem, the leaves, and the other parts. Lastly, an intermediate and lateral part, which is the cotyledonary body, or either simple, or divided into two parts, which are called cotyledons. Hence, the division of vegetables, provided with an embryo, into two great classes, 1. the monocotyledons, or those whose embryo has but one cotyledon; and
2. the dicotyledons, or those whose embryo has two cotyledons. See Plate 12, and Explanation. We do not find the different parts, which have been mentioned always united in the same plant. There is a certain number of vegetables, which, by the constant deficiency of stamens and pistils, by their external forms, their mode of vegetation and reproduction, differ so much from the other known plants, that they are separated and form a distinct class. Linnaeus gave the name of cryptogamic, that is, plants with concealed, invisible, sexual organs, to distinguish them from the flowering, or phanerogamic. The cryptogamic plants, include ferns, mosses, lichens, &c. and constitute nearly the seventh or eighth part of the fifty thousand vegetables, known. As they have no seeds, they have neither embryo, nor cotyledons, and are also called in-embryonate or acotyledonous. Hence the three divisions of vegetables into 1. in-embryonate, or acotyledonous, including ferns, mosses, &c. 2. embryonate or phanerogamic, that is, flowering plants; those with evident flowers, seeds, and embryo; these last are distinguished into monocotyledons, or those in which the cotyledonary body of the embryo is of a single piece, and produces a single leaf by germination; for example, grasses, lilies, &c. (see Plate 12.) and into dicotyledons, or those, (with embryo having two cotyledons,) which produce two leaves by germination; for example, the oak, elm, &c. See Plate, 12. The number of the dicotyledonous plants is greater than that of the monocotyledonous and acotyledonous united.

The Organs of Vegetables

Are divided into two classes—1st. Organs of Nutrition or Vegetation; they serve for absorbing nutritious substances fit for their development: such are the root, stem, buds, leaves, &c. 2d. Organs of Reproduction or Fructification.

Organs of Nutrition or Vegetation.

These are the root, stems, leaves, stipulas, and some of these organs in a degenerated state; for example, thorns, prickles, tendrils. These organs all conduce to the maintenance of vegetable life: for example, the root, buried in the ground,
INTRODUCTION TO BOTANY.

absorbs a part of the fluids destined for nutrition and repair; the stem transmits these fluids into all points of the vegetable, while the leaves perform the same office as the roots in the earth, and seem at once organs of absorption and of exhalation.

Of the Root.

A remarkable character of the root is, that it never turns green, in its tissue, when exposed to the action of air and light. Roots serve commonly to fix plants in the soil, and to draw from it a part of their nourishment.

The division of vegetables into annuals, biennials, and perennials, is subject to variation, from climate, temperature, situation of a country, and cultivation; for example, annual plants will not uncom- monly vegetate for two years, and even more, if placed in a suitable soil, and protected from the cold.

Roots absorb from the earth the substances, serving for the growth of the vegetable. It is only by the extremity of the minutest fibres of the root, that absorption is effected. Some maintain that the fibres are terminated by small vesicles or spongioles; others, that they are terminated by a species of open mouths. To prove that the extremities alone perform the office of absorption; immerse a radish or a turnip in water, by the extremity of the rootlet, which terminates it, it will shoot forth leaves, and vegetate. If the lower extremity be not immersed, it will not shoot out. Roots have a marked tendency to grow in the direction of veins of good soil. They possess a natural and invincible tendency to move towards the centre of the earth: this is particularly observable during the germination of the embryo. From different experiments, mentioned by Richard, it appears that the roots are directed towards the centre of the earth; not because they contain a less elaborated fluid, nor because they are attracted to it by the moisture or even the nature of the earth; but by a spontaneous movement, an interior force, a kind of subjection to the general laws of gravitation. Some vegetables, however, seem exempt from this law; for example, parasitical plants, and the mistletoe, (viscum album,) in particular. This plant shoots out its radicle (rootlet) in whatever situation chance may place it; and it has a constant tendency to shun the light.
Many roots are useful articles of food. A sugar is extracted from the beet; some are useful in dying; many are valuable in medicine.

Organization of Dicotyledonous Stems.—See Plate 11, 169. and Explanation.

The trunk of these is formed of concentric layers placed within each other; it may be compared to a series of tubes set the one within the other, and increasing in magnitude from the centre to the circumference. A transverse section presents the following objects: 1. in the centre, the medullary canal, formed of the medullary (pith) tube, which constitutes the parietes (side walls of the canal,) and of the pith which occupies its cavity. 2. At the circumference is seen the bark, composed of the epidermis, or that external pellicle, (thin skin,) which covers all parts of the vegetables of the herbaceous integument, of the cortical, (bark,) layers, and of the liber, (true bark.) 3. Between the medullary tube and the bark are found the woody layers, composed externally of alburnum, or false wood; internally of wood properly so called. See Plate, 11.

§. 1. Of the Epidermis, or Outermost-covering.

It is a thin, nearly transparent layer, of an uniform tissue, which appears to consist of cells of variable form: it presents a great number of small openings or pores. Plate, 11, 162. It covers all parts of the vegetable. It tears and cracks, when the trunk has acquired a certain size; it falls off in patches or plates; for example, birch, and plane. The true office of cortical pores, says Richard, consists in affording a passage to air.

§. 2. Of the Herbaceous Integument.

Under the epidermis is observed this layer of cellular tissue. In young stems its colour is generally green. It covers the trunk, the branches, and their divisions, and fills up the spaces

---

1 The different parts of the stem are described in succession, proceeding from the circumference to the centre.
between the ramifications of the nerves of leaves. The herbaceous integument constitutes the part known by the name of cork in the *cork-tree*, (quercus suber.) Within its substance, is effected the decomposition of the carbonic acid¹, (fixed air,) absorbed by the plant from the surrounding air. The carbon remains within the vegetable, the oxygen, (pure part of the air,) being set free, is expelled from it. This decomposition takes place only when the plant is exposed to the rays of the sun; the carbonic acid is given out unchanged when the vegetable is not under the influence of that body. This organ, (the herb. integ.) is partly renewed every year. At the return of spring, it invites the sap to ascend towards the buds, and thus becomes one of the most powerful causes of their developement. The herbaceous integument is the part, observed on removing the epidermis, or outermost covering of branches; for example, the *common elder*, (sambucus.)

§. 3. Of the Cortical Layers.

These are sometimes very difficult to recognise. Placed under the herbaceous integument, they are applied to the outer layers of the *liber*, (the true bark,) from which they can hardly be distinguished.

§. 4. Of the Liber.

This is found between the cortical layers, on its outside, and the woody body which lies within it. It consists of a vascular net-work, whose elongated meshes are filled up with cellular tissue. By maceration, it may be separated into distinct layers. The liber is capable of being reproduced. To the viscid substance poured out from the denuded, (stripped,) parts to reproduce the liber, the name of *cambium*, has been given. The *cambium* is considered by many to be nothing more than the descending and elaborated sap. The liber is indispensable for the process of vegetation; for example, a graft will not succeed, unless its liber be in contact with that of the tree on which it is inserted: a cutting, stripped of

¹ See Parke's Chemical Catechism, last edition. The clearest and most entertaining work on Chemistry, with which I am acquainted.
its liber in the lower part, will not strike root: remove the liber, in a circular band, from the trunk of a tree, so as to leave the woody body naked, the entire tree will ultimately perish.

The liber hardens, every year; new layers are formed on its inner surface by means of the cambium.

§. 5. Of the Alburnum, or False Wood. See Plate, 11, fig. 169, and Explanation.

The external woody layers, in contact with the liber, constitute the alburnum. The alburnum is real wood, still young.

§. 6. Of the Wood, properly so called.

The wood derives its origin from the innermost layers of the alburnum, which successively acquire a greater degree of hardness, and are ultimately converted into true wood. The latter, therefore, consists of all the circular layers between the alburnum and the medullary tube. At a certain period of the life of vegetables, there are annually formed a layer of wood and a layer of alburnum; that is to say, the innermost layer of alburnum is changed into wood, at the same time that a new layer of alburnum is produced externally, so that every year a new concentric zone is added.

The alburnum is destitute of vessels; the wood abounds with them. These vessels are either false spirals, or porous vessels, (see plate, 11, and explanation,) but with no true spirals. It is by means of these tubes, that the sap is conveyed into the body of the stem. Through age, the cavity of these vessels becomes diminished, and the course of the fluids in the wood is for ever arrested.

§. 7. Of the Medullary Tube. See Plate, 11, and Explanation.

This occupies the middle of the stem: its office is to contain the pith. Its parietes, (or sides,) are the very long vessels, parallel, and disposed in a longitudinal direction. Its vessels are spirals, false spirals, and porous vessels. See Plate, 11, and Explanation.
§ 8. Of the Pith.

It is that spongy, light substance, composed almost exclusively of cellular tissue in its simple state, which fills the medullary tube. The pith communicates with the herbaceous cellular layer of the bark, by means of peculiar prolongations, which cross the true wood, (corpus ligneum.) These medullary prolongations serve to establish a direct communication between the pith, and the external cellular tissue of the stem. The medullary rays exist also in the greater part of the thickness of the bark, and serve to establish a communication between the inner medulla, and the outer; but those of the bark have no direct communication with those of the woody layers. The use of the pith seems uncertain.

Of the Stem of Monocotyledons. See Plate, 11, and Explanation.

In this, all the parts seem to be united with each other. The pith occupies the entire thickness of the stem; the wood, disposed in longitudinal bundles, is, as it were, dispersed without order in the midst of the medullary substance. The bark does not always exist, or is very indistinct.

Organization of the Root.

All roots are generally organized like the stems: the latter generally grow in height by every point of their extent; roots are lengthened only by their extremity.

Growth of Vegetables,

Takes place, as in animals, within outwards, or in other words by intus-susception. In proportion as the height of vegetables increases, their diameter becomes more considerable.

Of the Growth of Dicotyledonous Trees.

Of the growth in diameter there are three opinions. 1st. That it is carried on by the annual change of liber into alburnum, of the alburnum into wood, and by the successive renewal of the liber. Such is the foundation of Du Hamel's
theory. 2d. That it is produced by the developement of buds. This is the theory of Du Petit Thouars. 3d. That the annual formation of woody layers is owing to the cambium, which, every year, forms at one and the same time, a new layer of alburnum, and a new layer of liber. This opinion is professed by Mirbel, and considered by Richard as the most probable. According to this third opinion, there is, every year, formed in the trunk of dicotyledonous trees a new layer of wood. This layer is produced by a part of the cambium, which becomes organized and solidified. The alburnum formed on the preceding year, acquires greater density, and is changed into wood. But the liber undergoes no change; it is only repaired and increased on its inner surface by means of the cambium, which successively forms new layers.

§ 1. Growth in Height of Dicotyledonous Stems.

At the time of germination, the radicle, (rootlet,) descends into the earth, while the ascending caudex rises upwards. See Plate, 12, and Explanation. From the upper part of the stem proceeds a new centre of vegetation, from which arises a young shoot. To this succeeds a third, which on the following year is surmounted by a fourth, and so on.

The trunk is, therefore, composed of a series of cones, greatly lengthened out, whose tops are turned upwards, and which are placed one above the other. The top of the innermost cone terminates at the base of the second shoot, and so on in succession, so that the number of woody layers corresponds with the number of years that the plant has lived, only at the base of the trunk. Thus a stem of ten years old will shew only nine layers of wood, when cut at the second shoot, only eight at the third, and, lastly, only one, near the top.

§ 2. Growth of the Stems of Monocotyledonous Trees.

See Plate, 11, 12.

In a palm, after germination, the leaves, which are usually folded, become expanded, and appear under the form of a circular cluster which springs from the collar of the root. On
INTRODUCTION TO BOTANY.

the second year, a new cluster springs up from the centre of the former, and pushes outwards those that existed before. Then the oldest begin to wither, to dry, and to fall off. But their bases adhering intimately to the top of the root, are persistent, and form, by their union, a solid ring, which becomes the base of the stipe. A new central bud being developed every year, the outer leaves of that which preceded it, fall off, and their base, which is persistent, forms a new ring, which is superadded to those that already existed.

The stipe, instead of being formed of concentric layers like the trunk of the dicotyledons, is composed of rings placed above one another.

*Grafting.*

The union of grafts is effected by means of the cambium, or proper juices of vegetables. This fluid substance serves as a means of union between the graft and the stock, as in animals the coagulable lymph is poured out between the edges of a recent wound, which it unites and approximates.

*Slips.*

A slip will succeed with greater certainty, if we leave two or three buds under ground.

*Height of Trees.*

The forests of South America, are, in general, full of fine, lofty trees. Some plants are of very rapid growth. The *Agave Americana* will grow nearly a foot every day. In general, the greatest height attained by our forest trees, is from one hundred and twenty, to one hundred and thirty feet. In America, the palms, and other trees often exceed one hundred and fifty feet.

*Thickness of Trees.*

The famous chestnut-tree of Mount Etna, is one hundred and sixty feet in circumference. Of the baobabs in the Cape De Verd islands, some were one hundred and twenty feet, in circumference. In our own climate, there are oaks, &c. from
twenty-five to thirty feet in circumference. See Flora, under Oak.

**Duration of Trees.**

The olive may live three hundred years; the oak nearly six hundred. The cedars of Lebanon appear to be indestructible. The baobabs, mentioned above, are supposed to be nearly six thousand years old.

**Uses of Stems**

Very various: for building, food, sugar, dying: bark of the oak for tanning. Stems, woods, and barks, occupy a considerable rank in the Materia Medica.

1. **Buds properly so called,**

Are generally composed of scales, closely tiled, containing within, the rudiments of stems, branches, leaves, and the organs of fructification. They are covered externally, in trees of our climate, with a viscid, resinous substance; having within a close, downy texture, destined to defend the organs, contained in them, from the cold. No provision of the kind is made for trees of the torrid zone, nor for those, kept in our green-houses. In fruit trees, the flower bud is conical and swollen; that which contains leaves only, is slender, lengthened out, and pointed.

2. **Turio.**

A name given to the subterranean buds of perennial plants. Thus, the part of the asparagus, which we eat, is the turio.

3. **Bulb.**

A kind of bud belonging to certain perennial plants, particularly to the monocotyledons: they are reproduced every year.

4. **Bulbils.**

A species of small, solid, or scaly buds, which being de-
tached from the parent plant, become developed, and produce a vegetable exactly similar to that from which they derive their origin. Plants of this kind bear the name of viviparous. In bulbils there is no embryo.

The uses of buds, bulbs, &c. are various; for example, in domestic economy, the genus *Allium*, including the onion, garlick, &c.; in medicine the squill-bulb, is a powerful expectorant, and diuretic.

*Of Leaves.*

The arrangement of leaves in the bud is called prefoliation. Genera are sometimes well arranged from this into natural families. Leaves, as considered after their developement, by the numerous pores on their surfaces, serve for the purpose of exhaling and absorbing the gases, (airs,) which are either become useless, or which are adapted for the nutrition of the vegetable. Leaves seem to be formed by the expansion of a bundle of fibres proceeding from the stem. These fibres, which are vessels, by branching out in various directions, form a kind of net-work, which represents the skeleton of the leaf, and whose meshes are filled up with cellular tissue, which is more or less abundant, and which derives its origin from the herbaceous integument of the stem.

The upper surface of the leaf is covered with a closely adhering epidermis, and has but few cortical pores: the under surface is also covered with an epidermis, has a greater number of small pores, which are the orifices of the internal vessels of the vegetable. It is particularly by this under surface, that leaves absorb the fluids, that are exhaled from the surface of the earth, and that are diffused through the atmosphere.

*Nerves* of leaves, properly so called, are very prominent: *veins* are less prominent.

The *nerves* are bundles of porous vessels, of spirals, and of false spirals, enveloped in a certain quantity of cellular tissue. (See Plate, 11, and Explanation.) The disposition of nerves in leaves deserves the greatest attention. In most of the monocotyledons, they are almost always simple, and often parallel to each other.
The leaves and the roots are the principal organs of absorption and nutrition in vegetables: they absorb from the atmosphere nutritive substances which are made subservient to their growth. They also serve for the purpose of expiring and of exhaling fluids, which are become useless to the vegetable, and it is by their means, that the sap is divested of its watery constituent, and acquires all its nutritious qualities.

The leaves of herbaceous plants, which are immersed in an atmosphere constantly moist, absorb equally by their upper and under surfaces. Place the leaves of trees upon water, on their under surfaces, they will continue green for several months; place them on their upper surfaces, and in a few days, they will completely wither.

When leaves are exposed to the action of the sun, they decompose carbonic acid gas, (fixed air,) retain the carbon, and set free the oxygen, (pure part of the air.) The contrary takes place when they are withdrawn from the action of the light; they then take a portion of oxygen from the air, and replace it with an equal quantity of carbonic acid.

Leaves are susceptible of certain motions, which depend on the irritability with which they are endued.

*Fall of the Leaf.*

Trees whose leaves are earliest expanded, are generally the first to lose them. In the elder, (sambucus,) however, the leaves appear very early, and are late in falling: in the common ash, the leaves appear very late, and fall towards the end of summer.

The fall of the leaf may be ascribed to the suspension of vegetation, to the want of nourishment, which leaves experience at that period of the year. The vessels of the leaf become contracted and dry, and the leaves fall off.

Medical leaves are chiefly those possessed of emollient, tonic, stimulant, narcotic, and purgative qualities.

*Stipulas*

Never exist in monocotyledonous vegetables. They furnish excellent characters for the construction of natural orders. The
use of stipulas is, probably, to protect the leaves before their development.

Tendrils
Are abortive organs. Sometimes they are floral stalks, at other times, leaf-stalks, stipulas, or abortive branches.

Spines, (thorns,)
Are very often only abortive branches; example, the sloe-tree: for if this tree be transplanted into a richer soil, its spines are converted into branches. Prickles have been considered by some, as hardened hairs.

In nutrition, vegetables assimilate a part of the solid, liquid, or gaseous substances contained in the earth, or diffused through the atmosphere. The absorption of these substances is effected by suction. Water serves as a solvent for the bodies which they are to assimilate. The force with which the sap ascends from the root of a vine into the stem is greater than the pressure of the atmosphere.

2. Course of the Sap.
The sap holds the nutritive principles in solution, and deposits them in the different parts of the vegetable as it circulates through them. The sap ascends through the woody layers, and the lymphatic vessels of the wood, and the alburnum convey that fluid: a coloured fluid will be absorbed, particularly by those vessels, which are nearest to the medullary tube, but not by the pith, or bark. The sap passing through the layers of wood in its course upwards, communicates with the lateral parts and branches of the stem, either directly, by the anastomosis (peculiar union) of their vessels, or by diffusing itself gradually through pores in the (parietes) sides of the canals, which convey it. In the same sap vessel there are always four different currents; an ascending and descending, and two horizontal ones in different directions.
To account for the cause of the sap's rising, Richárd supposes a vital principle, to have a powerful influence; but other internal and external causes may assist in promoting this rise, for example, light, electricity, warmth, transudation inwards, and outwards.

3. Descent of the Sap

Proved by tying a strong ligature to the trunk of a dicotyledonous tree, when a circular swelling will be produced above, which will become gradually larger. The swelling can arise only from the obstacle opposed to the juices descending, through the cortical layers from the upper to the lower part of the vegetable. The descending sap continually renews and maintains the cambium, and it contributes chiefly to the growth and developement of dicotyledonous trees.

A striking difference exists between vegetables and animals; the former live almost exclusively on inorganic substances, as water, carbon, hydrogen, oxygen, &c; the latter on those taken from the animal and vegetable kingdoms.

Organs of Reproduction.

These are the flower, the fruit, and the different parts that compose them: they serve for the preservation of the species.

With regard to the calyx and corolla, Linnaeus gave the latter name, corolla, to a single floral covering around the stamens or pistils, or both, where the colours are vivid, and the former name of calyx, where the colour is green. Jussieu considers the single floral covering as a calyx, and gives it that name of calyx, whatever be its colour, provided it be single: others call the single floral covering a perigonium; for example, the tulip.

For a further account of the organs of reproduction the reader is referred to Richard's Elements of Botany, by Clinton, or Macgillivray. We will proceed to enter into an examination.

1 See all chemical terms, clearly explained in Parkes' Chemical Catechism, &c. Last edition.
INTRODUCTION TO BOTANY.

Of the Fruit,

One of the organs of reproduction, in order that the student may understand the brief sketch given of the Natural System of Jussieu.

The fruit is composed essentially of two parts, the pericarp, and the seed.

The pericarp, or covering of the seed is always present, however thin: there are in fact, no naked seeds.

The pericarp is always composed of three parts: viz. 1. a thin external membrane, called the epicarp: 2nd. of an internal membrane, lining the seed-bearing cavity, called the endocarp. Between these two membranes is a fleshy part, called the sarcocarp or mesocarp. See Plate 12.

The seeds are attached in the pericarp to a peculiar fleshy body, called the trophosperm or placenta.

When the surface of the trophosperm has manifest prolongations, each of them bearing a seed, these prolongations are called podosperms.

The arillus being only an expansion of the trophosperm, belongs not to the seed, but to the pericarp. The arillus never occurs in plants, whose corolla is monopetalous.

Concerning the pericarp in general, we may observe that its axis is sometimes material, and has a real existence: it is then called columnella: or the axis may be fictitious or rational, that is to say, represented by an imaginary line passing from the base to the summit of the pericarp, and running through its centre.

The columnella is a small column, which supports the different parts of the fruit.

The number of the valves of a pericarp is always known by the number of longitudinal sutures visible on its outer surface. The valvar dehiscence (that is, opening of the valves) is three-fold: 1st. it may take place in the middle of the cells, that is to say, between the partitions, which, in that case correspond with the middle part of the valves. This is called loculicidal, as in most ericineae. See Plate 12. 2nd. the dehiscence may occur, opposite to the partitions, it is then called septical, as in the scrophularineae. See Plate 12. 3rd, when the
pericarp bursts near the dissepiments, which remain free and entire on the separation of the valves, the dehiscence is called *septifragal*, as in bignonia, and calluna vulgaris.

The organization of the pericarp, and seed is one of the most difficult parts of botany. To give a clear idea of the parts, an analysis of the fruit of the common peach (amygdalus persica) is here given.

The fruit is composed essentially of two parts, the pericarp and the seed. The seed is always contained within the pericarp. Let a peach be cut in two: its centre is found occupied by a cell or cavity, containing a single seed, and rarely two. All outside the seed belongs to the pericarp. First, on the outside, is a thin coloured pellicle, covered with a soft down, easily removed; this is the *pericarp*. The internal cavity of the pericarp, lined with another soft membrane, adhering intimately to the hard part, which forms the nut, is called the *endocarp*. The whole of the thick, fleshy substance, contained between the latter membrane and the *epicarp* forms the *sarcocarp*. The nut or bony part in the centre of the peach is formed of the endocarp, to which is added an ossified portion of the sarcocarp. We find similar parts as above described, in the *apricot, plum, cherry, &c*.

We will next give an analysis of the *common pea fruit*, (pisum sativum.)

The two longitudinal sutures, indicate that the fruit, when ripe, opens by two segments or valves: hence it is called, a two-valved pericarp. This pod, is found to have a single cavity, with eight or ten seeds, in other words, it is one celled, and many seeded. Every thing outside the seed is a part of the pericarp. On the outer surface is a thin membrane closely adhering to the subjacent part; this is the *epicarp*. The inner cavity is lined with another membrane, which adheres less intimately; this is the *endocarp*. The fleshy, green, vascular part, between the two membranes, though not very thick, is the *sarcocarp*. The small, longitudinal prominence, which runs along the sutures, and to which the seeds are attached, is the *trophosperm*, or *placenta*.

Each of its prolongations belonging to a particular seed, is a *podosperm*, or *umbilical cord*. 
Observe, when the *tróphosperm* or *pódosperm* covers the seed so as to embrace it to a greater or less extent, this prolongation takes the name of *arillus*.

We will next examine

*The Seed.*

Every seed, essentially contains an organized body, which, becoming developed, produces a being, perfectly similar to that which gave it birth: this body is the *embryo*, the essence of the seed. The seed is composed of two parts; 1st. the *episperm*, or proper covering; 2nd. the *kernel* within the episperm. The point of the seed by which it is connected with the pericarp, is called *umbilicus*, or *hilum*: this last, is always marked with a kind of scar. The centre of the hilum always represents the base of the seed. The summit of the seed is the point opposite to the hilum.

For a minute account of the several parts above named, and much additional matter, the reader is referred to Richard's Introduction, and to Lindley's.

*Germination of Seeds.*

Seeds through time, lose their germinative power. Some retain this power for a considerable number of years; for example, kidney-beans, kept for sixty years, have germinated. Seeds of the sensitive plant have been perfectly developed about one hundred years after they have been gathered. In these cases, they must have been excluded from the air, light, and moisture.

Water, heat, and air are necessary agents for germination.

Seeds, plants, and animals can neither grow, respire, nor live in pure oxygen gas: the best mixture for the purposes above, is in the proportion of one part of oxygen, and three parts of *azote*, (that is, nitrogen,) or of hydrogen.

From the moment the embryo of a seed becomes developed, it takes the name of *plantule*. Its two extremities grow in opposite directions. The one is formed by the *gemmule*, and grows upwards into the air; this is called the *caudex ascendens*. 
INTRODUCTION TO BOTANY.

The other, sinks into the earth, and bears the name of *caudex descendens*; this is formed by the rooting body, (or radicle.)

For a classification of the different species of fruits, the reader is referred to Richard.

The uses of fruits and seeds are too obvious, to dwell upon at any length. Bread, for example, is prepared from the farinaceous alburnum of the wheat: a variety of fleshy fruits, as peaches, apples, &c. are of use in domestic economy. The fruits of the orange, and lemon contain citric acid, nearly pure. The berries of the buck-thorn, (rhamnus catharticus,) are strongly purgative: not to mention, at length, the carminative seeds of the umbelliferous plants, the roasted seeds of the coffee, &c.

*Of Botanical Classifications.*

Theophrastus,¹ was the first who wrote a particular treatise on vegetables: but the science of botany, it may be said, did not exist in his day. It was not until the sixteenth century that Gessner, of Zurich, first demonstrated, that characters taken from the flower and the fruit were the most important for establishing a good classification. He also shewed, that groups exist in vegetables, composed of several species, united by common characters. Shortly after, Caesalpinus, (born 1519,) of Arezzo, gave the model of the first botanical method; his species being arranged from a consideration of vegetable, organic characters. Amongst the subsequent authors of systems we may mention the Bauhins, Ray, Magnolius, Rivi- nus, and Tournefort, Professor of Botany, at Paris, in the reign of Louis XIV.

Tournefort's system was succeeded by the artificial system of Linneus, published in 1734. The natural system, or method of affinities was first sketched by Adanson. Bernard de Jussieu pursued this subject. But it was reserved for his nephew, Antoine Laurent de Jussieu to bring it nearer to perfection. This system of Jussieu is founded not on the consideration of a single organ; but it regards the whole of the

¹ Died B. C. 288.
characters furnished by all the organs of a vegetable, and unites all those, which have the greatest number of points of contact and resemblance. The systems of Tournefort, and of Linnaeus had for their basis only the consideration of a single organ; for example, Tournefort employed the corolla, and Linnaeus the stamens for establishing their principal divisions. These systems of Tournefort and Linnaeus, have for their object the discovery of the name of a plant, without giving ideas of its organization. The study of the natural system, and families of plants gives more precise ideas respecting the structure and organization of the different vegetables.

**Jussieu's Method of Natural Families.**

The plants arranged by this system of families, have closer affinities with those which immediately precede or follow them, than with any other. This system unites and arranges plants in groups and families, according to the greatest number of their common characters. The embryo of the seed furnishes the foundations of Jussieu's divisions, the stamens and pistils occupy the second rank. Stems, leaves, and roots, supply accessory characters.

In explaining the means by which vegetables have been united into natural groups or families; we will first give an idea of the words *species*, *variety*, *genus*, *order*, and *family*.

A *species* is a collection of individuals which constantly reproduce each other of the same form. The seed of any given species will produce an individual, perfectly similar to itself. Species which exhibit some differences in respect to the colour of their flowers, or of their more or less considerable stature, constitute *varieties*, which may be distinguished from *species*, in this respect, that in a state of nature, they are not reproduced from seeds with all their characters; for example, the flowers of the lilac are usually light violet; but sometimes white, without any corresponding change in any of its other characters: here, the white lilac is merely a variety of the violet flowered one.

A *genus* consists of a more, or less considerable number of species, united by common characters, taken from the organs of fructification, but all distinct from each other by specific
characters peculiar to each, and furnished by the organs of vegetation; for example, the genus *anagallis* (pimpernel,) has for its characters, a peculiar corolla, and box-like fruit, (pyxidium.) Now, all the species (or sorts) of this genus, *anagallis*, must have these peculiar characters of corolla, and fruit; but the species will be distinguished from each other by the forms of their stems, and leaves, &c.

By uniting together genera in the same manner as species; that is, by collecting into the same group those, which have common and similar characters, we form *orders*, properly so called, if we regard only a single character, such as the number of stigmas, or the form of the fruit, &c. and *natural orders*, or *families*, when for the formation of such an assemblage, there is required the concurrence of all the characters that may be derived from the form, structure, and relative situation of all the organs of the vegetables which are classified. A *natural order*, or *family of plants*, is, therefore, a series or assemblage of genera, more or less numerous, which have all the same characters in the organs of fructification. Thus the cruciform (or cruciferæ) family have all peculiar characters: and all the genera of this family must have the same characters, with some slight modifications, which will serve to establish the differences of the genera, whose union constitutes this family.

The families being numerous, it has been found necessary to distribute them into more or less numerous classes. We will now mention the characters, employed by Jussieu for the formation of his different classes.

The classes are fifteen. The first divisions are marked by the presence, or absence of the embryo in the seed. Hence we have 1. *embryonate*, 2. *inembryonate* vegetables.

The 1st. *embryonate*, are distinguished according to the number of their *cotyledons*; 1st. into *monocotyledons*, or those with one, and 2d. into *dicotyledons*, those with two or more *cotyledons*. See Plate 12. Those without *cotyledons*, are called *acotyledonous*.

That which serves for the establishment of classes properly so called, is founded on the relative insertion of the stamens, or
of the one-petalled, stamen-bearing corolla. There are three kinds of insertion.

1st. The hypogynous, in which the germin or ovary being entirely free, the stamens or stamen-bearing corolla are inserted around its base. See Plate 12.

2nd. The perigynous insertion, wherein the ovary or germin being free or parietal, the stamens are inserted, or one-petalled, stamen-bearing corolla is inserted on the calyx, at a certain distance from the circumference of the base of the ovary or germin. See Plate 12.

3rd. The epigynous insertion, wherein the ovary or germin is always inferior, or where the stamen-bearing corolla, or the stamens are inserted on the upper part of the ovary or germin. See Plate 12.

The acotyledonous plants, the mosses, &c. being destitute of embryos, and of flowers and fruit, do not enter into this classification, but they constitute a first class: and

The acotyledons, and monocotyledons four classes; for example:—

<table>
<thead>
<tr>
<th>Class</th>
<th>Acotyledons</th>
<th>Monocotyledons, with</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st.</td>
<td>hypogynous stamens</td>
<td>perigynous stamens</td>
</tr>
<tr>
<td>2d.</td>
<td></td>
<td>epigynous stamens</td>
</tr>
</tbody>
</table>

We remark that dicotyledonous plants, are either destitute of a corolla, that is, apetalous, or are one-petalled (monopetalous) stamen-bearing, or their corolla is many-petalled (poly-petalous). Hence we have three divisions in the dicotyledonous plants, viz.: —

**Division.**
1. Dicotyledonous apetalous.
2. ——— monopetalous.
3. ———— polypetalous.

These three sections just mentioned of apetalous, &c. are again divided into classes, by the above mentioned character of insertion. Thus, the dicotyledonous apetalous, form three

1 See Plate 12. 188.

The *monopetalous*, whose corolla always bears the stamens, also form three classes:

<table>
<thead>
<tr>
<th>Class</th>
<th>stamens hypogynous</th>
<th>stamens perigynous</th>
<th>stamens epigynous</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monopet.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>with</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>stamens</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>hypogynous</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>perigynous</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>epigynous</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>anthers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>united</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>free</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

It will be observed that the third class of stamens *epigynous*, has been subdivided, according as the stamens are with free, or united anthers, thereby increasing the number of *monopetalous* classes to four.

These four classes, with the three classes of *dicotyledonous* *apetalous* plants, and the four *monocotyledonous* and *acotyledonous* plants, form in all, eleven classes.

The *dicotyledonous polypetalous* plants are divided into three classes of 1. *epigynous*, 2. *perigynous*, 3. *hypogynous*.

In the fifteenth and last Jussieuian class are placed all the *dicotyledonous* plants, whose flowers are essentially *monoecious*, (unisexual,) and those separated on distinct individuals, that is, *dioecious*. These are called irregular *dichlinous* plants. Each of these fifteen classes, contains a more or less considerable number of natural families, all united by the common character, which constitutes the class. The characters of the different families are given by Jussieu, in his *Genera of Plants*. De Candolle,¹ the great botanist, has published a series of families of plants, arranged in an order, almost the inverse of Jussieu’s.

¹ Professor Daubeney, in 1832, delivered several able Lectures, at the Laboratory, illustrative of Decandolle’s system.
KEY TO JUSSIEU’S METHOD OF NATURAL FAMILIES.

Clases.

Acotyledonous Vegetables,

Monocotyledonous

Apetalous,

Dicotyledonous

Apetalous, Monopetalous,

Monopetalous,

Polypetalous,

Polypetalous.

Stamens hypogynous,

— perigynous,

— epigynous.

Stamens epigynous,

— perigynous,

— hypogynous.

Corolla hypogynous,

— perigynous,

— epigynous.

Stamens epigynous,

— perigynous,

— hypogynous.

Irregular Diclinous.

1. Acotyledony.

2. Monohypogynous.

3. Monoperigynous.

4. Monoeipigynous.

5. Epistaminy.

6. Peristaminy.


8. Hypocorollly.


10. Synanthery.

11. Chorisanthery.

12. Epipetal.

13. Hypopetal.


15. Dicliny.
We subjoin a list of those natural families, or groups, chiefly according to Richard, which occur in the Flora of Oxfordshire, and its contiguous counties. The Genera arranged under each family are also given. For the characters of the different families or groups, we refer the student to Richard by Clinton, or by Macgillivray, or to Lindley's Introduction, or to Sir James Smith's Grammar of Botany, or to De Candolle's Botanicon Gallicon, a work in Latin.

DIVISION I.

The Inembryonate Plants, or Acotyledons,
Including the algae, or sea-weeds, and conservæ, funguses, lichens, hepaticæ, mosses, ferns, and some other cryptogamic classes, do not belong to our subject, except the tenth family of Charáceæ.

DIVISION II.

Embryonated, or flowering plants, that is, plants furnished with stamens, and pistils. According to the structure of the embryo, these are divided into two groups, the monocotyledonous, and the dicotyledonous.

Monocotyledonous Plants.
Besides the embryo being monocotyledonous, it is to be observed that in this division of plants, the internal structure of the stem is composed of cellular tissue, in which are scattered vasicular bundles; the nerves of the leaves in general, are parallel; the perianth is a calyx only, sometimes coloured, (according to Jussieu,) like petals; the floral organs, are in general three, or a multiple of three; in the dicotyledons, the number five prevails.

CLASS II.

Monohypogyny, (that is, monocotyledonous, and hypogynous.)
INTRODUCTION TO BOTANY.

1. Nayadce. Juss.—Potamophilece. Richard. Fluviáles, Lind. Potámene DC. Under this family, are the
   Gen. Potamogéton. Zannichéliia. This family is nearly related to the next.

2. Aroídece. (Juss.) or Arum Tribe.
   Gen. Arum. 'Acorus. The roots of this family abound with fécula, which may be used as an article of food, when deprived of its acrimony by roasting, or washing.

3. Typhace. (Juss.) Typhácce. DC.
   Gen. Typha. Sparganíum.

4. Cyperácece. (Juss.) or Sedge Tribe.
   This family is very natural, and has close affinity to the grasses.

5. Gramínace.
   The Grasses, Agrostis, Alopecurus, &c. One of the most natural families of the vegetable kingdom. This family is distinguished from the Cyperácceæ, by its cleft leaf sheath: the sheath of the Cyperácceæ is entire: there is also only one flower scale in the Cyperácceæ, two in the Gramínaceæ, or Grass Tribe.

CLASS III.

Monoperigyny, or Monocot. and Perigynous.


   An active principle called verátria, found in the colchicum.

   None of the plants in this family are poisonous.


1 i.e. Genera.
INTRODUCTION TO BOTANY.


The bulbs of this family usually contain a mixture of a mild, gummy, extractive substance, which is bitter, volatile, acrid, but dissipated by heat.

CLASS IV.

Monoepigyny, or Monocotyledonous, and Epigynous.

11. Narcisseeæ, Amarillideæ, BR.
   Gen. Narcissus. Leucojum. Galanthus. The bulbs of these more or less acrid; in small doses emetic.

   Gen. Iris. Crocus. This family easily distinguished by an inferior ovary, and three stamens.

13. Orchideæ, Orchis Tribe. One of the most natural families.
   Gen. Orchis, &c.


   Gen. Nymphaæ. Nuphar. This family is placed by some among the dicotyledonous plants, near the Papaveræææ, or Poppy Tribe. The roots of the Nuphar lutea, mixed with the inner bark of pinus sylvestris may be made into bread.

II. Dicotyledonous Plants,

Or those, whose embryo presents two cotyledons. In the coniferae family from three to ten cotyledons are found.

In the dicotyledons the stem is disposed in concentric layers, the nerves of the leaves are branched: the number five, or one of its multiples prevails in the flower: a calyx and corolla are also very frequently present.

I. Apetalous Dicotyledons.

CLASS V.

Epistaminy, or Stamens Epigynous.

17. Santaláceæ. BR.
Gen. Thésium.

CLASS VI.

*Peristamy, or Stamens Perigynous.*

Gen. Daphne.
The barks of this family contain a green, resinous principle, a bitter crystalline substance, called daphnine, and a yellow colouring matter: more or less acrid; most, in some degree, poisonous.

Gen. Rumex. Polygonum. This family a striking example of plants agreeing in chemical composition, which possess the same botanical characters. The roots of a great number of Polygónææ contain tannin and gallic acid, and are hence astringent, &c. The seeds with a large and farinaceous, nutritive albumen.

Gen. Chenopodium. 'Atriplex.
Plants of this family sweet, mucilaginous, sugary.

(CLASS VII.)

CLASS VIII.

*Hypocórolly, or Corolla Hypógy nous.*

Gen. Plantágo.
The seeds of this family contain a large quantity of mucilage.


The plants in this family, not uniform in their properties.

This family has a close affinity to the Scrophularineæ. Most of the family strongly narcotic. All the verbascums are mild, and mucilaginous.

*Gen.* Ligustrum. Fráxínum.

*Gen.* Verbéna.

The Labiate plants form a very natural family, and include the class didynamia of Linnaeus, besides the genera Lýcopus, and Sálvia: they contain essential oil and bitter extractive.

This family contains a large quantity of mucilage, with some astringency.

*Gen.* Convolvulus. Cúsícuta.
This family, acrid and purgative.

*Gen.* Polemonium.

The plants of this family intensely bitter.

*Gen.* Vinca.
This family abounds in a milky, poisonous juice.

CLASS IX.

*Pericorolly, or Cor. Perig.*

34. *Ericíneæ*. Juss. Vaccíneæ. DC.
*Gen.* Erica, Callúna, Pyrola, Empetrum. Vaccínum. Vaccínum is here included under the Ericíneæ.

35. *Campanuláceæ*. 
**INTRODUCTION TO BOTANY.**


Almost all the plants of this family are milky: their juice is bitter, and sometimes very acrid; unless abundant mucilage be present.

**CLASS X.**

'Epicorolly, and Synanthéreæ, (that is, Anthers united.)


A great family, and one of the best characterized, comprising the whole class *Syngenesia* of Linnæus. The plants of this family stimulant, tonic: those abounding in a milky juice, in some degree narcotic: their seeds usually mild.

**CLASS XI.**

*Epicorolly—Chorisanthery, (that is, with Anthers distinct.)*


*Gen.* Dipsacus. Scabiosa.

38. *Valériáneæ.* DC.

*Gen.* Fédia. Valériána.


A very natural family including Galium, Aspérla, She-rárdia. This family supplies some of the most valuable articles of the *Materia Medica*, among which is the Peruvian bark.

40. *Caprifoliáceæ.* Richárd.

*Gen.* Hédera, Cornus, Sambúcus, Viburnum, Lonicéra.


*Gen.* Viscum.

**CLASS XII.**

*Epipetaly.*

42. *Umbelliférae,* Parsley-tribe.

One of the most natural families, but not uniform in its chemical composition, or in its effects on the animal economy.

1 *Epi,* means upon.
The warmer the climate, and dryer the soil, the greater the proportion of aromatic principle; the poisonous and narcotic principles will prevail in those species, which grow in cold and moist situations.

CLASS XIII.

_Hypopetaly, or Stamens Hypógonous._

43. _Ranunculáceae._ Juss.

_Gen._ Clématis, Thalictrum, Anémone, Adónis, Myosúrus, Ranunculus, Caltha, Tróllius, Helléborus, Aquilégia.

All this family more or less acrid and poisonous; most of them rendered harmless by boiling. The kernels of the seeds usually mild; the integuments acrid.

44. _Berberídeæ._ Juss.

_Gen._ Bérberis.


The Geraniaceæ are here united with the Oxalídeæ, and Lineæ, of DC.

_Gen._ Geránium, Eródium, Oxális, Linum, Radíola.

This family does not exhibit much uniformity in its medicinal virtues.


_Gen._ Malva, Althæa.

All this family, mucilaginous, emollient.

47. _Tiliáceæ._ Juss.

_Gen._ Tilia.

48. _Hyperícineæ._ Juss.

_Gen._ Hypércicum. Aromatic, resinous.

49. _Aceríneæ._ DC.

_Gen._ Acer.

50. _Polygáleæ._ Juss.

_Gen._ Poly'gala.

51. _Fumariáceæ._ DC.

_Gen._ Fumária, Cory'dalis.


_Gen._ Papáver, Chelidónium.

Plants of this family contain an acrid, milky juice, many, a
INTRODUCTION TO BOTANY.

narcotic power. The seeds of this family except the Argemone Americana, mild and oily.

53. Cruciferae, Cruciform-tribe.
   One of the largest, and most natural families, containing the Tetradyemia of Linnaeus.
   All the parts of this family contain an essential oil, on which their stimulant effects depend; and their antiscorbutic virtues.

54. Resedaceae. DC.
   Gen. Reseda.

   Gen. Cistus, Helianthemum.

56. Droseraceae. DC.
   Gen. Drosera, Parnassia.

57. Violaceae. DC.
   Gen. Viola.

   Contains the class Decandria of Linnaeus, at least all those of the British Flora, besides Sagina, Menchia.

CLASS XIV.

Peripetaly, that is, with Stameus Perigynous.

   Gen. (Polycarpon,) Scleranthus, Larbrea.

60. Portulaceae. Juss.
   Gen. Montia.

   Gen. Saxifraga, Chrysosplenium, Adoxa.

   Gen. Cotyledon, Sedum, Sempervivum.

63. Ribesicae. Richard. Grossulariae. DC.
   Gen. Ribes.

64. Cucurbitaceae. Juss.
   Gen. Bryonia.

Properties of this family, not uniform.

65. Hygrobieae. Richd. Haloragaeae. BR.
   Gen. Myriophyllum, Callitriche.

INTRODUCTION TO BOTANY.


68. Rosaece. Juss. (Class, Icosandria. Linn.)


All the Rosáceæ astringent, particularly the Fragariáceæ. The young fruits of the Pomaceæ contain a good deal of oxalic acid. The Drupáceæ in their leaves, and kernels contain a large quantity of prussic acid. Several of this tribe afford a mild gum.


Contains the papilionaceous, or diadelphous plants of the British Flora, at least. Is a large, and very natural family. Exhibits little uniformity in its properties.


Genus. Rhamnus.


Gen. Euonymus.

72. Aquifoliaceæ. DC. Ilícineæ Ad. Brong.

Gen. Ilex.

CLASS XV.

Dicliny. (Part of Mon. and Diécia. Linn.)


The acrimony of this family resides in their milky juice.


To the tribe Celtideæ, of Richard, belongs Ulmus. The true Urtiææ, are—Gen. Pariétária, Urtíca, Húmulus.


Gen. Salix.


Gen. Bétula, Alnus. These agree with the Salicíneæ in their astringency, and medicinal properties.

1 Gen. Agrimonia.

*Gen.* Fagus, Castánea, Quercus, Córýlus, Cárpinus.

There is great uniformity in the properties of plants, belonging to this family (*Cupuliferae.*) The barks abound with tannin and gallic acid, their seeds with secula and fixed oil; are mild, and nutritious.


*Gen.* Taxus, Juníperus, Pinus.

This family abounds in essential oil, and resin. In this country the turpentine and essential oil are obtained from the common fir (*pinus sylvestris.*)
ABBREVIATIONS AND MARKS EXPLAINED.

Bor. Mr. Borrer.

Bx. Mr. Baxter, Curator of the Botanic Garden, Oxford. The compiler of the work has found this excellent Botanist a valuable and friendly referee on all difficult points, and is obliged to him for the use of his collection of Oxfordshire and other habitats, and for several scattered observations.

Pn. Mr. Purton, Author of the valuable Midland Flora.


Y. Mr. N. B. Young, Fellow of New Coll. Oxford.

Wh. The Rev. R. M. White, Fellow of Magdalen College, Oxford: obliged to him for habitats, and for several Ang. Sax. derivations.

T. Rev. Mr. Teasdale, Lincoln College, Oxford.

Pr. Mr. Perry, Author of a List of Warwickshire Plants.

J. H. Mr. John Haines, Radcliffe Library.

Sch. Schkur's Cârices, in his Handbuch, &c. admirable figures.

Sm. Sir James Edward Smith.


H. Hooker.

R. W. The Compiler of this work.

M. Morton. Morton's Northamptonshire, folio.

H. L. Hooker's Flora Londinensis, folio, plates, &c.

E. B. English Botany, (Original Edition,) 8vo. A useful, cheap edition, is in the course of publication, in numbers: these plates are indispensable.

G. E. Johnson's Gerarde's Herbal, folio. Gerarde's names being quoted at full length, the reader will easily refer to the first; Gerarde's own edition of his Herbal, if possessed of that edition, plates, &c.

1 Founder of the Natural History and Botanical Society, Oxford, 1831.

2 Plates of all our British flowering plants.
Directions, &c.

C. Curtis’s Flora Londinensis, folio, plates, &c.
Still. Stillingfleet’s Tracts on Natural History, &c. 8vo.
Sib. Sibthorp’s Flora Oxoniensis, 8vo. 1794.
Ang. Sax. Anglo-Saxon. The derivations are quoted from Benson’s Vocabularium. The curious and learned reader is referred by a distinguished Anglo-Saxon Scholar, to “Wanleii Cat. Librorum MSS. Anglo-Sax. forming one vol. of Hickesii Thes. p. 72. for a list of one hundred and eighty-four plants, in Greek, Latin, and Saxon,” folio.
* One asterisk placed after a habitat, indicates that the plant is rare in the neighbourhood of Oxford. ** Two asterisks, that it is very rare.
* A marginal asterisk, placed before the name of a plant indicates, that it is not truly wild, or probably only naturalized in Britain.

Discrim. Discriminative marks.

Such abbreviations as Cal. for Calyx. Fl. for Flower. Ls. for Leaves. Caps. for Capsule. Bract. for Bractea. Anth. for Anther, &c. will easily be understood by the student who has previously perused the Introduction to Botany.

N. B. Ch. in the Linnæan names must be pronounced hard like k: Sch also: thus: Schoénus, is pronounced Skénus.

Directions to the Botanical Student.

Let the student first master the Introduction to Botany: he will then be enabled to reduce his plant to its Class, Order, Genus, and Species. In examining a plant let him study the specific distinctions, printed in a larger type, before he proceeds to the minuter description, and observations. Let him by no means have recourse to a plate or figure of his plant, before duly examining, and endeavouring to discover the plant under examination, by the description given. After
ascertaining the name, and uses of any plant, the student may proceed to the study of the Natural Order, referred to in the Second Part of the Introduction to Botany. The Grasses, Cárices, and Umbelliferous plants are too difficult of investigation for the first season. It is desirable to have recourse to some experienced botanist in pursuing this study: Mr. Baxter, of the Botanic Garden, gives able lessons in Botany; and his Generic Plates, with the Plates of Sowerby to English Botany, or those of Gerarde in his Herbal, will prove useful aids to the student; but, in no case, we repeat it, should the student attempt learning botany, by a mere reference to plates. To reap advantage, and to derive satisfaction from the study, he must proceed scientifically, and examine nature herself. He will find the Compendium of Smith's English Flora, bound in the smallest form, a convenient pocket Vade-Mecum.

The following additional books may be recommended to the Student of Natural History.

White’s Selborne.
Journal of a Naturalist.
Drummond’s Letters on Natural History.
— Botany.
Sir James Edward Smith’s different Publications, including his Grammar, Introduction to Botany, and English Flora.
Hooker’s British Flora, 8vo.
Lindley’s Works.
Loudon’s Magazine of Natural History, 8vo.
Paley’s Natural Theology.
Duncan’s Botanical Theology, 2nd edit. and his “Analogies.”

The learned reader, who is desirous of prosecuting his botanical studies further, will find ample catalogues of botanical works, in the first vol. of Decandolle’s Regni Vegetabilis Systema Naturale, 1818, and in the volumes of Sir James Edward Smith’s English Flora.

The Linnaean Transactions contain many admirable Botanical Papers: a useful selection might, perhaps, be published from that expensive and voluminous work.
Directions for preparing an Herbarium of dried Specimens, &c.

If plants be properly dried, their different parts may be restored by plunging the specimen in hot water. Dried specimens of plants, with access to the field, the garden, and to books, are obviously requisite to the practical botanist. When a press cannot conveniently be obtained, plants may be dried very well between the leaves of any large folio book, piling up weights and other books to afford the suitable pressure. Should the specimens be crowded, they require frequent shifting; and the moist paper must be dried, before replacing the specimens. Where the paper is abundant, and the specimens few, they require but little, if any shifting. Those vegetables which are very tenacious of life, must be immersed in boiling water previous to drying. In exhibiting the plants to be dried, avoid too formal a display of the several parts, except the single flowers, for shewing a genus, &c. To prevent heaths, and firs from shedding their leaves in drying, immerse the specimen, previous to drying, in boiling water.

When the specimens become completely dry, they may be glued down; each to half a sheet of small folio paper, and all the species of each genus may be placed together within a sheet of paper, writing the generic name on the outside of each paper of species: the name of each species should be inscribed near the plant. To preserve the Herbarium from depredations of insects, the following poisonous application was strongly recommended by Sir James E. Smith—a solution of corrosive sublimate of mercury, in rectified spirits of wine, about two drachms to a pint, with a little camphor. Apply a small portion of this liquid to each specimen, when it becomes perfectly dry, before gluing down, unless the plant be very delicate. A few drops of the solution may be mixed with the glue. The Herbarium should, of course, be kept from damp, in a dry situation. See Smith's Introduction to Botany.

1 The botanist should be provided with a common pocket microscope, a needle, and a pair of forceps. For minute purposes, Gould's Microscope, sold by Cary, Strand, London, price £1 10s. may be recommended.
<table>
<thead>
<tr>
<th>NAME, &amp;c.</th>
<th>CLASSITIESHEDACAE</th>
<th>FAMILY 1st.—Ranunculaceae.</th>
<th>GROWING IN WATER</th>
<th>IN HABITATION</th>
<th>STATION</th>
<th>HABITATION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>G. aquatilis</td>
<td>1. aquatilis.</td>
<td>In woods and in shady places.</td>
<td>In bluebells and other plants.</td>
<td>In grass.</td>
<td>Ne</td>
</tr>
</tbody>
</table>
SPECIMEN

OF A

PROPOSED INDEX

TO THE

OXFORDSHIRE FLORA,

Indicating the particular station of each plant, as well as the geological character of the spots in which it has been found.

BY

DR. DAUBENY,

PROFESSOR OF CHEMISTRY, OXFORD.
A MONGST other suggestions, which the Committee of the British Association for the advancement of Science, at their Meeting in York, in 1831, threw out to the consideration of naturalists, is one to the following effect:—

"That botanists in all parts of Great Britain and Ireland be invited to compose, and communicate to the meetings of the Association, catalogues of county or other local Floras, with indications of those species which have been recently introduced, of those which are rare or very local, and of those which thrive, or which have become or are becoming extinct; with such remarks as may be useful towards determining the connexion which there may be between the habitats of particular plants and the nature of the soils or strata upon which they grow, with statements of the mean winter and summer temperature of the air and water at the highest as well as the lowest elevation at which species occur, the hygrometrical condition of the air, and any other information of an historical, economical, and philosophical nature."

"If," it is observed, "a complete botanical survey of the British Islands could be obtained, the results would be important, when the Flora in the aggregate came to be compared with its relations to soil, climate, elevation, &c."

It was with the view of accomplishing, with reference to the neighbourhood of Oxford, a part of the objects contemplated in the passage just quoted, that I was led to undertake a sort of Index to the Flora of Oxfordshire, to which the botanical station of each species, and the geological character of each of its habitats, were to be subjoined, in all those cases at least in which the plant was sufficiently circumscribed in its distribution over the district under survey, to render such an attempt either useful or practicable.

An Index of this kind accurately drawn up, might, I con-
ceive, constitute an appropriate appendage to a Flora of Oxfordshire, but its insertion would be more likely to mislead, than to inform, until the geological habitats of the plants therein enumerated had undergone a more thorough revision, than has as yet been accomplished.

The specimen, therefore, now given of the Index in question, is intended merely to convey such an idea of its construction, as may enable Oxford Botanists, if they please, to co-operate with myself, and with each other, in collecting the data necessary for perfecting the design, so far as this county is concerned; and likewise to engage others in distant parts of Great Britain to draw up Indexes of a similar description to Floras of their own neighbourhood, and thus to realize the views of the Association by acting on one uniform plan.

The utility of such an Index with reference to the Oxford Botanist, is chiefly that of enabling him to perceive at a glance, in what particular soil and situation each plant is here met with, serving, therefore, to abridge the labour of reference, and to keep alive in his recollection the important fact, that a certain, though as yet an imperfectly understood influence is exerted upon plants, by the combined agency of the soil, the air, and the temperature.

But a collection of such Indexes, which should embrace the whole or the greater part of Great Britain, would, as is observed in the Report, serve a more important purpose, by supplying us with the data requisite for determining, what kind of relation may subsist between particular plants, and certain kinds of soil or situation.

In enumerating the different Stations in which the plants of Oxfordshire are found, I have adopted the classification given by M. Decandolle in his admirable Essay on the Geography of Plants, which is inserted in the eighteenth volume of the Dictionnaire d'Histoire Naturelle. The Stations, of which Oxfordshire affords any examples, will, according to this method of arrangement, be nine in number, and though (as Professor Lindley observes in his Introduction to Botany) some of them are rather vague and uncertain of application, yet they seem to comprise the most remarkable differences of station, and, therefore, deserve to be attentively noted.
The following is the description given by M. Decandolle, and adopted by Professor Lindley, of the classes of plants, distinguished according to the station in which they occur:

1. *Aquatic plants*, living plunged in fresh water; either entirely immerged, as *confervae*; or floating on its surface as *stratiotes*; or fixed in the soil by their roots, with the foliage in the water, as several kinds of *potamogeton*; or rooted to the soil, as *nymphaea*; or rising above it, as *alisma Plantago*. This latter division approaches very near to the following class.

2. *Plants of fresh water marshes, and of very wet places*, among which it is chiefly necessary to distinguish, those of bogs, of marshy meadows, of the banks of running streams, and finally, of places inundated in winter, but more or less dried up during the summer.

3. *Plants of meadows and pastures*, in the study of which it is chiefly necessary to distinguish, those, that being collected together either by art or nature constitute the turf of the meadow, and those others, which grow with greater or less abundance and facility intermixed with the foregoing.

4. *Plants of cultivated soil*, many of which have been accidentally transplanted from one country to another with the seeds of other plants intentionally introduced.

5. *The plants of rocks*, which pass by insensible gradations into those of walls, of stony places, and even of gravel, and these again into those of sands or of very barren soil. For my present purpose I have thought it sufficient to place the whole of these in the same class.

6. *Plants occurring near dwelling places*, in consequence of requiring for their nutriment a supply, either of nitrous salts, or of azotised matter. These consequently frequent the haunts of man, and abound in and about rubbish containing animal matter in a state of decomposition.

7. *Forest plants*, among which are to be distinguished; 1stly, the trees that form the forest; and 2ndly, the herbs which grow beneath its shade. The latter are separated into two kinds: those which can support a considerable degree of shade during all the year, which are found in evergreen woods; or such as require light in the winter, like those which are found among deciduous trees.
8. **Bushes and hedge plants.** The shrubs which compose this division differ from the plants of the forest in their smaller size, and in the thinness of their leaves; the herbaceous kinds that grow among them are ordinarily climbing plants.

9. **Parasitical plants;** that is to say, such as either absorb the cambium already elaborated from the liber of the plant on which they feed; or merely derive the ascending sap from the latter, converting it into nutriment themselves. The former are destitute of leaves; the latter provided with these organs—the former require only to plant their suckers into the bark of the vegetable which supports them; the latter must insert them into the alburnum or new wood. Such at least are M. Decandolle’s distinctions, with which Professor Lindley appears to coincide. Both, however, separate from the class of true parasites, those, which, like the common ivy (*Hedera Helix*), grow upon either dead or living vegetables, without deriving any nourishment from them: Decandolle denominating these latter, false parasites, Lindley, epiphytes, and such as these may be conveniently thrown into the class either of forest or bush plants, according to the kind of station which they affect.

These then are the botanical stations which I propose to distinguish in my intended Index; with regard to the habitats of the plants that occur within the limits of this Flora, I conceive, they may be placed with sufficient accuracy in one of the last five columns, distinguished according to the geological character of the substratum. The country comprehended within these limits includes indeed the whole range of strata from the lyas to the tertiary clays, besides various diluvial and alluvial formations; but it does not seem likely, that any decided difference in the character of the vegetation should occur between one kind of clay or sand, and another, merely on account of the distinction in their relative ages, unless some corresponding variation can be detected in their chemical or mechanical condition. I have, therefore, thought it sufficient to divide the soils of Oxfordshire into five classes; 1stly. the gravelly, which, as it consists chiefly of the débris of limestone rocks, may be regarded perhaps only as a modification of a calcareous soil. 2ndly. the oolitic, of which the neighbourhood of Oxford, where the substratum is not covered
with gravel, principally consists. 3rdly. the chalky, which as it is composed of a purer and softer form of limestone, deserves to be distinguished from the oolitic. 4thly. the argillaceous, such as the Oxford or Kimmeridge clays, together with any other that may occur within the district, distinguishing as much as possible such as are covered with calcareous gravel; and 5thly. the arenaceous, of which the rock at the summit of Shotover-Hill affords an example.

As, however, the description of plants that grow on any one of the above rocks must be supposed to vary with the character of the soil, and as the latter may not in all cases be identical with the substratum, it would be useful to notice every such case of discrepancy by introducing a separate series of columns for the soils, or at least by appending a note at the bottom of the page in which the plant is noticed, with an asterisk referring to the locality mentioned in the column above, in which the plant is stated to occur.

The following Specimen taken from the first page of the Index will serve to illustrate the method I have adopted, and may, therefore, perhaps deserve insertion, though the geological localities even of the few plants given require further examination, before they can be looked upon as ascertained.

Where nothing further has been remarked with respect to the habitudes of a plant than its occurrence in one of the Stations above enumerated, an horizontal line in the column opposite to its name has been deemed sufficient to indicate the fact: but in other cases, where the nature of the situation congenial to it has been more particularly ascertained, the same is indicated in the above position. Thus opposite to Ranunculus repens, in the third column, an horizontal line is affixed, in order to shew that it has merely been remarked, that meadows and pastures are the spots most favourable to its growth; whilst opposite to R. bulbosus the particular kind of meadow-land, which it chiefly affects, will be seen specified.

In conclusion I ought to repeat, what indeed has before been stated in other language, that the principle on which this Index is constructed proceeds not upon the existence of an acknowledged connection between soil and vegetation, but
on the admission of the best botanists, such as Decandolle and Lindley, that much may at present be said on both sides of the question,¹ and that the subject is one of sufficient interest, to induce botanists, to bestow upon it the labour requisite for its more complete elucidation.

¹ Some remarks in favour of the supposed connexion between the vegetation and the geological character of the substratum, may be seen in Loudon's Magazine, by W. Thomson, and a reply to them in Jameson's New Philosophical Journal, vol. ii. for 1830, by D. A. Murray, of Aberdeen.
EXPLANATION OF THE PLATES.

PLATE I.

Fig. 1. Fibrous root.
2. Creeping root.
3. Tapering, or spindle-shaped root.
4. Tuberous, or knobbed root.
5. Abrupt root.
7. Coated bulbous root.
8. Scaly bulbous root.
10. Forked, or dichotomous stem.
11. Creeping stem.
12. Clinging stem.
13. Twining stem.
15. Scaly stem.

PLATE II.

17. Knotted stem.
18. Kneed, (geniculated,) stem.
19. Scape, flower-stalk, and leaves immediately from the root, (radical.)

LEAVES.

20. Stalkless, (sessile.)
22. Alternate.
23. Also opposite.
24. Also scattered.
EXPLANATION OF THE PLATES.

Fig. 25. Clustered.
26. Whorled, (verticillated.)
27. Tufted, (fasciculated.)
28. Tiled, (imbricated.)
29. Cross-paired, (decussated.)
30. Embracing, (amplexicaul.)
31. Growing together, (connate.)
32. Perfoliate.

PLATE III.

33. Equitant.
34. Running down the stem, (decurrent.)
35. Target-shaped, (peltate.)
36. Egg-shaped, (ovate,) entire, and blunt.
37. Oval, or elliptical.
38. Battledore-shaped, (spatulate.)
39. Wedge-shaped, (cuneiform.)
40. Spear-shaped, (lanceolate.)
41. Linear.
42. Triangular.
43. Kidney-shaped, (reniform,) and entire.
44. Heart-shaped, (cordate.)
45. Arrow-shaped, (sagittate.)
46. Halbert-shaped, (hastate.)
47. Wing-cleft, (pinnatifide;) fig. not good.
48. Lyre-shaped, (lyrate.)
49. Runcinate.

PLATE IV.

50. Comb-like, (pectinate.)
51. Cleft.
52. Lobed.
53. Hand-shaped, (palmate.)
54. Abrupt, (truncate,) lopped.
55. Bluntly notched at the end, (retuse.)
56. Notched, (emarginate,) at the end.
57. Sharp, (acute.)
58. Taper-pointed, (acuminate.)
EXPLANATION OF THE PLATES.

Fig. 59. Bristle-pointed.
60. Toothed, (dentated.)
61. Saw-toothed, (serrated.)
62. Notched, (crenate.)
63, 171. jagged, (laciniated.)
64. Fringed, (ciliated.)
65. Prickly, (spinous.)
67. Veined.

PLATE V.

68. Ribbed.
69. Plaited, (plicate,) folded.
70. Channelled, (canaliculate.)
71. Keeled, (carinate.)
72. Awl-shaped, (súbate.)
73. Fingered, (digitate.)
74. In pairs, (binate.)
75. In threes from the same point, (ternate.)
76. Bird-footed, (pedate.)
77, 80, 84. Winged, (pinnate,) in a lyrate manner, with an odd leaflet; leaflets opposite.
78. Winged, (pinnate,) with a tendril, leaflets opposite.
79. Abruptly winged, (pinnate;) leaflets opposite.
80. Alternately winged, (pinnate.)
81. Thrice-paired, (trigeminate.)
82. Doubly three-fold, (biternate.)
170. Triply three-fold, (thrice-ternate,) (triterinate.)
83. Twice-winged, (bipinnate.)
(73, 74, 75, 76, compound.) (82, 83, thrice-compound.)
84.* Stipula (below the leaves.)

PLATE VI.

85, a. 86, a. Floral-leaf, (bractea.)
87. Sheath, (spatha.)
88. Involucre.
89, a. Common involucre, at the base of the common, (or universal,) umbel.  b. Partial involucre, at the base of its partial umbel.
90, 78. Tendril.
EXPLANATION OF THE PLATES.

Fig. 
91. Thorn, or spine.
92. Prickle.
93. Whorl, (verticillus.)
94, 95. Spikes.
94. Unilateral, (spike,) growing from one side only.
96. Spikelet, with awns.
97, 98. Raceme, (cluster.)
99. Corymb.
100. Bundle, (fasciculus,) fascicle.
101. Head, (capitulum.)
102. Simple umbel.
103. Cyme.

PLATE VII.

104. Panicle.
105. Catkin.
106. Four seeds in the bottom of a calyx, as in the class Didynamia Gymnospermia.
107. Seed vessel, and calyx, as in Didynamia Angiospermia.
108. a. style, with six stamens.
109. a. the corolla.  b. the calyx.
109. Perianth, or calyx, properly so called, 109, b. 110, a.
111. Double calyx.
112. One-leaved, (monophyllous,) calyx.
113, 114. Tiled, (imbricated,) calyx.
113. Spherical, globose, or globular calyx.
114. Hemispherical calyx.
115. Scales of the catkin, (105.)
116. Outer husk, or chaff-scale.  b. b. husks.
117. One-petalled, (monopétalous,) corolla, (salver-shaped,) a. the tube.  b. the limb.
118. Túbular corolla.
119. Spherical, or globose corolla.
120. Bell-shaped, (campánulate,) corolla.
121. Cup-shaped corolla.
122. Funnel-shaped, (infundibuliform,) corolla.
123. Gaping, (ringent,) corolla, (irregular.)
PLATE VIII.

Fig. 124. Masqued, (personate,) (corolla, lips not shewn closed,) (irregular.)
125. Petal of a many-petalled, (polypétalous,) corolla.  a. the claw.  b. the border, or lámina.
126. Cross-like, (cruciform,) corolla, regular.
127. Rose-like, (rosaceous,) corolla, regular.
129. Standard, (vexillum.)
130. Wings, (alæ.)
131. Keel, (carina.)
132. Spur.
133. a. filament.  b. anther, erect.
134. Incumbent anther.
135. Lateral anther, (on one side.)
136. a. the germen.  b. the style.  c. the stigma.
137. Capsule.
138. Pod, (slique.)
139. Pouch, (silicle.)
140. Pod, (legume.)

PLATE IX.

141. Nut.
142. Stone-fruit, (drupe.)
143. Apple, (pome.)
144. Berry.
145. Compound-berry.
146, 147. Cone, (stróbilus.)
148. Two cotylédons.  a. embryo.  b. rostellum.  c. the ascending part.
149. Simple seed-down, (pappus,) stalkless, (sessile.)
150. Feathery seed-down, (pappus.)
151. Stalked seed-down.
152. Tail of the seed.
153. Wing of a seed.
154. Flat receptacle.
155. Conical receptacle.
EXPLANATION OF THE PLATES.

PLATE X.

Fig. Verónica Chamædrys. See Flora, p. 5.

PLATE XI.

157. A slit vessel, or false spiral magnified.
158. The slit vessel, or false spiral magnified.
159. Portion of a porous vessel magnified.
160. Porous vessels.
161. Beaded, (moniliform,) vessels.
162. Portion of the epidermis, to shew the cortical pores.
163. Regular cellular tissue.
164. Spiral vessel, or trachéa.
165. Example of the class Gynándria, (passiflóra,) after Linnaeus: since removed to other classes. See Hort. Kewensis, &c.
166. Example of the order Polygynyia.
167. A winged stem, as in the everlasting pea.
168. Portion of the trunk of a monocotyloédous tree, formed of bundles of woody fibres, scattered in the midst of medullary, (pithy,) substance.
169. Portion of the trunk of a dicotyloédous tree, composed of concentric layers: a. the bark. b. the alburnum, or false wood. c. the wood, properly so called. d. the medullary, (pith,) canal.
170. Thrice-ternate, or triply-three-leaved, (triternate.)
171. Jagged, (lacinate.)
172. Thyrus, (bunch.)
173. Capsule, a. the valves. b. the dissepiments, (partitions.) c. the columella, (column.) d. receptacle of the seeds.

PLATE XII.

174. A germinating kidney-bean, with its shooting radicle.
175. a. the radicle. b. the caulicle. c. c. the gemmule.
176. Section of a kidney-bean, a. the radicle. b. the gemmule. c. one of the cotyledons.
177. a. the radicle. b. b. the cotyledons.
178. a. the hilum, (scar,) b. the micropile.
179. Seed of the castor-oil seed, (ricinus,) cut lengthways, a. the caruncula. b. the endosperm. d. the embryo.
Fig. 180. The embryo separated from the interior of the albumen.  
* a. the radicle.  * b. b. the cotyledons.  * c. the gemmule.

181. The embryo of 182, (Canna indica,) separated:  * a. the cotyledon.  * b. the gemmule enclosed in the cotyledon, which in growing, pierces the cotyledon laterally, and becomes * b;  * c. the radicle enclosed in the coleorhízon, (root-sheath,) which it must pierce at * c, in order to sink into the earth.


183. Triticum satívum, (wheat,) its monocotyledonous embryo being laid bare.

184. Two incumbent cotyledons, and rootlet, (radicle.) * Brx.

185. Section of incumbent cotyledons, and rootlet, (radicle.) * Brx.

186, 187. Two accumbent cotyledons, and rootlet. 187. Section of the same. * Brx. See Fig. 189, and 191.

188. Dog-rose, (rosa canína,) several parietal ovaries attached to the side or (wall) of a monosépalous, pitcher-shaped, (urcéolate,) calyx.

189, 191. Two-folded incumbent cotyledons, and rootlet. 191. Section of the same. * Brx.

190. Hypogynous stamens, that is, inferior, inserted beneath the germen. (See Fig. 193, 194, 195, and 197.)

191. (See back.)

192. A kidney-bean, which has germinated:  * a. the radicle.  * b. b. the two cotyledons, which are become séminal, (seed,) leaves.  * c. the stem.  * d. d. the leaflets of the gemmule, forming the two (first) or primordial leaves.

193. Perigynous stamens, borne by the calyx.

194, and 197. Perigynous stamens, borne by the corolla.

195. Epigynous stamens, that is, stamens inserted above the germen, (in the common snow-drop,) Galanthus nívalís.

196. From Lindley; “* a. Plants that have but one cotyledon, or if two, then the cotyledons alternate with each other, are called Monocotyledonous.”

196* Strap-shaped, (ligulate,) floret of a compound flower. 196*, the strap-shaped corolla.  * f. the germen.  * g. the anthers forming a hollow cylinder, through which the pistil passes, with two reflected stigmas.

197. See back, under fig. 194.

198. Pericarp with localicidal dehiscence, (opening.) See Lind-
Ixxxviii EXPLANATION OF THE PLATES.

ley's First Principles of Botany, p. 81, s. 435. 1830. duod.

Fig. 198.*Tubular floret. d. corolla. c. germen. f. pistil.

199. Pericarp with septicidal dehiscence, (opening.) See Lindley's First, &c. p. 80. s. 433.

200. c c. the cotyledons. b. the plumula, or gemmule. a. "the neck, or line of separation between the radicle and the cotyledons." Lindley. 200. The radicle, (or rootlet.)
LINNEAN CLASSES AND ORDERS,

WITH THEIR RESPECTIVE GENERA.
LINNEAN CLASSES AND ORDERS,

WITH THEIR RESPECTIVE GENERA,¹

Defined and arranged chiefly according to essential,² and artificial characters, with notices of the species belonging to anomalous classes, at the end of each Class, and Order. N. O. Natural Order.

First Class. MONANDRIA. 1 Stamen.

Order I. MONOGYNIA. 1 Pistil.

(Divisions) * Seed one.


** Seeds several.


Some species of Salix, (Willow,) belong to this Class.

Order II. DIGYNA. 2 Pistils.


¹ See Gaertner's fine work, and Baxter's Plates.
² In the body of the Flora, the Genera are placed in a series of natural affinity. The essential characters "comprehend the distinctions requisite to discriminate each genus from every other."
Class II. DIANDRIA. 2 Stamens.

Order I. MONOGYNIA. 1 Pistil.

* Flowers inferior, one-petalled, regular.


Fra'xinus, (Ash.) Corolla none, or four-cleft. Capsule compressed, leafy at the end, one or two-seeded. (Some flowers stamenless.) N. O. Jasminæ.—Page 3.

** Flowers inferior, one-petalled, irregular, with a seed-vessel.


***Flowers inferior, one-petalled, irregular; seeds apparently naked.


S'alvia, (Sage, or Clary.) Corolla gaping, (ringent.) Stamens; filaments with two straddling branches. N. O. Labiáte.—Page 8.

**** Flowers superior.


***** Flowers without petals, or four-petalled.


Cladium, (Twig-rush.) Formerly part of Schœnus, pronounce k. Corolla none. Glumes chaffy, sheathing, one-flowered; outer ones empty. Fruit, a nut with a loose outward coat, without any bristles at the base. N. O. Cyperáceæ.—Page 9.

1 Weort, a herb. Ang. Sax.
Fraxinus, (Ash,) without petals. See above.
Lepidium ruderale, has two stamens only.

Order II. DIGYNIA. 2 Pistils.


Class III. TRIANDRIA. 3 Stamens.

Order I. MONOGYNIA. 1 Pistil.

* Flowers superior.

Valeriana, (Valerian.) Corolla five-cleft, one-petalled, gibbous, or spurred at the base. Fruit with one seed, crowned with the feathery seed-down. N. O. Valeriânæ.—Page 10.

Fédia, (Corn-salad.) Formerly part of the genus Valeriana. Corolla one-petalled, five-cleft, gibbous at the base. Capsule crowned with the toothed calyx, without valves, from one to three fertile cells. Seeds solitary. N. O. Valeriânæ.—Page 11.

Crocus, (Crocus.) Corolla segments six, deep, equal; tube very long. Stigmas plaited. N. O. Irideæ.—Page 11.

Iris, (Iris, or Flower-de-luce.) Corolla in six, segments deep, unequal, each alternate segment longer, and bent back. Stigmas two-lipped, like-petals, covering the stamens. N. O. Irideæ.—Page 11.

** Flowers inferior, chaffy. Seed one.


Rhynchospora,2 (Beak-rush.) Corolla none. Spike few-flowered. Glumes, (husks,) tiled all round, with many smaller, empty, outer ones. Seed beaked with the dilated, hardened, permanent base of the style. N. O. The same.—Page 12.

Scîrus, (Club-rush, and Bull-rush.) Corolla none. Glumes, (husks,) tiled all round, uniform, concave, expanded. Style

1 Pronounce skénus.  
2 Ch pronounce like k.
simple at the base, falling off, (deciduous,) "leaving only a small point." N. O. The same.—Page 12.


Juncus conglomeratus, and J. effusus. See in Hexandria Monogynia.

Order II. DIGYNIA. 2 Pistils. True Gramineæ. (Grasses.)—Jussieu.

* Flowers dispersed. Calyx of two to three valves, one-flowered.

Alopecurus, (Fox-tail grass.) Calyx two-valved. Corolla one-valved; simple at the top; awned at the base. Styles combined.—Page 17.

Phleum, (Cat's-tail-grass,) Calyx of two close, parallel, pointed valves, concealing the corolla of two aawnless valves. Seed free. —Page 16.

Phalaris, (Canary-grass,) Calyx of two close, parallel valves, concealing the double corolla of three or four valves; two innermost downy, subsequently hardened, investing the seed.—Page 16.

Mylium, (Millet-grass.) Calyx of two swollen, close valves, enclosing the two-valved corolla. Seed clothed with the hardened corolla.—Page 18.

Agrostis, (Bent-grass,) Calyx of two acute valves, shorter than the corolla, ("longer," H.) Corolla membranous, tufted with hairs at the base, unchanged. Seed free.—Page 18.

Arundo epigejos, and Ar. Calamagrostis. See in the division, ***, and Melica unijflora in division **.

* * Flowers dispersed. Calyx two-valved, containing two or three florets.

Aira, (Hair-grass,) Florets two without any intermediate rudiment. ("Corolla two-valved, membranaceous, thin; the outer
valve awned (rarely awnless near the base."') Seed free. Corolla unchanged.—Page 19.

**Melica,** (Melic-grass.) Florets one or two, with the rudiments of one or two intermediate ones. Seed free, covered with the hardened cartilaginous corolla. (Panicle lax.)—Page 21.

**Holcus,** (Soft-grass.) One floret barren. ("Upper floret with stamens only, and awned: lower floret perfect, awnless.") Calyx keeled. Seed covered by the hardened corolla. (Panicle lax.)—Page 21.

*** Flowers dispersed. Calyx containing many florets.

**Briza,** (Quaking-grass.) Corolla awnless, bellying out, concave, keelless. Seed depressed, united to the corolla. (Panicle) lax.—Page 24.

**Poa,** (Meadow-grass.) Corolla awnless, compressed, keeled, valves somewhat egg-shaped, acute. Seed free, elliptic-oblong. —Page 23.

**Glyc'eria,** (Sweet-grass.) Part of Linnean Genus Poa. Corolla awnless, cylindrical, furrowed, ribbed, abrupt, not keeled. Seed free, cylindrical-oblong.—Page 22.

**Trich'dia,** (Heath-grass.) Part of Poa Linn. Corolla round, expanded, obscurely ribbed, two-valved; outer valve with three nearly equal teeth, the middle tooth straight. Panicle in a raceme, (cluster.) Seed loose, depressed.—Page 24.


**Festu'ca,** (Fescue-grass.) Corolla awned at the top; or pointed, keeled, almost cylindrical, concave; inner valve flat, two-ribbed, downy at the ribs. Seed loose, oblong. Calyx concave, acute, of (two) unequal valves. ("Panicle lax, or close, or spiked.") —Page 25.


**Bromus,** (Brome-grass.) Corolla awned at the back, cloven, concave, hollow; inner valve flat, two-ribbed, bristly at the ribs. Seed united to the inner valve.—Page 28.

**Ave'na,** (Oat, or Oat-grass.) Corolla nearly cylindric, of two spear-shaped valves, firmly inclosing the seed; outer valve bearing a twisted backward dorsal awn.—Page 30.
CLASSES, &c. AND GENERA ARRANGED.

Arundo, (Reed.) Florets one, or many. Corolla surrounded with long, permanent hairs.—Page 31.

**** Flowers crowded (aggregate) on a jointed, or toothed common stalk, with side, small hollows.

Lolium, (Darnel.) Calyx of one valve, opposite to the stalk, fixed, many-flowered.—Page 31.

Triticum, (Wheat, or Wheat-grass.) Calyx of two, cross, opposite valves, solitary, many-flowered: "the sides of one of the valves directed to the spike-stalk, (rachis.)"—Page 33.

Elymus, (Lyre-grass.) Calyx of two parallel valves, crowded; with two or more florets. "Spikelets two or three from the same point. Calyx lateral, both the valves on one side the spikelet.'")—Page 32.

Hordeum, (Barley.) Calyx of two parallel valves, crowded, divided into three, (ternate,?). "Central floret perfect, side ones mostly imperfect, (having often at the back of the inner valve a bristle, or abortive floret: outer valve of the corolla awned. Fruit incorporated with the corolla.'")—Page 32.

Order III. TRIGYNIA. 3 Pistils.

Montia, (Blinks.) Calyx two-leaved. Corolla of five irregular petals, united at the base into one, (one-petalled.) Capsule three-valved, three-seeded. N. O. Portuláceae. J.—Page 34.

Class IV. TETRANDRIA. 4 equal Stamens.

Order I. MONOGYNIA. 1 Pistil.

* Flowers one-petalled, superior, one-seeded.

Dipsacus, (Teasel.) Common calyx many-leaved. Proper calyx single, superior, one-leaved, cup-shaped, crowning the seed. (Flowers in a very close head.) N. O. Dipsáceae.—Page 34.

Scabiosa, (Scabious.) Common calyx many-leaved, Proper calyx double, superior, crowning the seed. N. O. Dipsáceae.—Page 35.


Galium, (Bed-straw.) Corolla flat. Fruit dry.—Page 37.
Asperula, (Wood-ruff.) Corolla tubular. "Fruit without any distinct margin to the calyx.—Page 36.

Sherardia, (Field-madder.) Corolla tubular. Fruit crowned with the calyx, each seed three-toothed.—Page 36.

*** Flowers one-petalled, inferior, (belong to the germen.)


Some of the Gentians belong here.

**** Cor. four-petalled.

Cornus, (Cornel.) Pet. without any nectary. Nut of the drupe (stone-fruit,) two-celled, two seeded.—Page 41.

For Cardamine. See Tetradymania.

***** No Petals.

Parietaria, (Wall-Pellitory.) Cal. four-cleft, inferior. Stamens-filaments, first curved inwards, afterwards expanding with an elastic force. Seed clothed with the lengthened out cal. (Some of the flowers are stamenless, their calyx remaining unaltered.) N. O. Urticeæ. J.—Page 42.

Sanguisorba, (Burnet.) Cal. four-cleft, superior, coloured, with four scales on bracteas at the base. Stamens dilated upward. Caps. square, one-celled, "surrounded by the persistent base only of the calyx." N. O. Rosaceæ. J.—Page 41.

Alchemilla, (Lady’s mantle,) Cal. eight-cleft, inferior. Fruit one, or two-seeded, "surrounded by the persistent calyx." N. O. Rosaceæ. J.—Page 42.

Order II. DIGYNIA. 2 Pistils.

Alchemilla (pron. ke,) see above. The Gentians and Cuscutas; see in Pentandria.

Order III. TETRAGYNIA. 4 Pistils, or Stigmas.

Ilex, (Holly.) Cor. wheel-shaped, one, or four-petalled. Berry four-seeded. Styles none. Some flowers without any pistil (barren.) N. O. Aquifoliacæ. DC. Ilicineæ. Brongniart.—Page 43.
CLASSES, &c. AND GENERA ARRANGED.

**MOENCHIA, (Moenchia.)** Cal. four-leaved. Pet. four, ("as long as the calyx.") Caps. one-celled, one-valved, opening at the end, with eight teeth. N. O. Caryophyllææ. J.—Page 46.


**POTAMOGÉTÓN, (Pond-weed.)** Cal. none. Pet. four. Stamen-anthers stalkless. Seed-nuts four, (apparently naked,) stalkless. ("Flowers stalkless upon a spike or spadix, which issues from a sheathing bractea, or spatha."—Page 43. 

_Cerastium; see in Decandria._

---

**Class V. PENTANDRIA. 5 Stamens.**

Order I. MONOGYNIA. 1 Pistil.

* Flowers one-petalled, inferior (below the germen,) seeds two or four, apparently naked. N. O. Asperifoliae. Linn. Boragíneæ. Jussieu.

**ECHIUM, (Viper’s-bugloss.)** Cor. irregular, throat dilated, naked. Stig. cloven deeply.—Page 51.

**LITHOSPERMUM, (Gromwell.)** Cor. funnel-shaped, throat naked. Cal.-segments five, deep.—Page 48.

**SYMPHYTUM, (Comfrey.)** (Cal. five-cleft.) Cor. closed with converging, awl-shaped scales; limb bell-shaped.—Page 50.

**LYCOPSIS, (Bugloss.)** (Cal. five-cleft.) Cor. closed with convex, blunt scales; tube doubly bent. Seed-nuts hollow at the base. —Page 51.

**ANCHUŠA, (Alkanet.)** (Cal. five-cleft.) Cor. funnel-shaped, closed with convex, blunt scales; tube straight, swollen below. Seed-nuts hollow at the base.—Page 49.

**MYOSOTIS, (Scorpion-grass.)** (Cal. five-cleft.) Cor. salver-shaped, lobes blunt, mouth half-closed with short rounded valves. Seed-nuts perforated at the base, borne by the calyx.—Page 46.

**CYNOGLOSSUM, (Hound’s-tongue.)** (Cal. five-cleft.) Cor. funnel-shaped, (short,) its mouth closed with convex, rounded scales.
Seed-nuts depressed, not perforated, fixed to the style or central column.—Page 49.

**Flowers one-petalled, inferior. Seeds convex in a distinct capsule.**


Primula, (*Primrose; Cowslip; Oxlip.*) (Cal. tubular, five-toothed,) Cor. salver-shaped; tube cylindric; open-mouthed. Stig. round. Caps. one-celled, opening with ten teeth. N. O. Primulaceae. Vent.—Page 52.


Villarsia, (*Yellow Buck-bean Villarsia.*) Cal. five-partite. Cor. wheel-shaped, the limb often fringed, (as with hair.) Caps. one-celled; seeds parietal. H. Br. Fl. N. O. Gentianae.—Page 53.


Hyoscyamus, (*Henbane.*) (Cal. tubular, five-cleft.) Cor. funnel-shaped, (oblique.) Caps. two-celled, opening with a lid. (Stig. headed.)—Page 62.


Convolvulus, (*Bind-weed.*) (Cal. five-cleft.) Cor. bell-shaped, plaited. Stig. two. Caps. from two, to three-celled, with as

 Polemonium, (Jacob's Ladder.) (Cal. five-cleft.) Cor. deeply five-cleft. "Stam. inserted upon the five teeth, or valves, which close the mouth of the corolla." Caps. three-celled, three-valved. (Stig. three.) N. O. Polemoniaceae. J.—Page 56.

 Vinca, (Periwinkle.) (Cal. five-partite.) Cor. salver-shaped, the segments oblique, "spirally tiled in the bud." Seed-follicles two, erect. Seeds simple; (without seed-down.) N. O. Apocynaceae. J.—Page 58.

 Solandum, (Night-shade.) (Cal. five to ten-partite.) Cor. wheel-shaped. Anthers opening with two pores at the extremity. Berry (roundish,) two (or more) celled. N. O. Solanaceae. J.—Page 62.


 *** Flowers one-petalled, superior.

 Scrophularia, (Brookweed.) (Cal. five-cleft.) Cor. funnel-shaped, five-cleft, tube short, with five scales at its mouth, alternate with the corolla lobes. Caps. "half-inferior," one-celled, many seeded, with five valves curved back. "Seeds upon a large central, free receptacle." N. O. allied to Primulaceae Br.—Page 64.


 Campaunula, (Bell-flower.) Cor. bell-shaped, (or sometimes somewhat wheel-shaped.) Stam.-filaments dilated at the base. Stig. two, or three-cleft, turned back, (revolute,) Caps. two, to five-celled, bursting on the side, "rarely at the extremity." N. O. Campanulaceae. J.—Page 56.


 *** Flowers of five, or of four petals, inferior (below the ger-

 Rhamnus, (Buckthorn.) Cal. "pitcher-shaped." H. Funnelshaped. Sm. bearing the petals. (Stam. opposite the petals.)

Euonymus, (Spindle-tree.) "Cal. flat, four to five-cleft, having a targeted (peltate) disk within. Pet. four to five. Stam. alternating with the petals, inserted upon glands at the margin of the disk. Caps. with three to five angles, and as many cells and valves. Seeds with a coloured, fleshy seed-coat, (arillus)." H. N. O. Celastrineæ. Br.—Page 66.

Vi'ola, (Violet.) Cal. of five leaves, extended at the base. Cor. irregular, five-petalled, the under petal spurred at the base. (Anthers joined together, (connate,) two-spurred behind,) Caps. one-celled, three-valved. N. O. Violariææ. DC.—Page 59.

Ribes, (Currant and Gooseberry.) Cal. five-cleft, bearing the petals (and stamens.) Style divided. Berry one-celled, many-seeded. N. O. Grossulariææ. DC.—Page 66.


Order II. DIGYNIA. 2 Pistils.

* Corollas one-petalled, inferior (below the germen.)


* * Corolla wanting. Seed one.

Chenopo'dium, (Goosefoot.) Cal. inferior, five-cleft, persistent, and unchanged, closing upon, yet not wholly clothing the fruit. Seed one, round, coated. N. O. Chenopódææ. DC.—Page 69.
ULMUS, (Elm.) Cal. superior, persistent, four, to five-cleft. Caps. closed, membranous, compressed, winged all round, (this fruit, styled a Samara;) one-seeded. N. O. Ulmaceae. Mirb.—Page 71. Polygtonum amphibium; see Octandria.

**Corolla five-petalled, superior (above the germin.) Seeds two.

Umbellate plants. N. O. Umbelliferae to the end of Pentandria Digynia.

Leaves mostly repeatedly compound. Flowers white, reddish, or yellow, (generally small.)

Dr. Hooker allows that "Sprengel and Smith have made great improvements in the formation of the Genera" of this Natural Order: but Dr. Hooker gives a preference to a different arrangement, to which the reader is referred, in his masterly British Flora, vol. i. p. 112. 1830. The arrangement and characters here adopted, are those of Sir J. E. Smith.

A. Fruit a single, or double globe.

CORIANDRUM, (Coriander.)

B. Fruit beaked.


ANTHRISCUS, (Beak-parsley.) Beak shorter than the seeds, even. Fruit rough with scattered, prominent bristles. Cal. none. Pet. equal, inversely heart-shaped. Floral-receptacle slightly bordered.—Page 76.


C. Fruit solid, prickly, beakless.


CLASSES, &c. AND GENERA ARRANGED.

Caúcalis, (Bur parsley.) Fruit elliptic-oblong, compressed across. Seeds with four rows of ascending, awl-shaped, hooked prickles, the interstices prickly or rough. Cal. broad, acute, unequal. Pet. inversely heart-shaped, unequal. Fl. imperfectly separated.—Page 75.


Myrrhis (odoráta.) See D.

D. Fruit solid, nearly round, unarmed, wingless.


E. Fruit solid, unarmed, wingless, compressed on the side, its cross diameter being at least twice the breadth of the joining (juncture.)


Contúm, (Hemlock.) Fruit egg-shaped, with ten acute ribs, wavy in an unripe state. Cal. scarcely distinguishable. Pet. in-


F. Fruit solid, unarmed, compressed across, the joining (juncture) being broader than the cross diameter.


G. Fruit thin, almost flat, compressed across without back (dorsal) wings.

Pastina'ca, (Parsnep.) Seeds elliptic-inversely egg-shaped, with a slight notch at the top, very nearly flat, with three back (dorsal) ribs, and two marginal ones; border narrow, flat, thin, even, smooth, entire. Cal. very small, scarcely distinguishable. Pet. broadly spear-shaped, rolled inwards, equal. Floral-receptacle broad, round, wavy, rather thin, concealing the calyx. Fl. regular, uniform, perfect.—Page 84.

Heracle'um, (Cow-parsnep.) Seeds inversely heart-shaped, with a notch at the summit, very nearly flat, with three slender, back (dorsal) ribs, and four intermediate, coloured, depressed, abrupt lines from the top; border narrow, slightly swollen, smooth, even, entire. Cal.-teeth five, small, sharp, withering away (evanescent.) Pet. inversely heart-shaped, radiant. Floral-receptacle wavy, notched, blunt. Fl. separated.—Page 85.


End of the Umbelliferous Genera.

Order III. TRIGNYNA. 3 Pistils.

* Flowers superior (above the germin.)


** Flowers inferior (below the germin.)
Chenopodium; see Pentand. Diggia; and Stellaria, in Decandria.

Order IV. TETRAGYNIA. 4 Pistils.


Order V. PENTAGYNIA. 5 Pistils.

Cerastium semidecandrum; see in Decandria; Spérgula also.

Order VI. HEXAGYNIA. 6 Pistils.


Order VII. POLYGYNIA. Many Pistils.

MYOSURUS, Mouse-tail. Cal. five-leaved, spurred at the base. Cor.-pet. five, with tubular, honey-bearing claws. "Caps. (called seeds by some) not opening (indehiscent,) one-seeded, collected upon a very long, columnar receptacle." N. O. Ranunculaceae. J.—Page 90.
Ranunculus; see in Polyandria.

Class VI. HEXANDRIA. 6 Stamens of equal height.

Order I. MONOGYNIA. 1 Pistil.

* Flowers with calyx and corolla.

BERBERIS, Barberry. Cal. six-leaved, inferior, (coloured,) falling off, (deciduous.) Pet. six, (each with two glands at the base.)


Lythrum hyssopifólium; see in Dodecandria.

** Flowers without calyx, superior (above the germen.)


Galanthus, Snow-drop. Cor. six-petalled, three, inner petals shorter, abrupt, notched. (Fl. from a sheath.) N. O. Amaryllideæ. Br.—Page 90.

Narcissus, Narcissus, or Daffodil. Cor. six-petalled, attached to a bell-shaped, (or cup-shaped,) crown or nectary, within which are the stamens. N. O. Amaryllideæ. Br.—Page 91.

*** Flowers without a calyx, inferior (below the germen.)


** Flowers husky, with no petals, inferior.


Peplis. See in division*; and the genus Polygonum, in Octandria.

Order II. DIGYNIA. 2 Pistils.


Order III. TRIGYNIA. 3 Pistils, or Stigmas.


Elatine; see Octand. At p. 116.—For “Near, &c.” read Virginia Water, Surrey.

Order IV. POLYGYNIA. Many Pistils.

six, or more, clustered. Seeds one, or two. N. O. Alismaceae. DC.—Page 105.

Class VII. HEPTANDRIA. 7 Stamens.

Order I. MONOGYNIA. 1 Pistil.

Trientalis europaea is the only British plant, of this Class, and Order. For Ulmus montana. See Pentandria.

Class VIII. OCTANDRIA. 8 Stamens.

Order I. MONOGYNIA. 1 Pistil.

* Flowers with calyx and corolla (complete.)


Calluna, Ling. Cal. double, each of four leaves. Cor. one-petalled, bell-shaped.) Caps. superior; “partitions adhering to the axis of the fruit, valve opening at the partitions, and separating from them.” N. O. Ericææ. J.—Page 110.

Monotropa Hypopitys; see Decandria.
CLASSES, &c. AND GENERA ARRANGED.

** Flowers without corolla (apétalous.)


(DIGYNIA. 2 Pistils.)

Polygonum; see in Octand. Trigyn. and Chrysosplenium, and Sceleranthus, in Decandria Digynia.

Order II. TRIGYNIA. 3 Pistils.

Polygonum, Persicaria; Bistort; Knot-grass; and Buck-wheat. Cal. coloured, inferior; segments deep, several. Cor. none. Fruit-nut one-seeded, compressed, or three-cornered. (Styles two to three.) N. O. Polygónea. J.—Page 112.

Order III. TETRAGYNIA. 4 Pistils.


Class IX. ENNEANDRIA. 9 Stamens.

Order I. HEXAGYNIA. 6 Pistils.


Class X. DECANDRIA. 10 Stamens.

Order I. MONOGYNIA. 1 Pistil.

* Flowers many-petalled (polypétalous.)

Monotropa, Bird's-nest. Cor.; pet. ten or eight; five or four, outer-ones protuberant at the base (hooded.) Anth. one-celled,


**Flowers one-petalled, (monopetalous,) equal.**


*Vaccínium Myrtillus,* see *Octandria.*

Order II. DIGYNIA. 2 Pistils.


Order III. TRIGYNIA. 3 Pistils.


*Silenæ,* Catch-fly; Bladder-Campion. *Cal.* one-leaved, tubular,

Polygōnum aviculare; see Octandria.

Order IV. PENTAGYNIA. 5 Pistils.

COTYLE'don, Navelwort. Cal. five-partite. Cor. one-petalled, tubular, five-cleft. Caps. five, each with a scale at its base.—Page 125.

Sedum, Stone-crop; Orpine. Cal.-segments, five; (or from four to eight,) deep. Cor.-pet. five, spreading. Germ. five, each with a scale at its base. N. O. Crassulaceæ. DC.—Page 125.


Lychnis, Lychnis. Cal. tubular, five-toothed, of one-leaf, (monophyllous,) membranous. Cor.-pet. five, clawed, crowned at the mouth, mostly divided at the border.) Caps. five-celled, or one-celled, many-seeded. N. O. Caryophyllææ. J.—Page 128.


Stellaria uliginosa (Larbréa. DC. See in Decandria Trigynia, Adoxa; see in Octandria.
Class XI. DODECANDRIA. 12 to 19 Stamens inclusive.

Order I. MONOGYNIA. 1 Pistil.


Order II. DIGYNIA. 2 Pistils.


Order III. TRIGYNIA. 3 Pistils.

Reseda, Rocket; Mignonette. Cal. of one piece. Cor.-pet. more or less divided, unequal. Caps. one-celled, gaping at the top. N. O. Resedâceæ. DC.—Page 133.

(TETRAGYNIA. 4 Pistils.)

Tormentilla officinalis; see in Icosandria.

Order IV. DODECAGYNIA. Pistils 12.


Class XII. ICOSANDRIA. 20 Stamens, or more, placed on the calyx.

The genera and species of this class belong to the Nat. Order Rosâceæ of Jussieu.

Order I. MONOGYNIA. 1 Pistil.

Prunus, Plum, and Cherry. Cal. inferior (below the germen,) five-cleft. Cor.-pet. five. Nut of the stone-fruit (drupe) with slightly prominent seams.—Page 131.
Order II. PENTAGYNIA. 2 to 5 Pistils.


Spirea, Drop-wort, Meadow-sweet. Cal. inferior, five-cleft, persistent. Cor.-pet. five. Caps. three to twelve, one-celled, two-valved; valves membranous. Seeds few, H. numerous, Sm.—Page 137.

Order III. POLYGYNIA. Many Pistils.

Rosa, Rose. Cal. urn-shaped, fleshy, contracted at the mouth, five-cleft. Cor.-pet. five, pericarps, seeds, (carpels) many, bristly, fixed to the inside of the calyx, whose tube is, at length, pulpy, and lined with hairs.—Page 138.

Rubus, Bramble, and Raspberry. Cal. five-cleft. Cor.-pet. five. Fruit superior (placed above the calyx,) of many single seeded juicy stone-fruits, (drupes,) upon a protuberant, permanent, spongy receptacle.—Page 142.

Tormentilla, Tormentil. Cal. eight-cleft, with segments alternately smaller. Cor.-pet. four. Fruit numerous, small nuts upon a dry, small receptacle.—Page 145.

Geum, Avens. Cal. ten-cleft, alternate segments very small. Cor.-pet. five. Pericarps (by some called seeds) each with a long, jointed, bent, hooked awn, or tail. Receptacle lengthened out.—Page 146.

Fragaria, Strawberry. Cal. ten-cleft, with segments alternately smaller. Cor.-pet. five. Fruit of many very small nuts, (by some called seeds), upon a large, pulpy, deciduous, (falling) receptacle.—Page 144.

Comarum, Marsh-cinque-foil. Cal. ten-cleft, or more, segments alternately smaller. Cor.-pet. five, (or more,) shorter than the calyx. Pericarps, (seeds,) inserted on a large, spongy, permanent, hairy receptacle.—Page 147.

Potentilla, Cinque-foil. Cal. ten-cleft, segments alternately smaller. Cor.-pet. five. Fruit of numerous very small nuts (seeds,) placed upon a dry, small receptacle. Seeds naked, rugged, beardless. Sm.—Page 144.

Spirea Filipendula, and Sp. Ulmaria; see in Icosand. Pentagynia.
Class XIII. POLYANDRIA. Numerous Stamens on the Receptacle.

Order I. MONOGYNIA. 1 Pistil.

* Petals four.


Che'li'do'niu'm, Celandine. Cal. two-leaved. Pod one-celled, two-valved. Seeds crested.—Page 147. N. O. Papaveráceae. J.

** Petals five.

Cisti'us, Cistus. Cal. leaves, five, permanent, two outer leaves, smaller. Caps. of several valves. Seeds numerous.—Page 151. N. O. Cistíneae. J.

Ty'lia, Lime-tree. Cal. of five, deep, valvular, equal segments; cal. falling before the flower, (deciduous.) Fruit leathery, of several close cells, without valves. Seeds few.—Page 150. N. O. Tiliáceae. J.

Delphi'nium Consolida; see under Pentagyn.

*** Petals numerous.


Nuphar, Yellow Water Lily. Pet. inserted upon the receptacle, furrowed, honey-bearing at the back. Berry many-celled, coated.—Page 149. N. O. Nympháeaceae. DC.

Order II. PENTAGYNIA. 2 to 6 Pistils.

Delphi'nium, Larkspur. Cal. none. Pet. five, or more, the upper one spurred. Nect. divided, tubular, stalkless, within the spur.—Page 152. N. O. Ranunculáceae. J.


Order III. POLYGYNIA. Many Pistils.

All the Genera of this third Order belong to N. O. Ranunculáceae. J.


ANEMONE, Anemone. Cal. none. Pet. from five to nine. Involucre of three divided leaves, more, or less distant from the flower. Seeds numerous. (Pericarps with, or without awns.—) Page 152.


RANUNCULUS, CROWFOOT, or Ranunculus. Cal. five-leaved (rarely 3, H.) Pet. five, sometimes more, with a nectary at the base of each. Pericarps (seeds) without awns, numerous.—Page 154.


Class XIV. DIDYNAMIA. Four Stamens, of which, two are longer.

Order I. GYMNOSPERMIA. Seeds apparently naked, four (at most.)

All the Genera of this order, (Gymnos.) belong to Jussieu’s N. O. of Labiátæ; Linnaeus’s Verticillátæ. In this order, the stems are square, leaves opposite. Fl. mostly whorled. The genera, Ly’copus, and Salvia, diandrous plants, belong to this N. O. Labiátæ.

* Calyx in five segments, nearly regular.


MENTHA, Mint. Cor. nearly regular, four-cleft, tube very short. Stam.-filaments naked, spreading wide, straight. (Anthers with two parallel cells.)—Page 162.
Teucrium, Germander. Cor. upper lip in two very deep, distant, side lobes.—Page 160.

Ajuga, Bugle. Upper lip of the cor. minute, abrupt, notched; (lower lip, larger, spreading, three-cleft)—Page 160.


Lamium, Dead-nettle. Cor. toothed on each side of the throat.—Page 165.

Galeopsis, Hemp-nettle. Cor. upper lip with a pair of hollow prominences at the base, in front. Page 166.

Galeobdolon, Weasel-snout. Cor. lower lip in three, nearly equal, sharp, undivided lobes.—Page 167.


Neptea, Cat-mint. Cor. lower lip with numerous notches; throat bordered, bent back on each side.—Page 161.


Verbeňa, Vervain. Cal. five-toothed, one tooth abrupt, generally shorter. Cor. nearly equal, curved. Stam. included in the tube, sometimes two, instead of four.) N. O. Verbenáceae. J. This genus placed by H. in the Order, Angiospermia.—Page 162.

*** Calyx two-lipped.

Scutellaria, Skull-cap. Cal. after flowering, its two nearly equal, entire lips closed, as it were, by a back lid.—Page 172.

Thymus, Thyme. Cal. closed with dense, converging hairs, that is, approaching each other at the top.—Page 170.

Clinopodium, Wild Basil. Cal. many-ribbed. Involúcre, or linear bracteas, composed of numerous taper leaves, under the flowers.—Page 170.

Origanum, Marjoram. Cal. ribless. Involucré of numerous, dilated, flat leaves, one to each flower, ("resembling a catkin tiled with bracteas.”—Page 170.

Prunella, Self-heal. Stam. filaments forked, one of the points anther-bearing.—Page 173.
Order II. ANGIOSPERMIA. Seeds in a distinct capsule, mostly numerous.

* Calyx four-cleft.

Lathrea, Toothwort. A depressed gland at the base of the ger-
men. Caps. one-celled, with two spongy receptacles in the middle of each valve. N. O. Orobancheæ. Richd.—Page 175.


Rhinanthus, Yellow-rattle. Caps. two-celled. Seeds compressed,

Melampyrum, Cow-wheat. Caps. two-celled. Seeds in pairs,
gibbous at the base, smooth. N. O. Melampyracææ. Richd.
—Page 174.

Euphrasia, Eye-bright. Stam. anth. thorny, (spinous,) "cells of
the anthers, spurred at the base." Caps. two-celled. Seeds
slightly furrowed, (striated.) N. O. Scrophularineæ. J.—
Page 174.

** Calyx five-cleft.

Limosella, Mud-wort. Cor. bell-shaped, nearly equal. (Stigma
headed.) Caps. round, two-valved, imperfectly two-celled.

Digitalis, Fox-glove. Cor. bell-shaped, swollen beneath. Stam.

Antirrhinum, Snap-dragon, Toad-flax. Cor. masqued, (closed
with a palate;) gibbous, or spurred at the base behind. Caps.
two-celled, bursting at the top, unequally. N. O. Scrophulari-

Pedicularis, Lousewort. Cor. gaping, (ringent,) lip, upper, com-
pressed on the sides. Caps. two-celled, compressed. Seeds

*** Calyx two-leaved.

Orobanche, Broom-rape. Cal.-leaves lateral (from the side.)
Germ. with a gland at its base beneath. Caps. one-celled, with
four receptacles.1—Page 181.

---

1 That part of the pericarp, the placenta, to which the seeds are attached, is said to be parietal, when fixed to the walls of the cells of a pericarp. Richd. Seeds on parietal longitudinal receptacles in this genus.
Class XV. TETRADYNAMIA. Six Stamens, four longer than the rest.

This class forms the Natural Order of Jussieu's Cruciferae, (Cruciform plants,) in which the stem is round. _Ls._ generally alternate. _Fl._ without bracteas, mostly white, or yellow. _Cor._ four-petalled, cross-shaped, (cruciform.) _Seeds_ warm, pungent.

Order I. SILICULOSA. Fruit a short pod, or pouch.

The sections of this class, Tetrodynamia, are made from distinctions in the _cotyledons_; distinctions easily perceived by a removal of the seed-skin. The two cotyledons are either _incumbent_, that is, lying upon the _embryo_ laterally, (sideways,) or _accumbent_, that is, when their edges, at one side, meet the _embryo_ lengthwise.—See notes, over leaf.

*Cotyledons accumbent.


_Hutchinsia._ _Pouch_ nearly entire; valves keeled, not bordered. _Seeds_ two, at least, in each cell. _Stam._filaments simple.—Page 307.

_Cochlearia, Scurvy-grass, (Horse-radish.)_ _Pouch_ nearly entire, rugged; _valves_ two, swollen. _Seeds_ many.—Page 185.


_Teesdalía, Teesdalia._ _Stam._ _Filaments_ each bearing a scale within at the base. _Pouch_ cloven, inversely heart-shaped, _valves_ keeled. _Cells_ two-seeded.—Page 184.

**Cotyledons incumbent.


_Senebiera, Wart-cress._ _Pouch_ two-lobed, nearly entire; transversely compressed, wrinkled; _valves_ none. _Seeds_ one in each cell.—Page 186.

_Lepidium, Pepperwort._ _Pouch_ cloven, elliptical, two-celled, the two _valves_ keeled. _Cells_ one-seeded.—Page 183.
Order II. SILIQUE'SA. Fruit, a long pod, with numerous seeds.

* Cotyledons flat, accumbent. 1

Cheiranthus, Wall-flower. Cal. closed, two of its leaflets prominent at the base. Stig.-lobes, two spreading ones, or headed, (capitate.) Pod somewhat compressed, straight.—Page 192.


'Arabis, Wall, or Rock-cress. (Cal. erect.) Pod linear; valves flat. Seeds in one row.—Page 193.

Turritis, Tower-mustard. Pod linear, and (lengthened out;) valves flat, keeled. Seeds in two rows.—Page 194.

Cardamine, Ladies' Smock, or Cuckoo-Flower. Pod linear; valves flat, nerveless, generally separating elastically from the base. Seed-stalks slender.—Page 187.

Dentaria, Coralwort. Pod narrow-spear-shaped; valves flat, narrower than the partition, nerveless, generally separating elastically. Seed-stalks broad, flat.—Page 187.

* * Cotyledons flat, incumbent. 2


He'speris, Dame's-violet. Cal. closed, with two protuberances at the base. Stig. nearly stalkless, of two converging, (approach-

1 Cotyledons flat, accumbent, i.e. embryo-rootlet lying sideways, along the chink, made by the cotyledons. In this case the embryo rootlet is in the same line, (or nearly so,) with the two cotyledons. Not unlike the blade of a clasp knife, slightly open; the blade representing the embryo-rootlet, and the hollow handle the two accumbent cotyledons. Cotyledons flat, incumbent, i.e. the embryo-rootlet, lying over the middle of the back of one of the incumbent cotyledons. Three leaves of a cut book, would represent the positions; for example, the two bottom leaves of the book would represent the positions of the two incumbent cotyledons, and the remaining topmost third leaf, would represent the position of the embryo-rootlet upon, or under the two cotyledons. The seeds of the common garden candy tuft, (Iberis,) afford an easy example of incumbent cotyledons: the seed of Lepidium campestre, of incumbent cotyledons. The seeds of Raphanus Raphanistrum, of folded cotyledons. The outer skin of the green, full grown seeds should be carefully stripped off with a needle: they may be examined with the microscope, or with the naked eye. R. W.

2 In the case of incumbent cotyledons, the back of one of the cotyledons is applied to the curved radicle; in the case of accumbent, the edges of the cotyledons are applied to it.—Baxter. See Plate, 184, &c.
ing each other at the top,) lobes. Pod inaccurately four-cornered.—Page 192.


*** Cotyledons folded, incumbent.

BRA*SICA, Cabbage; Turnip; Cole-seed. Cal. closed. Pod nearly cylindric, two-valved, beaked.—Page 194.


Class XVI. MONADELPHIA. Stamen-filaments combined in one set.

The union of filaments is not easily seen in Erodium, and Geranium.

Order I. PENTANDRIA. 5 Stamens.


Lysimachia vulgaris; see Pentand. Monog.

Linum; see Pentand. Pentag.

Geranium pusillum; see Monadelp. Decandria.

Order II. DECANDRIA. 10 Stamens.


For the genera Oxalis, Spârtium, Genista, Anthyllis, Ulex, Ononis; see Diadelphia; except the first which is placed in Decandria Pentag.

Order III. POLYANDRIA. Many Stamens.

MALVA, Mallow. Styles many. Cal. double; outer one, three-

---

Class XVII. DIADELPHIA. Filaments combined in two sets,

Except in the genera *Spártium, Genista, Anthyllis, Ulex,* and *Ononis,* where they are all connected at the base, (monadelphous.)

Order I. HEXANDRIA. 6 Stamens.


Order II. OCTANDRIA. 8 Stamens.


Order III. DECANDRIA. 10 Stamens; comprising the N. O. Leguminósæ, Juss. Papilionáceous. Linn. &c.

*Stamen*-filaments all connected at the base, the tube generally split above.


*Ulex, Furze.* Cal. two-leaved, with a small scale, each side, at the base. *Legume-pod* swollen, not much longer than the calyx. —Page 205.
Anthyllis, Kidney-vetch. Cal. swollen, permanent, enclosing the legume-pod.—Page 206.


** Stigma or style downy. Stamens nine united, with one free, (diadelphous.)

Orobus, Bitter-vetch. Style linear, almost cylindric. Stig. downy along its upper side.—Page 206.

Lathyrus, Vetchling. Style flattened, broader upwards. Stig. downy along the broad upper half of the style.—Page 207.

Vicia, Vetch. Style hair-tufted beneath the stigma, in front.—Page 208.

Ervum, Tare. Stig. headed, downy all over.—Page 209.

*** Legume-pod two-celled more or less completely; without the former characters.

Astragalus, Milk-vetch. Legume-pod swollen, cells two, longitudinal, (“cells formed by the bent in margins of the lower suture.”)—Page 211.

*** Legume-pod scarcely more than one-seeded; without the former characters.

Trifolium, Trefoil, Clover, Melilot. Legume pod scarcely, if longer than the calyx, one-seeded, seldom more, falling off, (deciduous,) not opening. (The Fl. are in heads. Ls. in threes.)—Page 212.

***** Legume-pod jointed, excluding the former characters.

Hedysarum, Sainfoin, Fr. Legume-pod of one or more compressed, (roundish,) close, one-seeded joints. Fl.-keel very blunt.—Page 211.


Hippocrepis, Horse-shoe-vetch. Legume-pod compressed, curved inwards, with many curved joints, (“so that each legume-pod has several deep notches on one side.”)—Page 210.

***** Legume-pod spiral, or hooked; (excluding the former characters.)

Medicago, Medick. Legume-pod spiral, or hooked, compressed. Pistil pressing back the flower-standard.—Page 216.

****** Legume-pod one-celled, many seeded, (excluding the former characters.)

Class XVIII. POLYADELPHIA. Combined Filaments in more sets than two.

Order I. POLYANDRIA. Many Stamens.


Class XIX. SYNGENESIA. Anthers united into a tube. Compound flowers. N. O. Compósitæ of Linn., and Jussieu.

Order I. POLYGAMIA ΑEQUALIS. Florets all perfect, each with five Stamens, one Pistil, and one-seeded.

* Corolla of each floret strap-shaped, (ligulate.) The semi-floscular order of Tournefort, and the perfectly N. O. Cichóraceæ, of Jussieu.

Milky, bitter plants. Ls. alternate. Fl. mostly yellow.

Hyperéris, Cat's-ear. Cal. somewhat tiled; oblong. Receptacle chaffy. Seed-down feathery; (stalked, or stalkless.)—Page 227.

Cichórium, Succory. Cal. double; "Involucre of eight scales, surrounded by five smaller ones at the base." H. Receptacle slightly chaffy. Seed-down chaffy, shorter than the seed.—Page 227.

Crepis, Hawk's-beard. Cal. double; outer one lax, swollen, falling off, (deciduous.) Receptacle naked. Seed-down simple, stalkless.—Page 226.

CLASSES, &c. AND GENERA ARRANGED. cxxv


PICRIS, Ox-tongue. Cal. double; inner one equal; outer one lax. Recept. naked. Seed-down feathery. Seeds transversely furrowed.—Page 221.


** All the florets tubular, mostly spreading in the limb, forming an hemispheric head. Capitati (headed.) Cinarocéphale of Jussieu, Thistle-tribe.

Ls. alternate. Fl. mostly red, or purple.

CARDI'NA, Carline-thistle. Cal. swollen, tiled; outer scales thorny (spinous); inner ones coloured, polished, spreading, membranous, radiant. Recept. chaffy. Seed-down feathery.—Page 233.

ARCTIUM, Burdock. Cal. round, (globose,) each calyx-scale with a hook curved inwards, at the end.—Page 228.


*** Florets all tubular, parallel, forming nearly a level top, rayless. (Discoid flowers.) Part of the N. O. Corymbiferae of Jussieu.

Eupato'rium, Hemp-agrimony. Cal. tiled, oblong. (Fl. few.) Style cloven half way down, prominent. Recept. naked. Seed-down rough.—Page 234.

Biden's, Bur-marigold. Cal.-scales many, parallel, channelled. (Cor. sometimes rayed.) Recept. plain, chaffy. Seed-down rough, with minute bristles, bent downwards.—Page 234.

Tanace'tum vulg. See in Polyg. superfl., also Senécio vulgáris.

Order II. POLYGAMIA SUPERFLUA. Florets of the centre complete, that is, with Stamens and Pistils; those of the circumference with Pistils only: all seed-bearing.

* Corollas of the marginal florets scarcely distinguishable, or wanting. (Discoid.) N. O. Part of Corymbiferae, Juss.


Gnapha'lium, Cudweed. Cal. tiled; scales membranous; (filmy) often coloured. Fl. of the circumference awl-shaped. Recept. naked. Seed-down rough, or feathery.—Page 236.

Artemi'sia, Wormwood, Mugwort. Cal. tiled; scales rounded, converging, (approaching each other at the top.) Fl. of the circumference awl-shaped, entire. Seed-down none. Recept. naked, or hairy.—Page 235.

Tussilago Petasites. See in Polyg. Superf.

** Corollas of the marginal florets strap-shaped, (ligulate.) Radiate, (or rayed) flowers.


Pyrethrum, Feverfew. Cal. hemispheric, tiled; scales somewhat acute, with membranaceous margins. Recept. naked. Seed crowned with a border.—Page 245.


Solidago, Golden-rod. Cal. with close scales, tiled. Fl. of the ray, about five; (yellow.) Recept. naked, pitted. Seed-down simple, stalkless.—Page 242.

Senecio, Groundsel, or Ragwort. Cal. double; the inner one cylindric; scales numerous, equal, outer calyx of smaller scales at the base, all withered, or brown at the end. Recept. naked. Seed-down simple.—Page 240.


Cineraria, Flea-wort. Cal. simple, cylindric; scales many, equal, upright. Recept. naked. Seed-down simple. Seed four-cornered. (Fl. yellow.)—Page 244.


Achillea, Yarrow. Cal. egg-shaped; scales, tiled, unequal. Fl. of the ray from five to ten, roundish, somewhat inversely heart-shaped. Recept. chaffy. Seed-down none.—Page 248.

Bidens cernua, occasionally rayed. See the Genus.

Order III. POLYGAMIA FRUSTRANEA. Florets of the centre (disk) perfect, and seed-bearing; those of the circumference barren, (neuter.) N. O. Part of Juss. Cinarocephale.

Centaurea, Knapweed; Blue-bottle; and Star-thistle. Cal. tiled. Fl. of the ray, (without stamens, or style,) funnel-shaped, irre-

1 Pronounce kil'ëa.
gular, longer than those of the centre, or disk. *Recept.* bristly. *Seed-down* simple, or feathery; rarely none.—Page 249.

---

Class XX. GYNANDRIA. Stamens situated upon the style, or column, or upon the germen. All of N. O. Orchideae. J., except Aristolochia.

Order I. MONANDRIA. Stamen, or stalkless Anther one.

* * Anther of two distinct, vertical cells, fixed to the top of the column.


Hermium, Musk-orchis. *Cal.* somewhat spreading. *Cor.-pet.* with side lobes, like the nectary, which is flat without a spur.—Page 256.

** *Anther parallel to the stigma, of two-cells, close together, permanent.

Neo'ttia, Lady's Tresses. *Cal.* converging, embracing the base of the flat nectary, which is without a spur. *Cor.-pet.* converging. *Column* wingless.—Page 257.


*** *Anther terminal, fixed.

Epipactis, Helleborine. *Lip* (*Nectary*) very hollow at the base, the extremity undivided or three-lobed, the middle lobe largest, and as it were jointed.—Page 259.

Order II. DIANDRIA. 2 Stamens, or stalkless Anthers.  

Cypripe'dium. Lady's Slipper.—Page 260.

Order III. HEXANDRIA. 6 Stamens, or stalkless Anthers.

Class XXI. MONOECIA. Stamens and Pistils in separate flowers, on the same plant.

Order I. MONANDRIA. 1 Stamen.


(DIANDRIA. 2 Stamens.)

Carex. See in Order II.

Order II. TRIANDRIA. 3 Stamens.


Typha, Reed-mace. Fl. collected into very close, cylindric spikes or catkins. Stamen-bearing flower. Cal. none. Cor. none. "Stam. three together upon a chaffy, or hairy receptacle, united below into one filament."

Order III. TETRANDRIA. 4 Stamens.


Order IV. PENTANDRIA. 5 Stamens.


**Fagus**; Quercus; see in Monoecia Polyandria: *Atriplex*, in Polygamia.

Order V. HEXANDRIA. 6 Stamens.

**Rúmisces.** See in Hexandria. Quercus in Monoecia Polyandria.

Order VI. POLYANDRIA. 7 Stamens, or more.


**Poterium**, Salad-burnet. Fl. collected into a head: upper ones fertile.

Stamen-bearing flower. Cal. three-leaved, Sm. of four deep segments. H. Cor. deeply four-cleft. Sm. (Cor. six-cleft, H.) Stam. thirty, to forty, or more.

Pistil-bearing flower. Cal. "tubular, contracted, at the mouth, with four deciduous (falling off) teeth. H." Cal. three-leaved. Sm. Pistils one, or two. Stig. tufted. Pericarps two, one-
seeded, clothed with the hardened, four-angled tube of the calyx.


Sagittaria, Arrow-head. Stamen-bearing flower. Cal. three-leaved. Cor.-pet. three. Stam. many, (about twenty-four.)


Pistil-bearing flower. Cal. double; outer inferior, prickly, in several deep segments, two, or three-flowered, inner calyx superior, five, or six cleft. Cor. none. Styles five, or six. Nuts two, or three, loosely clothed with the spreading outer calyx. N. O. Amentáceae. J.—Page 283.

Quercus, Oak. Stamen-bearing flower in a lax catkin or spike. Cal. five, to seven-cleft. Stam. five, eight, or more.


Pistil-bearing flower, in a lax catkin. Cal. double; outer one inferior, of several deciduous (falling off) scales; inner calyx superior, in three, deep, sharp segments, permanent. Cor. none.
CLASSES, &c. AND GENERA ARRANGED.


**Arum, Cuckoo-pint Arum.** Sheath (spatha) one-leaved, rolled inwards at the base, enclosing a common-stalk, naked above. *Cor.* none. Spadix with germen at the base. *Stam.* stalkless, near the middle of the spadix which is naked above. *Berry* one-celled, many-seeded. N. O. Aróideae. J.—Page 280.

Order VII. MONADELPHIA. Filaments united below.

(Pinus, *Fir.*)

**Typha.** See in Monoecia Triandria.

---

**Class XXII. DIOECIA.** Stamens and Pistils in separate flowers, on different plants.

In MONANDRIA. 1 Stamen.

Several *Salices,* (Willows.)

Order I. DIANDRIA. 2 Stamens.

**Salix,** Willow, Sallow, and Osier.

By *Osiers* are meant, in general, the narrow-leaved willows, with long, bending twigs: by *Sallows,* those with broadish, inversely egg-shaped, or rounded, downy leaves, silky *catkins,* and two yellow *stamens* in each floret.


**Pistil-bearing flower.** *Stig.* two. *Caps.* superior, one-celled, two-valved, many-seeded. *Seeds* tufted. For the *catkin; scales,
CLASSES, &c. AND GENERA ARRANGED. cxxxiii


Order II. TRIANDRIA. 3 Stamens.


Valériana dioíca. See in Triandria Monog. Some Salícés, (willows,) in this second order.

Order III. TETRANDRIA. 4 Stamens.


Rhamnus catharticus, and Euonymus europæus. See in Pentandria Monog. Urtica dioíca in Monoeía Tetrandria.

Order IV. PENTANDRIA, 5 Stamens.


Order V. HEXANDRIA. 6 Stamens.

Tamus, Black Bryony. Stamen-bearing flower. Cal. none. Cor. in six, deep segments.

*Rumex Acetosa,* and *Rumex Acetosella.* See in *Hexand. Trigyn.*

Order VI. OCTANDRIA. 8 Stamens.


Order VII. ENNEANDRIA. 9 Stamens.


*Hydrocharis,* Frog-bit. Fl. in a sheath (spatha.) Stamen-bearing flower. Cal. three-cleft. Cor. three-petalled. Stam. nine in three rows, within which are three imperfect styles. (Inner-filaments beaked. Sm.)


(DECANDRIA. 10 Stamens.)

*Lychnis dioica.* See in *Decandria Pentag.*

(ICOSANDRIA. Many Stamens, growing from the Calyx.)

*Fragaria elátior.* See in *Icosand. Polyg.*

(POLYANDRIA. Many Stamens, growing from the Receptacle.)

(Stratiotes.) See *Pópolus albo,* *P. trímula,* and *P. nigra,* in *Dicer. Octandria.*
Order VIII. MONADELPHIA. Stamen filaments combined in one set.

**Juniperus, Juniper. Stamen-bearing flower.** Scales of the catkin somewhat target-shaped (sub-peltate.) Cor. none. Stam. three. Sm. (four to eight. H.)

**Pistil-bearing flower.** Scales of the catkin fewer than in stamen-bearing flower, at length, fleshy, united into a berry, of three seeds. N. O. Conifere. J.—Page 299.


**Pistil-bearing flower.** Cal. cup-shaped, entire, scaly. Cor. none. Style one, Sm. none, H. Seed one, enclosed in the enlarged, pulpy, unconnected calyx. ("Drupe fleshy, bored at the extremity.") N. O. Conifere. J.—Page 300.

**Salix rubra.** See in Dioecia Distria.

---

Class XXIII. POLYGAMIA. Stamens and Pistils in the same flower; or in different flowers, and on the same, or different plants; "having two different kinds of calyx (perianth.)"

Order I. MONOECIA. Flowers different on the same plant.

**Atriplex, Orache. Barren flowers and united flowers.** Cal. inferior, deeply five-cleft. Cor. none. Stamens five. Style deeply cloven. Seed one, depressed, covered by the calyx.


**Omissions.**

FLORA OF OXFORDSHIRE,

AND

ITS CONTIGUOUS COUNTIES.

Class I. MONANDRIA. Stamen 1.

Order I. MONOGYNIA. Pistil 1.

* Seed one.

HIPPU‘RIS. Gr. Mare's-tail.

H. vulgāris. Common Mare’s-tail.


Per. May, June.

Erect, simple. Fl. axillary, solitary, stalkless.

CHARA. Chara.


An? June.

Often incrustated with earth.


---

**MONANDRIA DIGYNIA.**

**CALLITRICHE.** Water-starwort.

C. *verna*. **Vernal Water-starwort.** Fertile flower stalks very short, with two petals at their base, fruit regularly four cornered, margin of the seeds blunt. Leaves triple-ribbed; the uppermost crowded, inversely egg-shaped. C. *aquatica* E. B. 722. β Fl. Brit. 9. H. L. 127. See Sb. varieties γ?

Ditches, ponds, slow streams. An. April, May. Ls. opposite, linear, or battledore-shaped. Fl. white, axillary, separated.


1 Gr. *kalos*, handsome, and *thrix*, hair, from its slender stems.
Class II. DIANDRIA. Stamens 2.

Order I. MONOGYNIA. Pistil 1.

LIGUSTRUM. Privet.


FRAXINUS. Ash.


VERONICA 2. Speedwell.

Clusters or spikes terminal. Root perennial.

V. serpyllum. Smooth Speedwell. Paul's Betony. Cluster terminal, somewhat spiked. Leaves egg-

---

1 From Circe.
2 The I. usually pronounced short. From ver, the spring; or from the name of the female saint.
shaped, slightly notched, three-ribbed, smooth. Capsule inversely kidney-shaped, shorter than the style.


Moist meadows, cultivated grounds.

Per. May.

Stems trailing, smooth in wet situations, in dry ones, covered with hairs, which are bent inwards. Fl. whitish, with dark blue streaks.

** Clusters or spikes from the side of the stem. Root perennial.

V. Beccabunga. Brooklime. (Bach¹, Germ. a rivulet, Bungen, Germ. a drum.) Clusters from the side of the stem. Leaves oval, blunt, flat, smooth, somewhat fleshy, toothed at the edges, each little tooth terminated by a gland. Stem creeping at the base. E. B. 655.


Wet ditches, brooks.

Per. June.

Plant somewhat floating, shining. Ls. blunt. Fl. dull blue.

Leaves mild, eaten in salads, in the spring.


C. 5. 2. G. E. 620.

Banks of rivers, wet meadows.

Per. July.

Larger than the last plant, upright, smooth. Ls. acute. Fl. pale dull blue, occasionally flesh-coloured.


C. 5. 3. Anagallis aquaticæ quarta. G. E. 621.


Per. July.

Stem weak, wide spreading. Fl. pale, flesh-coloured, purple veined, on slender stalks, which become more and more straggling after flowering. Sm.

V. montána. Mountain Germander Speedwell. Mountain Madwort. Clusters from the sides of the stem,
DIANDRIA MONOGYNIA. Veronica. 5


Per. May.

Stem lying down, hairy. Fl. pale, painted with purple. Caps. formed, as it were, of two round cells, compressed.


Dry hilly pastures.

Per. June.

Fl. light blue, with dark streaks.

This species formerly recommended as a substitute for the Chinese tea, but it is more astringent, and bitter, and less grateful.


Pastures, under hedges.

Per. May.

Ls. egg-shaped, inclining to heart-shaped. Fl. large bright blue. Caps. inversely heart-shaped.

Few of our wild flowers can vie in elegance, and brilliancy with this species. At night, and in moist weather the corolla closes, expands in dry, bright weather. This is not the German "Forget-me-not." Myosótis palustris is the true one.

*** Flowers axillary, solitary. Root annual.

DIANDRIA MONOGYNIA. *Pinguicula.*


*Fields:* not so common as *V.* polita.
*An.* May.


*Common weed.*
*An.* March.

*Fl.* small, bright blue.


*Walls,* cultivated ground.
*An.* May.


*Cultivated grounds.*
*An.* April.


PINGUI'ICULA. *Butterwort:* (So called on account of the glutinous, oily, and soft leaves of one species, *P.* vulgaris.)

DIANDRIA MONOGYNIA. Lemna.


Per. May.

*Plant smooth. Fl. tube, and spur, pale purple; limb deep blue, its five segments very unequal.*

The clammy juice of the herb reputed good for the sore dugs of cows. G. The Welch prepare a purgative syrup from the plant.

UTRICULARIA*. Bladder-wort, or Hooded Milfoil.


Per. July.

*Ls.* hair-like, under water, (root-like?) bearing numerous crested bladders which float the plant at the flowering season by means of air formed within them. This air gives place subsequently to water, and the plant sinks to ripen its seed. *Fl.* large, yellow, with an orange striped palate.

LEMNA. Duck-weed.


*Ditches.*

An. *Aug.*

*Ls.* crossing each other at right angles, swimming on the surface of the water. *Fl.* white.

A cooling application to inflamed parts. The infusion in white wine, according to Bates, an infallible secret in jaundice.


*Ditches.*

An. *June.*

*Ls.* connected at the base. *Fl.* very rare.

*L. gibba.* Gibbous D. Fronds inversely egg-shaped,

3 From utriculus, Lat, a little bottle.
slightly convex above, hemispherical beneath. Roots solitary. E. B. 1233.

Ditches, ponds.


Larger than the last. Ls. above, often of a purplish hue, coarsely veined like net-work on the other side.


Ditches.


Ls. green above, deep purple beneath, much larger than either of the two last species.

**LYCOPUS**'. Gipsy-wort.


Banks of rivers, wet ditches.

Per. August.

Fl. whorled, and white, with purple dots.

The juice gives a permanent colour to linen, wool, and silk. Vagabonds stain their faces with the juice to appear like gipsies.

**SÁLVIA.** Sage, or Clary.


Dry pastures.** Between Middleton Stoney and Ardley. Sb. and R. Pr.

Per. June.

Stalk erect. Fl. large and handsome, of a fine purplish blue.


Road sides, dry banks. Meadow bank between St. Clement’s, and Ifley. R. W.

Per. June, October.

Stalks more or less lying down. Fl. small, violet blue.

---

1 Wolf’s foot. Gr.
The seeds produce a great quantity of soft, tasteless mucilage, when moistened; hence they become serviceable for removing extraneous matter from the eye, put under the eyelid for a few moments. See G. E.

"The seeds of Salvia verbenaca, S. pratensis, and some other species are covered with a dense mucilage, which is not visible till the seeds are wetted. This mucilage consists mostly of very minute spiral vessels, like those first described, by Professor Lindley, (in the Botanical Register, fol. 1166, and in his Introduction to the Natural System of Botany, p. 220.) as composing the mucous matter which envelopes the seeds of Collomia linearis.

"If a seed of Salvia verbenaca, be put on a small bit of glass, and placed on the stage of a microscope, and then wetted by letting fall upon it a drop or two of clear water, the spiral vessels will be seen to dart forth in great numbers from the outside of the testa, or skin, forming a complete and beautiful radius round the seed, which, if suffered to dry upon the glass, may be preserved as an interesting object for the microscope, at any future time.

"I can find no account of this in any work which I have consulted. Sir James Edward Smith, Dr. Withering, and others, have noticed the mucilage which covers the seed of Salvia verbenaca, but they are quite silent with respect to the spiral vessels, which are so abundantly produced amongst it."—Wm. Baxter, Sept. 24, 1831.

**CLADIDIUM**

*Cladium.* Twig-rush.


**DIANDRIA DIGYNIA.**

**ANTHOXANTHUM**


1 Klados, Gr. 2 Gr. yellow flower.
In drying, the plant exhales an odour similar to Woodruff; (Asperula odorata;) chief cause of the fragrancy in new hay. Its fresh stalks chewed, highly aromatic, not unlike lavender. Fl. turn yellow with age; abounds chiefly in wet lands; not very productive, nor very palatable to cattle. For a curious contrivance of nature in the seeds:—See With.

Class III. TRIAN'NDRIA. Stamens 3.

Order I. MONOGYNIA. Pistil 1.

* Flowers above the germen.

VALERIANA. Valerian.


Per. July.

Cor. slender, elegant, rose-coloured, sometimes white. Stems a foot and a half high.


Per. May.

Ls. winged. Linn. Cor. of the pistil-bearing plant, much smaller than those of the stamen-bearing. Fl. flesh-coloured. Stem six or eight inches high. Ls. called lyrato-pinnate, in Fl. Br.


Per. June.

Stalk three or four feet high. Fl. flesh-coloured.

A variety (β), narrower leaves, found in dry, mountainous woods, and pastures, which, as more aromatic, is preferred for medical use.

This species is the Valerian of the shops, and possesses strong antispasmodic virtues. Excellent medicine in habitual constipation, the root in decoction. Cats delighted with the roots. Rats said to be equally fond of them.
FEDIA¹. Corn Salad.


1. 2.

Corn fields.
An. April.

Stem forked, twice, or thrice. Fl. in little heads, small, pale-blue, or flesh-coloured.

Eaten in spring as salad.


Fields. * By the road side between Shotover Hill, and Bullingdon Green. T.
An. April, June.

Lt. narrow. Fl. small, purplish. Cal. unequal.

CROCUS. Crocus.


Per. October.

Fl. tube one foot long. Stig. yellow. Lt. flattish.)

IRIS². Iris, or Flower-de-luce.


Banks of rivers, wet ditches.

Per. June.

Fl. large, bright yellow, disk of the larger segments, pencilled, as it were, with dark purple.

Juice of the fresh root very acrid, purgative; in some cases, proves diuretic; too uncertain in its effects to come into general use.

¹ From fedus, syn. with hoedus, a kid. Sm.
² Gr. From its hues.
The roots used in the Island of Jura to dye black. A slice of the fresh root, held between the teeth removes some kinds of toothache. E. B. Not eaten by cattle. Fl. Suec. Seeds roasted resemble coffee, having more nearly the same aroma than other substitutes.


_Ls._ dull green. _Fl._ pencilled with dark veins.

Bruised leaves smell very offensively, yet with some resemblance to roast-beef.

**SCHENUS. Bog-rush.**

** Flowers beneath the germin, chaffy. Seed 1.**

**S. nigricans. Black B. R.** Stem round, naked. Head roundish, abrupt, overtopped by one of the two floral leaves. E. B. 1121.


A foot high, smooth. Head black.

**RHYNOCHÆSPORA 1. Beak-rush.**


A smooth, slender plant, with white _fl._ _Stigm._ two.)

**SCIRPUS. Club-rush, and Bull-rush.**

*Spikes solitary.*


_Stems erect._ Spike small, reddish brown.)

1 Gr. beak, seed.
**Triandria monogynia.** Scirpus.

*S. pauciflorus.* Chocolate-headed Club-rush. Stem round, with a tight leafless sheath at the base. Spike terminal, of few flowers, longer than its blunt, membranous-tipped outer glumes. E. B. 1122.

*Peat bogs, morasses.* Peat bogs on Bullingdon Green. **Sb.**

Per. June.

Stems slender. Spikes somewhat four-flowered.


Pools where the water has stagnated during the winter. Southleigh Heath. **Sb.**

Per. June.

Stem branched, sending out roots. **Ls.** linear.

**Stem round, with several spikes.**


**Rivers, stagnant waters.**

Per. July.

*Culm* five or six feet high, dark green, simple, leafless. **Ls.** at the base, one or two, short, with long sheaths.

From its stems, the rush bottoms of chairs are made: cattle in hard seasons will eat it: also, used for thatching, and packages, occasionally.


Wet gravelly grounds.


Spikelets generally in pairs, egg-shaped. **Plant** from two to five inches high.


**Boggy meadows.** Under Bullingdon Green, &c. **Br.**

Spike bright chestnut. **Stem** about one ft. simple. **Style** permanent. **Stigm.** falling off. Lower spikelet sub-tended by a bractea,
commonly longer than the general spike: this bractea triangular, and rough at the end.

*** Stem triangular. Panicle leafy.


Per. July.

ELEO'CHARIS¹. Spike-rush.


Banks of rivers, marshes.
Per. June.

Three stigmas are erroneously represented, in Engl. Bot.
Culms erect. Ls. none. Spike brown.
The fresh herb is greedily devoured by swine.


In damp spots, upon heaths, where water has stagnated during winter.
Per. August.

Base invested with a light, blunt, beardless sheath. Spike terminal, of few flowers. Culms very slender. "Fruit oblong, beautifully impressed with points in lines, tipped with the spherical base of the style." H.

ERIO'PHORUM². Cotton-Grass.

(E. vaginatum. Hare's-tail C. Stem triangular above ;

¹ Gr. Delighting in marshes. ²Gr. wool-bearing.


Per. March, April.

Ls. triangular, sharp pointed. Spike erect, of a silvery grey; finally with long, white hairs.)


Ls. darkish, olive-green. Spikes two to eight, nine. Glumes blackish.


In turfy, boggy, and muddy meadows.

Per. April.

After flowering, the spikes are partly erect. Involucre, longer than the flowering spikes. The brilliant, white tufts of this plant, look throughout the summer, like feathers scattered over the country. Food for cattle in the earlier part of the spring, in the Isle of Skye. The down, a stuffing for pillows, among the poor: also for candle wicks, which become brittle, when quite dry.

NARDUS. Mat-grass.

* From the matted order of the stems. Purton.


Per. June.

Ls. bristle-shaped. Schrank celebrates this deep-rooted grass as a safe support to the hands of the Alpine botanist, in precipitous situations, though it renders his path very slippery. Stocked up by crows for the larvae of Tipulae, found at the root. This grass being stiff, and short, eludes the stroke of the scythe, takes off its edge, and is, in consequence, disliked by mowers. Holds its spike until winter. Cattle in general refuse it. E. B.

PHA'LLARIS. Canary-grass.


In cultivated and waste ground, naturalized. * Grows amongst the corn in the Canaries Willd. Sp. Pl.

An. June.

Panicle compact, erect, compound, though resembling a simple egg-shaped spike, elegantly variegated with green and white. The seeds a well known food for the canary-bird.

P. arundináceae. Reed C. Panicle upright, with spreading branches. Flowers crowded, growing from one side only. Outer corolla of two bearded valves. E. B. 402. and 2160. f. 2. Calamagrostis colorata. Sb.

Banks of rivers. Sb.

Per. June.

Stems from two to five feet high. Panicle rough.

Used to thatch ricks, and cottages: lasts much longer than straw. In Scandia mowed twice a-year, for cattle to feed on. The oftener mowed, the more acceptable to cattle. The striped variety, chosen by the Welch peasantry, with Gnaphalium margaritaceum, to decorate the graves of their departed friends. Knapp. A beautiful variety with striped leaves is common in gardens.

PHLEUM. Cat's-tail-grass.


Moist meadows, pastures. The bulbous var. in barren ground, occasionally flooded, or in very dry situations. Sm.

Per. July.

Spike two to five inches. Root in dry situations becomes swollen and succulent. In this state it is the Phleum nodosum of Linnaeus, Sibthorp, &c. Awns straight, short, rough. Once celebrated for its agricultural merits, but now out of fashion, though it spontaneously makes a part of the hay crop. Sm.

P. ásperum. Rough C. Panicle spiked, cylindrical, awnless. Calyx wedge-shaped, swelling upward, pointed, rough; keel naked. Stem branched. P. panicula-
TRIANDRIA DIGYNIA. Alopecurus. 17


In dry, open fields. Wall of Rose Lane. Sibth. Oxon.

An. June.
Root fibrous. Panicle rough to the touch. Whole plant bright green.

ALOPECURUS. Fox-tail-grass.


Meadows, pastures. Per. May.
Spike two inches long, thick, soft, of a silky, hoary aspect. Best grass to sow in low meadow grounds, or in boggy places which have been drained. Liable to the depredations of the larvae of a species of musca; they devour the seed. These larvae the prey of cimex campestris. These circumstances an impediment to the general cultivation of this grass. Mr. Swayne in With. An excellent grass for pasturage, being early, plentiful in produce, and grateful to cattle in general.


Spike slender, tapering at each end, often purplish. A troublesome weed among wheat, called by farmers "Black Bent." Swayne in With.

Ponds, ditches, slow streams, floating widely on the surface. Per. June.
Culms floating. In dry situations, root bulbous.
MI'LIUM. Millet-grass.

The hardened corolla, forming a coat to the seed, affords a mark of distinction between this genus and Agrostis. Sm.


Wilot, Mungewell, Ardley, Tur Woods. Sb. (Bagley Wood.)

Bx.

Per. May.

Light, elegant, lofty plant. The middle branches of the panicle droop, and point directly downward. Ls. sweet-scented: they drive away deer.

AGROSTIS. Bent-grass.

* Awned.

(A. Spica venti. Silky B. Awn straight, stiff, many times longer than the corolla. Panicle loosely spreading. E. B. 951.


An. June, July.

Stems, two to three ft. erect. Pan. large, silky, waving on one side.)


Moist meadows.

Per. June.

Panicle spreading, yet somewhat erect. Herbage trifling; of no agricultural use. E. B. The awn varies in length, and is occasionally absent, nothing being more uncertain than the back awns of grasses. The terminal ones, whether of the calyx, or corolla, are much more to be trusted. Sm.


Southleigh. Stanton St. John's. Sb.

Per. July.

* * Generally without awns.

A. *tenuis*. Sb.

Per. June.

This grass was always taken for *Aira capillus* of Linn. till his Herbarium came among us. E. B.

Panicle upright, purplish, with very numerous spreading, hair-like, zigzag branches, variously forked, and subdivided, with little egg-shaped, shining flowers. E. B. The earliness of this grass, its chief agricultural value.


Moist meadows. Fields inundated in autumn.

Per. June.

Stems often throwing out fibres from their lower joints. Panicle palish. In β the stem more extensively creeping, sometimes floating; distinguished by its still more dense and tufted lobes of the panicle, and the calyx generally rough all over, with little bristly points. Sm.

AIRA. Hair-grass.

* Corolla awnless.


Dry Pastures.

Per. June.

Stems simple, erect, about six inches high. Panicle erect, dense, of a silvery green hue.

This species is a Festuca, except in the small number of the florets. Sm.


Ditches, pools. Margins of rivers.

Per. June.

Stems leafy, floating upon the water. Glumes equal, blunt. The flowers abound with honey. When growing accidentally out of...
the water, this grass sometimes assumes a very dwarf habit. In natural affinity it comes near to Poa fluitans. Sm.

* * Corolla awned, hairy at the base.


Moist woods, pastures.
Per. June.

Stems a yard high, rigid, and harsh. Panicle, large and spreading. E. B. Droops very gracefully before flowering; as the florets open, it becomes erect, and the branches of the panicle spread equally. Ls. neatly striated. Plant very apt to grow in tufts: called by the common people, Hassocks, 'Rough Caps. Swayne in With.'


Dry gravelly ground.
An. April.

This trifling grass is of no agricultural use. It withers away as summer comes on. Sm.


Barren sandy heaths. Pastures above Headington Wick Copse. R. W.

The whole plant is soon dried up, and can yield nothing but a little early food for sheep. Sm.
HOLCUS. Soft-grass.

C. 4. 11.

Meadows, pastures.
Per. June.


Pastures, shady copses, hedges.
Per. July.

Root widely creeping, difficult of extirpation, but not very common nor troublesome in arable land. Whole plant more slender than the former, and less downy. Sm.


Hedges, pastures.
Per. June.

The plant has the habit of an avena. Ls. of a darkish green. Branches of the panicle half-whorled. The roots sometimes very troublesome to farmers in arable lands. Crop abundant, but unpalatable to cattle. Swaine.

MELICA. Melic-grass.

C. 5. 10.

Groves, thickets.
Per. May.

Root fibrous, or somewhat creeping. The only perfect floret, stalkless. The neuter one on a stout bent stalk, its glumes small, abrupt, and shapeless. Its red blossoms suspended by hair-like, and almost invisible stalks, seem like insects dancing in the air. E. B.

M. caerulea. Purple M. Petals beardless, acute. Pa-
TRIANDRIA DIGYNIA. Glycémia.

nicle close; erect, compound. Flowers upright, cylin-
drical. E. B. 750. C. 5. 11.

Moist heaths.

Per. August.

Root with a sort of bulb at the base. Panicle of a violet hue,
many flowered. Straw with one knot, close to the root.

Fishermen in the isle of Skye make ropes for their nets of this:
it bears the water well, without rotting. In shady situations, pani-
cle pale, brownish, or whitish. Stems are said to be used for
brooms, or even baskets, where better materials are rare. Sm.

GLYCE'RIA'. Sweet-grass.

G. aquática. Reedy Sw. Panicle erect, repeatedly
branched, spreading. Florets numerous, blunt, with
seven ribs. Nectary cloven, acute. Poa aquatica E.
E. 6.

Banks of rivers.

Per. August.

Smooth, four feet high. Ls. sword-shaped, broad, flat. Stip.
short, blunt.

The most gigantic of all our meadow grasses, often six feet high.
A coarse grass, acceptable to cattle, making a great part of the hay
in marshy lands. It is sometimes viviparous, but sparingly. Use-
fully sown on the banks of rivers, or brooks. With. The chry-
salis of the beautiful Phal. festuca, gold-spot moth, sometimes
found attached to its leaves. E. B.

G. fluitans. Floating Sw. Panicle oblong, branched,
nearly erect. Spikelets close-pressed. Florets numer-
ous, blunt, seven-ribbed, with short intermediate ribs
at the base. Nectary blunt, swollen. Poa fluitans. E.
B. 1520. Festuca fluitans. Sb. 45. C. 1. 7. Gra-

Wet meadows, ditches, banks of rivers.

Per. June.

Root creeping. Ls. flat, broad, blunt. Stip. short, pointed,
often torn. Seeds small, sweet, nourishing. Collected in Germany
and Poland, by name of Manna seeds; esteemed a delicacy in
soups. When ground to meal, make bread little inferior to that of
wheat. The seeds collected for food, of which a more ample
account in the Fl. Lond. They are said to be very sweet, espe-
cially before they arrive at maturity; whence the name of Manna

1 Essent. Char. The little scale (nectary, Linn.) at the base of the germen,
of one, fleshy piece, and the stigmas much divided.
The fine sharp bran is said to kill intestinal worms in horses. *Lin. Fl. Suec.* The flowers, like those of *Aira aquatica*, have a sweet taste.

**G. rigida. Hard Sw.** Panicle spear-shaped, very rigid, leaning one way, two-ranked, close, with smooth stalks; branchlets alternate, the main one bordered. Florets about seven, acute, scarcely ribbed. *Poa rigida.* *E. B.* 1371. *C.* 2. 4. *Sb.* 42.

Walls, dry ground.
An. May.

May be known readily by the extreme rigidity of its stems, and panicle. *E. B.* The whole plant generally assumes a brown or purplish hue, remaining bleached and dry after midsummer.

**POA. Meadow-grass.**


*Tops of walls, dry barren ground.*
Per. June.

Easily distinguished by its compressed stem. Cannot be cultivated in moist, or manured ground. Its produce not abundant. *Sm.*


*Meadows, pastures.*
Per. June.

One of the most valuable for pasturage, and hay, yielding abundantly, though not particularly early. *Curtis.*


*Walls, pastures.*
Per. May.

The clear and essential mark of this species, compared with the last, consists in its very short, abrupt, pointless *stipula*, which in every leaf, and every variety, proves constant and invariable. *P.*
*pratensis* is not less valuable than the *trivialis*. It is earlier in leaf, and will thrive with less moisture, though the latter produces, at last, a better crop. *Sm.*


*Meadows, pastures, waste and cultivated ground, almost every where.*

An. *April, November.*

A good grass for fodder, abundant in proportion to the richness of the soil, easily raised, but not durable. Not damaged, but rather improved, by being trodden upon. *Sm.*


*Groves, woods.*

Per. *June.*

Culms erect, slender. *Spikelets small.* *Fl. diffuse.* In Switzerland *P. nemoralis* often bears on the *stems*, rigid, bristly tufts like rootlets, analogous to the mossy balls of the dog-rose, and like them probably the effect of the puncture of some insect. *Sm.*

**TRIO'DIA.** Heath-grass.


Per. *July.*

Calyx-glumes (about) as long as the spikelet. Linn. *Fl. Suec.* *Ls.* stiff, rolled inwards. *Spikelet swelling.*

**BRIZA.** Quaking-grass.

**B. média. Common Q.** Spikelets egg-shaped, about

---

1 Gr. three-toothed.

Pastures.
Per. June.
Panicle diffuse, tremulous. *Culm* simple, solitary.

**DA'CTYLIS.** Cock's-foot-grass.


Meadows, Pastures.
Per. July.

*Ls.* harsh and rough. Lower branches of the panicle very straddling, sometimes compound. A harsh coarse grass, not very acceptable to cattle; but when cultivated on dry, open land, its quality becomes excellent, and the crop abundant. *Sm.*

**CYNOSU'RUS.** Dog's-tail-grass.


Dry pastures, meadows.
Per. June.

Each spikelet with another abortive one, resembling a small double-toothed comb.

Valuable grass for sheep and deer, thriving on dry open ground. One of Cobbett's grasses for straw plat.

**FESTU'CA.** Fescue-grass.

*F. ovina.* Sheep's *F.* Panicle leaning one way, rather close. Florets cylindrical, pointed or awned; smooth at the base, and at the edges of the inner valve. Stem square towards the upper part. Leaves folded, bristle-shaped. Stipula short and blunt. *E. B. 585.* *F. tenuifolia* Sb. 44?

Dry open pastures.
Per. June.

The square stem, a distinctive mark; also the smooth-edged inner valve of the *cor.*

Supposed peculiarly excellent for sheep.

Cattle leave the stalks of this, and other grasses untouched: a provision of nature to increase the grasses. The flowers vary with, and without awns. Sibthorps *F. tenuifolia* in Smith's *Eng. Fl.*
TRIANDRIA DIGYNIA. Festúca.

var. is ovina, with awnless florets; found on Bullingdon Green.


Still. f. C. Gr. f.

Pastures, dry meadows, waste ground, thickets.

Per. June.

Root and stem ls. bristle-shaped, generally twice or thrice the size of ovina. Spikelets become flattened, by the expansion of the glumes.

Yields a good and early crop, acceptable to all kinds of cattle.

F. bromoides. Brome F. Panicle nearly erect, race-mose. Florets tapering, shorter than their awns, rough at the top. Leaves tapering, shorter than their sheaths. Upper half of the stem naked. E. B. 1411.

Walls, dry pastures.

An. June. B.

A pale, smooth, slender, insignificant grass. Ls. light green. Calyx-valves, one entire, the other tapering to an awn-like point.

Differs from F. Myurus by its sub-spiked panicle, and unfringed glumes. Linn.


Walls, barren sandy ground.

An. May. B.

More frequent than F. bromoides. Its long, silky panicles wave with every breath of wind. Its panicle much longer, and more slender than that of F. bromoides, and somewhat drooping.

F. gigántea. Tall F. Panicle large, branched, drooping, twice compound, spreading. Florets from three to six, egg-spear-shaped, shorter than their awns. Stipula abrupt, eared, clasping the stem. E. B. 1820.

Bromus giganteus. C. 5. 7. Sb. 48.

Woods, hedges.

Per. July.

Habit of a Bromus—placed among Festucas from the absence of fringe to the inner valve of cor. H. This is easily mistaken for Bromus asper, which is rough, and hairy: in F. gigántea, leaves and stem, bright glossy green, smooth. Stip. bright purple and cloven. Ls. a finger's breadth.

Moist pastures, meadows.

Per. June.

Greatly resembles Lolium *perenne*: distinguished from it by its two-valved calyx, and paler hue: its seeds rarely ripened: a good pasture grass, two feet high. Spikelets alternate, lengthened out.


Pastures, meadows.

Per. June.

A hardy, early grass, affording a plentiful crop. C. Requires a rich soil. Linn. Fl. Suec. Two feet high. Upper leaves, rough on both sides. Fl. numerous.


Moist meadows, banks of rivers.

Per. June.

From three to nearly five feet high. Ls. twice the size of F. pratensis: its panicle much more branched, and drooping. Spikelets egg-shaped, acute, less compressed. Ls. rough on the margin. A nutritious grass for marshland hay.


Dry copses, thickets.

Per. July.

A Festuca, as the beards arise from the extremity of the glumes: very slender, bright green. Referred to Festuca from its perfectly loose seed. Sm.

F. pinnata. **Spiked Heath F.** Spike simple, erect, two-ranked. Spikelets alternate, somewhat stalkless;


Whole plant more rigid, and less hairy than the last, the spike more elegant, erect, and smooth. Sm. Joints smooth, silvery, spikelets not as in F. sylvatica, close pressed to the spike-stalk, but very distant.

Geological strata may be marked through this plant in the surface without excavation. Selbywick in Geol. Trans. See Winch’s Transactions of Northumberland.

BROMUS. Brome-Grass.


Cornfields.
An. May.


Walls, pastures.
Bien.? May.

Crop of herbage small, and of little value. Sinclair.


TRIANDRIA DIGYNIA. Bromus.

An. or Bien. June.

More slender in habit than the preceding, not soft to the touch. The panicle is generally simple. Spikelets larger, more swollen, rough to the touch, but naked and shining. Outer valve of the corolla marked with two green ribs at each side.


Distinguished by its rather large, but slender, at length drooping panicle, and spikelets mostly of a purplish tinge.


E. B. 471.

Fields, road sides, in a sandy soil over chalk. Sm. Ditchley Park. Mr. Woodward. Not rare in Oxfordshire. Sm. and R. W.

Per. June.

Two or three feet high, habit of a Festuca. Glumes minutely fringed. Anth. of a fine saffron colour.


Sb. 48.

Moist woods, hedges.

Per. July.

Florets about nine. Sheaths of the leaves very hairy. Ls. broad.

The awn on the back, and fringed inner husk, distinguish this from Fest. gigantea. A gigantic grass, often six feet.


Fields, waste ground, hedges.

An. June.
Spikelets long, narrow, much awned, distant: about one foot and a half high. **Styles** grow sideways out of the germ., as in Br. *diandrus*. Specific name from the unprofitable nature of the grass.


An. May.

A foot high: less downy than B. *sterilis*. With an erect, more compact pan. never lax, nor drooping.

**AVE'NA. Oat, or Oat-Grass.**

**A. fd tua. Wild Oat, or Haver.** Panicle erect, much branched. Spikelets drooping. Florets about three, shorter than the calyx, hairy at the base, with an oblique scar, all awned. E. B. 2221. Ægilops bromoides. G. E. 77.

Cornfields. Upper Heyford, abundant. Rose Hill. Bx.


Ls. rough. Glumes yellow, with brown hairs. Awn two inches long; an excellent hygrometer. The oblique scar at the base of each floret distinguishes this species from A. *sativa*, whose scar is transverse, and the glumes smooth. The flowers may serve for artificial flies. A troublesome weed; extirpated by burning, and falling.


Dry, chalky, or lime-stone pastures. Sm. Per. July.


**ARUNDO.** Reed. Ang. Sax.


*Marshes, ditches, and about the banks of pools and rivers.* Per. July.
Six feet. Cal. smooth. At the base of each floret a large tuft of white silky hairs. Used for thatching, garden-fences, &c. and is annually cut for these purposes. More durable than straw for thatching; laid across the frame of wood-work, as a foundation for plaster floors. Reed pens for sketching. *Pan.* used by Swedes to dye woollen green. Its waving silvery plumes ornamental on banks of rivers, &c. The young shoots, if cut off from the root where not exposed to the light, are said to make an excellent pickle.


Cal. valves rough. Stem nearly as tall, but rather more slender than Ar. *Phragmites*: leafy, smooth.

**LOLIUM.** Darnel.


*Meadows, pastures.*

1 Gr. *phrasso*, to fence. 2 Gr. creeping on the ground.
Per. June.  
Spike sometimes branched alternately. Side of the spike-stalk supplies the defect of the two inner valves. Makes excellent hay upon dry, chalky soils; comes early: best suited to the light land of Norfolk: does not last many years, unless the soil be rich. Var. with short, broad, egg-shaped, close spike. Sometimes termed battledore-grass. Bx.


L. album. G. E. 78.  
Fields. Rare about Oxford. Bx.

Stem two feet, erect; smooth below. Ls. green, rough. Seeds said to be poisonous, intoxicating, and fatal. Monthly Rev. v. 67.


Fields, rare. Cowley Field. Bx.

Smaller; almost all smooth. Awns indistinct, or scarcely distinguishable.

ELYMUS. Lyme-grass.


HORDEUM. Barley.

Waste ground, way-sides.  
H. pratense. Meadow B. Side flowers imperfect, with awns. All the calyx valves bristle-shaped and rough.
Meadows, pastures, especially such as are rather moist.

Per. June.

Culms erect, eighteen inches, to two feet. Ls. roughish. Cal. valve-awns shorter than in H. murinum. Involucres bristly, rough. Spike more close, and narrow than in H. murinum. In moist meadows, produces a considerable crop of hay.


Waste, as well as cultivated land, almost every where.
Per. July.
Slender, erect, two feet. Ls. upper side rough.
Roots mildly aperient, diuretic: may be made into bread. Sold in the market at Naples to feed horses with. Sweet liquorish taste. Recommended by Boerhaave, and Plenck in visceral, and hepatic obstructions. Dogs eat the leaves to excite vomiting. Gerarde observes in his Herbal, “although that couch-grasse be an unwelcome guest to fields and gardens, yet his physike vertues do recompence those hurts.” The fibres of the root downy; a provision of nature, found in most grasses of very dry situations, in order to fix them more securely, or to multiply the surface, and points of absorption.

Per. July.
Straight, erect, bright green. Ls. rough on both sides. The opposite calyx-valves distinguish T. caninum from an Elymus. Divided from Triticum by Linn. on account of the lower spikelets being double. The fibrous root distinguishes this from T. repens.

1 Ang. Sax.
**TRIANDRIA TRIGYNIA.**

**MO'NTIA.**


In watery places, by the sides of little clear rills, especially on a gravelly soil. Shotover Hill, Southleigh Heath. *Sb.* Near Horse-path. (Bagley Wood.) *Bx.*

An. May, June. *Bx.*

Smooth, spreading. *Ls.* opposite, rather fleshy, elliptic-spear-shaped, entire. **Fl.** white, on long foot stalks. Seeds black. Its minute flowers seldom entirely open: hence one of its names, **Blinks.** A larger variety found. With. **Fl.** open in the brightest sunshine only. A diminutive plant.

---

**Class IV. TETRANDRIA. Stamens 4. equal.**

**Order I. MONOGYNIA. Pistil 1.**

**DIPSACUS.**


About moist hedges, and by road sides.


**Stem** about four feet, straight, branched, prickly. *Ls.* sometimes joined at the base, oblong, veiny, prickly: root-ones blunter, depressed. **Fl.** heads terminal, solitary, egg-shaped, erect. **Fl.** very numerous, dense, palish purple, each with a linear-spear-shaped scale of the recept. Not so stout a plant as *D. fullonum,* involucre not spreading.

Heads of this sometimes mixed with those of the *D. fullonum:* its straight scales render it useless for dressing cloth. Cavities of the *ls.* contain a considerable quantity of water, after rain.

**D. pilósus.** Small Teasel. **Shepherd's Staff.** Leaves stalked, with side leaflets. Involucres bent back, about

---

1 After Monti, a Bolognese Professor.

2 Gr. Dipsas, to be thirsty, the united leaves round the stem holding a quantity of water after rain.

3 Tæsan. A. Sax to card, from teasing, i.e. combing wool, &c.
TETRANDRIA MONOGYMA. Scabiosa.  


Stem three or four feet, erect, branched, very rough, with ascending hooked prickles.  Ls. opposite, egg-shaped, pointed, saw-toothed.  Fl. white, heads small, round, terminal, long-stalked.  Cal. common, ls. spear-shaped.  Cor. funnel-shaped, five lobed, hairy.  Anth. purple.

SCABIOSA. Scabious.


Grassy, rather moist pastures.

Per. July.

Root abruptly bitten off at the lower end.  Stem one to two feet, erect, leafy, with three or more fl.  Ls. dark-green, hairy: root-ones egg-shaped, bluntish, entire: uppermost ones smaller, spear-shaped, entire.  Fl. dark, purplish blue; heads on long terminal fl. stalks: the central one most considerable: hairs on the main stem bent back, downwards, not elsewhere. Called Devil's-bit from a legend, that the Devil, says Ger. in envy of the plant's virtues, bit off the end of the root: it has been remarked, that after this bite, no virtues can be found remaining, in the root, or elsewhere.  Dried ls. to dye wool yellow or green.  Fl. sometimes white. The hairs on every part of the flower stalks point upwards.  Seed-crown chiefly of five bristles.


Cornfields, pastures.

Per. June.

Stem about one yard, branched.  Ls. root-ones numerous, spear-shaped, more or less saw-toothed.  Branches spreading, with a solitary terminal flower.  Fl. large, pale purple.  Anth. flesh-coloured.  Seed four cornered.

The flowers held over tobacco smoke, changed to a beautiful green; the alkali of the smoke acting on them.  Var. Fl. white.  Plant slightly astringent.  Sheep and goats are said to eat this herb, but its bitter and nauseous flavour is not agreeable to domestic cattle.

S. columbária. Small Sc. Corolla in five unequal seg-


Smaller, more slender than S. arvensis: twelve to eighteen inches. Stem erect, round, leafy. Ls. stalks of lowermost ls. longish, remaining ls. stalkless; the segments entire. Fl. terminal, stalks long, naked. Fl. light purple, marginal fl. large, radiant, much larger than the inner. Stem ls. very narrow. Discrim. Cor. five cleft.

SHERARDIA.¹ Sherardia, or Field-madder.


Plant small, slender; habit of a Galium. Stems several, branched, spreading in every direction. Ls. elliptic, or inversely egg-shaped, pointed, entire. Fl. ls. inclosing three or four blossoms. Fl. purplish-blue, tube slender, tapering to the base. Cal. of two, three-clefted, permanent leaves. Fruit two dry seeds.

ASPERULA.² Woodruff.³


Stem upright, simple, leafy, about a span high. Ls. bright green, rough only at the margin. Panicle forked, terminal; stalks longish. Fl. snowy white, sometimes fragrant. Fruit rough, with ascending bristles. The dry, or drying herb exhales a pleasant, and lasting fragrance, resembling new hay. To drive away ticks; to give a grateful flavour to wine. The Ls. infused an aromatic tea.

A. cynananchica. Small W. Squinancy-wort.⁴ Leaves

² Asper, Lat. rough.
³ From the position of leaves, like a ruff.
⁴ From its supposed efficacy in quinsy.
linear, four in a whorl; the upper ones very unequal. Flowers all four-cleft. Fruit smooth. E. B. 33.


Per. July.

Stems four to six inches, generally trailing, erect at the extremities. Fl. white, or blush-coloured, elegantly marked with red lines. Ls. upper ones three, or two at a joint.

**GALIUM.** Bed-straw.

* Fruit smooth.


Per. May.

Stems one foot and a half, branched at the base, resting against bushes, &c. weak. Fl. in small corymbs, polygamous, yellow, variable in structure: segments from three to five. Ls. light green. Plant, particularly the roots, to dye red: astringent.


Moist meadows, ditches, borders of rivers.

Per. July.

Stem among tall water plants, rising to three or four feet, four cornered. Fl. white, three cleft, and somewhat umbellate, and again sub-divided. Panicle large, loose, at the base two leaves or one. Segm. of Cor. broad, acute, but not pointed. Ls. sometimes more than four in a whorl.


Heaths, hilly ground.

Per. June.

1 From Gala, milk, Gr. because one at least of the genus, *Gal. verum*, coagulates milk.
Plant small. Stem two to six inches, very slender at the base. Fl. panicles terminal, and lateral, three forked, smooth, milk-white, small. Fruit small, studded with minute granulations. Ls. roughish at the edges. Discriminated by its granulated fruit, which is found also in Gal. tricorne, a very different species.


Stem one foot or more, branched, rough, weak, and brittle. Ls. from the side of the stem, adhering to almost every thing in contact with them. Fl. small, white, terminal, and from the side, cloven. Fr. small, dotted. Ls. variable in number. Discriminated by prickles at the edge of the Ls. and the sharp bristle point, from G. saxatile.

G. erectum. Upright B. Leaves whorled, about eight, spear-shaped, bristle-pointed; rough at their edges with prickles, all pointing forward. Stem weak, a little hairy under each joint. E. B. 2067.


Pan. close, terminal. Cor. white, taper-pointed. Ls. scarcely inversely egg-shaped, except some of the lower; slightly glaucous, much veined with net-work, smooth on both sides; the edges, and adjoining portion of the disk above with a double row of hooked prickles. Stems one and a half to two feet; plant larger than G. uliginosum.


Stems one foot or more, weak, simple. Fl. stalks scarcely so long as the Ls. three-cleft, with mostly three fl. and a pair of bracteas. Fl. cream-coloured. Stalks after flowering curved downwards. Fr. appearance of having been cut with a sharp instrument.

**Dry ground. Var. white fl. Sonning, Berks.**

Per. June.

Stems about one foot and a half, seldom quite upright, without support, roundish, smooth. **Ls.** pointing downwards, dark green. **Fl. stalks** much branched, smaller ones short. **Fl.** yellow-golden.

A strong decoction of the plant, a good rennet to curdle boiling milk. The root to dye red. Flowers smell strongly before rain, and wind. **Fl.** Suec. The whole herbage to dye yellow: supports the finest verdure in the dryest weather.


**Hedges, thickets.**

Per. July.

Stems weak, and sometimes rising to three or four feet, with support; branched, leafy, swollen, and pale above the joints, mostly smooth. **Fl.** numerous, pure-white. **Cor.** segments, each tipped with an erect point. **Fl. stalks** terminal, rising from the whorls of the **Ls.** **Leaf** prickles pointing forwards. **Ls.** of the lower whorls very blunt, almost oblong-battledore-shaped, with a very short sudden point.

(*Galium ánglicum.* See Appendix.)


**Hedges.**


Stem remarkably adhesive, long, four-cornered, joints woolly, branches opposite. **Fl.** few, pale-whitish, from the bosom of the **Ls.** **Fr.** a double globe, bristles hooked, and seeds thus dispersed by adhering.

Leaves and branches, a filter for milk. Four ounces of the expressed juice, night and morning, taken internally for several weeks, to remove what have commonly been styled scorbutic complaints. The roots dye red. The seeds instead of coffee.
PLANTA'GO.² Plaintain.


*Pastures, way-sides.*

**Per. June.**

**Stalks** nine to eighteen inches. *Ls.* root-ones upright or spreading, ribs seven or nine. **Spike** long, slender, acute. **Fl.** very numerous, closely tiled. **Cor.** and **filam.** white. **Anth.** reddish. **Plant** varies greatly in size. Seeds eaten by small birds. Plant astringent, mucilaginous. Green *ls.* applied to cuts.


*Dry pastures.*

**Per. June.**

**Stems** five to ten inches. *Ls.* pressed close to the ground, about five-ribbed, entire. **Foot-stalks** broad. **Fl. stalks** tall, hoary. **Filam.** long, pale-purple. **Anth.** whitish. **Caps.** cell one-seeded.

This plant a nuisance on lawns, destroyed by applying a drop of sulphuric acid on the crown of each root. Medical properties, like those of the former.


*Meadows, pastures.*

**Per. June.**

**Stalks** about one foot, and shoot to a considerable length after flowering. *Ls.* root-ones for the most part upright, ribbed. **Spike** tiled with black scales. **Anth.** prominent, cream-coloured. Eaten by cattle, mixed with other herbage.


¹ i. e. called the plant, by way of excellence.
² Koróne, a crow, and poís, a foot. Gr.
TETRANDRIA MONOGYNIA. Cornus. 41


An. June.
Stalk four to seven inches. Ls. root-ones numerous, spreading in a star-like form, mostly pressed close to the ground. Spike close, greenish, short. Plant very variable in size, and in the clefts of ls.

(CENTUNCULUS. Chaff-weed.

An. June, July.
Very diminutive, one to two inches high. Ls. egg-shaped. Fl. axillary, solitary, stalkless, white or reddish, opening in bright sunshine only.)

SANGUISORBA.1 Burnet.

Meadows, pastures.
Per. July.
Stem two feet, erect, with few ls. panicked above. Ls. winged, with an odd one at the end. Leaflets opposite, egg-shaped, sharply notched: a pair of small toothed appendages at the base of their partial stalks. Root Ls. on long foot-stalks: the rest nearly stalkless, with stipulas. Fl. dark, dull purple. Spikes terminal.

CORNUS.2 Cornel.


Hedges, thickets.
Per. a shrub. June.
Four or five feet: bark smooth; dark red, in the older branches. Ls. opposite, egg-shaped, entire, strongly nerved, entirely red, before falling. Fl. in cymes, terminal, greenish white: pet. rolled back in the margin. Germ. crowned with a glandular ring. Berries dark purple, bitter.

1 From a supposed astringent power of the plant, to suppress and absorb blood: sanguis, blood, and sorbeo, to absorb.
2 From Lat. cornu, a horn: from the hardness of the wood. H.
Wood very hard for turners. A lamp, or salad oil from the pressed berries, boiled in water. Berries dye purple.

PARIETARIA. Wall-pellitory.


Stem bushy, ascending, leafy, shining, generally very red. Ls. alternate, obliquely twisted, dark-green. Fl. axillary, greenish white. Stam. filam. curiously jointed, or wrinkled, starting back elastically, once touched, and thus discharging the pollen copiously.

Mucilaginous, emollient, but inferior to the Mallow tribe in that respect: contains a considerable quantity of nitre.

ALCHEMILLA. Lady's Mantle.


Stems more or less trailing, leafy. Ls. root-ones on long footstalks, large, roundish, saw-toothed: verdure of upper surface very fine. Stem Ls. smaller, connected with a pair of large toothed stipulas, upper Ls. gradually diminishing into bracteas. Fl. corymbose, terminal, numerous, green, downy, yellow in the centre.

A very elegant plant in habit and appearance. Astringent: said to have proved fatal to cows, producing an irremediable constipation.


Sandy, gravelly fields. An. April.

1 From paries, Lat. a wall, on which the plant generally grows. Constantine used to call Trajan, Parietaria, on account of the numerous buildings on which his name appeared.

2 A plant formerly in renown among the alchemists. 3 i.e. of our Lady.
Stems numerous, spreading, or prostrate, leafy. Ls. alternate, plain, stalks short. Fl. tufted, axillary, hairy, green, inconspicuous, from the side of the stems. Cal. urn-shaped. Stam. sometimes only one. Altogether smaller than Alch. vulgaris. Formerly esteemed diuretic.

**TETRANDRIA TETRAGYNIA.**

**ILEX.** Holly.


**Hedges, bushy places.** Shotover Hill. Sb. 

Tree. April. 

Ls. alternate, shining. Fl. white. Berry scarlet, rarely yellow. 

Upper Ls. entire:

"But as they grow where nothing is to fear, 
Smooth and unarmed the pointless leaves appear.—Southey."

Branches of this with its ripe berries, mixed with the misteltoe, and spindle-tree, (Euonymus) to ornament churches and houses at Christmas; a supposed relic of Druidism, to afford a shade for the abode of sylvan spirits in the cheerless winter. Vars. with variegated Ls. very numerous. Sheep and deer fed with the branches in winter. Birdlime from the fermented bark, washed from the woody fibre. Plant an impenetrable fence, very hardy, with its berries. Wood for veneering, handles of knives, cogs for mill-wheels, stained black to imitate ebony: flourishes under the shade of trees.

**POTAMOGETON.** Pond-weed.

Four British species found in New Holland.


**Pools, ditches, slow rivers.** 

Per. July. 

Stem immersed, round, leafy. Stip. large, spear-shaped, concave, acute. Fl. stalks as large as the stem, solitary, axillary, (with a

---

1 Holegn. Sax.  
2 Perhaps for acui folium, sharp-leaved.  
3 Gr. *Potamos,* a river, and *geiton,* a neighbour.
bractea like the stip.) thick, almost cylindric, contracted just under the spike. Fl. dull-green, pollen whitish. Spike raised above the water. Ls. foot-stalks long.

Floating Ls. a shade to fish; roots favourite food of swans.

P. perfoliatus. Perfoliate P. Leaves heart-egg-shaped, clasping the stem, uniform, all beneath the water; spikes of flowers above water. E. B. 168. G. E. 822.

Ponds, rivers.
Per. June.

Stems long, round. Ls. pellucid, olive-coloured, crowded about the top, and branches. Spikes a few brown fl.

The respiration of these submersed plants probably different from that of plants, which inhale atmospheric air: the Ls. of a thin, pellucid texture, very vascular; the surface destitute of hair, or down.


Ditches, ponds, slow streams.

Per. July.

Ls. lengthened into a point, ribbed waved, entire, much crowded towards the end of the stem. Fl. stalks short, round, curved back, bearing a small short head of two or four green fl. much resembling those of Adoxa Moschatellina. Plant immersed, except the spike. Smaller than P. perfoliatus.


Ditches, ponds, lakes, slow streams.

Per. July.

Stems long, slightly zigzag, round, leafy. Ls. alternate, except where fl., foot-stalk short: stip. long, blunt, folded, membranaceous within the Ls. Fl. on a solitary spike; the longest, and most crowded of the genus; from the axil of one of the opposite Ls. dark-green; plant olive-green or reddish. Var. one with spear-shaped, tapering Ls.


¹ Ang. Sax.

Ls. remarkably waved, saw-toothed, lower ones alternate, all stalkless, pellucid, dull-green. Fl. stalks a little longer than the Ls. solitary. Fl. tinged with purple; styles purple, anth. yellow. Plant under water.

Ls. and seeds food for ducks.

P. gramineus. Grassy P. Leaves linear, tapering downward, with solitary, very slender side ribs. Stem round, forked. Flower-stalks from the forks, scarcely longer than the spikes. E. B. 2253.


Plant under water, except the flower. Stem slender, zigzag, much branched. Ls. grassy, alternate, except at the forks, crowded, bluntish, entire. Stip. narrower than the Ls. rolled inward cylindrically, pale brown. Spikes egg-shaped, dense, solitary: fl. few.

P. pusillus. Small P. Leaves linear, spreading at the base, opposite or alternate, with solitary, very slender side ribs. Stem round. Flower-stalks axillary, mostly from the side of the stems, many times longer than their spikes. E. B. 215.


Ls. very narrow, stalkless, opposite under every flower-stalk. Stip. membranaceous, spear-shaped, broader than the Ls. above each l., stem-embracing. Fl. three or four, greenish, spiked. Stem much branched, slender. Plant under water, except the fl.


Rivers, ditches, ponds.

Per. June.


SAGINA.¹ Pearl-wort.


¹ From Sagina, Lat. to fatten; a name ill-applied to this genus.
Sandy ground, walks, beds of neglected gardens. 
Per. July.

Stems thread-like, two to four inches, rooting at the joints. Ls. opposite, evergreen, minute, linear, convex beneath. Fl. stalks axillary, solitary, longer than the ls. each bearing a small, nodding fl. Pet. white, roundish, sometimes wanting.

Dry, sandy, barren ground, walls, waste places.
An. June.


MÆNCHIA.¹ Menchia.

An. April.

Stem erect, nearly single-flowered, two or three inches. Ls. opposite, spear-shaped, acute. Fl. stalks very long, often purplish. Fl. upright, pearly white: pet. about as long as the cal. Cal. ls. spear-shaped, acute. Caps. that of a Cerastium with ten teeth. A plant not devoid of neatness.

RADI'OLA. Flax-seed.

An. July, August.

Smooth, erect, one to two inches, forked. Fl. white.)

Class V. PENTANDRIA. Stamens 5.

Order I. MONOGYNIA. Pistil 1.

MYOSOTIS.² Scorpion-grass.³

M. palustris. Great Water S. Forget-me-not. Seeds

¹ Named after Professor Conrad Mœnch.
² Muus, and ous, Gr. mouse's ear.
³ From the Raceme of the fl. being bent back like the tail of a scorpion. Ray.

Clear rivulets, ditches.
Per. June.

Fl. in a long, spike-like bunch, fine sky-blue, valves forming a bright yellow eye. Herbage shining, green. Ls. stalkless, elliptic-oblong, one and a half to two inches long. Partial stalks at first crowded into a close, bent-back spike, after flowering much lengthened out, stalks at length spreading almost horizontally. Cor. admired for its enameled brilliancy. This plant the Forget-me-not of the Germans. Origin of this name:—Two lovers, loitering on the margin of a lake one summer’s eve; the maiden desired some flowers of the plant growing close to the bank of an island, at a distance from the shore. The lover plunged into the water, and gathered the wished-for prize. On his return, unable to regain the shore, though very near it, he threw the flowers on the bank, and, as he sank to his watery grave, his last words to the beloved lady were—Forget-me-not. Mill’s Chivalry, vol. 1. p. 315.

Var. Fl. flesh-coloured.

M. caespitosa. Tufted Water S. Seeds smooth. Calyx, when in fruit, bell-shaped, open, clothed, as is the whole plant, with straight, close-pressed bristles. Limb of the corolla about as long as the tube; segments entire. Style shorter than the stamens. E. B. 2661.

Watery places, and in places where water has stagnated during winter. Wet pastures, &c. Sides of old gravel pits, and in wet places near St. Clement’s, especially on the left hand side of a footpath leading from the back of St. Clement’s, between the Cowley and Henley roads, to Cowley Marsh. In great abundance, June 9, 1831. I observed it in the same place four or five years ago. Bx.

Bien. ? May, July.

Root fibrous. In dryish situations the stem is often not more than three or four inches high: in wet ones from six inches to one foot or more, often procumbent at the base, and producing fibres from the lower joints, the upper part much branched. Ls. stalkless, or slightly decurrent, between linear and spear-shaped, blunt. Clusters forked, with frequently a solitary flower in the forks, and sometimes a leaf or two among the partial flower-stalks. Partial fl. stalks longer than the calyx, lengthening out to nearly or quite twice its length after flowering. Calyx bell-shaped, clothed with straight close-pressed bristles, cut half way
PENTANDRIA MONOGYNIA. Lithospermum.

into five broad somewhat pointed, oblong, triangular segments, spreading when in seed. Corolla smaller than in M. palustris; limb pale blue, nearly white just above the throat; segments entire; valves yellow. Style capitate, concave, shorter than the stamens. Seeds polished, shining, egg-shaped or roundish, sharply two-edged, and slightly keeled towards the point on the upper side. Whole plant besprinkled, more or less, with straight, close-pressed bristles. Bx. June 15, 1831.

M. arvensis. Field S. Seeds smooth. Calyx clothed with spreading, hooked bristles, half-five-cleft, when in fruit, egg-shaped, closed, shorter than the spreading, partial flower-stalks; limb of the corolla concave, equalling the tube. Racemes stalked, with one remote axillary flower. Root fibrous. E. B. 2558.¹

Dry, sandy fields, open places.
An. May.

Stem divided from the bottom into wide spreading branches. Stem Ls. more tapering at the base, than in the other species. Fl. clusters very lax in their lower part. Cor. small, palish-purple before expansion, then sky-blue; smaller than in M. palustris. Plant altogether smaller.


An. May.

Fl. some of them yellow, and some blue. Ls. narrow, oblong. Fl. clusters elevated, single, or in pairs, on terminal stalks, without a solitary distant fl. Cor. small. Discr. colour of fl.; short calyx-stalks, and generally long calyx. Scarcely any two authors agree with regard to the species of Myosotis. H.

LITHOSPERMUM.² Gromwell.


Seeds even. Corolla not much longer than the calyx.

¹ According to Greville the fig. is of Myos. versicolor.
² Lithos, Gr. a stone, and Sperma, a seed, from the hardness of the seeds.
³ i. e. millet.

Dry, gravelly, chalky situations. Shotover Hill. Headington Wick. Sb. (Between South and Ferry Hinksey, &c.) Bz.

Per. May.

Stems roundish, rough. Ls. alternate, hairy beneath, rough above. Fl. clusters pale-yellow, in seeding state, erect, lengthened out.

Seeds much polished in appearance, of a stony substance; the stony shells composed of silica (flint,) sulphate of lime, and iron. The hard ivory-like seeds do not effervesce with acids. Fl. Suec.


An. May.

Ls. spear-shaped, rough, stiff. Fl. in the axils of the upper Ls. solitary, nearly stalkless. Spikes terminal, leafy, at length elongated. Cor. white, small, swollen at the base of the limb. Cal. segments after flowering, three or four times as long as the seeds. Seeds pitted. Bark of the root tinges wax, and oil of a red colour; also paper, &c. hence called Bastard Alkanet.

ANCHUSA. Alkanet.


Ls. broad; plant rough. Fl. bright-sky-blue; buds reddish.

CYNOGLOSSUM. Hound’s-tongue.


Bien. June.

Stem about two feet, round, leafy. Ls. dull-green, upper ones embracing the stem, almost heart-shaped. Fl. clusters terminal, curved back, growing into panicles. Cor. dull purplish red.
Seeds rough with hooked prickles. Smell of the whole plant strongly fetid, compared to that of mice. The fresh plant bruised, and laid in a place frequented by rats and mice, will, it is said, cause them to forsake the premises. Narcotic.

C. sylvaticum. Green-leaved H. Stamens shorter than the corolla. Leaves spear-shaped, somewhat battledore-shaped; the upper ones clasping the stem; all smooth and shining above; hairy and warty beneath. Flowers without bracteas. E. B. 1612.


Discrim, from Cyn. officinale by its more dilated Ls. at the base. Ls. bright, shining green, smooth above. Fl. first reddish, afterwards blueish. Plant almost without smell.

SYMPHYTUM.¹ Comfrey.


Watery meadows, banks of rivers, ditches. Per. May.

Root externally black. Stem two or three feet, leafy, winged. Ls. root ones, stalked, broader. Fl. clusters in pairs, rolled back. Cor. yellowish white, sometimes purple. Sb. Sym. patens, a var. with red or purple flowers, and said to have a spreading, and shorter cal. Sb. 70. Banks of the Thames by Caversham. Sb. Side of the towing-path between High Bridge, and Heyfield’s Hut. Bx.

The root abounds in a pure mucilage. Ls. give a grateful flavour to cakes and panada. Young stems and Ls. good when boiled. Decoction of the Ls. to extract the colouring matter from Gum Lac.

BORAGO. Borage.


¹ From Symphuo, Gr. to grow together, from its supposed healing qualities, in uniting wounds.
PENTANDRIA MONOGYNIA. 'Echium.

Waste or cultivated ground, road sides. Near the Parks. **Sb.** Side of the Banbury road going from the Parks to Summer Town. **Bx.**

Bien. **May.**

*Plant* succulent, mucilaginous, hispid, with sharp, white bristles.


Originally from Aleppo: the juice affords nitre. *Ls.* used in cool tankards: young ones in salad. Dodonaeus recommends such kind of salad to *exhilarate* the mind; this agrees with the old adage: *Ego Borago gaudia semper ayo*: quaintly translated by Gerard: "*I Borage bring alwaies courage.***

---

**LYCOPSIS.**' Bugloss.


*Fields,* waste grounds, dry banks.

An. **June.**


---

**E'CHIUM.**² Viper's-bugloss.


*Fields,* waste ground, sandy or gravelly soil; old walls, rubbish. Shot-over Hill. Abundant between Gibraltar and Tackley. **Bx.**

Bien. **June.**

*Stem* strong, erect. *Ls.* root ones stalked, growing in a starry form. *Fl.* clusters bent back, as the flowers open erect. *Fl.* buds red. *Cor.* purple, then bright blue, large: sometimes white.

A remarkably handsome plant, when in flower. The name from its blue flowers corrupted by the vulgar into *Blue-glass,* for Bugloss. Bees very fond of the flowers.

---

¹ Differing from Anchusa in the curvature of its tube. H. Gr. Wolf's face.

² From *Echis,* Gr. a viper. From its supposed virtue against the bite of the viper.
PRIMULA.¹ Primrose and Cowslip.²


*Groves, thickets, hedges.*

**Per. March.**

**Ls.** directly from the root. **Fl.** large, sulphur-coloured; darker radiating spot in the middle, slightly sweet-scented.

Of the cultivated varieties, that with double sulphur-coloured flowers very elegant. Dried roots strongly emetic, drachm and half, a dose. **Ls.** of this and the Cowslip food for silk worms. Linnaeus supposed the Primrose, Oxlip, and Cowslip var. of each other: this seems proved recently. See *Trans. Horticultur. Society*, vol. iv. and *Henstow in Loud. Mag. Nat. Hist.* Sept. 1830. The fl. stalks in reality constitute an umbel, at the base.


*Woods, thickets, pastures.* Headington Wick Copse. Stow Wood. Southleigh. **Sb.**

**Per. April.**

**Fl.** sweet-scented, umbellated, outer ones drooping, less expanded limb than in **Pr. vulgaris**; larger, paler than in the (**P. veris**) Cowslip.


*Meadows, pastures, chiefly on clay, or chalk.* **Sm.**

**Per. April.**

**Fl.** all drooping, umbellated, deep yellow, with five orange spots, sweet-scented.

*Blossoms* from them a pleasant, soporific wine. **Ls.** a pot-herb, and in salads. **Root** smells like anise.

MENYANTHES. Buckbean.

**M. trifoliáta. Common B. or Bog-bean. Marsh Trefoil.** Leaves in threes. Disk of the Corolla densely

¹ i. e. prime or early rose. ² Cu-slippe. Ang. Sax. a plant not eaten by cows. ³ Oxan slippan. Ang. Sax.


Per. May.

*Stem* with sheathing foot-stalks. *Fl.* thyrsus stalked, opposite to *ls.*, each *fl.* bracteated. *Cor.* flesh-coloured, and clothed with white. *Anth.* yellow.

Many of our aquatics beautiful: this particularly so. *Ls.* bitter, in infusion for rheumatism: powdered in the dose of one dram purgative and emetic. Substitute for hops, two ounces supply the place of one pound of hops. The bitter powdered roots eaten instead of bread, in Lapland, during scarcity. The powder with the infusion destructive to worms. *Fl.* Suec.

**VILLA'RSIA.**

*V. nymphceoides.* _Fringed V._ _Fringed Water-lily._


Per. June.

*Fl.* axillary, foot-stalks long. *Cor.* yellow; fringed, with the disk darker. A beautiful plant, with its yellow, brilliant flowers. The salted *ls.* become very glutinous, and in Japan are boiled in soups.

**HOTTONIA.**

*H. palustris._ *Water Featherfoil._ *Common Water-v._


*Ls.* under water, deeply wing-cleft, or comb-like in shape, the segments linear, entire. *Fl.* whorls, and stalk above water, eight or ten inches, solitary, erect. *Fl.* stalked, bracteated, pink, or rose-colour, resembling those of the Primrose.

---

1. After M. de Villars, author of a Flora of Dauphiny.
2. So named after a Leyden Professor, Hotton.
This plant vies in beauty with many of the most admired exotics.

**LYSIMA'CHIA.** Loosestrife.


**Stems** three or four feet, panicled at the top. *Ls.* shortly stalked, mostly opposite, or three or four in a whorl. *Fl.* panicles large, handsome, yellow, axillary, and terminal. Each partial *fl.* stalk bracteated. **Stem.** monadelphous. **Cal.** and **Cor.** sometimes in six divisions.

**Stalks** single-flowered.

*L. nēmorum.* Wood Loosestrife. Yellow Pimpernel.


**Per.** June.

**Stems** branched, with somewhat creeping roots, square, red. *Ls.* opposite, stalked. Whole plant smooth. **Fl. stalks** long. **Cor.** yellow, large. **Cal.** awl-shaped. An elegant plant.


*Wet meadows, boggy pastures, borders of rivulets.*

**Per.** June.

**Stems** four-cornered, but compressed. *Ls.* rounder than in *Lys. nemorum.* **Fl.** pale-lemon, large, clothed with small glands on footstalks, as the stamens also. **Cal.** segments pointed, egg-shaped.

**ANAGALLIS.** Pimpernel.

*A. arvensis.* Common Scarlet Pimpernel. Leaves egg-

---

1 Named after Lysimachus, king of Thrace. *Plin.*

Fields, gardens.

An. May.

Stem much branched at the bottom, square, leafy. Ls. opposite, stalkless, many ribbed. Fl. axillary, solitary, stalks longer than the ls. Cal. ls. spear-shaped. Cor. scarlet; purple at the base. Stam. purple.

Called Poor-man's weather-glass, from the fl. closing at the approach of rain. Fl. before expansion in dose of gr. xx., four times a day in epilepsy. Fl. sometimes white, Cowley Field. Ls. sometimes in fours. Cor. represented as fringed in fig. E. B. not correctly. Every part of this plant beautiful, and worth attention. If the fl. open in the morning, a fair day may be expected. Small birds fond of the seeds. Fl. opens at eight, shuts in the afternoon. Fl. Suec.


An. May.

Ls. narrower than in An. arvensis. Cor. smaller, more deeply notched, vivid blue. No difference but in the col. and margin of the cor. H.


Per. June.


CONVOLVULUS.¹ Bindweed.

C. arvensis. Small Bindweed. Leaves arrow-shaped, acute at each end. Stalks mostly single-flowered.

¹ From the twining stem of many of its species.

*Hedges, fields, gardens.*
Per. June.

Root running very deep in the ground. Stems long, twining, climbing, angular. Ls. alternate. Fl. stalks long. Cor. deep rose-coloured, plaited yellowish: mostly closing before rain: sweet smelling, in dry, warm weather. A very troublesome, handsome weed.


Moist hedges, osier holts, thickets.
Per. July.

Roots long, creeping. Stems very long, twining. Ls. alternate. Fl. solitary, on axillary, square stalks. Cor. large, white. Bract. heart-shaped, red-bordered. Its large milk-white blossoms very ornamental. Plant may be trained to a great height. Inspissated juice, a powerful purge; dose twenty or thirty gr. The scammony a species of *convolvulus.* Fl. sometimes rose-coloured.

**POLEMONIUM.** ¹ Jacob's Ladder. ²


Per. June.

Stem eighteen to twenty inches. Fl. panicked. Leaf. elliptic-spear-shaped, with an odd one. Cor. blue, sometimes white: a common ornament of rustic gardens.

**CAMPANULA. Bell-flower.**


¹ From *polemos,* war. Gr. From the contention of two kings, Polemon, and Philætærus, both claiming the honour of finding the plant. Plin.
² From the leaves.
Herbage dark-green, smooth. Stems upright, slender. Ls. lower stalked, but soon withering, and sometimes wanting. Fl. stalks panicked, bracteated. Cor. sky-blue, sometimes white, drooping, tremulous.

One of our prettiest wild fl. A green pigment from the fl.


Bien. July, August.

Stem three feet, angular; hairy below. Fl. blue; swollen below.)

Moist thickets. Cransley Wood, Northamptonshire. Y. Banks of the river Arrow, the Alne, &c. Pn.

Per. July, August.

Very large, four feet. Fl. erect, deep blue, large.)


Per. July, August.

Ls. root-ones resemble those of violets. Stem about one foot and a half. Fl. large, bright-purplish, stalks short, solitary, axillary, or bracteated.


Groves, thickets, hedges. Shotover plantations. Magdalen College

¹ Gr. trachelos, the neck, from the supposed virtue of the bitter, and somewhat acrid fl. in decoction as a gargle in sore throats.
PENTANDRIA MONOGYNIA. Jasione.

Per. July.

Stem two or three feet. Ls. harsh, rough, resembling those of a nettle. Fl. hairy within, blue, sometimes white, sometimes double, large. Discrim. from Camp. latifolia, by the membranaceous angles of the stem, and its different heart-shaped ls.

Per. July.

Stem seldom branched, erect, six to eighteen inches. Ls. rough, lower ones on long stalks, pale beneath. Fl. bracteated: the pet. sometimes turn to ls. Cor. blue, or white, hairy within. Stam. four or five. Ornament for rock-work: a dry soil suiting the plant. Variable in size and habit.

Dry, or chalky cornfields.
An. June.

Root small, fibrous. Stem nearly erect, about one span high. Ls. alternate. Fl. terminal, solitary. Cor. nearly wheel-shaped, pale purple, seldom fully expanded, about half as long as the calyx ls.
Discrim. great length of caps. and the segments of cal. extending above the cor. Plant scarcely different from Camp. speculum, Venus's Looking-glass.

C. Cymbalariae foliis. G. E. 452.
Watery, shady places.* (Bagley Wood.) Bx. Lawson.
Per. June, August.
Fl. solitary, light blue. A delicate, little plant.)

JASIONE. Sheep's-bit.

PENTANDRIA MONOGYNIA. Viola. 59


An. June.

Stems spreading, scarcely one foot, leafy, branched above. Ls. stalkless, oblong, blunt, gradually smaller from the root upwards: stem-ls. alternate, wavy. Fl. blue or white, each tuft terminal, solitary, on permanent bracteas of many ls.

VIOLA.¹ Viola.

V. hirta. Hairy V. Stem none. Leaves heart-shaped, rough with hairs, as well as their foot-stalks. Calyx-leaves blunt. Side petals with a hairy central line. E. B. 894. C. fas. 1. 64.

Groves, thickets, on chalk, or lime-stone. Sm. Copse under Shotover Hill. Cheney Lane. Sh. (Bagley Wood.) Between South Hinksey and Childswell. Bx.

Per. March.


Plant throws out, after a time, fl. destitute of pet. or nearly so, but producing perfect seed. Fl. stalks lengthen after flowering, take a downward direction, and bury the caps. to the depth of two or three inches. B. Fl.


Woods, hedges.

Per. March.

Scions long, prostrate, rooting. Ls. foot-stalks longish. Stipul. in pairs, spear-shaped, toothed. Fl. stalks taller than the ls. smooth. Bract. narrow, above the middle of the fl. stalk, when the fl. fully expanded. Cor. nodding, dark purple or white, fragrant. Cal. smooth. Spur short, blunt. Fl. producing seed, with, or without pet. Var. double, more fragrant than the single.

Fl. and seeds mild laxatives. Root in powder, in doses of forty to

¹ Gr. Ion. Some derive Viola, from Vitula, a heifer, in reference to Io, leaving out the letter t. G. E.
eighty gr. emetic, purgative. Syrup of violets, as a test to detect an acid, or alkali, the former changing the blue colour to a red, the latter to a green. Sorbet of the Turks made of the fl. and sugar. (Hasselquist.) Old Gerarde mentions a preparation of violets and sugar, called sugar violet, "most pleasant and wholesome," violet cakes?


Per. April.

Scions none. Fl. very pale blue, with purple streaks.)


Groves, thickets, hedges, heathy ground.

Per. April.

Stems square, branched. Ls. smooth, somewhat dilated at the top. Fl. stalks axillary, solitary, erect. Cor. nodding, scentless, blue, (or white) with purple lines in the mouth. Spur greenish white, abrupt. Bract. two, awl-shaped, near the top of the fl. stalk.


Cornfields.

An. April, May.

Ls. alternate, stalks long. Fl. stalks, axillary, solitary. Cor. pet. variable in size and colour, mostly longer than the cal. the odd one broadest and yellow; side one pale bluish, two upper reversed, pet. purple, all with black radiating streaks. In Sibth. V. arvensis, a var. of this; in it, the petals all shorter than the cal. the odd one only yellow, the rest whitish; or we may say, blossoms white, or yellow white; small with a few purple streaks.

This plant the origin of our Garden Heart's-ease, and its var. or as it has been called—"Three Faces under a Hood. Love in Idleness, &c."

1 Fr. Pensée, a thought.
PENTANDRIA MONOGYNIA. Verbascum. 61

A handful of the fresh, or half a drachm of the dried Is. boiled in half a pint of milk, recommended strongly to be given night and morning, for some weeks, in scabby complaints, Crusta lactea of young children. Med. Jour. ii. p. 188.

VERBASCUM.¹ Mullein.²


Road sides, walls, on chalk or gravel. Sm. Bien. July.

Stem erect, straight, three to five feet, leafy, woolly, winged. Ls. alternate. Fl. spike terminal, erect, cylindric, many flowered: Fl. large, bright yellow, rarely white. Stam. yellow, hairy, three in number, two long, smooth: not so fig. in E. B. Anth. red.

A handful of the Ls. boiled in a pint of cow's milk to half a pint, sweetened, and strained, an emollient medicine, and to allay irritation in piles. This draught may be taken at bed-time. Has been recommended in obstinate diarrhoea, and as an external application to piles. Said to intoxicate fish. The down may serve for tinder, as the leaves of the Coltsfoot. Fl. dried in the sun, give out a fatty matter, which may be used as a cataplasm in hemorrhoidal complaints.


Stem two or three feet, angular, brown or purplish. Fl. spike long, not very compact, upright, cylindric, one only, for most part. Fl. bright yellow; filam. densely clothed with violet coloured hairs.

Beauty of the golden cor. much enriched by the tints of purplish brown at the mouth of the tube, and the yellowish scarlet of the anth.

¹ Verbascum. Irritability of some species, e. g. V. pulverulentum. Two or three smart blows being given to the stem with a stick, all the corollas open, and in a few minutes fall off. The calyx closes round the germens. This takes place in still warm weather.

² Myl, dust, An. Sax. from the leaves.

³ Name of an island.

Banks, rare.* Binfield, Berks. Tur.


Stem slightly angular, three to four feet. Cor. yellow, streaked with purple at the base, stained with brown at the back. Stam. bearded with purple hairs. Herb fetid.)


HYOSCY'AMUS.' Henbane.


Waste ground, banks, commons.

An. June.

Stem bushy, leafy. Ls. alternate, stalkless. Fl. spikes terminal, curved back. Fl. nearly stalkless, erect, straw-coloured, pencilled with dark purple veins. Anth. and style purplish. Whole plant downy, clammy, very fetid.

Highly narcotic. The seeds and caps. smoked together as tobacco a dangerous remedy in tooth-ache. The oily seeds may be safely eaten. The fumes from the seeds in tooth-ache: beat the seeds in the bowl of a tobacco pipe placed in the fire: convey the fumes from the pipe to the tooth by a tin tube. Extract of Henbane a substitute for opium: opening, not constipating. Dose three grains to twenty in pills. The Tinct. dose half a drachm to two drachms not liable to affect the head, nor disturb the biliary secretion like opium. It may be advantageously combined with Vinum. Opii, or with Tinct. of Opium. Extract diluted to dilate the pupil in cataract, and contracted pupil. The roots strung as beads are the anodyne necklaces of children. Mice said to avoid the smell of the plant.

A'TROPA.² Dwale.


Hedges, waste ground, calcareous soil. Sm. ** Wychwood Forest.

¹ Gr. Ἰļus, a swine, and κύαμος, a bean.
² Atropos, one of the Fates: named by mistake, after a supposed Atropa, or Fury.

Per. June.

Stem about three feet, branched, leafy. Ls. from the side of the stems, in pairs, one smaller, all dull green. Fl. drooping, axillary. Cor. dull purplish, of a lurid look. Berry about the size of a small cherry, shining, black, when ripe.

Frequently about ancient ruins. Abbeys.

A most dangerous narcotic, occasioning a deadly stupor: the taste of the berries not unpleasant. Antidote, draught of warm vinegar, and keeping the patient walking. The Ls. in infusion internally, and externally, in cancer. To be used with the greatest caution. See also Pharmacop. Chirurgica. The extract to dilate the pupil of the eye.

A quantity of bread, wine, and ale, into which had been infused the juice of this plant, sent to the Danish army under Sueno, in the reign of Duncan I. The Danes partaking liberally of the poisonous boon were intoxicated, and became an easy prey to the Scots. See the Classical Buchanan, in Hist. Scot. 1. vii. p. 112. fol. ed. Ruddiman. Juice of the ripe berries to stain paper of a durable and fine purple.

SOLANUM. Nightshade.


Stem woody, branched, several feet high. Ls. alternate, stalked, smooth, lowermost heart-shaped, undivided. Fl. clusters opposite to the Ls., or terminal. Fl. elegant, purple, with two green dots at the base of each segm. Anth. large, yellow. Berry scarlet, oval, poisonous.

Decoction of the plant, diuretic, narcotic, useful in humoral asthma, dropsy, Lepra vulgaris, alphans, and ptyriasis. T. T. See Decoct. Dulcamarae, T. T. Recommended by Boerhaave as superior to Sarsaparilla: by Linn. in infusion in acute rheumatisms.


Stem branched, spreading. Ls. alternate, stalked, lengthened at the base. Umbels from the spaces between the Ls. Fl. white,
few, musky. *Berry* black, globular, sometimes yellow. Whole plant fetid, narcotic, diuretic, sudorific, to be cautiously used. One to three grains ample dose of the dried *ls.* in infusion: effects uncertain on the nervous system. *Ls.* externally to abate inflammation, and assuage pain.

Solano de Luque proposed as a cure for an incurable disease, consumption, an ointment of this plant: burying the patient up to the chin in his mother earth, and afterwards rubbing him with the ointment. *Ray in his Syn. ed. 3.* under a var. of this plant quotes a Dr. Brown, his acquaintance, as a very skilful botanist, of Magd. Coll. Oxford.

**ERYTHRÆA.** Centaury. Chironia. Br.


*Stem* solitary, erect, about one foot, four edged, leafy. *Fl.* branches several, opposite, forked, forming an upright panicle. *Ls.* opposite, stalkless, three nerv'd, root-ones somewhat battledore-shaped. *Fl.* stalkless, tube greenish, limb pink, polished. *Var.* *fl.* white. (*Cor.* closes as soon as gathered, and against rain.) *Anth.* spiral, after discharging the pollen. Whole plant smooth, very bitter: called by rustic practitioners, Lesser *C.* Basis of the famous Gout Portland Powder, which prevented the fits, but in the end the patient died, by induration of liver, palsy, or apoplexy. The plant a stomachic, but like other bitters, injurious to the stomach if long persevered in. A decoction of the plant to destroy lice.

**SA’MOLUS.** Brook-weed.


Clear, watery places, gravelly soil. Sides of the ditch in Cowley.

---

1 Gr. from its red *fl.*
2 From Chiron, the Centaur, the *I* made long by Beckmann, *Lex. Botanicum.*
PENTANDRIA MONOGYNIA. Rhamnus. 65

Marsh. Peat bogs under Headington Wick Copse. B. Between Heyfield's Hut and Port Meadow. Bx.

Per. July.

Root fibres many, simple. Plant smooth, pale green, about one foot. Stem round, terminating in one or more long clusters of many, small, white fl. Ls. alternate.

Found in almost every quarter of the globe, and in different latitudes; this happens to several aquatics.

LONICERA.1 Honeysuckle.


Shrub. July.

Ls. opposite, smooth. Fl. stalkless, in the bosom of the upper ls., fragrant. Cor. yellowish, tube blush-coloured. Ber. elliptic, orange-red, crowned with the cal. nearly entire.


Shrub. July.

Discrim. from L. Caprifolium by its ls. all distinct, not perfoliate, fl. in an egg-shaped head, not axillary, fruit crowned with a five toothed cal. Berry rounder, darker red. Stems climbing high. Ls. entire, mostly stalkless, sometimes downy.

Fl. delightfully fragrant in the evening, or after rain. The Woodbine of poets, Milton's "Twisted Eglantine." The climbing action of plants curious; such phenomenon adduced in favour of an instinctive, or perceptive power in vegetables.

In var. β. ls. sinuated like those of an oak, and variegated; called Oak-leaved Honeysuckle. Fl. variable in colour, externally deep red, or pale yellowish.

(L. Xylosteum. Upright Fly H. See Appendix.)

RHAMNUS.2 Buckthorn.


1 Named after Adam Lonicer, Botanist.
2 Gr. Ramnos, a branch: a branchy shrub.


Shrub. May. Fruit in September.

Shrub stiff, spreading, branches alternate, or nearly opposite, each tipped with a strong thorn. Ls. earlier ones in clusters from the flowering buds, the rest opposite. Fl. stalks short, simple, clustered, yellowish-green. Cal. lobes, pet. and stam. four. Berry globular, bluish-black, nauseous, purgative. Stig. four-cleft.

Berry unripe dyes yellow. A syrup from the ripe berr., a griping purgative. Flesh of the birds feeding on the berr. said to be purgative. Juice of the ripe berr. mixed with alum, is sap-green of painters. From the bark a fine yellow dye. This plant known to attain the height of nearly twenty feet.


Ls. roundish. Fl. whitish. Berries dark-purple, purgative.)

EUONYMUS. 1 Spindle-tree.


Hedges, thickets.

Shrub, or small Tree. May.

Plant bruised fetid. Ls. nearly opposite, on short stalks, spear-shaped, pointed, saw-toothed, the first pair entire. Fl. small, axillary, white, fetid, panicle straddling; the first flower that opens has five stam. as many pet. cal.-teeth, and caps. all the rest, with those parts in fours. Caps. pink, when ripe, or white, seed-coat, orange, pulpy.

The tough wood cut when the plant in fl. for spindles, skewers, organ keys, &c. and for excellent crayon charcoal. Three or four berr. emetic, and purgative. Powdered and sprinkled in the hair they destroy lice.

RI'BES. Currant, and Gooseberry.


1 Gr. "of good repute," meaning the direct contrary by antiphrasis; the plant having been considered poisonous.

Hedges, thickets. Shrub. April.


Fruit of a cold climate, thriving ill in the south of Europe. Berry also pale pink, or white. Red berr. for jelly. Equal weights of picked currants, and pure sugar put over the fire become an agreeable jelly from the liquor that separates.


(Ribes nigrum. Black C. Oversley, Warwickshire. Pn.)


Ls. three-lobed, Berr. pendulous, rough. Var. b. Fr. smooth.

HEDERA. Ivy.¹


Woods, hedges, old buildings.

Shrub. September, October. Bx.

Stem and branches long, flexible, creeping; those attaching closely to trees or walls, by numerous short fibres, somewhat compressed. Upper branches round. Ls. evergreen, dark, veined with white; lowermost five-lobed, uppermost egg-shaped, all stalked. Fl. greenish-white, many, in umbels. Berry globular, black.

Whole plant aromatic. From the old stems bruised, a fragrant resin.

When trailing on the ground, Ls. three-lobed, and no fruit produced. Almost every one acquainted with this common and

¹ An. Sax.

F 2
picturesque plant. The roots to whet the leather-cutter's knives on. Berries emetic, and purgative. Plant eaten by horses, sheep, and cows. Some of the largest sized, and soundest forest-trees are such as have been entwined with Ivy for a great length of time. The Ivy draws its support from its own root; its adhering fibres do not supply it with nourishment. Latest of our fl. plants. Ointment of the bs. for burns. *Irish Ivy* a var. with larger bs. of rapid growth.

**THE'SIUM.** Bastard-toadflax.

*T. linophyllum.* Flax-leaved


*High, open, chalky pastures.* Stanton St. John. *Sh. Streatley, Berks. Mr. L. Darwall, and Br.*

Per. *July.*

Stems several, reclining, rigid, taper, five or six inches, not much branched. *Fl. spikes branched, sometimes forming a panicle, solitary, on alternate flower-stalks.* *Cal.* funnel shaped, very white above, and at the margin beneath.

**VINCA.**


Per. *April.*


*Thickets, groves.* Magdalen College Walks. *Sh.*

Per. *April.*

*Roots* creeping. *Stems* leafy, some trailing, throwing out roots,

---

1 From Lat. *vincie,* to bind.
PENTANDRIA DIGYNIA. Chenopódium. 69

others erect, fl.-bearing. Ls. opposite, stalked. Fl. solitary, axillary, alternate. Cal. segm. as long as the fl. tube. Cor. purple, blue, large. Fruit seldom seen, unless the plant be cultivated in a pot; thus perhaps propelling the juices more copiously to the fl.

One of the greatest ornaments of the early season. Handful of the Ls. of Periwinkle stamped, and the juice given to drink in red wine, highly recommended by Gerarde to stop spitting of blood, &c.

PENTANDRIA DIGYNIA.

CHENOPODIUM. Goosefoot.

* Leaves angular.


Plant clothed with unctuous mealiness. Spikelets alternate, stalkless. Fl. crowded, stalkless. Plant pyramidal.

The calyx universally regular, five-cleft, not much enlarged after flowering, clearly separates Chenopodium from Atriplex. Seeds of this genus, a large supply of food to the smaller birds.

Our only perennial Chenopodium, eaten when young, like spinach, and is very good tasted, laxative. The leaves may be applied as a poultice.

Ch. urbicum. Upright G. Leaves triangular, toothed.

Spikes crowded, lobed, very long and straight, approaching the stem, almost leafless. E. B. 717.

Dunghills, ditch-banks, way-sides.

An. August.

Stem stiff and straight. Ls. bright-green, smooth. Cal. smaller than in Ch. rubrum. Seed roundish, the size of rape-seed, five times as large as that of Ch. rubrum. Curtis.

The very long clusters of flowers, erect, and approximating the stem, distinguish this species, together with its seeds larger than Ch. rubrum.

Ch. rubrum. Red G. or Sow-bane. Leaves triangular, somewhat rhomboid, deeply toothed and sinuated.

Waste ground, often in muddy situations. Sm.
An. August.
Plant more bushy than Ch. urbicum. Ls. more deeply toothed, considerably lengthened out at the base. Spikes of stalkless tufts interspersed with linear leaflets. Ls. thick, scarcely shining. In exposed situations the whole plant becomes red. Said to be poisonous to swine.

Waste ground, about old walls, way-sides.
An. August.
Panicled, cymose; inflorescence distinguishes this species. Plant fetid, with dark, shining leaves. Seed larger than in Ch. rubrum, black, very minutely dotted. The dark, shining leaves and corymbose clusters distinguish this species. Stem often tinged with dark-purple.

Waste ground, rather moist; one of the rarer species. Sm.
An. August.
Plant more slender than in most other species; Ls. larger, of a full, bright-green. Seeds stripped of their pellicle, black, with irregular, large dots. Bunch at first compact, but forming a light panicle, when fully expanded.
Linn. named this species hybridum, supposing it might be produced from Ch. viride. Fl. Suec.

Cultivated, and waste ground.
Plant mealy when full grown, greasy to the touch, becoming dry and chaffy; aspect hoary or silvery. Subject to variety in the shape of its leaves: sometimes broad and roundish, [or narrow and green (Ch. viride. Linn.)] sometimes leaves nearly entire. Ls. diamond, triangular, on long foot-stalks. Spikes alternate, stalkless. Seeds not dotted. Bunches with small Ls. but not intermixed with the flowers. Cal. frosted. Ls. with three semi-transparent veins springing from the base. May be boiled and eaten as greens.

Ch. ficifolium. Fig-leaved G. Leaves sinuated, jagged,
somewhat halbert-shaped; entire towards the base:
upper ones oblong, quite entire. Seed dotted. E. B.
Waste ground, dunghills.
An. August.
Lobes of the ls. more round pointed, the middle one more length-
ened out than in Ch. album. Greener hue than Ch. album, a
purple stain at the base of the foot-stalks.
* * Leaves undivided, entire.
Ch. olidum. Stinking G. Leaves egg-shaped, some-
what diamond-egg-shaped, entire. Spikes dense,
crowded, leafless, axillary, and terminal. E. B. 1034.
C. 5. 20. Atriplex olida. G. E. 327. Ch. Vulva-
ria. Sb.
Rubbish, waste places. **
Stems spreading or prostrate, covered with a greasy mealiness; on
being handled exhale a filthy smell, like stale salt-fish. Ls.
alternate, stalked, smaller than in most Chenopodia, squarish
egg-shaped. Fuller’s anti-hysteric electuary made from this
plant. Smell attractive to dogs.
Ch. acutifolium. Sharp Entire-leaved G. Leaves
egg-shaped, acute, entire. Stem erect. Clusters
spiked, compound, lengthened out, erect, partly leafy;
lower ones somewhat cymose. E. B. 1481. Ch.
polyspermum. C. 2. 17. Sb. Atriplex sylvestris
sive Polyspermon. G. E. 324.
Cultivated ground, waste places. Not uncommon about London.
Curtis.
Stems square, red. Seeds reddish. Lower stems lengthened out,
trailing on the ground. Cal. half covering the seed. True Ch.
polyspermum found in Cornwall. Sm.

ULMUS. Elm.¹

U. campestris. Common Small-leaved E. Leaves doubly
saw-toothed, rough. Flowers nearly stalkless, four-
cleft. Capsule oblong, deeply cloven, naked. E. B.
1886. U. minor, folio angusto scabro. Goodr. in G.
E. 1480.
Tree. April.

¹ Ang. Sax.
Bark of branches even. Trunk and branches rugged, crooked. As the fruit advances, the ls. appear. Ls. alternate, short stalked, egg-rhomboid, unequal at the base, one to three inches long. Fl. clusters, numerous, dense. Bract. fringed. Cal. light-red, or brownish. Stam. four, anth. large, roundish, purple.

Wood hard, tough, durable in wet situations. Decoct. of inner bark in Dropsy, in Lepra ichthyosis. The dried ground bark mixed with meal (With.) for bread during a scarcity. Well adapted for shady walks, as not destroying the grass, its ls. acceptable to cattle; should be grafted on the Ulmus glabra to prevent the roots sending out suckers. Thrives in an open situation, black, clayey soil: bears transplantation. Caterpillar of Pap. Polychlóros, large Tortoiseshell Butterfly, and of Pap. Comma Album feed on the Is. Young Is. food for silk-worms. Wood less liable to splinter than even oak; hence used in ship-building, naves of wheels, &c.


Woods, hedges. Tree. April. Tree large, branches spreading, drooping; bark even. It flowers under thirty feet high. U. campestris seldom until after a greater height, and age. Timber less valuable than that of U. campestris. Ls. larger than in U. camp. less rough, with longer points. Fl. somewhat larger, on rather longer stalks, blush-coloured. Stam. five to six. Fruit larger than in U. camp. more skinny, and hop-like.

Magdalen College Elm, Oxford, two feet above ground, measures twenty-seven feet, four: breast high, twenty-one feet. 1831. R. W. A remarkably fine elm also at Fyfield, Oxfordshire.

CUSCUTA. Dodder.

C. europæa. Great D. Flowers nearly stalkless.
Thistles, nettles, flux. Found near Newbury, Berks. Mr. Bicheno.
Road to Hinksey. R. W.
An. August.
Stem thread-shaped, red, branched, parasitic, twining from right to left, two or three feet. Ls. none. Fl. heads, dense, round, whitish, somewhat pentandrous. Cal. reddish.
Dyes purplish.

Per. July.
Stem parasitical, thread-shaped, much twisted, deep red. Fl. mostly four-cleft, with four stamens. Cal. red, acute. Cor. white. The seed is without cotyledons, puts forth a small spiral body, climbing from right to left up other plants. Ls. none. Smaller than C. europæa.

GENTIA'NA.1 Gentian.

Stem square, erect. Ls. stalkless, egg-shaped, three nerved, dark-green. Cal. pale, ribs green. Cor. tube twice as long as the cal. Segments rarely three or four. Fringe of the orifice purple. Cor. limb violet. Cal. segments spear-shaped, acute, erect. Whole plant, as its congeners, intensely bitter. Fringe under the mouth of the cor. a beautiful microscopic object.

G. campestris. Field G. Corolla salver-shaped, four cleft; bearded in the throat. Two outer segments of the calyx egg-shaped, very large. E. B. 237.
An. September.
Plant paler in colour than G. Amarella, not so tall, fl. fewer, more

1 From its discoverer Gentius, king of Illyricum.
PENTANDRIA DIGYNIA. Daucus.

corymbose. Distinguished by its cal. segments from G. Amarella. Cor. pale violet. Used by the poor instead of hops. Fl. Suec. All the Gentians bitter.

ERYNGIUM. Eringo.

Per. July, August. Plant palish green. Pet. white or purplish, narrow, bent inwards sharply.) Umbelliferous plants generally herbaceous, ls. for the most part repeatedly compound. Flowers white, reddish, or yellow. In dry or mountainous places aromatic, wholesome; marsh or aquatic, virulent and dangerous. Sm.

SANICULA. Sanicle.

Woods, groves.
Per. May.
Ls. about seven lobed, three cleft, shining. Fl. numerous, crowded, cream-coloured, in small, stalked heads. Herb bitter, acrid, somewhat aromatic, pungent.

DAUCUS. Carrot.

Ls. twice, thrice winged. Neutral fl. in the centre, blood-red. Leaf-stalks ribbed beneath. Grateful, nutritious to cattle: carriage horses work upon them,


2 So called from its supposed vulnerary qualities.
nearly as well, as upon oats: if given beyond a certain time, apt to cause bloody urine in cattle. To destroy crickets, place a paste of powdered arsenic, wheat meal, and scraped carrots, near their habitation. Poultice of the boiled roots, mitigates the pain, and abates the stench of foul ulcers. See *Walker on Carrots*, 8vo.¹ The herb and seeds are diuretic, and esteemed useful in gravelly or calculous complaints. Garden carrot, a var. of this.

CAU'CALIS. Bur-parsley.

*C. daucoides*. Small B. Umbels three cleft, without general bracteas; partial ones with three bracteas, and ripening about three fruits. Leaves repeatedly subdivided. E. B. 197.

*Cornfields, on a chalky soil*. Between Middleton Stoney and Bucknell. *Sb.* Frequent in the County of Oxford. *Sm.*

An. *June.*


TO'RILIS.² Hedge-parsley.


*Hedges, borders of fields.*

An. *July.*


*Fields, way sides.*

An. *July.*

*Seeds* adhesive. Want of many leaved involucre, and straddling branches of this, distinguish it from *T. Anthriscus*. Terminating leaflet linear-spear shaped. Generally found in corn-fields, not under hedges.

¹ Author of the well-known "*Experiments and Observations on the Production of Artificial Cold.*" 1796. 8vo.

² *Torilis, toreuo*, to carve, emboss, in reference to the seed.

* Banks, borders of fields, gravelly soil, or chalky, more frequent. Sm. An. June. Fl. white. Ls. deep, glaucous green.

**ANTHRISCUS.** Beaked-parsley.


* Banks, waste ground, chiefly near large towns and villages. An. May. Stem very smooth, swollen under each joint. Ls. bright light-green. Umbels mostly from the sides of the stem. Sweetish, aromatic flavour. *Fruit egg-shaped, bristly, with a short, smooth beak. Pers. The petals inaccurate in E. B.*

"The whole vegetable kingdom does not afford a more exquisite green, nor scarcely a more rich, and elaborate foliage, than the young plants of A. vulgāris."

**SCANDIX.** Shepherd’s-needle.


* Cultivated fields. An. May. Ls. three winged, somewhat smooth. Umbels of two or three rays. Leaflets linear, cut into many linear segments.

**CHÆROPHYLLUM.** Chervil.


Cows fond of this. Roots eaten for parsneps, poisonous. Umbels dye yellow; leaves and stem afford a beautiful green. Used as a pot-herb in times of scarcity. Its presence indicates a fertile soil. Flavour of carrots: grateful to rabbits.

Myrrhis temulenta, has a more swelling, a spotted, and very rough stem, and bristly flower stalks to distinguish it.

**MYRRHIS. Cicely.**

* Scandix and Chaerophyllum of Linn.


Mountainous pastures. Rose Lane. Sb.

Not in Ray and Dillenius.

Per. May.

Three feet. *Ls.* somewhat triply winged; wing-cleft, pale, hairy, scented.

In the north of England, seeds for polishing, and perfuming oak-floors, and furniture. *With.* Young seeds gratefully stomachic.


Bushy places, and under hedges.

Bien. June.


Sweetish, aromatic, no intoxicating qualities.

**BUNIUM. Earth-nut.**

B. flexuósum. *Common E.* Kipper, or Pig-nut.


Grassy pastures, especially on a gravelly soil. *Sm.*

Per. May.


Roots eatable, nourishing: in some parts of England boiled in broth, and served up at table: little inferior to chestnuts.

1 Proper name.
SIUM. Water-parsnep.


*Rivers, ditches, fens.*

Per. *July.*

*Umbels* large, nearly flat, white, terminal. *Stems* four or five feet, furrowed. *Leaflets* very equally, and neatly saw-toothed. Those that grow under water, often jagged.


E. B. 139. H. L. 2. 111.

*Ditches, rivulets.* *Behind the Parks.* *Sh.* (Ditch going to South Hinksey, &c. *Bx.)*

Per. *July.*


*Ditches, and rivulets, frequent.*

Per. *July.*

*Involucre* of one leaf, often wanting.

The juice in cutaneous disorders. Three large spoonfuls mixed with milk, twice a day. *With.*


E. B. 1431.

*Boggy meadows, watery commons.* Peat bogs on Bullyingdon Green. *Sh.* and *Bx.*

Per. *June.*

*Involucre,* and *Involucr* of many egg-shaped, spreading leaves.
Leaflets opposite, stalkless, unequally saw-toothed: the terminal one, generally more or less three-lobed. Stem six to ten inches: a smaller plant even than S. inundatum. Purton.


Plant procumbent, or swimming. Called by Linn. in Fl. Suec. the smallest of umbelliferous plants. Habit and seeds those of Sium genus.

SISON. Honewort.¹


Marly, chalky, rather moist ground, under hedges. Sm.

Duration? July.

Stem tall, much branched, slender, weak, spreading. Leaflets egg-shaped, terminal one deeply cut, saw-toothed, three-cut. Seeds warm, aromatic, when ripe: in an early state nauseous. Smell of the whole plant the same, like bugs.


In rather moist fields, on a calcareous soil. Sm.

Duration? July.

Stem slender, rush-like, erect. Leaflets saw-toothed, set at nearly right angles with the stem. Slightly aromatic. Seeds more pungent.

ÆTHU’SA.² Fool’s-parsley.

Æ. Cynápium. Common F. Less Hemlock. Leaves uniform; leaflets wedge-shaped, running down the

¹ Hone-wort, so called from its curing a hone, i.e. a swelling in the cheek. Ger.
² Shining, Gr. from its shining leaves.

Gardens, cultivated fields.
Herb dark, lurid green, glossy, fetid, poisonous. Ls. twice winged, with wing-cleft leaflets.
Occasions sickness: sometimes carelessly mistaken for Garden Parsley. It is poisonous to geese. Linn. Fl. Suec.
Cows, horses, sheep, goats, and swine eat it. With.

**CONI'UM.** Hemlock.


Hedges, waste ground near towns and villages.
Three to four feet. Ls. large, repeatedly compound; deep-shining green. Fl. white.
Herb fetid, narcotic, sedative; much used in the form of extract for lowering the pulse in acute inflammatory disorders; and still more celebrated for relieving scrofulous and cancerous maladies.

Sm.
The extract an uncertain preparation, whence powder preferred by some: dose fifteen to twenty five grains twice or thrice a day. Extr. particularly useful in hooping-cough. See *Butter*.

**ŒNANTHE.** Water-dropwort.


Ditches, ponds.
Per. June.
Root tuberous. Umb. general rays from three to seven, or eight.
Stem creeping under water; above water erect, almost naked.
Root leaves twice winged. Umbels, when ripe, resemble small prickly spheres. First umb. divided into three, the rest into more divisions.


1 Koneion, Gr.

Per. June.

Stalk thicker than in Óenanthe fistulosa. Cal. erect, unequal. Stalk leaves winged, root-ones twice winged, leaflets linear. Umbellules often red about the centre, white towards the circumference.

Ó. *crocáta.* Hemlock Water-dr. Leaflets all wedge-shaped, many-cleft, nearly uniform. Fruit linear-oblong, with slender intermediate ribs. E. B. 2313.


Watery places, osier holts, about the banks of rivers. Near Bays-water. Sb. **

Per. July.

The plant contains a fetid yellow juice, very poisonous, especially the root. Cal. curved inwards. Ls. many-clefted, large, blunt. Umb. terminal, large, convex. Anth. brown. Rays of universal umb. furrowed. Sheep eat it, cows and horses refuse it. Brood mares sometimes eat the root, and are poisoned. Ehret, the draughtsman, experienced giddiness from the scent of the herb while drawing it.


Rivers, ditches.

Per. July.

Stem thick, hollow. Umb. opposite to the leaves. Lower ls. doubly compound, upper ones twice winged. Ls. thrice winged, smaller wings stalkless; under the water, long, hair-like. In running streams ls. lengthened out, and flowers rarely produced. Esteemed poisonous to horses, producing paraplegia: this effect owing to Curculio paraplecticus within the stem. The antidote is pig-dung. The roots and stem, in the course of the winter, become dissected, and afford a curious skeleton of net-work. Linn. Eaten by horses, sheep, and goats. Swine not fond of it: cows refuse it.

SMYRNIUM. Alexanders.


Bien. May.

Rather moist meadows, pastures.

Per. July.

Whole plant smooth, darkish-green, varying in the shape of its leaves. Fl. yellow, or greenish hue. Leaflets spear-shaped, as it were keeled; outermost united together. Ls. thrice-winged.

Germ. crowned with a glandular yellow receptacle, turning to a deep red as the seeds ripen.

Where this herb abounds in pastures it is found partially cropped; generally left almost entire.

BUPLEURUM. Hare’s-Ear.


Stem alternately branched, hard, rigid and straightish, bent inwards, clothed with remarkably perfoliate leaves. Foot and a half high. Ls. egg-shaped. Fl. yellow. Partial involucre of five leaves, large.

Plant reckoned among vulnerary herbs, in old herbals.

HYDROCO’TYLE. White-rot.


An. June.

Moist heaths, boggy commons, margins of rivulets.

Per. June.

Stems creeping. Ls. solitary, or clustered, on upright, simple foot-stalks, two or three inches high. Flower-stalks axillary. Fl. small, reddish-white. Umbellate head five to eight flowers. Herb acrid.

PASTINA’CA. Parsnep.

P. sativa. Common Wild P. Leaves simply winged,

1 Thorow-wax, so called from the stem waxing, i.e. growing thorow, or through, the leaves.

2 Hydrocotyle, from udor, water, and cotule, a cup.

3 White-rot, from a supposition that the plant caused the disease in sheep, called the rot: the disease rather attributable to the moistness of the pastures.
PENTANDRIA DIGYNIA. Tordy'lium.


Plant rough, rigid, three feet. Fl. yellow. Fr. large. Involucre none; foot-stalks smooth. DC.

Seeds have been used in intermittents. Linn. Fl. Suec. Roots highly nutritious, abounding in saccharine matter: brewed in the north of Ireland, with hops, and fermented with yeast. Hogs fatten on the roots quickly.

By cultivation the eatable garden parsnep, with larger, smoother leaves.

HERACLE'UM. Cow-parsnep.


Four feet high. Fl. white, large, radiant: petals inversely heart-shaped. Leaflets five-cleft, oblong, hairy, rough on both sides: terminal one three-lobed. Common stalk of the Is. with one large inflated ribbed stipula.

In Kamtschatka the foot-stalks of the root-leaves collected; the rind being peeled off, they are dried separately in the sun, then tied up in bundles, and laid in the shade: in a short time these dried stalks are covered with a yellow saccharine efflorescence: in this state, eaten as a great delicacy.

The stalks also fermented with bilberries (Vaccin. uliginosum;) and a strong liquor distilled from them. Gmelin. Fl. Siber. Swine and rabbits fond of this plant.

TORDYLIUM. Hart-wort.


Fl. white, or rose-coloured. Outward petals largest. Umb. rather

1 Heracleum, from Hercules, or Heraclea,—eion Gr.
PENTANDRIA TRIGYNIA. Sambucus.

small and dense. *Involucre* five-cleft, awl-shaped, spreading, shorter than the umbel. *Stem* slightly furrowed. *Leaflets* about seven cut, the odd one, twice the size of the others. *Seeds* flat, bristly; the border thicker, prickly, red. On the north, and west sides of the Parks: also on a bank beyond Jericho, about a quarter of a mile N. W. from the Oxford Observatory. *Br. 1819.* Ray suspected this plant not to be a native, but an outcast from the garden.

PENTANDRIA TRIGYNIA.

VIBURNUM. Guelder-rose.


*Woods, hedges, especially on a chalky, or limestone soil.* Sm. 

*Shrub.* May.


Young shoots in the Crimea, for tubes of tobacco pipes. Bark of the root for birdlime. *Berry* astringent. The long, quick growing, tough branches, excellent bands for fagots.


*Sambucus aquatilis, sive palustris.* G. E. 1424.

*Watery hedges, and swampy thickets.* 

Shrub, or small Tree. *May.*

Smooth. *Ls.* three-lobed. *Cymes* white, many flowered: perfect ones small, like those of the elder: marginal abortive ones of one large irregular, flat *pet.* *Berry* very succulent, bright, red, bitter. *Autumnal Is.* fine pink.

Guelder rose of the garden bears round bunches of abortive fl. only, called *Snow-ball Tree.*

SAMBU'CUS. Elder.¹


¹ Ellarn. Ang.-Sax.
PENTANDRIA TETRAGYNIA. Parnassia. 87


Per. July.


Whole plant fetid, strongly purgative. Moles will not approach near where its ls., or those of the Common Elder laid. Root one drachm and a half; a strong cathartic. Berry to dye blue. Mice avoid the smell of this plant. Our ancestors supposed this plant to spring from the blood of their foes, the Danes. Seeds (one scruple) bruised, purgative, once a week, in dropsy. G. E. ("in a little secke.")


Small Tree. June.


Inner bark strongly purgative; in smaller doses, diuretic, in dropsy. Berries made into a rob, in sore throat: laxative. Infusion of the ls. sprinkled on the buds of flowers to preserve them from caterpillars. Caterpillar of the delicate Phal. Sambucaria feeds on its ls. The berries for wine. Sheep cured of the rot by the bark, and young shoots. (Var. S. with white berries, for wine: var. with jagged ls.)

Striking the boughs over different plants will keep off insects. Decoction of the fl. as a cooling fomentation. The fl. to flavour vinegar: fl. fatal to turkeys, and to peacocks. Juice of the berry to colour wines. The pith for balls in electric experiments. When the elder is in flower the summer is established; when ripe the summer is entirely gone. Seed bruised, one drachm in dropsy. G. E. Inner green bark from half an ounce to one ounce, infused in white wine, moderately cathartic.

PENTANDRIA TETRAGYNIA.

PARNA'SSIA. Grass of Parnassus.


Spongy bogs, commons. Peat bogs on Bullingdon Green. Under Headington Wick Copse. Sh. About a quarter of a mile north from Upper Heyford; also in a bog north of the Parsonage House. Bx.

Per. July.

Stems about one span, angular, twisted. Fl. foot-stalks three or four times longer than the ls. Fl. pet. veined with greenish ribs. Cor. elegant milk-white. Nect. balls yellow.

The stam. in succession, or nearly so, come over the stigm. and retire after shedding their pollen. The same phenomenon in the Rue, and in Saxifraga.

A most elegant plant. Physiology of the Nect. unknown.

PENTANDRIA PENTAGYNIA.

LINUM. Flax.¹

* Leaves alternate.


Root small, fibrous. Fl. blue. Caps. ending in a point.)


Per. June, July.

Root much branched at the summit, woody. Ls. smaller and narrower than in L. usitatissimum. Fl. blue, but smaller than in the last. Caps. bluish.)

** Leaves opposite.


¹ Ang. Sax.

Dry pastures.
An. June.

Plant slender, smooth. Stems one foot, bowed at the base, then upright, simple, branching off into a forked, slender-stalked panicle. Fl. terminal, solitary, in bud, drooping; in fl., erect, white like those of an Arenaria. Cal. ls. egg-spear-shaped, nerve one. Stam. monadelph. sometimes only four. Willd.

Infusion of two drachms or more of dried herb, excellent cathartic, diuretic in rheumatism.

PENTANDRIA HEXAGYNIA.

DROSERA. Sun-dew.¹


Per. July.

Ls. growing in a starry form, conspicuous by their green and red colour. Glandular bristles red, bent inwards, irritable, contractile, each tipped with a clear viscid globule. Fl. stalks naked, simple. Fl. white, or blush-coloured. This species, and Dros. longifolia occasionally acquire a stem. Dr. Williams, Bot. Prof. Oxford.

Whole plant acrid, caustic. Juice mixed with milk, an application to remove freckles, and sun-burns. The unmixed juice to destroy warts and corns.

The upper surface of the ls. said to contract, when touched with a pin, centrically; hence insects sometimes found imprisoned in the ls. An experiment best made in hot, sunny weather, by placing an ant or any small insect on the ls. &c. The distilled water of Sun-dew from a glass still, is of a golden colour, and colours silver like gold. G. E.


¹ From the small pellucid drops at the tips of the ls. remaining undried up in the fullest exposure to the sun.
HEXANDRIA MONOGYNIA. Leucojum.

Per. July, August.
Like the last, but rather larger. Ls. oblong.

PENTANDRIA POLYGYNIA.

MYOSURUS. Mouse-tail.

An. June.
Root fibrous. Herb smooth, variable in size, stemless. Ls. numerous, nearly upright, linear, somewhat battledore-shaped, pale-green. Stalks upright, longer than the ls., simple, round, each bearing a small upright fl. of a pale yellowish colour. Stam. variable in number, about five. Pistil composed of a conical receptacle, with a great number of egg-shaped, slightly striated germens, two or three hundred, not unlike a mouse's tail. Plant acrid.

Class VI. HEXANDRIA. Stamens 6.
Each 3 equal.

Order I. MONOGYNIA. Pistil 1.

(* Galanthus nivalis. Common Snow-drop. Packington, Warwickshire. Tur. Sometimes difficult to draw the line of demarcation between indigenous wild plants, and exotics.)

LEUCOJUM. Snow-flake.

L. aestivum. Summer Snow-flake. Flowers several.
Per. May.
HEXANDRIA MONOGYNIA. 'Allium. 91

Ls. numerous. Pet. uniform; top green.

NARCISSUS. Narcissus, or Daffodil.


Rather moist woods, thickets. Nokes. Sh. North side of Shotover Hill. (Bagley Wood.) Br.

Per. April.

Bulbous. Ls. erect, linear, with a blunt keel, and flat edges. Fl. drooping, large; pet. lemon-yellow. Nect. large, deep-yellow.

One of the most beautiful of our native plants. Fl. anti-spasmodic. By some the fl. considered a kind of specific in hooping-cough. The extract of them in small doses only. Two or three drachms would destroy life in a few hours; half a grain, to one to two grains, every two, four, or six hours, according to patient’s strength. Richard. Decoction of the roots purgative. G. E.

'ALLIUM. Garlick. 3

* Stem leafy. Leaves somewhat cylindrical.


Cornfields, and their borders. Rosall. Pn. What county?

Per. July.

Fl. reddish. Germ. rough at the top.)


Dry pastures, cornfields, waste ground, especially on chalk, or gravel. Sm. Meadows, near the Botley Road. Between Caversham and Mapledurham. Sh. Walls of Godstow Nunnery. Br.

Per. June.

Root egg-shaped, bulbous. Stem two f. slender, upright, round,

1 From the youth supposed to be changed into the flower. Ovid. Metam.
2 Pseudo, i. e. false, to distinguish this species from the True N. of the ancients, or N. poeticus.
3 Garleac. Ang.-Sax.
slightly furrowed. Ls. long, tapering, hollow, fading before the flowers come out. Fl. pet. closed, pale-rose-colour, keels green. Spatha pointed, deciduous. Stam. longer than the pet., the hair-like, side extremities of three thrice divided ones, horizontally spreading. Young shoots in salad, or boiled.

** Stalks immediately from the root, naked.


Root a slender bulb, fibres long, fleshy. The broad ls. all from the root. Spatha two-leaved. Fl. white, numerous, large. Difficult of eradication. Communicates its nauseous flavour to milk and butter, when cows eat the plant.

FRITILLA'RIA.\(^2\) Fritillary.


Root a small bulb. Stem erect, about one foot, round, leafy. Fl. bell-shaped, elegantly chequered with pale and dark purple, drooping. Fruit erect.

Var. Fl. white.

TULIPA.\(^4\) Tulip.\(^5\)


---

\(^1\) Bear's, or bearish, Lat. Sir J. E. Smith observes,—the coarseness of its qualities, like the manners of some human beings, may, in both cases, justify a comparison. E. F.

\(^2\) From the chequered appearance of the flower, somewhat resembling a chess-board, FRITILLAS.

\(^3\) Meleágris, from the resemblance of the flower to the painted wings of the Meleágris, Guinea-hen, or Pintado.

\(^4\) From toliban, Pers. a turban, from the shape and colour of the flower.

\(^5\) See Beckmann's History of Inventions, &c.
HEXANDRIA MONOGYNIA. Ornithogalum. 93


Per. April.


ORNITHO/GALUM.¹ Star of Bethlehem.

O. luteum. Yellow Star of B. Stem angular, with one leaf at the bottom, and one or two at the top. Flower-stalks umbellate, simple, smooth. E. B. 21.

O. luteum, sive Cepe agraria. G. E. 165.


Per. April.


Bulbous roots of all the species nutritious and wholesome.


Per. April, May.

Ls. linear, bluntnish, withering soon at the top, concave on the upper side, with a white rib. Stalk round, smooth, eight or ten inches. Corymb. of six, eight, or ten fl. Bract. spear-shaped, acute, membranous, fading, about half as long as the fl.-stalks. Pet. pure, enamelled, white with a broad, permanent, green line along their backs. Germ. top-shaped, with six notches.

The boiled roots much used as food in the Levant. The Dove’s Dung, mentioned 2 Kings, ch. vi. v. 25. supposed by Linn. to be the roots of this plant. Bochart interprets the Heb. word, as referring to the seed of vetches, or some vegetable food. See Gesen. Lex. in the Heb. word יר cata


¹ From Ornis, Gr. a bird, and gala, Gr. milk; from the whiteness of the petals in some species.

**Stalks immediately from the root, naked.**


Per. *June.*

Root a slender bulb, fibres long, fleshy. The broad *Ls.* all from the root. *Spatha* two-leaved. *Fl.* white, numerous, large.

Difficult of eradication. Communicates its nauseous flavour to milk and butter, when cows eat the plant.

FRITILLARY.2 Fritillary.


Per. *April.*


TULIPA.4 Tulip.5


1 *Bear's,* or *bearish,* Lat. Sir J. E. Smith observes,—the coarseness of its qualities, like the manners of some human beings, may, in both cases, justify a comparison. *E. F.*

2 From the chequered appearance of the flower, somewhat resembling a chess-board, *frītillus.*

3 *Meléagris,* from the resemblance of the flower to the painted wings of the *Meléagris,* Guinea-hen, or Pintado.

4 *From tolīban,* Pers. a turban, from the shape and colour of the flower.

5 See Beckmann's History of Inventions, &c.
HEXANDRIA MONOGYNIA. Ornithogalum. 93


Per. April.


ORNITHOGALUM.† Star of Bethlehem.

O. luteum. Yellow Star of B. Stem angular, with one leaf at the bottom, and one or two at the top. Flower-stalks umbellate, simple, smooth. E. B. 21.

O. luteum, sive Cepe agraria. G. E. 165.


Per. April.


Bulbous roots of all the species nutritious and wholesome.


Per. April, May.

Ls. linear, bluntish, withering soon at the top, concave on the upper side, with a white rib. Stalk round, smooth, eight or ten inches. Corymb. of six, eight, or ten fl. Bract. spear-shaped, acute, membranous, fading, about half as long as the fl.-stalks. Pet. pure, enamelled, white with a broad, permanent, green line along their backs. Germ. top-shaped, with six notches.

The boiled roots much used as food in the Levant. The Dove’s Dung, mentioned 2 Kings, ch. vi. v. 25. supposed by Linn. to be the roots of this plant. Bochart interprets the Heb. word, as referring to the seed of vetches, or some vegetable food. See Gesen. Lex. in the Heb. word יְנֵר.


† From Ornis, Gr. a bird, and gala, Gr. milk; from the whiteness of the petals in some species.
SCILLA. Squill.


**Thickets, groves, bushy fields, hedges.**

**Bulb.** solid, acrid, poisonous, abounding with starch mucilage. **Ls.** acute, limber. **Stalk** erect. **Fl.** blue, sweet-scented. **Bract.** in pairs, linear, acute, blue, like the fl.-stalks.

An ornamental and graceful plant. Fresh roots poisonous, may be converted into starch.

**Var.** Fl. white, to flesh-coloured.


(HYACINTHUS. Hyacinth.


**Gassy fields, sandy soil, or among ruins.** Near Newbury, Berks. **Sm. Eng. Fl.**

**Per. May.**

**Fl.** dark-blue, smelling like wet starch.)

(NARTHECIUM. Bog-asphodel.

*N. ossifragum*.¹ **Lancashire Bog-asphodel.** Cluster uninterrupted. One bractea at the base, the other above the middle, of each partial stalk. E. B. 535. H. L. 139. Asphodelus Lancastriæ. G. E. 95.

**Black, turfy bogs.** Coleshill Bog, Warwickshire. **Pn.** Windsor Great Park. **Tur.**

**Per. July, August.**

**Ls.** sword-shaped. **Stem.** simple. **Fl.** yellow, with red anth.)

¹ Lat. i. e. bone-breaking; from a supposed effect in the plant fed upon, to soften the bones of cattle.
HEXANDRIA MONOGYNIA. 'Acorus. 95


CONVALLA'RIA. Lily of the Valley, and Solomon's Seal.


Groves, heathy ground, rocky woods.** In the Beech-Woods, near Stokenchurch. Sb. Copse near Childswell Farm. J. Ireland, Esq. and Bx. Per. May.

Roots matted, creeping. Stalks scaly. Ls. mostly two, immediately from the root, long-stalked, elliptic, ribbed. Fl.-stalk solitary, naked, shorter than the l.s. Fl. white, racemed, highly fragrant. Berry ripe, scarlet.

The powdered fl. excite sneezing. From the l.s. a beautiful green colour prepared with lime.

Garden var. fl. double, or purple. One of our most favourite wild flowers. Extract from the fl., or roots purgative. Dose, twenty to thirty gr.


Polygonatum. G. E. 903.


Per. May, June.

Ls. elliptic. Fl. smaller, scarcely bearded. Berr. bluish-black.)

'ACORUS. Sweet Flag.


Per. July.

Root thick, spongy, strongly aromatic, rootlets long. Ls. two to three ft., upright, long, sword-shaped, bright-green, aromatic like the roots, but fainter. Spadix from the sides of the stem, cylin-

1 From vallis, a valley. 2 From time of fl.
HEXANDRIA MONOGYNIA. Juncus.

dric, tapering, naked. Fl. very numerous, thick-set, green, seldom met with.
Dried root inague.

JUNCUS.¹ Rush.

* Leaves none.


Wet pastures, moist, waste ground.

Per. July.

Stem slender, somewhat crooked, about one and a half f., upright, naked, stiff, slightly furrowed, tapering to a sharp point, at the base brown, shining, sheathing scales, dark-chestnut below. Pan. from the side of the stem, branched, spreading upwards. Cal.-ls. awl-shaped.

Discrim. by its glaucous green colour, and hard texture from J. conglomeratus and J. effusus: in J. conglomeratus the stam. are only three.


Pastures, road-sides.

Per. July.

Stems simple, slightly furrowed, about two f., not pungent at the end, but pointed. Panic. from a membranous, bordered, fissure, or chink, brownish-green.

Wicks for watch-lights; pith for toys. Stems for mats and chair bottoms, like J. effusus. Rushes used in Edward the Fourth's reign, and later, for strewing floors, before the introduction of carpets: a cover for a vast deal of filth: in making the wicks, two ribs of stalk should be left to support the pith. See White's Selborne, Let. 26.


Wet pastures, boggy places.

Per. July.

Stem about two f., paler than in J. conglomeratus, softer, and more pithy. Panic. a multitude of pale-green flowers. Cal.-ls. narrow, pointed.

¹ See Davies in Linn. Trans. v. 10. p. 10. &c. and Bicheno, v. 12.
OCTANDRIA MONOGYNIA. Juncus.

Stems inferior in softness, pliability and length to Scirpus lacustris: for chair bottoms, ropes, and baskets, in some places.

* Leafy.


Boggy spots, barren, sandy heaths.

Per. July.


Marshy ground, watery, sandy heaths.

Per. July.

Leaves leafy at the root, about one foot, simple, smooth, slightly compressed. Panic. erect, terminal, many-flowered, often surmounted by a less one on a longer stalk. Fl. small. Cal. bluntish, segments green with a broad, brown edge.

Root not bulbous, but creeping.


Marshy ground, watery, sandy heaths.


Root fibrous. Stems numerous, upright, variable in height from one to ten inches. Upper part of the branches, terminating in simple rows of stalkless and stalked, green flowers. Plant smooth, paler than the rest of the species. Ls. linear-setaceous, acute. Bract. pellucid. Caps. slender, blunt.

The solitary fl. and long silky cal. mark this species, and its grassy appearance. In germination the seed considerably elevated above ground by the plant.

1 The Ls. and root resemble the plant.
HEXANDRIA MONOGYNIA. Juncus.


Moist, sandy, or turfy heaths. Per. July.

Stems clothed at the base with the broad, red sheaths of the root-ls. Fl. reddish; in wet seasons often viviparous, var. β. three together, in a kind of proliferous cluster. Bract. small, acute. Cal.-ls. acute, three-nerved, chocolate-coloured in decay. Caps. prismatic.


Stem obliquely ascending at the base, smooth, one f., or more than three. Ls. alternate, few, sheathing, curved backwards, pointed, their cavity divided by partitions. Panic. terminal, branches long, slender, smooth.

This with J. lampocarpus, and some other species, produce bundles of slender leaves, instead of flowers, or intermixed with the fl.


Boggy meadows, watery places, frequent. Per. July.

Panic. branches, strong, lengthened out; heads of fl. remote, one above another on each simple branch. Caps. remarkable for its size, dark-chocolate, varnished. Stem about one f.

Discr. when early in fl., its more simple panicle, and somewhat blunt cal. Bicheno.

Var. Ls. fasciculated, (in bundles.)

J. obtusiflorus. Blunt-flowered Jointed R. Leaves apparently jointed, cylindrical. Stem with internal
partitions. Panicle repeatedly compound; branches straddling, and bent back. Calyx-leaves blunt, as long as the capsule. E. B. 2144.

Marshes.
Per. August.

Discr. Its pale, entangled, much branched panic., with last branchlets strongly bent back, l.-joints cellular. Ls. two, mostly. Stem erect, two or three f. Fl. small, from the side of the stem and terminal, in small heads.

LU'CIOLA. Wood-rush.


Shady groves, thickets.
Per. March.

Stems six to twelve inches, polished, leafy. Ls. flat, linear-spear-shaped, bright-shining-green, pointed, entire, fringed with distant long white hairs. Panic. terminal. Fl. solitary, terminal, and from the side of the stem, each accompanied with a pair of sheathing, acute bract. Cal.-ls. spear-shaped, pointed, dark-brown, bordered with white. Anth. large, square, yellow. Caps. pale-yellowish in contrast with the brown cal. Herbage dry, tough.


Groves. Beech-Wood about a mile and a half from Henley, near road to High Wycombe. Bx.
Per. May.
Ls. much narrower. Panic. smaller.


1 From the heads of fl., wet with dew, and sparkling by moonlight, giving an idea of the lucciola (Ital. for glow-worm) Mr. Bicheno derived great assistance in distinguishing the species of L., from the shape, and crest (coruncula) of the seeds. See Fig. in Linn. Trans. V. XIII.
HEXANDRIA MONOGYNIA. Luciola.


Per. May.

Discr. from *L. pilosa* by its greater size: by the fl. growing in clusters, about three in each, branches of the panic. less straddling, not hanging down.

This with *L. pilosa* for packing, and stuffing mattresses.


Dry, barren pastures.

Per. April.

Conspicuous by its large, sulphur *anth.*, and dark-copper-brown husks.


Per. April.

Stem erect, eighteen inches. *Ls*. much narrower than in *L. campestris*. *Panic*. very different, of seven or eight roundish, egg-shaped, dense, blunt, clusters, the first almost stalkless, the rest on long, partly spreading stalks. *Cal*. paler, more taper-pointed, scarcely extending beyond the caps.

Discr. from *L. campestris*: size of the plant, quantity of flax-like substance, large cylindric heads, on fruit-stalks from an inch to an inch and a half, and its *fl*. full a month later. Purton.
BERBERIS.¹ Barberry.


*Ls.* deciduous, stalked, first *ls.* inversely egg-shaped, between saw-toothed, and fringed. Secondary *ls.* oblong, saw-toothed, in pairs. *Fl.* yellow, sometimes streaked with orange. *Berr.* red. *Stam.* irritable near the base. If the filaments be touched, the *anth.* immediately approach the *stigm.,” and will burst to throw out the pollen or dust. The irritability may be successfully shewn, by touching the *fil.* with a pin, or needle.

*Ls.* acid. *Berr.* boiled with sugar an agreeable preserve. Infusion of the bark in white wine purgative. The roots dye wool, and leather yellow. The inner bark of the stem dyes linen a fine yellow. *Ls.* of the barberry supposed, but without any good reason, to occasion blight in corn, by the minute seeds of a parasitic fungus, *Æcidium Berberidis,²* being conveyed from its *ls.* to the corn.

PEPLIS. Purslane.


An. *July.*


¹ Name Arabic.

² A very different fungus from that which is found on the stems and leaves of wheat, &c. *Bx.*
HEXANDRIA TRIGYNIA.

RUMEX. Dock, and Sorrel.

* Flowers all perfect.


Per. July.

Stem two or three f., straight, branched, leafy, smooth, reddish. Ls. stalked, smooth, veiny with deep-red. Fl. in distant, small clusters, drooping, alternate, almost leafless. Cal. and pet. entire, each with red, swelling rib. Fruit large, red tubercle.

In var.  β. Is. green. This var. distinguished from R. acutus, which last has more zigzag, leafy branches, shorter and smaller valves, all grain-bearing, and by its growth in marshy situations.

Root in dying affords from straw-colour, to a good olive, and a fine, deep green to cloths previously blued. With. under var. of R. acutus, that is var.  β. of R. sanguineus.


Waste ground, pastures, road-sides.

Per. July.

Stem two or three f., furrowed, leafy, branched. Ls. stalked, upper Is. narrower, almost stalkless. Fl. pale-green clusters drooping, near each other, leafy below. Fruit-valves large, egg-heart-shaped, veined like net-work, waved; with a central grain, prominent.

Discrim. Curled l. and large, entire cal. l. Very injurious in clover fields. Fresh roots bruised, in ointment, or in decoction, for itch. Fl. Succ.

Low meadows, watery places.
Per. July.
Clusters spreading, lengthened out. Seed small.

C. 3. 22. Lapathum sylvestre, folio minus acuto.
G. E. 388.

Waste ground, pastures, road-sides.
Per. July.

Stems two or three f., upright, branched, leafy, furrowed. Ls. root-ones very large: stem-ones much narrower, more pointed, shorter stalked, somewhat notched, slightly curled. Fl. clusters rather close with few, sometimes not any leaves. Fruit-valves entire at the upper part, three sharp, prominent teeth, on each side, near the base.

Eaten by fallow deer with avidity, close to the root. Destroyed by frequent mowing.

Discrim. Its broad, large, root ls.

Pastures, church-yards, dry, waste ground. Near the Observatory. Christ Church Meadow. Dr. Williams, Professor of Bot., Oxford.
Per. August.

Ls. root-ones on long stalks; stem-ones small, narrow, undivided. Fl. in distant, small clusters, green, hanging down; anth. yellow. Fruit-valves deeply, sharply toothed; grain oblong, reddish.

Marshes,** Otmoor, on the side of the road to Oddington. Professor Daubeney, and Bx.
Per. July, August.

Flowers in close, leafy whorls, finally confluent (thronging together,) like the whole plant, assuming a rich, tawny-golden hue. Ls. stalked, acute, flat.

Marsh land, ditches, stagnant waters, margins of great rivers.
HEXANDRIA TRIGYNIA. Triglochin.

Per. August.
Largest of our docks. Root large, knobby. Stem four to five f. Ls. lower ones heart-shaped at the base, to eighteen inches in length.
Discrim. Size of the Is., foot and a half long, or more.

**Flowers dioecious.**


Meadows, pastures.
Per. June.
Stem mostly simple, erect, slender, striated, one to two f. Ls. somewhat succulent, root, and lower stem-ones, long stalked. Stip. slender, cylindric, sheathing, torn at top: upper Is. stalkless, gradually more entire. Fl. reddish, in a sort of compound, whorled spike, branches alternate, almost erect.
Plant acid, astringent, anti-scorbutic: in salads. The boiled juice to turn milk acid: an agreeable food to Laplanders, keeping a considerable time: cultivated for the table in France. Eaten with fish, in Ireland. Dried root boiled gives a fine red colour. What has been named Salt of Lemons may be prepared from this plant; the mucilaginous parts, separated by water mixed with pipe-clay, and the rest crystallized.

Dry, gravelly pastures, fields.
Per. June.
About half the size of R. Acetosa, with stem more slender. Herb acid, somewhat astringent. Fl. reddish. Spikes long, whorled. Fl.-stalks drooping, hair-like. Ls. narrow, lobes at the base point upwards, or horizontally, as it were hooked; in R. acetosa backwards. Ls. variable in shape.
Conspicuous from its bright red leaves, at the decline of the year.

TRIGLOCHIN.¹ Arrow-grass.

T. palustre. Marsh A. Capsule nearly linear, of three cells; tapering at the base. Root fibrous. E. B.

¹ From tris, Gr. three, and glochin, Gr. the point of a dart: from the capsules bursting in three points.

Wet, boggy meadows.

Per. July.

Stalk one ft. simple, naked. Ls. rushy, semi-cylindric, with a membranous, sheathing stip., within the Ls. Fl. spike, long, thick-set, slender; fl. small, greenish.

Eaten by cattle. Cows fond of it.

CO'LCHICUM. Meadow-saffron.


Per. September.


The fl. appear late in autumn, the germ, remains under ground close to the bulb until the following spring, when the caps. with its seeds, and the ls. rise above the ground: the seeds are ripened about June, and the ls. decay. As the plant blossoms late in the year, this is a providential contrivance to perfect, preserve, and at length to sow the seeds, buried deep in the ground, out of the reach of frost. See Paley's Nat. Theology.

Plant poisonous. A tincture of the root and seeds used in gout, and rheumatism: a dangerous remedy in the former: the supposed basis of the eau-médicinale. It sometimes proves violently purgative, and debilitating; hence its danger in gout. Gerarde makes cow's milk an antidote to the deleterious powers of this plant. Farmers should be cautious of turning cattle into fields where this plant grows.

HEXANDRIA POLYGYNIA. ALISMA. Water-plantain.


Plantago aquatica major. G. E. 417.

Pools, ditches, margins of rivers.

1 From Colchis.
Per. June.
Ls. root-ones erect, long stalked, ribbed. Fl. stalk naked, two or
three ft., its branches numerous, whorled, compound, spreading,
bracteated: each ft. partially stalked, erect. Pet. pale, reddish-
purple, yellow at the base. * Caps. about eighteen, egg-shaped.

(A. Damasónium. Star-headed W.-p. Leaves oblong,
five-ribbed, slightly heart-shaped at the base. Styles
six. Capsules tapering, six, spreading in the form of
a star. E. B. 1615. C. 5. 28. Plantago aquatica
minor stellata. G. E. 417. Actinocarpus Damasón-
nium of Br., and H.

Ditches and pools.* Winkfield Plain, near Windsor, Berks.
Ditches about Southcote, near Reading, Berks. Tur.
Per. June, July.

Fl.-stalks hardly a span, with one or two whorls of white ft., which
are yellow in the middle.)

A. ranunculoides. Less W.-p. Leaves linear-spear-
shaped. Capsules angular, acute, numerous, in a

Otmoor. Sb.
Per. June.

L.-stalks long, spongy. Stalk upright, or lying down, bearing two
or more whorls on long, round fl.-stalks, with small, membranous
bract. at the insertion. Fl. pale-purple, yellow at the base.
Cal. Is. small, roundish, concave, permanent.

Discrim. The seeds in a globular head: in A. Plantago they
are very blunt and compressed.

Class VIII. OCTANDRIA. Stamens 8.

Order I. MONOGYNIA. Pistil 1.

EPILOBIUM.1 Willow-Herb.

* Flowers irregular.

E. angustifolium. Rose-bay W. Persian, or French
Willow. Leaves scattered, linear-spear-shaped, veiny,
smooth. Petals unequal. Stamens descending arch-

1 i.e. ion epi lobon, Gr. violet on a pod. Beckmann. Lex. Botanicum.
OCTANDRIA MONOGYNIA. Epilóbium. 107


Woods. Grays, near Henley, Sm. Eng. Fl. Stokenchurch. Sh. (Outside of a Copse beyond Childswell Farm, Br.)
Per. June.

Stems three to six f., erect, wand-like, leafy, smooth. Ls. numerous, nearly stalkless, acute, entire, or slightly toothed. Fl. in a long, upright spike, handsome. Stalks and Cal. reddish, larger, pet. inversely egg-shaped, or inversely heart-shaped, crimson, irregular. Style bent downwards. Pollen blue. Stigm. four-cleft.

Fl. sometimes white: plant increases rapidly by root.

Suckers of the root eatable: infusion of the plant intoxicating: an ale in Kamschatca, brewed from the pith. Down of the seeds has been mixed with cotton or fur in manufacturing stockings, &c.

** Flowers regular. Stigma deeply four-cleft.

Leaves half clasping the stem, egg-spear-shaped, hairy.

Watery places, ditches, margins of rivers.
Per. July.

Stem four f., or more, leafy. Ls. toothed, somewhat saw-toothed, lower ones opposite, uppermost alternate, stalkless. Branches and fr.-stalks from the bosom of the leaves. Fl. corymbose, large, handsome, each with a small leaf. Pet. inversely heart-shaped, twice as long as cal., pink.

Of a delicate, acid smell, pleasant, but transitory: hence name, codlings, &c.

Discrim. from Ep. parvillorum, by its creeping root, tall, branching stem, broad Ls. and much larger Fl.
If eaten by cattle, green or dried, the plant, from its rapid increase, in moist situations, would be worth cultivation.


Watery places, banks of rivers.
Per. July.

Stem scarcely two f. Ls. middle-ones stalkless, upper, sometimes, on very short foot-stalks, lower-ones opposite, upper, alternate. Fl. small, corymbose, terminal, leafy, becoming a spike. Pet. inversely heart-shaped, pale rose-colour, or purplish. Fl. and Ls. much smaller than in Ep. hirsutum, or in Ep. angustifolium.

E montánun. Broad Smooth-leaved W. Leaves stalked, egg-spear-shaped, toothed. Stem round. Stigma in

Dry, shady, hilly, stony places.

Per. July.

Shoots red. Stem slender, very soft to the touch, erect, scarcely branched, leafy. Ls. smooth, often tinged with red, as the stem, lower ones opposite, uppermost alternate, and narrower. Fl. cluster, simple, leafy, terminal, pale purple, sometimes white. ** Flowers regular. Stigma undivided.


Ditches, watery, marshy places.

Per. July.

Stem twelve to eighteen inches, branched, leafy, nearly smooth. Ls. smooth, mostly alternate. Fl. few, in leafy clusters, small, pet. pale, purple, cloven. Stig. club-shaped.

Discrim. from Ep. palustre, by its square-like stalk, arising from two prominent lines from the base of the ls., known by its angular stem, generally narrow ls. very long pods, and undivided stigma.


Boggy, turf-y ground.

Per. July.

Stem about one f., erect, leafy, round. Ls. mostly opposite, upper ones alternate. Fl. in an erect, small, leafy cluster, pale purple. Pet. inversely heart-shaped. Sometimes nearly the whole plant smooth, or scarcely downy. Short, leafy branches from the bosom of the ls.

Discrim. From Ep. tetragonum, by its round stem, narrow ls. and in being generally smaller.

**CHLORA.** Yellow-wort.


Centaurium parvum luteum Lobelii. G. E. 547.

Chalky hills, or banks; also on a clay soil. Sm. ** Penley Hangings. Sh. Stone-pit near the old road to Ensham. Bx.


Whole plant glaucous, very bitter. Fl. in a kind of umbel, of three rays, encompassed by the uppermost ls., the middle one
bearing a single fl. without any ls., the outer ones terminated by a leaf similar to the stem ones. Cor. full yellow. Stig. scarlet. A handsome plant.

**VACCINIUM.** Whortle-berry.¹

*Leaves deciduous.


**Stony heaths, woods where the soil is turfy.** Sm. Checkendon. Woods near Clump House. Sb. (Bagley Wood.) Y. Shrub. April.


The tender ls., dried in the shade a good substitute for tea. The ripe berries in tarts: and food for moor-game: berries astringent.

**Leaves evergreen.**


A low, box-tree-like shrub, with red berries.)


Slender, trailing. Berries deep-red, at first spotted.)

¹ Ang.-Sax. berian, i. e. stag’s berry.
CALLUNA.¹ Ling.


Shrub. July.

Anth. bearded, concealed. Style prominent. Cor. deeply cut, shorter than the coloured cal. Stems woody, much branched.

Ls. oppositely tiled, forming a four-sided figure. Fl. rose-coloured, shining, clusters longish. Cal.-ls. inner four large, concave, coloured.

Fl. retain their colour when dried.

Ls. and seeds food for grouse. Woody stems for brooms, and firing. In the Scotch Highlands, walls for cottages, with alternate layers of heath, and a mortar of black earth and straw; their beds made of it: a substitute for thatch. In the island of Ilay, ale brewed from one part malt, two parts of young heath tops; hops sometimes added. This liquor much used by the Picts, according to Boethius. Strong decoction of the tops dyes woollen cloth, boiled in alum water, of an orange colour. The stalks and tops to tan leather. The tops to fill up drains covered over. Where bees extract their honey from the flower, the honey reddish. Ropes made of them, strong, and durable: edging to garden-borders instead of box.

ERICA.² Heath.


Shrub. July.

Stems leafy, branched at the bottom, determinately, or very like it, many branches, springing from one centre. Fl. like a cluster of berries. Cor. oblong, drooping, wax-like, delicate, from deep rose-colour to almost every shade of carnation: orifice small, four-toothed. Caps, with partitions from the centre of its valves. Ls. bristly, spreading, sometimes five in a whorl.

Var. white fl. Sb.

Most elegant plant.


¹ Gr. kalluno, to adorn, to sweep, to clean, alluding to its cleansing use for brooms, or to the beauty of its fl. Genus differs from Erica in its fl. and capsule.
² Cape of Good Hope plants. No American Erica known.
OCTANDRIA MONOGYNIA.  Daphne.  111

egg-shaped.  Leaves three in a whorl.  E. B. 1015.

Stems branched, one f., or more.  Ls. in threes, with tufts of young
ones, linear-spear-shaped, furrowed at the back, smooth.  'Fl. in
long, whorled, leafy, clustered spikes, drooping, bluish-purple.

Cal. acute.  Cor. less swollen than that of E. Tetralix, orifice

segments four, upright.

Var.  Fl. white.

DAPHNE.  Mezereon.  Spurge-laurel.


naked on the stem, stalkless, about three together.

Leaves spear-shaped, deciduous.  E. B. 1381.
In woods.  Near Appleton, Berks.  Dr. Williams, Bot. Prof.
Oxford.  Wychwood Forest.  Sm. Eng.  Fl. Appleton Com-

mon.  Br.
Shrub.  March.

Plant four or five f., smooth, except the cal. tube.  Fl. rose-

coloured, or white, appear before the Ls.  Ls. scattered.  Berr.
red, globular.

Fl. beautiful, fragrant.  Plant acrid, a powerful deobstruent.
Six of the berries will destroy a wolf.  Twelve grains of the
berries given to a girl, produced a vomiting of blood, which caused
immediate death.  Decoction of the root-bark in Syphilis.  Daphne
Mezereum, Veratum album, and Menispermum coeculus, to

communicate an intoxicating quality, and strong taste to weak

beer: a dangerous and diabolical practice.  Camphor an antidote
to this poisonous plant.  Supposed a native by Miller in Gard.
Dict.

D. Lauréola.  Spurge-l.  Clusters axillary, simple, each

of about five flowers, drooping, shorter than the smooth,
inversely, egg-spear-shaped, evergreen leaves.  Calyx

Shrub.  March.

Plant smooth.  Stem round, about three f., naked below, tufted
with Ls. at the summit.  Fl. yellowish-green, inconspicuous,

smell perceptible in the evening, disagreeable.  Bract. concave,


Plant acrid, brisk, severe purgative, in worm cases, and acute

rheumatism: bark of the root strongest: largest dose, ten gr.

The elegant and fragrant D. Cneorum grafted on this by
gardeners.
ACER. Maple.


Hedges, about houses. Tree. May.

Bark smooth, ash-coloured. Ls. large, strongly veined. Fl. clusters axillary, long, many fl. Cor. pet. green, much like the cal. segm. Fruit seed-wings often three, ripen in August; not so straddling as in A. campestre.

Handsome, quick-growing tree, not injurious to grass, but the Ls. fall early. Wood soft. Sap sugary, made into wine in Scotch Highlands. Flourishes on a sandy soil: bears transplanting well: grows best near the sea. See Gent. Mag. 1757. p. 252. Its pollen, a curious microscopic object: when moistened, the globules burst into four cross-like valves.


Wood compact, fine grained, beautifully veined. The Romans set a high value on their tables of veined Maple-wood. Vessels of this wood turned so thin as to transmit light.

__________________________

OCTANDRIA TRIGYNIA.

POLYGONUM. Persicaría, Bistort, Knot-grass, and Buck-wheat.

* Styles usually but two.


1 i. e. false (plane.)
2 Polus, Gr. much, and goni, Gr. a knee; from the stalks perhaps being geniculated or knee'd.
OCTANDRIA TRIGYNIA. Polygonum. 113

Ponds, ditches, or their banks.

Per. July.


Seed, food for water fowl. Fl. ornamental to pieces of water.

The only peren. spec. Plant strangely metamorphosed by change of situation.


Ditches, wet fields, watery places.

An. August.

Stem erect, about two ft., branched, alternate, leafy, often reddish, mostly swollen above each joint. Ls. almost stalkless, spear-shaped, entire, generally marked with a black, horse-shoe spot. Stip. tubular. Fl. rose-coloured, or whitish at the tips. Fl.-stalks springing from the stip. at the stem-joints.

Var. α. L. hoary beneath. γ. L. with a silvery hue, both common.

Taste slightly acid, and astringent. Plant dyes a yellow colour in woollen. Fl. Suec.


Cultivated ground, dunghills.

An. August.

Several var. 1. with pale whitish fl. 2. red fl. and stem: 3. spotted stem: 4. Ls. smooth. 5. Ls. hoary on under side. Specific character rests on the separate styles, rough glandular fl.-stalks, and beardless stip., not fringed. Stem. three ft. Spikes thicker than those of P. Persicaria. Ls. egg-spear-shaped, uppermost dotted beneath with minute glands. Fruit-stalks covered with minutely stalked yellowish globules.

Var. γ. salicifolium. Sb.

Seeds food for small birds.

P. Hydrópiper. 2 Biting P. Styles two, forked, united

1 From the resemblance of the l. to those of the peach (Persica.)
2 i. e. Water pepper.

Ditches, watery places.

An. September.

Discrim. Its slender, drooping, lax spikes, light green ls. spotless.

Cal. whitish, tipped with red, glandular. From P. minus by its l. (of Hydropiper) waved, and not flat; and by its divided style.

Ls. tapering to a point, alternate.

The acid property of the plant, in an oil residing in the glandular dots scattered over. Dyes wool yellow; diuretic. Anti-odontalgic.

P. minus. Small Creeping P. Styles two combined.


Watery commons, marshes.** Otmoor. Sb. Port Meadow, opposite to Lower Woolvercot. Bx.

An. September.

Smaller than P. Hydrop. more trailing. Fl. without glandular dots. Ls. flat, not acrid. Stems nine inches to one f. Styles sometimes slightly cloven into three.

** Styles three.


Per. May.

Stem about one f. and a half, leafy. Ls. veiny, fine green, foot-stalks winged. Stalks of the stem ls. dilated, sheathing. Fl. numerous, pink, each standing on a slender, rose-coloured stalk. Bract. pair of membranous ones at the base.

Root powerfully astringent. Young shoots eaten for greens. Plant for tanning leather.


Waste and cultivated grounds.

¹ Twice, and twisted (root.)
OCTANDRIA TRIGYNIA. Polygonum. 115

An. June.

Stems branches much straddling, slightly furrowed, glaucous, or purplish. Ls. alternate, entire. Stip. often red. Fl. clustered, on short stalks, small, red, white, and green, coloured. Seed black, polished. Fl. greenish on outside, white within, often tinged with pink; from egg-shaped, to spear-shaped, and even linear. Variable in shape, and size of Ls. Stam. seldom ten.

Seeds food for small birds: for same uses as those of P. Fagopyrum. Hogs eat the plant with avidity. This one of the plants, which have acquired the name of grass, because eaten by cattle.


Cultivated fields. From the East originally.


Root fibrous. Plant succulent. Stem one f., or more, branched, rather zigzag, smooth, leafy, except a downy line on one side. Ls. acute, smooth; uppermost stalkless. Stip. small. Fl. in paniced clusters, variegated with red and white; yellow glands between all the filaments. Styles divided to the base.

Very impatient of frost. Seeds made into meal-cakes here, and in Japan; food for pheasants, and poultry; planted near bee-hives, as flowering late. Unwholesome food for sheep. Used for cleaning foul land: ploughed in as a manure when fully grown, or mown for fattening swine and poultry with the grain. An oil from the seeds.


Cornfields, gardens.


Stem climbing to five to six f., leafy, unsupported; the stem is short and trailing. Ls. alternate, stalked, waved, smooth. Fl. greenish-white, found even as low as the base of the common fl. stalk; in terminal, interrupted spikes, each on a small drooping stalk.

Seeds for small birds, nutritious, like those of P. Fagop. but less in size.

4 i. e. Wheat resembling the beech (mast) fugus, and puer.
OCTANDRIA TETRAGYNIA. Paris.

OCTANDRIA TETRAGYNIA.

PARIS. ¹ Herb Paris.


Per. May.

Stem simple, about one f. Styles purplish-black, hardly so long as the berry. Blossoms pale-green. Cal.-leaflets green. Four oval, stalkless ls., whorled at the top of the stalk, with a single, greenish, central fl. and afterwards black berry.

Four the prevailing number in this singular plant. Ls. three or five sometimes. Roots emetic, dose twice the quantity of ipecacuanha. Berry narcotic.

ADOXA.² Moschatell.³


Per. April.

Stem-root of fleshy, tiled scales, with fibres from the interstices. Herb pale-green, fleshy, smooth. Stem erect, three or four inches. Ls. root-ones, doubly ternate, wedge-shaped, lobed; those on the stem three-cleft, opposite, simple, shorter stalked. Fl. in a head of five, stalkless, whitish-green fl.: four of them from the side of the stem. The terminal one, having but eight stam. referred by Linn. to Octandria, according to his rule. Caps. of four cells, invested with fleshy cal.

(ELATINE. Water-wort.


Margins of ponds or ditches, sandy soil. Near Binfield, Berks. Mr. T. F. Forster. Sm. Eng. Fl.

An. July, August.

Aquatic herb, not unlike Montia.)

¹ From par, paris, equal, Lat. from the equality of the number four in this plant.
² Gr. Inglorious. From its modest, unassuming appearance, as it emerges from its wintry bed of dry leaves.
³ From the musky smell of the fl.
Class IX. ENNEANDRIA. Stamens 9.

Order I. HEXAGYNIA. Pistils 6.

**BUTOMUS.** Flowering-rush.

*B. umbellátus.* Common F. E. B. 651. C. 1. 29.


Per. June.

Only British plant of Enneandria.


Amongst our peculiar, and most ornamental British plants. Not eaten by cattle in general.

Class X. DECANDRIA. Stamens 10.

Order I. MONOGYNIA. Pistil 1.

**MONOTROPA.** Bird’s-nest.

*M. Hypópitys.* Yellow B. Flowers in a drooping cluster; side-one with eight stamens; terminal one with ten. E. B. 69. H. L. 105. Plot. 146. t. 9. f. 6.


Per. July.

*Stem* thick, fleshy, scaly, tiled, closely so at the lower part. *Plant* pale straw-colour, fl., same colour. *Fl.* side ones from six to eight stam. *Plant* exhales a fragrant smell, during the process of its becoming dry, and black. *Flower-spike* nodding: it

---

1. From *bous,* an ox, *Gr.* and *tēmno,* to cut, *Gr.* because the sharp leaves cut the mouths of browsing cattle.
2. *Gr.* solitary, (Monot. Hyp.) and *tropo,* to turn.
3. i.e. *Gr.* Under the fir.
becomes erect in seeding. Whole plant smells like the primrose, or like beans in blossom.

PY'ROLA.¹ Winter-green.


Per. July, August.

Ls. nearly round. Fl. rather drooping, snowy-white, bell-shaped. The largest of the Py'rolas, but varies in size.)

(Andromeda polifolia. Over Heath. Tur.)


Per. July, August.

Py. média has been confounded with Py. minor: differs from Py. minor by its very spirally twisted, fl.-stalk, the declination, and greater length of style. Fl. globose, milk white.)


Per. June.

Smaller. Fl. rose-coloured. Style short.

---

DECANDRIA DIGYNIA.

CHRYSOSEPLENIUM. Golden-saxifrage.

(Ch. alternifolium. Alternate-leaved G. Leaves alternate. E. B. 54.

¹ From supposed resemblance of ls. to a pyrus, or pear-tree.


Plant fleshy, grows in broad patches of a yellowish hue. Ls. stalked, inclining to heart-shaped, notched. Fls. corymb terminal, leafy, pale-yellow, mostly four-cleft. Seeds round, blackish. Paler than the first. Ls. smaller. Stamens eight mostly.

**SAXIFRAGA.** Saxifraga.

* Calyx spreading. Leaves partly lobed. Stigmas mostly downy. Flowering-stems erect, more or less leafy.


Meadows, pastures, gravelly, or sandy soil. Sn. Per. May.

Stem one f. Root with several little grains, attached to one main fibre, with small fibres. Stem solitary, erect, branched above, hairs clammy, brown, or reddish. Ls. and cal.-teeth clothed with same kind of hairs. Ls. root-ones long stalked, upper ones nearly stalkless, sharply lobed. Cor. large, white, inversely egg-shaped, much longer than cal. Pet. three veined. Var. double fl. in gardens.

Has been recommended in stone and gravel, because its roots resemble small pebbles, the conclusion, therefore, from doctrine of signatures, should be irresistible. The doctrine of signatures attributed to any substance, having a resemblance to any organ, sovereign virtues in removing the diseases of that organ. B.T.F.


Walls, roofs, dry, barren ground. An. April.

Stems three or four inches, variable in height, erect, round, leafy, much branched above. Whole plant covered with clammy
hairs. **Ls.** hand-shaped, in three, or pedate in five segments, swollen, fleshy, upper stalk ones undivided. **Fl.** small, white. **Cal.** urn-shaped. **Pet.** scarcely exceeding the **cal.** This plant flowers soon after Draba verna; becomes in sunny situations of red colour. **Plant** small. **Stem** in dry situations, sometimes unbranched, and **ls.** entire.

**SCLERANTHUS.**¹ **Knawel.**²

**S. annuus.** Annual **K.** Calyx of the fruit, with spreading, taper, acute, segments. Stems spreading. **E. B.** 351. **Polygonum** selinoides, sive knawel. **G. E.** 566.

Dry, sandy fields.

An. June.

**Stems** spreading in all directions, much branched, leafy, mostly pale, the outermost trailing at the base only. **Ls.** opposite, linear, somewhat keeled, acute, not glaucous, nor silvery. **Fl.** colour of the herbage, stalkless; clusters, leafy, terminal. **Cal.** ten ribbed, **stam.** from five to eight, imperfect. Vapour of the decoction received into the mouth in tooth-ache. **Fl.** Suec.


Sandy plains.* Creaton, Northamptonshire. Morton.

Per. August to October.

Hue of the plant glaucous, glistening; turning reddish with age.

**Discrim.** The broad, white, membranous edges of the calyx. The coccus polonicus, an insect, affording a crimson dye, feeds on this plant. See **Upsal Trans.** 1742.)

**SAPONARIA.** Soapwort.³


Per. August.

**Stems** upright, round, leafy, panicled, about eighteen inches. **Plant** smooth. **Ls.** opposite, united at the base, three ribbed. **Fl.** panicle roundish. **Cor.** large, pale-pink, sweet scented. **Pet.** claw four angled. **Var. fl.** double. Juice of the bruised **ls.** scour almost as well as soap. **G. E.** Used instead of Sarsaparilla. See more on this, in Journal de Med. vol. 66. p. 478. or With. Arrang. and **G. E.**

¹ From its somewhat dry, hard flowers, Gr. **skleros,** hard. ² German. ³ From the leaves forming a lather with water.
DIANTHUS. Pink.

* Flowers aggregate.


Stem round, leafy, erect, one foot, forked, and corymbose at the upper part. Ls. all opposite, lower ones broader, somewhat battledore-shaped; those at the stem joints, and under the fl. narrow, spear-shaped, acute. Fl. small; pet. speckled, with white dots, one at mostly opening at a time.

A degree of elegance about this plant, when minutely examined.

** Flowers solitary, several on the same stem.


Pastures, on gravelly or sandy soil. Langley, Bucks. Salt Hill. Tur.

Per. July, October.

Ls. flat. Fl. small, pale rose-colour, with a purple circle.)

---

DECANDRIA TRIGYNIA.

SILENE. Catchfly, or Campion.

* Flowers in leafy racemes, clusters occasionally somewhat forked.


Cultivated fields, gravelly or sandy soil. Near Burnham, Bucks. Tur.


Ls. linear-spear-shaped. Fl. white, or pale rose-coloured.)

** Stem forked; branches panicled.

S. infláta. Bladder Cam. or Catchfly. Flowers copiously panicled, drooping. Petals cloven half way

1 Flower of Jove, Gr. from the beauty and fragrance of the fl.

*Fields, pastures, way-sides.*

Per. June.

*Stem, root-ones tufted, battledore-shaped: stem ls., spear-shaped, or egg-shaped; all glaucous. Stem round, smooth, glaucous, one or two feet, repeatedly forked, panicked. Fl.-stalks long, slender.*

Cor. white. Cal. veined with purple and green. Anth. sometimes diseased, large and swollen, with purple dust.

Boiled ls., may be eaten as peas. The young shoots boiled, well flavoured.

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

*S. noctiflora. Night-flowering.*

C. Stem forked. Petals cloven, each with a cloven abrupt scale. Calyx with ten hairy ribs; its teeth linear, almost as long as the tube. E. B. 291.


*Stem erect, round, leafy, repeatedly forked in the upper part. Ls. spear-shaped, stalkless; lower ones broader, lowest inversely egg-shaped. Fl. solitary at the divisions of the stem; stalks hairy, clammy. Cal. white, angles and veins green. Cor. pet. cream-coloured, red tinged, unfolding in the evening, at that time becoming sweet-scented. Cal. very clammy; teeth very long. Seed vessel of first fl., conspicuous in the fork of the plant.*

(S. nutans. Nottingham C. Harringtonworth, Northamptonshire. Morton.)

**STELLARIA.**


*Waste and cultivated ground.*

An. April.

*Stems several, brittle, slender at the bottom. Ls. opposite, smooth; stalks folded together at night. Fl. very small, stalks solitary, axillary, or terminal. Cal. longer than the white petals. Seeds pale-brown. Stam. uncertain in number. Seeds food for birds, as the whole plant. The fresh plant*

1 Lat. From its starry blossoms.
bruised, a good cooling application to wounds, and ulcers. Fl. open from nine in the morning until noon, unless rain, after which they for some time droop. Shoots and ls., eatable when boiled, like young spinach.


Anciently called white flowering grass. Rather glaucous. Stems trailing at the base, slender, supporting themselves erect among bushes, and grass, square, brittle, woody in the inner part. Ls. opposite, stalkless, long, sharp-pointed, mid-rib sharp, the surface slightly glaucous. Stem fork-terminating, somewhat panicked. Fl. stalks, long, solitary. Cor. white, large. Anth. yellow. Fl. white. Very ornamental spring fl.


Its white starry fl., conspicuous: herbage concealed by bushes, or grass: stalks of the panicle very slender. Habit of St. holostea, but size smaller, not glaucous. Fl. white, panicle straddling. Cal.-ls. pale; pet. segments linear, deeply divided. Anth. pale-reddish.


Discrim. From St. graminea by its glaucous colour, smooth l. edges, and stem, larger fl. pet. nearly twice as long as the cal. Fl.-stalks more universally from the sides of the stem, and solitary, less panicked. Three cal.-nerves less prominent. In size and habit approaches St. holostea, which wants the calyx-nerves, and rough leaf, and stem edges. The anthers are pale-reddish. Lower fl. solitary, axillary.

S. uliginosa, Bog-St. Leaves elliptic-spear-shaped, entire, with a callous tip. Flowers irregularly panicked, from the sides of the stem, or terminal. Petals
shorter than the calyx. E. B. 1074. C. 6. 28.
Alsine fontana. G. É. 613.

Rivulets, ditches, springs.
An. June.


ARENÁRIA. Sandwort.

* Stipulas none.


Shady, bushy places.
An. June.

Stems upright, one f., weak, much branched, round, downy. Ls. opposite, sometimes with five ribs. Fl. small, white: stalks longish, solitary, from the forks of the stem, and summits of the branches. Cal. longer than the pet. Ls. upper ones, nearly stalkless.

Discrim. From St. media by its small undivided pet. and three-ribbed ls.


Walls, dry, sandy ground.
An. June.

Stems several, three or four inches, spreading, a little branched, leafy, stiff, slender, forked upwards. Ls. small, entire, thyme-like, slightly ribbed. Fl-stalks erect, pet. white, shorter than the cal. Cal.-ribs a discriminating mark in this genus.


An. June.
**DECANDRIA PENTAGYNIA.** Sedum. 125

Plant erect, slender. Ls. joined at the base, three-ribbed at the back, smooth. Fl.-stalks solitary, single fl., hair-like, erect, longer than the ls., numerous. Fl. small, white, inconspicuous. Cal.-ls. spear-shaped, acute, margins membranous, white. 

**Stipulas membranous.**


_Sandy fields._* Shotover Hill, in a furze close, where sand had been dug. _Sb._ (Gravel pits on the side of the Abingdon Road, running through Bagley Wood. _Br._ Abundant about Rugby. _Br._

An. June.

Spreads widely on the ground, the handsome small blossoms expand in bright weather. Stems limber and feeble, leafy, round, a little swollen at the joints. Ls. flat, narrow, rather fleshy. Stip. white, cloven. Fl.-panicles terminal, leafy, forked, the ends clustered: fl.-stalks downy, clammy. Cal.-ls. hairy, ribless, margin membranous. Pet. purple, mostly shorter than cal. Seeds wedge-shaped, angular, rough on the outer edge, with sharp tubercles. The seeds a distinctive mark.

---

**DECANDRIA PENTAGYNIA.**

**COTYLE'DON.** Navel-wort. 2


_Old walls._

Per. June.


The juice, a cooling application. _G. E._

**SEDUM.** Orpine, and Stonecrop.

* Leaves flat.


---

1 _Ktûle_, a cavity, Gr. from the hollow leaves. 2 From the leaves. 3 Named after Téléphus.

_Borders of fields, hedges, bushy places._* Headington Wick Copse. Shotover Hill. _Sb._ (Bagley Wood. _Br_.)

_Per._ _July._

_Crassula sive Faba inversa._

**Plant** fleshy. _Root_ of tapering knobs, fleshy. _Stems_ one or two 1. _erect, simple, leafy, round, mostly spotted with purple._ _Ls._ irregularly scattered, stalkless, egg-shaped, fleshy, somewhat glaucous, rib thick, coloured, gradually lost in the summit of the _ls._ _Fl._-tuft close, crimson, or purple; sometimes white. _Pet._ sharp. _Anth._ and _stigm._ more deeply coloured.

_Norfolk rustics sometimes hang up this plant, which grows even when torn from the soil: pretending to judge by the plant's vigour, of the health of an absent friend._ Decoction of _ls._ in milk, powerfully diuretic.

_Ornamental plant._

**Leaves swollen, or somewhat cylindrical.**

**S. dasyphyllum. Thick-leaved White Stonecrop.** Leaves egg-shaped, blunt, fleshy, stalkless; the lower ones opposite. _Stems_ feeble. _Panicles_ glutinous. _E. B._ 656. _C. 3. 26._

_Walls._

_Per._ _June._

_Root_ of small white fibres. _Stems_ thread-like, weak, trailing. _Fl._ branching, paniced, clammy, downy. _Ls._ except those of the paniced stalk, closely tiled, very thick and fleshy. _Fl._-panicle of few _fl._ _Pet._ white, keel purple. _Anth._ dark-red. Small, pretty plant, fleshy.


_Walls, roofs, dry, sandy ground._

_Per._ _June._

_Stems_ tufted, weak. _Roots_ small, fibrous. _Branches_ upright. _Ls._ grass-green, tiled, fleshy, fixed to the stem by the inner or upper surface, a little above their base. _Fl._-cymes terminal, three-cleft, when luxuriant. _Cal._ segm. bluntish. _Cor._ golden-yellow. _Pet._ egg-shaped, acute. _Cope._ pointed, smooth.

_A brilliant little flower._ _Plant_ acrid, biting to the taste. _Said to be of great efficacy in scurvy, in decoction, or outwardly applied._ See _Raili Syn._ The juice emetic. _G. E._ The plant will retain life, for some weeks, suspended in the air by the root. _An oz._ of the plant, boiled in twelve _oz._ of ale, taken in four doses, found useful in dropsy. _Light_.

126 DECANDRIA PENTAGYNYA. Sedum.
**DECANDRIA PENTAGYNIA. Oxális.**

**Discrim.** Its upright, short, fleshy ls., closely tiled at the barren shoots. *H.*


Walls, roofs. On several old walls at Upper Heyford. *Bx.*

Per. July.

Root fibrous. Stems prostrate at bottom only, round, green, or purplish, leafy. Fl.-stems upright, three to five inch. Ls. scattered, light-green, frequently reddish, slightly attached, spreading at nearly right angles with the stem, smooth, very fleshy, from about half an inch to nearly an inch in length, oblong, blunt, nearly cylindrical, but some of them a little flattened above. Fl. numerous, white, sometimes tinged with red, produced in a smooth, much branched, somewhat corymbose panicle. Whole plant frequently of a reddish or purplish colour when growing in a dry exposed situation.

Discrim. From other British Sedums by the oblong, blunt, and cylindrical shape of the ls. *Bx.*


Walls.

Per. July.

Stems one f., variously spreading, round, entangled, or hanging down, fleshy. Ls. fleshy, smooth, often reddish, attached by the flat inner side, a little above their base. Fl.-cyme, terminal, bright yellow. Fl. many, mostly of six pet. and germ., and twelve stam. Ls. of the barren branches crowded. This species remarkably tenacious of life.

(Sedum rupestre. St. Vincent's Rocks. Tur.)

**OXA'LIS. Wood-Sorrel.**


Groves, and shady places.
DECANDRIA PENTAGYNIA. Lychnis.

Per. April.
Root with many fleshy, reddish scales. *Ls.* long-stalked, drooping at night; acid, often purplish beneath. *Fl.-stalk,* purplish. *Pet.* white, purple-veined, yellow at the base, adhering by a small glandular swelling on each side.

A pretty plant with large delicate fl. *Ls.* of bright verdure. Caps. dart forth their seeds on the slightest touch, by the elastic seed-coat. Infusion of the *Is.* pleasant refrigerant in fever.

From the *Is.* boiled with milk, an agreeable whey. The expressed juice evaporated affords a crystalline acid salt, (oxalic acid, as binoxalate of potash,) sold under the name of Salt of Lemons. Application to scrophulous ulcers. *Ls.* sensitive, when struck, or handled, droop.

AGROSTEMMA.¹ Cockle.²


Cornfields.

An ornamental weed, on a level with the ripening corn, to be plucked up before flowering.

LYCHNIS. Lychnis, or Campion.


Moist meadows.
Per. June.


*Fl.* of this plant extremely pretty.
Var. in gardens, fl. double.

L. *dioica.* Red, or White Campion. Flowers dioecious.

¹ *Agrou,* and *stemma,* Gr. crown or chaplet of the fields.
² *Ang. Sax.*
³ *Gith,* name for black seed, in Celtic.
Each petal cloven, crowned with four teeth. Capsule of one cell. 


Hedges, fields.


Var. white fl. Whole plant taller than the red var. Ls. more spear-shaped. Fl. larger, white, or pale blush-coloured, fragrant in the evening, or before rain. The intermediate veins between the cal.-ribs of the pistil-bearing fl., may discrim. from the red var.

CERA'STIUM. Mouse-ear Chickweed.


Fields, waste ground, dry banks.

An. April.

Discrim. of this species from C. viscosum by its light green hue, yellowish in decay, its broad egg-shaped Ls., smaller fl. Stems more erect. Pet. white, notched, scarcely longer than the cal.


Meadows, pastures, waste ground, walls.

Per. May.

Not more clammy than C. vulgatum.

Discrim. from C. vulgatum, in being peren., by its recumbent-stems, darker green hue, narrower Ls. Fructification larger, pet. longer, more conspicuous. Fl.-stalks mostly longer. Seeds rugged. Cal.-Ls. membranaceous, or skinny at the edge.

DECANDRIA PENTAGYNIA. Spérgula.

Waste, sandy ground. Walls.
An. April.
In habit resembling C. viscosum, but smaller in every part, herbage more frequently reddish. Stems spreading at the base, upper part most clanny. Fl.-stalks longer than cal., bent back, after flowering, finally erect. Cal.-ls. margin conspicuously white, mostly shorter than cal. Stam. seldom above five. Caps. about twice as long as the cal.

Caryophyllus Holostius. G. E. 595.
Per. May, June.


Watery places, margins of rivers and ditches.
Per. July.


Sandy cornfields.
An. June.

Cattle fed with this plant, and poultry with the seeds, in Flanders, &c. Bread, in time of scarcity, made from the seeds, in Finland, and Norway. A field, whitened with its blossoms, changed in appearance by the sudden closing of the petals, on a black cloud passing over, and discharging a few drops of rain. F. B. T.


Per. July.

Plant very smooth. Stems spreading, mostly trailing, numerous, slender. Ls. smaller tufts of ls., from the larger pairs of ls. Fl. stalked near the extremities of the stems: large in proportion to the plant, brilliant white, elegant. The five styles, and five valves of the fruit separate this plant from the Genus Arenaria. A pretty little plant in fl.


Ls. with glandular hairs; their hair-like point very conspicuous; ill expressed in E. B. Pet. white, nearly as long as the cal. Stamens five or ten. Seeds pale-brown, encircled with a black line, but no dilated margin; fl. almost perfectly erect.)

Class XI. DODECANDRIA. Stamens 12—19 inclusive.

Order I. MONOGYNIA. Pistil 1.

'ASARUM. Asarabacca.

DODECANDRIA DIGYNIA. Agrimónia.


Stem short, simple, bearing two dark-green ls., and one drooping fl.

LYTHRUM. Purple Loosestrife.


Ditches, watery places.
Per. July.

Stems erect, wand-like, two to four f., four angled, leafy; sometimes six angled. Ls. stalkless, three in a whorl. All opposite, or all alternate. With. Fl. spike reddish, variable purple. Cal. teeth six long, six shorter, intermediate. Pet. waved. Stam. twelve, in two sets.

A showy plant. Useful in dysentery, and diarrhea.


Partially dried pits, or ditches; or places where water has stagnated during winter.* In watery pits, on the left hand of the first Turnpike Gate on the Banbury Road. Sb. Near Dorchester. G. E. Between St. Clement’s and Cowley Marsh. Bx.


Stems a span, several, the principal erect, often branched: side ones spreading, curved upwards, all square, purplish. Fl. purple, delicate, small.

DODECANDRIA DIGYNIA.

AGRIMO'NIA. Agrimony.


Bushy places, road sides, borders of fields.
Per. July.

Cal., permanent, hardened, hooked with bristles, a caps. for the seeds.

Scent aromatic: plant astringent, bitter, a tonic remedy in infusion, as tea, among the vulgar. Infusion of the root in fever, among the Canadians.

**DODECANDRIA TRIGYNIA.**

RESEDA. Rocket.


Waste ground, especially on chalk, and on walls.

An. June.


Whole plant used for dyeing woollen yellow and green. Not ornamental. The yellow colour, called Dutch Pink, from this plant.


An. June.

Stems several, growing thick-tufted, round, smooth, leafy. Ls. alternate, segments three or more, linear, waved, pointed: lower ls. once or twice winged. Fl.-spikes branch-terminating. Fl. numerous, sulphur-coloured. Pet. six, most curiously lobed. Ornamental.

**DODECANDRIA DODECAGYNIA.**

SEMPERVIVUM. Houseleek.


Walls, cottage roofs.

Per. June.

Ls. in a rose-like tuft, numerous, tiled, fleshy, egg-shaped, acute,

Want of scales at the germ., may distinguish this genus from *Sedum*.

Bruised *Is.*, a cooling, astringent, external application. Filtrated juice of the *Is.* with an equal quantity of Rectified Spirits of Wine. (Dispensary.)

Juice mixed with honey in aphthous cases.

Planted on the tops of cottages in the North of England. This was an ancient superstition, to defend from lightning. See Bourne's Antiquities, p. 241. Ed. 1810. 8vo.

---

Class XII. ICOSANDRIA. Stamens 20, or more from the rim of the Calyx.

Order I. MONOGYNIA. Pistil 1.

PRUNUS. Plum,¹ and Cherry.


*Woods, hedges.*

Tree. April.

The wild black-fruiteted cherry, is the Pr. Avium of British writers, and with Pr. Cerasus, the red-fruiteted, forms one species.


Fruits of Icosandrous plants wholesome.

*(P. insittitia.* Wild *Bullace-tree.* Flower-stalks in pairs. Leaves spear-egg-shaped; rolled spirally while young; downy beneath. Branches thorny at the end. E. B. 841.

*Hedges.* Sh. (About Rugby. Bx.)

Tree. April.

¹ Ang. Sax.

² So named from a city of Pontus, whence the tree was brought into Italy, by Lucullus. The origin of the garden cherry. The gum equal to gum-arabic: nutritious, so much so, as to support life. Hasselquist relates that more than one hundred men were kept alive by it, during a siege, for nearly two months. Wood hard, for turning: and stained to imitate mahogany.

*Var.* The more grateful white-fruited bullace.)


**Hedges, thickets.**

Shrub. March.


*Fl.* one of the harbingers of spring, appearing before the *ls.* Inspissated juice of the fruit, an astringent. Recent fruit to adult-rate port wine. Dried *ls.* a substitute for tea. Green parts of plum and cherry tribe poisonous, fruit not so. Shrub for hedges, but too creeping. Wood hard for teeth of rakes. An infusion of a handful of the *fl.*, purgative. Powdered bark inague: dose, two drachms. Juice of the fruit, a marking ink upon linen, or woollen. The juice of wild plums, combined with muriatic, or sulphuric acid dyes rose-colour.

---

**ICOSANDRIA PENTAGYNIA.**

**MESPILUS.** Hawthorn, and Medlar.

**M. Oxyacantha.** Hawthorn, Whitethorn, or May.


**Thickets, copses, hedges.**

Shrub, or small tree. May.


A beautiful, hardy shrub; a substitute for the myrtle of warmer climates. For fences; not creeping. Fruit food for birds, &c. Wood hard, tough, Branches bear clipping, and close cutting.
Var. Fruit white, at Bampton. *Bobart. in Ray.*

**PYRUS. Pear, Apple, Service.**


Tree. *April.*


Wood smooth, compact, for turning.

Its snow-white blossoms particularly handsome. As many as eighty varieties of this in *Miller's Gard. Dict.* Does not thrive well in moist soils (bottoms;) does not destroy the grass. *Ls.* dye yellow; give a green to blued cloths.


*Woods,* *hedges.*

Tree. *April.*


In *fl.,* few shrubs surpass this in beauty. The original of all our varieties of the apple. Wood hard. Verjuice of the fruit for sprains and scalds. Bark dyes wool yellow. As a stock on which to engraft the better apples. From the verjuice, a grateful liquor might probably be made, by a due mixture of sugar.

For an account of the different apple, and pear-trees. See "*Knight's Pomona.*"


Tree. *April.*

*Bark* smooth, ash-coloured. *Branches* when young, green. *Ls.*

---

\(^1\) Ang. Sax.


Tree. *May.*

Apples like berries, scarlet, sour. *Seeds* two.

A handsome tree, of slow growth, with a tough, close-grained, not very hard wood. The Roan-tree, a charm amongst Highlanders.


Bad fig.


Tree. *May.*


Called by the Welsh, a lemon-tree, whence some wise travellers have recorded the growth of the tender lemon on the crags of Wales! Flourishes in gravel, or clay.

SPIRÆA. Spiraea, Dropwort, Meadow-sweet.


1 From the root knobs hanging as it were from a thread.
ICOSANDRIA POLYGYNIA. Rosa.

Per. July.

Root of elliptic knobs. Stem erect, about one f. Ls. few, alternate, leaflets opposite ones nearly equal in size, all saw-toothed, and jagged. Stip. pair of toothed, united at the base of each compound t., stalk-embracing. Fl. cream-coloured, often red-tipped. Styl. in this spec. and in Sp. ulmaria, numerous. Obs. Such irregular species are enumerated at the end of the order, or class to which they individually belong.

Var. fl., double in the gardens.

Plant astringent: roots eatable. Linn.

S. Ulmária.¹ Meadow-sweet. Queen of the Meadows.


Per. July.

Root fibrous. Stems erect, three, or four f., angular, furrowed, leafy, branched above. Ls. leaflets very unequal in size, sharply saw-toothed, white, downy beneath. Stip. a pair rounded, saw-toothed, joining the common 1-stalk, stem-clasping. Fl.-cyme, large, compound, its side branches much above the central one. Styl. six, or eight. Fl. fulsome, sweet, hawthorn-scented. Recommended by Gerarde as a strewing herb, in halls and banqueting houses; the smell thereof making the heart merry, &c.

ICOSANDRIA POLYGYNIA.

ROSA. Rose.²

Species difficult to discriminate. Scópoli observes that: "Every one knows a rose from a fungus, but to discriminate the true species is beyond the power even of the consummate botanist."

* Branches bristly. Prickles mostly slender, nearly straight.


(R. Doniána? Dwarf Hairy R. Flower-stalks generally without bracteas; bristly, like the globular fruit and simple calyx. Stem bristly and prickly, like the downy foot-stalks. Leaflets elliptical, doubly and sharply saw-toothed, hairy on both sides. Petals spreading. Wood's Tr. of L. Soc. v. 12. 185. R.

¹ From its elm-like leaves?
² Greatly indebted to Mr. Baxter, for information on this Genus. R. W.


Shrub. June, or July.

Pet. white and spreading.)

** Branches without bristles. Prickles nearly straight.


Hedges, thickets. Marston Lane. Sb.

Shrub. June.

In size, habit, and form of leaflets, agrees with R. canina.

Discrim. from R. canina, by its Is. downy all over on both sides, greyish-green, slightly fragrant resinous smell. Pet. almost white in lower part; upper part, various shades of rose-colour, somewhat sweet. Fruit egg-shaped, scarlet, bristly, conspicuous by its roughness.

Between the north-end of Marston Lane and Headington Copse, a rose is found, styled by Mr. Sabine, Rosa tomentosa Oxoniensis. It is larger than the common R. tomentosa, with larger and more pointed leaflets: more glandular, but less downy: the fruit more hispid; the cal. falls much earlier. Bx.


Discrim. from R. tomentosa, by its leaf., more elliptic, bright-green, slightly hairy above, reddish clammy glands beneath, most fragrant smell. Fl. more constant and deeper red than other wild roses; of a pleasant smell. Fruit scarlet, often smooth, when cultivated.

Poets apt to confound the Woodbine, and the Eglantine. For fragrant, but not very lasting hedges.

(R. micrantha. Small-flowered Sweet Briar. Fruit elliptical, somewhat bristly, contracted at the summit. Calyx winged, deciduous. Prickles hooked, scattered,


Shrub. June, July.

Stems straggling. Ls. less fragrant. Fl. smaller.)


R. rubiginosa inodora. H. L. 117.

Hedges, thickets.


Hedges, bushy places.

Stem eight to ten f. Fl. pink, fragrant.


Hedges.

Stems straggling. Ls. less fragrant. Fl. smaller.)


¹ Prickles numerous, the larger curved, the smaller awl-shaped; leaf. small, doubly saw-toothed, hairy, sharp at each end, glandulose beneath, cal.-seg-
235. **On the Leys about a mile E. by N. from Upper Heyford. **Bx. See Appendix.

**Hedges, woods, thickets.**

**Shrub. July.**

**Discrim.** R. canina from R. tomentosa, and R. rubiginosa by its smooth, shining *ls*. R. arvensis, has the fruit globular, its *fl.*, more in cymes, *pet.*, white, yellow tinged at the base. *Stems* and fruit mahogany hue. *Fl.-stalks* of R. canina peculiarly polished. *Fluit* very rarely slightly hispid, bright scarlet. Remarkable var. in Marston Lane, near Oxford, with doubly compound *ls*. Mr. Sabine.

R. canina very ornamental, with its graceful branches, and *ls.*, elegant buds, and coral fruit. Scent of the *fl.*, delicate. From the fruit, ripened by frost, the grateful conserve of Hips, a vehicle for powders, &c. Petals of this, or other roses dried, a substitute for tea, in infusion. The moss-like excrescences in rose trees, habitations of the Cynips Rosae. Infusion of the full-blown paler rose-petals, aperient. Those of the red-roses, before expansion, astringent.

***Branches without bristles. Prickles hooked, compressed. Styles combined.***


**Hedges, thickets.** At Donnington Castle, Berks. Mr. Bicheno.

**Shrub. June, July.**

**Prickles dilated at the base. *Fl.* pinkish, fragrant.**)


**Hedges, thickets, borders of fields.**

**Shrub. June.**

*Stems* round, glaucous, often mahogany coloured, of which colour commonly the germins, and *fl.-stalks*. *Ls.*, leaflets mostly five, oval, pointed, smooth. *Fl.-stalks* three, or five, cluster terminal, stalks not all exactly from one point. *Bract.* few, spear-shaped, on each stalk one *fl.*, white, elegant. *Fluit* dark-blood-coloured, well flavoured, with simple base of the styles lengthened out. A pretty species in *fl.*

RUBUS. 1 Bramble, 2 Raspberry. 3
Species of this genus, discriminated with difficulty.
* Stem shaggy, angular.


Hedges, thickets, woods.
Shrub. June.


Woods, hedges. Abundant in woods about Tanglely, Oxfordshire. Mr. Bicheno.
Shrub. June, July.

(R. leucostachys. White-clustered B. Stems angular, downy. Prickles bent downwards, slightly hooked. Leaves of five or three roundish egg-shaped, or heart-shaped, pointed, jagged leaflets; hoary beneath. Panicle cylindrical, and, like the unarmed bent-back calyx, minutely glandular. See E. B. Suppl.

Shrub. July, August.
Pubescence shaggy and shining.)

(R. glandulosus. Glandular B. Stems angular; branches and foot-stalks hairy, with glandular bristles interspersed. Prickles bent downwards, partly hooked.

1 More on this Genus, and those of Rosa, and Salix, in our Supplement. R. W.
2 Ang. Sax.
3 From the resemblance of the fruit to a rasp, or file.
Leaflets five or three, downy beneath. Panicle and calyx very prickly and hairy, with copious glandular bristles.

Shrub. July, August.
Panic. corymbose. Pet. white, narrow.)


Thickets, woods. On Snelsmore Common, near Newbury. Mr. Bicheno.
Shrub. July, August.
Panic. mostly simple. Pet. broadish.)

** Stems shrubby, round.


Shrub. May.

Stem shrubby, four f., branched, leafy, rough with small prickles. Ls. lower ones winged, upper ones in threes only: leaf. egg-shaped, sharply saw-toothed, strongly veined, green, above slightly downy, snow-white, cottony beneath. Foot-stalks channelled above, downy and prickly like the fl.-stalks. Pet. small, greenish-white. Fruit crimson, pulpy grains numerous, set with permanent styles: of a delicious perfume, and flavour.

The fresh ls., a favourite food of kids.

R. corylifolius. Hazel-leaved B. Stems round, spreading; barren ones somewhat angular. Prickles scattered, straight, bent downwards. Leaflets five or three, roundish-heart-shaped; finely hairy beneath. Panicle minutely angular, as well as the bent-back calyx. E. B. 827.

Hedges, thickets.
Shrub. July.

Discrim. From R. fruticosus, by its roundish stem, much more brittle, all the prickles nearly straight. Leaf. stalkless, or
nearly so: fruit earlier, browner black, more gratefully acid: blossoms larger, white.


Woods, bushy places.

Shrub. June.

Stems weak, trailing, pale-green with bright, glaucous tinge. Ls. leaf, sharply, and doubly saw-toothed; side ones stalkless, mostly lobed on the outside. Stip. spear-shaped. Foot-stalks prickly, downy; prickles all slender. Fl. few, terminal, and axillary, panicked, prickly. Cal. in the fl., spreading, points long. Fl. white, sometimes reddish. Pet. waved. Fruit black, its bloom brightly blue tinged: grains few, rather large, agreeably acid, very palatable, but not abundant.

FRAGA’RIA. Strawberry.

(F. steriliis. See Potentilla Fragariastrum.)

F. vesca. Wood S. Calyx of the fruit bent back.

Hairs of the foot-stalks widely spreading; those of the partial flower-stalks close pressed, silky. E. B. 1524.

Fragaria. G. E. 997.

Groves, thickets.

Per. May, June.


The delicious strawberry with its var., the fruit of a cool climate. Fruit considered by Linnaeus, very salutary for gouty constitutions.

(Fragária elátior. Hautboy S. Grounds round Coton House, Warwickshire. Mr. Nelson.)

POTENTILLA. Cinquefoil.

* Leaves winged.


Osier holtz, spongy meadows.
Per. July.

Stem-runners reddish, rooting at the joints, where also the ls., and fl., come forth. Ls. more silvery beneath, root-ones largest. Fl. large, handsome, yellow. Cal. intermediate segments generally notched. Pet. roundish, or slightly notched.

Var. Ls. smooth.

An elegant plant. Indicating clay under the surface. Linn.

**Leaves fingered.

P. argéntea. Hoary Cinquefoil. Leaflets five, wedge-shaped, jagged; downy beneath. Stem ascending.


Pastures on gravel. Henley Park Hill. Sb.

Per. June.

Stems woody, round, half-erect, one f., or more. Ls. alternate, upper sides green; lower, snow-white, like the cal., and upper part of the stem. Stem occasionally forked. Fl. yellow, small, panicked, corymbose.

In form and habit resembling a Tormintilla.

Discrim. The pure whiteness of its leaves.


Meadows, pastures, waysides.

Per. June, August.

Stems long, thread-shaped, rooting at the joints, like Pot. anserina. Ls. in pairs from each joint; stalks long, erect; leafl., dark-green. Fl. large, yellow, rising higher than the ls. Cal. intermediate ls., deeper green. Pet. inversely heart-shaped, broad.

***Leaves in threes.


Dry, gravelly pastures.

Per. April.


The habit and seeds of this agree with Fragaria; as wanting a pulpy fruit, it accords with the Genus Potentilla.

TORMENTILLA. Tornentil.

T. officínalis. Common T., or Septfoil. Stem ascend-

Barren pastures, heaths, bushy places.

Per. June.


Hedges, borders of fields.

Per. June.

Root small, slender. Stems one, or two; eighteen to twenty inches, not rooting. Plant hairy, light-green. Ls. root-ones in fives, long-stalked: stem-ls. in threes, stalks shorter, all inversely egg-shaped, deeply saw-toothed. Floral-ls. stalkless, narrow, nearly entire. Fl. bright-yellow, twice as large as those of Tormentilla officinalis, the stalks long, hair-like, opposite to the ls. Stem sometimes not simple.

The term, reptans, or creeping, does not accord with the not-rooting, trailing stem of this species.

GEUM. Avens.


Woods, shady, dry hedges, thickets.

Per. June.

Root fibrous, blackish. Stem upright, two f., round, panicled, leafy. Ls. lobed, cut. Fl. terminal, solitary, yellow, pet., mostly shorter than the cal. Seeds downy, awns brown, or purplish, hooked.

Root astringent, slightly aromatic.

G. riválé. Water A. Root leaves interruptedly winged, somewhat lyre-shaped. Stipulas egg-shaped, acute, cut. Flowers drooping. Styles hairy above the curva-

1 After St. Benedict

2


Per. May.

Root creeping, woody, reddish. Fl.-stem erect, round, gracefully drooping at the top; as the fruit ripens, becomes erect. Cor. tawny-brown, pet., erect. Cal. purplish-brown, erect. Fl. terminal, two, or three.

Sir J. E. Smith considered this one of our most picturesque natives, from the rich combination of the dark leaves, with the glowing reddish brown of the stem and cal., delicate colour of the pet., and graceful position of the flowers.

Grows also in Canada. Root astringent, very aromatic. Var. fl. double, in gardens.

(CO’MARUM. Marsh-cinquefoil.


Per. June, July.

Ls. winged, with five, rarely seven, leaflets; upper ones three-lobed. Fl. and fruit, dark-purple.)

Class XIII. POLYANDRIA. Stamens numerous, from the receptacle.

Order I. MONOGYNIA. Pistil 1.

CHELIDO’NIUM. Celandine.


Waste grounds, thickets, especially on chalk. Sm.

Per. May, June.


Its orange juice probably suggested its being given in jaundice; so the bark of the barberry has been given for its yellow colour. A gay plant in May and June.

1 Gr. Chelidon, a swallow, from its appearance and disappearance about the time of those birds. A Gr. tale. See Fl. Classica, by Bitterbeck.
PAPAVER. Poppy.

*Capsules bristly.


Argemone capitulorum. G. E. 373.


Near the half mile trees, Ensham Road. *Br. Beyond the Parks. R. W.

Stem weak, much branched, spreading. Ls. leaflets linear, narrow. Fl. deep-crimson, or purplish, small, pet. crumpled; pollen bright-blue. Germ. bristles erect.

A permanent species.


Cornfields, on gravel, or sand. * Sm. Parks. Sb.

An. June.


Var. fl. double.

**Capsules smooth.


Cultivated fields.

An. June, July.

Discrim. from P. Argemone, by its smooth pods. Stem about two f., leafy. Ls. segments broader than in P. Argemone, P. hybridum. Cor. light-scarlet; pet. broader than the length, notched. Pollen yellow.

Discrim. The close-pressed bristles of its fl.-stalks, from P. Rhaeas.

Cornfields, too abundant.

An. June.

Ls. once or twice wing-cleft, sawed. Cor. deep, bright scarlet.

Pet. large, broad, glossy, crumpled, black spot sometimes near the base of each. Pollen purplish black. Caps. egg-shaped, smooth.

A most brilliant weed. Its syrup a gentle opiate, and to colour draughts, &c. Many beautiful varieties with half double fl., rose colour and white.

**P. somniferum. White P.** Capsule nearly globular, smooth as well as the calyx and stem. Leaves notched, clasping the stem, glaucous. E. B. 2145. P. sylvestre. G. E. 370.


Plant glaucous, mostly smooth. Stem leafy, branched, three or four f. Ls. simple, oval, roundish, blunt. Fl. large, terminal, white or purplish, often a deep violet spot on each pet., fl. drooping in bud, then erect, (soon falling.) Stigm. rays bent downwards.

Seeds oily, sweet, pleasant tasted, not narcotic. Caps. in infusion a mild, opiate fomentation. Opium is the dried, milky juice of the green caps.

NYMPHÆA. White Water-lily.


Clear pools, slow rivers.

Per. July.

Ls. floating in the water, a span wide. Fl. large, white, spear-shaped, of several rows, gradually lessening, and running into stamens. Fl. four or five inches wide. Cal.-ls. spear-shaped, white, base often tinged with light blush colour. Stalk of large tubes.

Fl. sink under water in the evening. Stimulus of the light and sun raises them; when that stimulus ceases, the fl., droop by their own weight to a certain depth. The still heavier fruit finally sinks to the bottom. A magnificent plant in fl., with the air and habit of a tropical production. Sm.

NUPHAR. Yellow Water-lily.

Lobes of the leaves meeting each other. H. L. 141.

Rivers, pools.
Per. July.

Ls. floating on the water, stalks two-edged. Ls. heart-shaped, smooth, even, rounded at the end. Fl. about two inches wide, golden yellow, large, but much smaller than those of N. alba. Pet. yellow with orange spot. Stam. and Anth. curved backwards. (Fl. have a brandy smell.) Cal. concave, yellow, green outside. Stig. flat, rayed. Seed-vessel a coated berry, bursting, irregularly. Whole plant somewhat smaller than N. alba.

**TYLIA. Lime-tree.**


Tree. July.


Bark by maceration separates into layers, and is used for making gardener’s mats: an export from Russia. Tree bears the smoke of a city to a certain degree. Made by Fenelon an ornamental tree in Calypso’s island; perhaps to compliment the taste of Louis the Fourteenth, about whose palaces the Lime was profusely planted. Name of Linnaeus derived from the name of this tree, in Swedish.


Branches round, brown, shining red, in var. \( \varphi \). Ls. as large as in T. europaea, less entire at base, less pointed, foot-stalks rather longer, upper surface bright green, minutely hairy about the ribs, more or less so at the edges, between the saw-teeth; under side rather paler, not glaucous, ribs and veins curiously fringed, besides the woolly tufts there. Germ. large, densely hairy. Caps. five or as six angled.

Some old Limes of this species in the church-yard of Sedlitz, in Bohemia, said to bear hooded Ls., ever since the monks of a neighbouring convent hanged on them. See Jacq. Frag. 19. t. 11. f. 3. (A protestant libel, no doubt.)


Tree. August, a month later than T. europaea.

Aspect peculiar. Ls. much smaller than in T. europaeæ, more glaucous beneath, more sharply saw-toothed, very often lobed towards the points. Stalks more slender. Fl. very fragrant, like Honeysuckle. Caps. small, coat very thin, tender.)

CISTUS. Cistus.

*C Dwarf shrub, with stipulas.


Hilly pastures on chalk or gravel. Sm. Bullyingdon Green. Shotover Hill. Stokenchurch. Sh.

Plant somewhat shrubby. July.


Var. double fl. in gardens: a variable species. Stam. irritable, touched with a pin, &c. they retire from the style: the experiment should be tried in calm, warm weather, on fresh opened fl. An elegant, and ornamental plant: its delicate fl., very fleeting.
POLYANDRIA POLYGYNIA.

POLYANDRIA PENTAGYNIA.

DELPHINIUM. Larkspur.

D. **Consolida**.  

An. *June, July.*

*Ls.* in many divisions, with linear segments. *Fl.* blue.

AQUILEGIA. Columbine.


Per. *June.*


In gardens, of various forms and colours. A handsome plant with its large irregular fl.

STRATIOTES ALOIDES. Water-soldier,

Naturalized in abundance, in the pond of Magdalen College Meadow, by Mr. Baxter. Such naturalizations should of course be noticed, to prevent confusion in the stations of plants.

POLYANDRIA POLYGYNIA.

ANEMONE, Gr. Anémone.

A. **Pulsatilla**. Pasque-flower  
Flower solitary, nearly upright. Involucre in deep linear segments.

1 Name implies a supposed power of uniting wounds.
2 *Columba*, a dove; from the resemblance of the nectaries and petals to doves. *Mrs. Bockett.*
3 From its flowering about Easter. G. E. Some explain the name from the fl., being used to colour eggs purple, among catholics, and the Scotch, at Easter. *Query.* Do the flowers yield a purple dye?


Fl. dull, violet blue, outwardly silky. Pet. moderately spreading.

A plant of great beauty, including its silvery seed-plumes. Herb acrid, blistering the skin.


Groves, thickets, healthy ground.

Per. April.


On its ls. and pet. occasionally a minute fungus, Ecidium fuscum. Sow. Fung. 53.

An elegant decoration to our woods and thickets. Pet. expanded in fine weather, drooping and folded against rain. Var. fl., reddish.

CLEMATIS. Traveller’s Joy.


Hedges.

Shrub. July.


Foliage a rich, mantling tapestry. Its abundant silvery seed-plumes, in autumn and winter, make a beautiful appearance.

THALICTRUM. Meadow-rue.

T. flavum. Common M. Stem erect, furrowed, leafy. Leaves doubly winged; partly three-lobed. Panicle

1 White vine.
compound, close, corymbose. Flowers and stamens erect. E. B. 367.

Wet meadows, about the banks of rivers and ditches.

Per. June.

Stem two or three feet. Ls. alternate, twice compounded; base of the foot-stalks sheathing. Stip. toothed, within the ls, leaflets variable in breadth, veiny, glaucous beneath. Fl. panicle much branched, leafy. Fl. yellowish-white. Anth. yellow.

Plant acrid, yet eaten by cattle: bruised ls., produce a slight blister.

ADONIS. Pheasant's-eye.


Cornfields.** Near the Observatory. Sb.

An. May.

Stem much branched, upright, round, leafy, slightly furrowed. Ls. alternate, thrice compounded, segments linear, alternate, acute. Fl. solitary, terminal. Cor. pet., crimson, glossy, at the base deep purple. Stam. anth. and styles same colour. Cal. pale green, soon falling.

An elegant plant; its red pets., contrasted with the dark and green eye of the fl., give it a rich appearance.

RANU'NCULUS. Crowfoot.

* Leaves simple.


Watery places.

Per. July.

Roots long, fibrous. Stems numerous, round, branched, leafy, hollow. Ls. spear-shaped, acute, lower ones many ribbed, variable, partly entire, partly saw-toothed, Fl.-stalks long, round, terminal, also opposite the ls. bright golden. Cal. bent back. Cor. honey-pore very small.

Discrim. R. Lingua differs from this by its greater size, erect stem, and ls., more approaching to stalkless. Distilled water of this for procuring instantaneous vomiting in some cases of poison. Plant very acrid, and blistering.

**Marsles, reedy pools, ditches.** **Banks of the Cherwell, near King's Mill. Sb. Ditch on the right hand side of the lane, beyond Folly Bridge. Bs.**

Per. July.

Fl. large, bright golden, all the parts of this much larger than those of R. Flamumula. Vid. plant back. Acr. More silky, with hairs close-pressed.


**Meadows bushy places, hedge banks.**

Per. April.

Root with long, fleshy knobs. Plant smooth, shining, somewhat fleshy. Stems several, a few inches high, one-flowered. Fl. erect, long-stalked. Cal. three or five leaved. Pet. varnished, golden, eight or ten.

Its glossy, yellow fls., turning white, abundantly enamel our banks and thickets in the month of April.

**Leaves lobed, or cut.**


**Dry groves, bushy, shady places. Magdalen College Walks. R.W.**

Per. April.


**Watery places.**

An. June.
Plant pale, shining green, juicy, smooth for the most part. Ls. lower ones long-stalked, lobed, cut: upper ls., segments linear, entire. Fl. numerous, small, palish yellow. Cal. bent back, shaggy. Honey-pore somewhat tubular. Fruit cylindric, blunt, seeds thick set.

Plant variable in size, virulently acrid, blistering the skin to cause a sore healed with difficulty. Used, it is said, by vagabonds for the effects mentioned above, to cause compassion; hence, perhaps, its name sceleratus, rascally.


Pastures, meadows, grass-plots, waste ground.

Per. May.

One to one and a half l. Ls. in threes, three-cleft. Fl. golden yellow. Root solid, roundish bulb, with fibres springing from it. Stems one or more, erect, one ft., branched above, round, hairy, hollow, leafy. Ls. hairy, compound, three-cleft. Fl. large, yellow, terminal, solitary. Cal.-ls. egg-shaped, concave, turning back close to the stalk. Pet. roundish, notched at the end, concave, varnished. Nect.-scale inversely heart-shaped. Bulb for the next year formed on the top of the old one. Plant acrid, eaten by cattle. Such acrid plants mixed with the less pungent, a useful stimulus, perhaps, supplied by nature in food of cattle. Var. fl. double in gardens.


Moist meadows, waste, or cultivated ground. Southleigh Common.

Per. June.


Meadows, moist pastures.

Per. June.

Discrim. By its fibrous root, and long, creeping runners, from R. bulbósus. Fl.-stems erect, branched, leafy. Ls. rather broader,
darker than in R. bulbosus, often marked with a black spot. Ls. more distinctly three-partite; sometimes smooth.

Plant acrid, blistering.

Var. with double fl. in gardens.


Meadows, pastures.

Per. June.

Root tuberous, long-fibred. Stem upright, two f., round, branched above. Ls. root-ones, the stalks long, hairy, upright, three or five partite, variously subdivided and cut: uppermost ls., comparatively stalkless, lobes linear, three. Pet. yellow, shining. Nect. scale one, notched.

Discrim. From R. auricomus by its scale nect., and by its cal., spreading; from R. bulbosus, and R. hirsutus, by its round fl.-stalks from the last two also, and from R. repens. Bear in mind the smooth seeds to discr., it from those species with sharp-pointed prickly seeds.

Plant acrid. Var. fl. double.


Cornfields.

An. May.

Plant pale. Fl. small, yellow. Seeds strikingly armed on the side with prominent prickles, projecting more than those of R. parviflorus.

Plant very acrimonious, producing in animals colic, and death, by gangrenous stomach. Poisonous to sheep, who greedily devour it. Three oïnces of the juice killed a dog in four minutes. Best antidote vinegar. See Brugnon Mem. Turin, v. 4. 108. Cows and horses eat it.


An. May.

Humble in growth. Ls. foot-stalks long, dilated. Ls. all notched;


*Ditches, ponds:* β. rivers.

Per. May, June.


*Var.* in *ls.* several.

A beautiful ornament to ponds and ditches.

In var. β. the *ls.* all cut, and narrow. In γ. *Ls.* smaller, rounded, very finely cut. δ. *Ls.* all gashed, and lengthened out by the rapid current of water, hence rarely flowering.

**HELLEBOREUS.** Hellebore.

POLYANDRIA POLYGYNIA. Caltha.


Per. February.

Root fleshy, fibres long, simple. Plant large in all its dimensions. Stem scarcely one f., round, once or twice divided. Ls. saw-toothed: root ls., larger. Fl. solitary, foot-stalks shortish, all green. Pet. all green, spreading, permanent. Styles three or four. Whole plant smooth, bright green, shining.

Root acrid, purgative.

H. fœtidus. Stinking H. Bear’s-foot, or Setter-wort.


Thickets, waste ground, on chalk.** Cornbury Stone Quarry. Sb. Wade’s Farm, Rodborough Common, Gloucestershire. Mr. Sandys, Pembroke College, Oxford.

Per. March.

Stem branching, bushy, whole plant smooth. Ls. stalked, spreading, dark, dull green, lobes spear-shaped, saw-toothed. Fl.-panicle pale green. Bract. many, spear-shaped: these with the fl., and whole inflorescence also pale green. The closing pet., outside tipped with dull purple. Nect. margin notched, honied. Styles three or four.

Earliest of our native fl. Whole plant fetid, acrid, violently purgative. Styles few in these two species for polygynia.

There is a beautiful flower bank of the Helleborus hyemalis, a common, foreign, Europæan species, in the classical garden of St. John’s College, Oxford, well worth the florist’s inspection, in the early part of February.

CALTHA.¹ Marsh-marigold.


Marshy meadows.

Per. April.

Root fibres simple, many. Stem one f., and a half, somewhat branched, leafy, roundish, furrowed. Ls. notched, veiny, smooth, dark green, shining: root-ls. on long, hollow, half cylin-dric stalks, the rest alternate, nearly stalkless. Stip. inside of the l.-stalk, sheathing, membranous, withering. Fl. very large, handsome, golden, axillary, and terminal, solitary. Pet. concave. Stam., and pistils, golden colour also.

The young buds pickled, a good substitute for capers. In the true caper, the germin simple.

¹ From Lat. cidathus, cup.
This early flowering plant makes a rich and brilliant appearance in the spring. *Var. fl.* double in gardens.

---

Class XIV. **DIDYNAMIA.** *Stamens 4: Two outermost longest.*

**Order I. GYMNOSPERMIA.** Seeds apparently naked; four at most.

**'AJUGA.** Bugle.

* Bugula. *Fl. whorled blue.*


*Woods,* moist pastures.

Per. May.

*Stem* erect, about one ft., square, leafy. *Scyons* take root, here and there, at the insertion of their *ls.* *Ls.* opposite, egg-shaped, scollopéd, tapering into broad foot-stalks. *Stem-Is.* nearly stalkless, in opposite cross pairs. *Fl.* in thick-set whorls: *bract.,* purplish, scollopéd. *Cor.* full blue, streaked with white: sometimes all white, or flesh-coloured. Whole plant generally with a purplish tinge.

Vulnerary according to the older writers; hence the French had this expression: *—Those who have Bugle, and Sanicle, need no surgeon.* Almost any other leaf would probably answer the same indication of excluding the air, and healing a wound, by what surgeons call the *first intention.*

(A. *Chamaepitys.* E. B. 77. Ufford, near Helpston Stone-Pits, Northamptonshire: *Morton.*)

**TEU'CRIUM.** Germander.


*Woods,* heathy, bushy places.

Per. July.
Stems erect, one, or two f., leafy, square, hairy. _Fl._-spikes, one terminal, and several side ones: a pair of egg-shaped _bract._, at the base of their partial stalks. _Ls._, opposite, saw-toothed, or sharply notched, wrinkled, darkish green. _Fl._ pale yellow, with purple, projecting stamens.

Bitter: has been used as an innocent substitute for hops.


Low, wet meadows.** On the banks of the Isis, near High-Bridge. Ensham Common. _Sh._  

Per. _August._  

Root creeping. Stem square, branched. _Ls._, opposite, veiny, somewhat downy. _Fl._ pale purple.  

Plant very bitter. _Scent_ strong, disagreeable. This plant formerly to remove obstructions, &c. Sir J. E. Smith observes of this plant: "a sort of key to all locks, now grown rusty and out of use." _Decoct._ of this, a useful fomentation for gangrenous sores.


Old, ruined buildings, stony banks.** Witney, on the right hand side of the old road leading to Burford. _Sh._  

Per. _June._  

Root creeping. Stem bushy, nearly upright, six or eight inches, leafy. _Branches and Ls._, opposite, lengthened out at the base. _Cal._ bell-shaped. _Cor._ reddish-purple. _Lower lip_ with a large, round, concave, central lobe, and two small, sharp, side ones: the two others, erect, parallel, very sharp lobed sides, between which the _stam._, and _style_ project upwards.  

Whole plant very bitter: formerly much cultivated for medical use; as a deobstruent, and expectorant: not the appearance, from its stations, of being a native.

**NEPETA.** Cat-mint.  

N. _catária._ _Common C._ or _Nep._ Whorls stalked, crowded into spikes. Leaves finely downy, heart-shaped, stalked, with tooth-like serratures. _E. B._ 137.  

*Mentha felina,_ seu _Cattaria._ _G._ E. 682.  

Banks, road sides, chalky, or gravelly soil. _Sm._  

Per. _July._
Root long, thready. Stems two or three ft., square. Plant except cor., downy, velvet-like. Cal.-ribs strong, prominent. Spikes at the tops of the branches.

In E. B., the cal., represented reversed; the shorter teeth, (in nature,) the lowermost. Cor., white, or purplish, lower lip sprinkled with crimson, or purple dots. This genus marked, by its notched, central lobe.

Bruised herb aromatic, like penny-royal, (Ment. Pulegiuni.) Cats delight in its odour, (except when raised from seed,) chewing the young branches, and rolling in a kind of ecstasy upon the plant.

VERBE'NA. Vervain.


Road sides, dry, waste ground, near villages.
Per. July.

Root branching, woody. Stem curved at the base, about one ft., square, leafy, rough, panicked at the top. Ls. opposite, lower ones three-cleft. Fl. small, stalkless; each with a small, spear-shaped bract. Cal., tubular. Cor., pale lilac. Seeds ripened, marked with excavated dots. Fl.-branches opposite.

Root formerly worn round the neck superstitiously, in scrophulous cases, as a charm. Many species of Verbena have two stamens only. The plant called by the Romans Verbena, used as a token of mutual confidence between them, and their enemies: also for making wreaths and brooms for their altars, and chaplets for their priests: in a general sense, they called whatever was bound round the altar Verbena. Billerbeck in Fl. Classica, seems to consider our plant the same with that of the Greeks and Romans, p. 7. Pliny remarks, if the dining room be sprinkled with water, in which the herb has been steeped, the guests will be the merrier!

G. E.

MENTHA. Mint.


Waste ground. Road side between Woodstock and Stonesfield, just after passing a Lodge on the outside of Woodstock Park. Bx. Bayswater, near the Mill. R. W.

¹ Hairs of the calyx, and flower-stalk, afford good specific distinctions, in difficult cases. Sm. Lin. Tr. v. 5. 178. Herbage full of pellucid dots, lodging an aromatic, and stimulant oil.
DIDYNAMIA GYMNOSPERMIA. Mentha 163

Per. August, September.

Plant three f., hoary or greyish green. Cal. hairy. Fl. pale purple. Ls. upper surface hoary; under shaggy with close, white, soft hairs.

(M. rotundifolia. Round-leaved M. E. B. 446. Between High and West Wycombe, Bucks. Tur. For description, see the very useful Compendium of Sir J. E. Smith's English Flora. 12mo: or Appendix.)


Per. August.

Plant deep green. Stems two or three f. Spikes panicked, acute, nearly all the whorls a little distant from each other. Cal. narrow, smooth; the teeth often hairy. Cor. light purple, generally longer than the stamens.)


Watery places, very common.

a. The most common of all our Mints.


Per. July.

Roots long, branched, creeping. Stem square, branched, purplish. Branches opposite. Ls. sometimes almost stalkless: spreading, pointed, saw-toothed from a little above the base to near the tip. Fl. lilac, in a large, round, terminal head, divided into three parts, accompanied by a pair, seldom more, of smaller axillary heads. Fl.-stalks, and cal., very hairy. Stam., generally longer than the cor.

Out of water it grows much smaller, more purplish, with a single head of fl. Very variable species. Under headed var., &c. Sm. comprehends every plant that has been taken for Ment. aquatica, and Ment. hirsuta of Linn. L. Tr. v. 5. 195.

Every sort of mint, according to Linn., prevents the coagulation of milk. Eaten too largely by cattle, their milk coagulates with
difficulty into cheese curd. Fl. Suec. Mice, according to Mr. Macdonald of Scalpa, Hebrides, have a great aversion to the smell of mint: laying a few green or dry leaves on any articles will preserve them from the depredation of mice. F. T. 1. p. 130.


GLECHO'MA. Ground-ivy.


Hedera terrestris. G. E. 856.

Dry, shady places, road sides, hedge banks. Per. April.

Roots creeping, sending out trailing scyons. Ls. veiny, downy,

*Herb* strong-smelling: to give ale a flavour: used for this, until hops substituted, in Hen., the Eighth's reign. Infusion of the *ls.*, gently aperient. Small protuberances of many cells found on the *ls.*; the nests of insects. Gradually expels plants growing near it.

**LAMÍUM.** Dead-nettle.¹


*G. E.* 702.

*Waste ground, borders of fields, road sides.*

*Per.* *April.*


The sweet *fl.* much frequented by bees. Called Dead-nettle from its not stinging, although resembling *Urtica dioica*, the Sting-nettle. *Herb* not eaten in general by domestic animals. *Fl.*, sometimes of a pinky tinge.

Young leaves eaten as a pot herb, in spring. *Fl.* *Succ.*


*L. rubrum.* *G. E.* 703.

*Waste, and cultivated ground.*

*An.* *April, &c.*

Not more than half the size of *Lam.* *album*. *Stems* ascending, leafy, a little branched below, then naked, in their upper part, thickly clothed with leaves. *Fl.*, purple, sometimes white. *Pollen* or *anther-dust*, lead-red. *Ls.*, ends pointing mostly downwards. May be eaten like the last.

*L. incisum.* *Cut-leaved D.*, or *Archangel*. Leaves heart-shaped, dilated, stalked, irregularly cut; the upper ones crowded. Stem partly leafless. Tube of

¹ Ang.-Sax.
the corolla internally naked; marginal teeth dilated, combined. E. B. 1933.


An. May.

Rather smaller than Lam. purpureum, resembling it in ls. Fl., narrower than in Lam., purpureum, more like those of Lam. amplexicaule. Seeds abundant, producing plants like themselves; hence not deemed a var., of Lam., purpureum. The young ls., of this, and Lam., amplexicaule, may be eaten as a pot-herb.

**L. amplexicaule. Great Henbit. Henbit D.** Floral leaves stalkless, kidney-shaped, blunt, deeply notched, partly lobed, clasping the stem. Teeth of the calyx linear-awl-shaped, as long as their tube. E. B. 770.


Sandy fields.

An. May.


**GALEOPSIS.** Hemp-nettle.


Dry, gravelly, chalky cornfields. Sm.

An. June.

Root fibrous. Stem about one f., oppositely branched, square, hairs bent down. Ls. stalked, veins hairy beneath; upper side with close-pressed, scattered hairs. Cor., rose-coloured, intermixed with crimson and white; upper lip slightly notched.


Cultivated ground.

An. June.

Plant one to two f., rough with sharp prickles, calyx-teeth very pungent. Cor, various in size and colour, from purple to white; base of the lip almost always with elegant dark streaks. Anth,
two-lobed, hairy. Upper whorls nearly contiguous. Ls. egg-spear-shaped, hispid, saw-toothed. Cal.-teeth very long, bristle-shaped. Colour of the fl. variable. Harvest men attribute to handling this plant, occasional severe inflammation of the hand, or finger. F. T.


An. July, August.
Fl. larger than in G. Tetrahit, yellow marked with red, or orange, on the palate: lower lip, middle segm., purple, bordered with white; upper lip, broad, very hairy, much notched: a handsome plant in fl.

GALEOBDOLON. Weasel-snout.

Shady, rather moist places.
Per. May.
Stems upright, simple, about one f., square, as in all this nat. order. Ls. upper ones sub-egg-shaped, pointed, of various length, bright-green, deeply, unequally saw-toothed, somewhat hairy. Fl. whorled, large, yellow, longer than the cal.; the under lip acute, spotted and streaked with red. Cal.-teeth spreading, bristly. Bract., linear. Ls., uppermost egg-spear-shaped.

BETONICA. Betony.

Plant rough with stiff hairs: hence its power of provoking sneezing, when dried. Stem simple, about one f., and a half, almost leafless. Ls., root-ones on long stalks, egg-shaped, saw-toothed bluntly: uppermost ls., oblong, opposite, nearly stalkless. Spike blunt, of several whorls, the lowermost generally remote, with a pair of leaf-like bract. Small entire bract., to each fl. Cor., dull-rose-colour, downy, sometimes pale, or white.
Said to be mildly astringent, and the root emetic, violently purgative, intoxicating, when fresh: often smoked as tobacco. In
powder causes sneezing. Antonius Musa, physician to the Emperor Augustus, stated this plant to be a remedy for forty-seven disorders: hence the proverbial compliment:—"You have more virtues than betony." Another Italian proverb is:—"Sell your tunic, and buy betony."

STA'CHYS. Woundwort.


Hedges, shady situations.
Per. July.

Stems two or three f., hairy, leafy. Ls. minute, strongly saw-toothed, deep, dull green, soft: upper ones on shorter foot-stalks, gradually smaller, diminishing to spear-shaped, entire bract. Spike erect, terminal. Fl., deep, dull blood-colour, marbled about the mouth, with a darker hue, intermixed with white.
Smell pungent, fetid: plant dyes yellow.


Wet hedges, fields, banks of ditches, rivers.
Per. July.

Stems two or three f., straight, rough with bent down bristles. Ls., opposite, saw-toothed, silky above, rather woolly beneath, acute: upper ones heart-shaped at the base. Spike with whorls accompanied by two small ls., under each. Cor., purple, lower lip streaked with white.
Swine fond of the roots. In times of scarcity, the roots have been made into bread: increases much by root, hurtful in many cornfields. Old Gerarde gives a most solemn account of the supposed virtues of this plant in healing wounds.


Per. July.

Ls. rather pointed, netted with veins: root-ones on long stalks, the rest smaller, nearly stalkless; floral ls. spear-shaped, bent back. Whorls axillary, numerous. Bract., linear. Fl., purple within,

E. B. 1154. C. 4. 41.

G. E. 701.

Hedges, waste places.

Per. July.

Stem two or three ft., upright, branched. *Ls.*, lower heart-shaped.

*Bract.*, bristle-shaped. *Whorls* half way round the stem. *Cor.*, dull purple: upper lip with white hairs. *Cal.*, attaining its full size long before the expansion of *cor*. *Cor.*, upper lip cloven, vaulted, outwardly clothed with white hairs, more or less converging into a pointed tuft.


**BALLO'TA.** Black Horehound.


**MARRU'BIIUM.** White Horehound.


Dry, waste ground, road sides. **Bullingdon Green.** *Sb.* Marston Lane. Behind the Parks. R. W.

Per. July.

Stems several, bushy, simple in the upper part. *Ls.*, stalked, veined. *Whorls* thick, axillary. *Cor.*, white, lower lip in three segments, side ones small, sharp; middle one large, inversely heart-shaped, notched. Whole plant white with down.
Plant aromatic, bitter, hoary. The extract a popular, but in reality an injurious remedy for coughs and asthmas. In large doses aperient. A case on record, where a salivation, which had continued more than a year, was stopped by an infusion of this, by Linn. The dry calyces of the ripe fruit adhere like burs.

**CLINOPODIUM.** Wild Basil.


*Bushy places, hedges, road sides.*

*Per. July.*

*Stems wavy.* *Ls., stalked, rather blunt.* *Whorls* terminal, and axillary. *Fl., numerous, light purple; stalks hairy, branched; at the foot of the small fl.-stalks several bristly, hairy ls.* *Cal., ribbed, lower teeth longest.* *Cor., twice as long as the calyx, with two hairy knobs at the orifice.*

*Plant aromatic.*

*Discrim.* By its bristle-shaped, floral ls.

**ORIGANUM.** Marjoram.


*Origanum anglicum.* G. E. 666.

*Bushy places, on limestone, or gravel.* *Sm.* Under Woodstock Park Wall. About Henley. Near Headington Wick, &c. *Bx.*

*Per. July.*


Bees fond of the *fl.* Smell of the plant fragrant, thyme-like. Stimulant, for culinary uses; but O. Marjorana preferred. Dried ls., in decoction as tea, grateful. The essential oil very acrid; an application to the painful nerve of a carious tooth. The tops dye purple. In some parts of Sweden put into ale, to give it an intoxicating quality, and to prevent its turning sour.

**THYMUS.** Thyme, or Calamint.

*T. Serpyllum.* Wild *T.* Flowers in small heads. Stems creeping, recumbent. Leaves flat, egg-shaped,


Ls., in distant pairs, egg-shaped, variable in shape, to roundish, or oblong, acute, entire at the base. Ls., sometimes entire: upper taper at the base. Cal., mouth fringed with hairs. Cor., lower, middle segment inversely heart-shaped, marked at the base with white, and a spot or two of crescent-shaped, darker purple. Fl., bluish purple. Plant aromatic. Fl., sometimes white.


Specific difference between this, and Thy., Nepeta, not easily defined. Ls., of this larger, with smaller serratures. Stem more constantly erect. Fl.-stalks, lower, shorter than the Is.: hairs at the mouth of the cal., less prominent. Fl.-stalks axillary. Ls., stalked, in opposite pairs. Flavour of this much less like Penny-royal, (Mentha Pulegium.) Cor., light purple, dotted with violet.
Whole plant has a peculiarly sweet, aromatic flavour, and makes a pleasant tea, especially mixed with smaller portions of Pepper-mint, Balm, or some others of the same natural family. Sm.


Dry banks, way sides, on chalk. Sm. Ensham, on the road to Stanton Harcourt. Sb. Bank on the side of the Abingdon Road, going through Bagley Wood. Bx.

**Per. August.**


**Plant** pungent, smelling like Penny-royal, (Mentha Pulegium,) used as a stomachic tea.

**SCUTELLA'RIA.** Skull-cap.

Cal. when in fruit, like a box with a fixed lid, or a helmet with its crest.


Stem erect, about one ft., and a half, thickly clothed with ls., to the top, square, roughish. Ls., opposite, spreading, stalked. Fl., almost stalkless, a little drooping. Cal. on the upper side with a small, concave scale, enlarged after the fall of the cor. Cor., blue, the palate streaked with white, tube pale, purplish. Stam., and sty., white. Stig., simple.

The cal., becoming dry divides into two parts, and thus the seeds are discharged. **Plant** bitter.


Scarcely one third the size of the former Sp. Ls., broader. **Plant** three to five inches. Fl., pale, reddish purple, or delicate pink. Lower lip white, dotted with red.)
PRUNELLA.¹ Self-heal.


Meadows, pastures.

Per. June.

Stems six to ten inches, square. Spikes terminal, solitary, cylindrical, blunt, close, with a pair of stalkless ls., at their base. Whorls each with a pair of kidney-shaped, purple edged, fringed bract. Cor., violet, sometimes red, or white. Ls. opposite. Astringent. Asteróma Prunellæ, a new species found on this, by Mr. Haines, Radcliffe Library. Since found by Mr. Baxter. See Bax. Strip. Crypt. Oxon. No. 79.

DIDYNAMIA ANGIOSPERMIA.

BARTSIA.² Bartsia.


Meadows, pastures.


RHINANTHUS.⁴ Yellow Rattle.⁵


¹ Die Braune, quinsy, German, from its healing sores in the throat.
² Named after a Prussian botanist. H.
³ Rin, nose, and anthos, flower. Gr.
⁴ From the ripe seeds rattling in the capsules.
Meadows, pastures.
An. June.

Stem four-cornered, often spotted with red. Ls., opposite, stalkless, beneath grey, with a curious net-work of green veins. Spike terminal, leafy. Fl., on short stalks. Cor., twice as long as the calyx, yellow, upper lip compressed, tipped with two blue spots. Cal., bladdery, with strong ribs, and a net-work of veins, pale greenish-yellow, mouth contracted. Cattle not fond of this plant.

EUPHRA'SIA. Eye-bright. ¹

Euphrasia. G. E. 663.

Heaths, mountainous pastures.
Stem mostly branching from the bottom, often purplish. Ls., stalkless. Fl., about the top of the stem, axillary, stalkless, solitary. Cor., generally white, striped with purple, and stained with yellow in front.

A weak astringent, in repute formerly in complaints of the eyes. The spot in its cor., something like a pupil, according to the exploded doctrine of signatures, an indication of marvellous virtues. See Saxifraga granulata. F. T.

MELA'MPYRUM. ² Cow-wheat.


Woods, thickets. In a field that goes off Moreton Green in the road from Wendover to Ellesborough, Bucks. Tur.
Cor. yellow, upper lip purple.)


Cor., yellow, tipped with purple. Bract., purple. Ls., spear-

¹ Deserving of such an appellation from its bright eye-like blossoms.
² Melas, black, puros, wheat. The authority for accentuation, adopted in this work, in general, is John Beckmann's Lexicon Botanicum, Exhibens Etymology, &c. 8vo.
DIDYNAMIA ANGIOSPERMIA. Lathræa. 175

shaped; one or two of the upper pairs, wing-cleft at the base, occasionally.
A beautiful plant in fl.)


Stem slender, divided into several opposite, spreading branches. Cor. pale at the base, deep yellow towards the tip. Lip lower one straight, not bent downwards, as in M. sylvaticum: palate with two deep yellow, raised plaits. Anth., cohering at their tips. Discr. Fl. of Mel., sylvaticum, smaller, and mouth of cor. more gaping. Ls. shortly stalked, spear-shaped, taper-pointed. Upper Fl.-leaves, with long, awl-shaped, turned back teeth, ending in an acute spear-shaped point.

Cor. in M. pratense, four times as long as the closed calyx, lower lip protruded. H.

Where this plant abounds, the butter, said by Linn., to be yellowest, and best. Swine fond of the seeds, and hunt for them. Fl. Suec.


Ls. entire. Cor. deep yellow.)

LATHRÆA. Tooth-wort. 2


Dry, shady places, where the sun's rays can scarcely penetrate, at the roots of hazels, or elms. Woodstock Park. Woods near Ashford Mills. Stb. (Copse close to Cumnor Hill.) Y. Per. April.

Root or lower part of the stems scaly, tiled, fleshy. Ls., root-ones none. Stems succulent, (ls., membranaceous, coloured.) Flor.-

1 Lathraios, Gr. hidden, from its partly hidden stem.
2 From the resemblance of the scaly roots to teeth.
DIDYNAMIA ANGIOSPERMIA. Antirrhinum.

Is., roundish, oval, one at the base of each fruit stalk. Cal., bellying. Cor. pale purple, except the lower lip. The real root fibrous and parasitical.

PEDICULA'RIS.¹ Louse-wort,² or Red Rattle.


Stem twelve to fifteen inches. Is. scattered, here and there opposite, leaflets winged, wings egg-shaped, notched, with blunt segments. Fl. axillary, solitary, dark-rose-coloured, handsome, fl.-stalks short. Cal., inflated, can hardly be styled five-lobed. Cor. tube white, lip, upper much compressed. Caps., egg-shaped, when ripe, projecting beyond the permanent cal. Plant acrid, not acceptable to cattle. Blossom sometimes white.


Root thick. Stems many, short, three or four inches, central one erect. Is., alternate, winged, leaflets acutely notched or saw-toothed. Fl.-Is. less compound. From the crown of the root, a circle of egg-shaped, undivided, curved back, notched Is. Fl. axillary, solitary, rose-coloured. Cal. with four larger, and four smaller angles alternately. Cal. nearly half as long as the cor.

The expressed juice, an injection in sinuous and fistulous ulcers. Fl. Suec. G. E.

ANTI'RRHINUM.³ Toad-flax, or Snap²-dragon.

* Leaves dilated. Stems limber.


¹ From pediculus, a louse.
² From a supposed quality of producing scab, and lice, in sheep, which feed on the plant: others say, because the plant destroys lice. Chiefly an Alpine genus.
³ Anti, and rin, Gr. nostrils; so called from the seed resembling the nostrils of a heifer. Plin.
⁴ The corolla when pressed, laterally, between the finger and thumb, gapes, and when let go, elastically recloses.

Old walls; from Italy originally.

Per. June.

Herb smooth, shining, often purplish. Stems very long. Ls. smallest with three lobes, on longish foot-stalks, often purple beneath. Fl. solitary, on simple, axillary stalks, purple; palate yellow, downy; spur as long as the cal. pale. Caps. bursting at the top. Seeds wrinkled.

The trailing branches of this elegant plant variously interwoven form a thick and beautiful kind of tapestry on old walls.

Fl. sometimes white.


Ls. on short foot-stalks, broad, (roundish,) pointed, hairy, mostly entire. Fl-stalks axillary, solitary, hairy, single-flowered. Cal. segments egg-shaped, pointed. Cor. spur curved back; the upper lip violet, the lower yellow. Lower fruit-stalks generally shorter, upper ones, longer than the Ls.

Fl. of this sometimes monstrous, as in Antir. Linaria, var. Peloria. Seeds of Ant. spurium, and of An. Elatine beautifully covered with net-work. Bx.


Stems and general habit resembling Ant. spurium. Cal. segments approaching to spear-shaped. Cor. yellow, upper lip violet. Fl. occasionally regular, five-cleft, as in Ant. Peloria.

A quaint case, quoted by Gerarde from Lobel, where this plant proved eminently successful in saving an ulcerated nose, condemned to be cut off with one consent by divers eminent physicians and surgeons. Plant astringent.

** Leaves narrower. Stems upright.

A. repens. Creeping, Sweet-scented, Pale-blue Toad-flax. Leaves linear, glaucous, scattered; partly
whorled. Stem panicked. Calyx smooth, the length of the spur. E. B. 1253.

**Chalky banks.** Between Ewelme and Swincombe. Sb. Shooter’s Hill. Pangbourn, Berks. R. W. In a clay pit, near a lane, leading off the Theale road, Berks, to Mr. Wilder’s, Purley. R. W. On a chalk hill, Henley. *Dillen.* and Sm.

Per. July.


Cor. spur, and lower lip whitish, upper lip, and tube striped with greyish blue. *Spur* conical, shorter than the *Fl.-stock.*

A var. has been found near Southampton, with fl. like those of Ant. Linária, var. Peloria.


Per. August.


A deformed var. found with regular, tubular blossoms, mouth closed and pursed up, five equal stamens, with two to five spurs, termed *Pelória.* E. B. 260. C. 6. 41. §.: its roots planted in a barren soil, return to Ant. Linária, but the seeds of *Pelória* sown in a rich soil preserve the monstrous appearance of the *var. Willd.*

Other species of Ant. liable to the transformation.

*Ls.* in infusion diuretic, purgative: in ointment with lard, mixed with the yolk of an egg for pain in hemorrhoids. The expressed juice mixed with milk, poison to flies.

A small glass of the distilled water, with a drachm of the bark of Sambúcus *Ebulus* in powder, powerfully diuretic in dropsical cases. C.


1 From the leaves resembling *linum,* flax.


*** Corolla without a prominent spur.


Old walls. Sh. New College Lane. Jesus College Walls, &c.


Stems short, spreading, rod-like, leafy. Fl-stems twelve to eighteen inches, smooth below, hairy, and clamy above. Fl-stalks, short, with a concave bract. at their base, and sometimes a pair of narrow-spear-shaped bract. close to the cal. Cal.-ls., brown and clamy on the outside. Cor. rose-coloured, sometimes white; a large, yellow spot on the protuberant part of the under lip.

A deep crimson var. in gardens. Ls. dark-green, smooth, entire, on short foot-stalks, alternate; branch-ls. opposite.

The plant continues to live long enough to produce flowers, only in dry situations. Dioscorides reports two wondrous properties of Antirrhinum, the latter of importance, even in the present day; that, hanged about a person, it preserves him from witchery, and that it maketh a man gracious in the sight of people! G. E.

SCROPHULARIA.¹ Fig-wort.


Hedges, woods, thickets.

Per. July.

Root thick, beset with small knobs. Stem two to three f., upright, simple, leafy. Ls. upper ones nearly stalkless, spear-shaped, lower ones opposite, stalked, saw-toothed, shining, dark-green

¹ From supposed virtues of the plant in Scrophularia.
above; paler beneath. Fl.-stalks axillary, terminal, forked, each with a pair of spear-shaped bract.; all together forming a compound, upright panicle. Cor. dull-green, with a livid, purple lip. Blossom-tube filled at the base with a honey-like liquor, whence the delight of wasps: as also Scr. aquatica.

An ointment with the root, formerly used in piles, and scrophula. Scabby swine washed with a decoction of the Is. Infusion of the plant sudorific. Plant hung about the neck, or carried about one, supposed to keep a man in health, as, according to Old Gerarde’s remark, “divers do rashly teach.” G. E.

Bruised plant fetid, like elder. The knotty form of the root might suggest the notion of its use in glandular, and scrophulous swellings, agreeably to the doctrine of Signatures. See Saxifraga granulata.

β. Paler-flowered variety of Bobart, at Cumnor, near Oxford.


C. 5. 44. Betonica aquatica. G. E. 715.

Watery places, margins of pools, and rivers, wet meadows.

Per. July.

Stem upright, nearly simple, three or four f., square, smooth, leafy. Ls. opposite, stalked, egg-oblong, heart-shaped at the base, saw-toothed. Fl. in small, forked panicles, oppositely compounded into a long, leafless, bracteated bunch. Cor. tube greenish, inflated, its larger lip, dark, dull blood-colour.

Planted with advantage near bee-hives. Bruised herb fetid: in poultice for scrophulous, and cancerous sores. A beautiful plant when variegated. C.

DIGITALIS.¹ Fox-glove.²


G. E 790.


Stem upright, wand-like, leafy, three or four f. Ls. alternate, egg-shaped, or elliptic-oblong, notched, rugged, veiny, root-ones largest. L.-stalks half embracing the stem. Spike terminal,

¹ From its resemblance to a thimble. Beckman.
² From the name of a German botanist, &c. or from the Anglo-Saxon, foxes-glove. See Benson’s Anglo-Saxon Vocabularium.
erect, simple, of numerous, large, drooping fls. each with a short stalk, and bract. Cor. one inch and a half, bell-shaped, purplish crimson, beautifully speckled with eye-like spots inside; margin slightly lobed. Stam. bent. Caps. egg-shaped, sharp-pointed.

A direct sedative; to be used with caution. Infusion, Tincture, or Powder. Mat. Medica. Important for alleviating the distressing symptoms of hydrothorax, or water on the chest. Combined with squill and blue pill, it enables the patient to hold out a considerable time. See the valuable Treatises on Digitalis, of Drs. Withering, and Hamilton.

Var. with milk-white fl. in our gardens.

A stately, and elegant plant.

LIMOSELLA.¹ Mud-wort.


A diminutive plant escaping the notice of all but the scrutinizing observer.

Stem prostrate, or root with naked runners. Ls. root-ones smooth, entire. Fl. solitary, from the root, small. Fl.-stalks simple, as the fruit ripens, bent in. Cal. segments sharp. Cor. without, whitish; inside, red. Caps. globular, grooved in its upper side. Stam. four, two a little higher.

OROBANCHE.² Broom-rape.

* Bracteas solitary.


Per. June, July.

¹ From limus, mud.
² i.e. Strangle tare, Gr. Orobon anchei. The Orobanches are not altogether parasitical; they acquire sustenance, and stability, not only from the foster-plant, but also from the soil, by their root-fibres: their taste is acrid, and astringent. Rev. Dr. Sutton. Micheli mentions that the Orobanche is proscribed by public edict in Tuscany, on account of its choking the neighbouring plants. Curtis.
DIDYNAMIA ANGIOSPERMIA. Orobanéche.

Stem twelve to eighteen inches, simple, erect, succulent, with scattered, upright, spear-shaped, leafy scales; its base bulbous-formed, and more scaly. Fl. stalkless, spike terminal, rather close-set, upright. Cor. dull, purplish yellow, soon turning brown, and withered. Bract. solitary, spear-shaped, mostly shorter than the fl. Cal.-segments spear-shaped, acute. Stam. rather shorter than the tube. Stig. of two, yellow, separate globules.


Per. July, August.

This species first well distinguished from Orob. major, by the Rev. Dr. Sutton, in Linn. Trans.: as common as Orob. major, in some counties.

Discrim. from O. major as taller, more of a yellowish colour, the spike of fl. much longer, more numerous, sometimes above one hundred. Cor. less inflated, border much curled, and fringed. Stam. downy on the inside from the bottom upwards for half their length, but smooth in the upper part. Stig. inversely heart-shaped. Cal.-ls. united at the base before.


An July, August.

Smaller than Orob. major, more purplish. Stem more inclined to be zigzag. Bract. solitary. Stam. in the lower part, fringed with projecting hairs. Stig. purple.

¹ Dr. Williams, Prof. Bot. Oxford.
Class XV. TETRADYNAMIA. _Stamens 6._

Order I. SILICULOSA. _Pistil 1._

DRABA. Whitlow-grass.

_D. verna._ Common _Whitlow-grass._ Stalks immediately from the root, naked. Petals deeply cloven.


An. March.

_Fl._-stalks two or three inches, erect, simple, leafless. _Fl._ white, small, in a corymb of many _fl.,_ soon lengthened into a somewhat zigzag raceme. _Pouch_ elliptical, smooth, crowned with the permanent, stalkless _stig._ _Ls._ flat on the ground, in a circle round the root; hairs simple, and forked also.

This unattractive plant, with its small, starry blossoms is viewed with pleasure from its early appearance: somewhat pungent, said to be good as a salad. Stalk and _fl._ drooping in the night, and in rainy weather. The true Whitlow-grass is not easily ascertained.

CAMELINA. Gold of Pleasure.¹


_Cultivated fields._ * Third field past Joe Pullen’s tree, to Headington Hill. R. W. 1832.

An. June, July.

Plant two _fl._ or more; more or less panicled above. _Fl._ small, pale yellow. _Seed-pouches_ pear-shaped, large, on long _foot-stalks,_ tipped with the _styles,_ which are, according to Smith, commonly longer than represented in _E. B._

LEPIDIUM. Pepper-wort.


_Cultivated fields._ Southleigh, Stanton Harcourt. Sb. Between Bullingdon Green, and Shotover Hill. _Bx._

An. June.

¹ A pompous name not at all applicable to this homely species.
Whole plant more or less hoary. Stem erect, about one f., branched above, leafy. Ls. lower spear-inversely-egg-shaped, stem-ls. clasping the stem. Fl. small, white, in small corymbs, soon lengthening into very long spikes. Pet. battledore-shaped, scarcely longer than the cal. Pouch roundish, protuberant. Var. with smooth Is.


An. May.

Ls. lyre-shaped. Fl. minute, white.)

THLASPI. Shepherds’s Purse. Mithridate Mustard.

T. arvense. Mithridate Mustard, or Penny Cress.


An. June.

Plant smooth. Stem erect, about one f., leafy, branched in the upper part. Ls. alternate, arrow-shaped, and clasping the stem at their base. Fl. many, extremely small, white. Pouch very large, erect, borders very broad, figure almost circular: the short style in a notch on the top.

The seeds, an ingredient formerly in the Mithridate confection. Taste pungent: flavour of plant like garlick: gives a taste to the milk of cows which feed on it. Seeds abound with oil, formerly in use for rheumatism.

1 After Mr. Robert Teesdale, F.L.S. ob. 1804.
2 From Gr. thlao, to break, because the fruit is in form rugged, and, as it were, broken.

*Limestone pastures.* ** Old stone quarries between Burford and Witney; Burford Downs. Sb., and Hooker. 1818.

An. April.  
*Stem* in a rich soil branched from the bottom; four to six inches, spreading, smooth, leafy. *Ls.* glaucous, smooth, slightly toothed: *root-Is.* stalked, egg-shaped, blunt; the rest alternate.  
*Fl.* white, small, not much longer than the *cal.*, heads close, corymbose, gradually lengthened into long clusters of seed-vessels.  
*Pouch* crowned with the *stig.*  
*Cal.* purplish.

T. *Bursa Pastoris.* *Common Shepherd's Purse.*¹  
Capsella genus, of DC.  
*Waste, and cultivated ground, way sides.*  
An. April.  
*Root* branched.  
*Stem* variable in height, branched, leafy. *Fl.* on branches, a corymb, and at length shooting into a spike-like bunch, small, white. *Ls.* root-Is. stalked, spreading, generally sharply toothed: stem-Is. oblong, stalkless, stem clasping, their base spear-arrow-shaped.  
*Pouch* margin scarcely dilated, crowned with the style.  
*Seeds* pendent.  
The seeds and young fl. eaten by birds: plant found in almost every part of the globe.  

**COCHLEÁRIA.**  
Scurvy-grass. (Horse Radish.)  
(C. officinális.  *Common Sc.*  
*Rocks and muddy places by the sea-coast, as also upon high mountains.* Packington, Warwickshire.  
Tur.  
An. May.  
*Ls.* succulent, smooth, shining. *Fl.* white, in corymbose tufts.  
*Pouches* obscurely veined, style-tipped.)

* C. Armorácia.  
*Horse-radish.* Root leaves oblong, notched; those of the stem lengthened out, spear-

¹ From the shape of the pouch.
shaped, either cut or entire, stalkless. E. B. 2323.  

Common, as the refuse of gardens. Sides of the Canal, near High Bridge. Banks of the Isis, near Ifley.  Sh.

Per. May.

Root very long, cylindrical, white, strongly pungent, and acrid, deep-rooted in the ground. Stems two f., erect, branched, leafy.  
Ls. root-ones resembling those of a dock, large, long-stalked, veiny, wing-cleft occasionally.  Fl. white, numerous, corymbose, at length racemose. Pouch elliptic, compressed, with a short style, and large stigma. Fruit seldom perfected.

Root scraped, a condiment at table, anti-scrobutic: its infusion in cold milk, an excellent cosmetic. In palsy, and dropsy, a powerful stimulant, as compound spirit, Armor: and infusion compound. Strong infusion of the leaves, or root, emetic.  Ls. in infusion dye straw-colour.

SENEBIE’RA.1 Wart-cress.


Stems prostrate, depressed, branched, leafy.  Ls. alternate, segments mostly half-wing-cleft, along their fore-edges; terminating one linear spear-shaped, entire.  Fl. clusters opposite the ls. corymbose, stalkless, lengthened out as the fruit swells. Cor. very small, white. Pouch kidney-heart-shaped, crowned with the short style, large, compared with the fl. Plant somewhat glaucous, taste mustard-like, acrid.

The ashes an ingredient in Stephens’s once too much celebrated remedy for stone, and gravel.

The whole plant is nauseously acrid and fetid, and must require much boiling to render it eatable.  Sm.

IBERIS. Candy-tuft.


Chalky fields.** Henley, Nettlebed, Mungewell. Sh. About Henley and other places in Oxfordshire. Hudson. About Wallingford, Berks. E. Fl. Between the Asylum and Bul-

1 From Senebier, of Geneva, a physiological botanist.

2 Raven’s foot.

An. June.

Stems spreading, numerous, each ending in a raceme of fl. Fl. showy, milk-white. Pouch sharply notched at the end.

In gardens among our hardy annuals: smaller than lb. umbell-lata.

---

**TETRADYNAMIA SILIQUOSA.**

(DENTARIA. Coral-wort.

*D. bulbifera.* Bulb-bearing C. Lower leaves winged; upper leaves simple, with a bulb growing in their axils, (i. e. in the angles formed by the leaf-stalk, and stem.)


Moist woods, rare. Woods at Loudwater, between Beaconsfield, and High Wycombe. Tur.

Per. April, May.

Axillary bulbs, dark purple, scaly, propagating the plant. Root toothed. Fl., rather large, purple.)

**CARDAMINE.*^" Ladies'-smock," or Cuckoo-Flower."^**

*Leaves winged.

*C. hirsuta.* Hairy L. or C. Leaves winged, without stipulas; leaflets stalked, roundish-oblong, notched.


Waste and cultivated ground, moist, shady places. Southleigh Heath. Sb. A weed in garden ground, at Headington Quarry; also in several gardens, Warwickshire. Bx.

An. April.

Stem three to twelve inches, erect, branched, leafy, zigzag, with scattered hairs. Ls. in a circle on the ground, alternate, lower-most leaflets round, or heart-shaped, the rest oblong, all of them notched, hairy, with stalks, opposite or alternate, rarely quite smooth. Fl. small, white, numerous. Corymb terminal, soon lengthening into a spike. Stam., two often deficient. Silique filiform.

As a salad in its early state, tasting like water-cress.

*C. pratensis.* Meadow L. or C. Leaves winged, without stipulas; leaflets of the root-ones roundish and

---

1 The i made long by Borrichius. Beckmann.

2 The profusion of the white fl. of the C. pratensis gives the appearance at a distance of linen bleaching.

3 From the early appearance of the fl. about the time the cuckoo arrives.

Meadows, moist pastures.
Per. April.

Root sometimes toothed. Stem about one f., simple, leafy. Fl. white, or pale purplish, in a handsome corymb, terminal, lengthening out.

The dried fl. in dose from half to two drachms, have been used in epilepsy, probably with little effect, from the obstinate nature of the disease. See Med. Tr. Ls. acrid.

Var. with double fl. in gardens; handsome, propagating itself by the leaflets. Ls. in salad with other herbs.


Per. May.

Immediately distinguished by its violet-hued anth. and broad-toothed angulate leaflets of the upper ls. Fl. large, in a terminal corymb, white or cream-coloured. Ls. much resembling those of the water-cress: pungent, nauseous, bitter, may be mixed in salads. The caterpillar of the pretty Pap. Cardamines feeds on the different species.

Suckers springing, but not always, from the bosom or axil of the leaves.

NASTURTIIUM." Cress.


Clear springs, rivulets, ponds.

1 Name applied originally to some plant stimulating the nostrils. Plin. This genus separated from Sisymbrium by BR.: the accumbent cotyledons, and short, thick swollen pods affording a clear character.
Stems spreading, for the most part floating, branched, leafy, striking root from the under side. *Ls.* lower ones large, alternate, somewhat lyre-shaped, terminal leaflet largest. *Fl.* white, in a flattish corymb, at length growing into a spike. *Pods* shortish, slender, curved upwards. *Fruit-stalks* horizontal.

Young *ls.* warm, pungent, agreeable to the taste: in salad: the expressed juice with that of *brook-lime,* and *scurvy-grass,* anti-scorbutic, stomachic: near London regularly cultivated. B. T.


Per. June.

*Stems* erect, one f., or more, leafy, zigzag, furrowed. *Ls.* alternate, leaflets of the lower ones running down the stem, elliptic-oblung, deeply cut, or toothed; those of the upper ones narrower, deeply saw-toothed, or entire. *Common-footstalk* channelled. *Fl.* bright yellow, numerous, in clusters, in a kind of panicle about the stem tops, each *cluster* soon lengthening out greatly, and becoming zigzag. *Pods* seldom come to perfection, the plant increasing much by root.


An. June.

*Stem* about one f., nearly erect, branched, leafy. *Ls.* alternate or opposite, lobes confluent, i. e. run in with the mid rib of each l. *Fl.* racemed, yellow, numerous, small. *Fruit-stalks* in cylindric clusters, partial stalks alternate, horizontal, each with a shortish, swelling pod.

*N. amphibium* is peren. has *pet.* larger, pods smaller, style longer. (Discrim.) from *N. sylvestre* by its wing-cleft *ls.* minute *pet.* and more swollen pods.


Rivers, ditches.

Per. July.


Grows to a great size, with long, floating stems, and comb-like ls. under water: in dryer situations of a smaller form, and broader ls. Ends of the general fl.-stalk often swollen into a purplish substance, cauliflower-like. Ls. variable in form; those under water deeply wing-cleft, otherwise deeply saw-toothed.

**SISYMBRIUM.** Hedge-mustard.


*Waste ground, by road sides and on banks.


Stem two f. Easily known by its long, spreading branches, set with numerous, close-pressed seed pods, and terminating in a small, dense cluster of lemon-coloured fl. Branches widely spreading, ascending. Ls. lower ones somewhat winged, upper ones halbert-shaped? terminal lobe nearly at the end, in both large, in former ls. rounded, in the upper oblong. Raceme very long. Fruit-stalks very short.

Infusion of the herb, or seeds, formerly recommended in asthma, and hoarseness: superseded by better remedies.


Morison, in his Præludia Botan. : seems to argue for its production by spontaneous generation, from the fixed and volatile salts, sulphur, &c.


Stem about two f., branched, round. Ls. alternate, wing-cleft, lobes recurved; lower ls., generally terminated by a long, halbert-shaped lobe; upper ones usually simple, spear-shaped, with one or two teeth towards the base. Fl. small, yellow.
Siliques numerous, long, slender. Fruit-stalks short in comparison with the siliques: seeds protuberating a little through the valves, giving the appearance of a slightly jointed silique.

Flavour of the plant like mustard.


Rubbish, dry banks, waste ground, dunghills.

An. June.

Stem about two f., erect, branched, very leafy. Ls. alternate, spreading: last segment of leaflets spear-shaped, acute, entire, terminal ones largest. Fl. very small, pale-yellow. Corymb soon growing into a very long spike of numerous slender siliques, parallel to the stalk, which are erect on spreading stalks.

The feathery segments of the ls. not devoid of symmetry. The pods retain the seeds all winter: food for small birds. Vermifuge. Strength of gunpowder said to be increased, by adding to it a tenth of the seeds. Fl. Suec.

BARBARE'A." Winter-cress.


Moist, waste ground, about hedges, or in marshy meadows.

Per. May.

Stem two or three f., simple, or branched, erect, angular. Ls. all alternate, deep, shining green, strongly veined, upper ls. stem-clasping: leaf-rib broad. Fl. in terminal corymbs, soon lengthening into a spike, numerous, yellow; cal. also partly coloured. A winter salad of the young ls.

Var. double fl. in gardens.

ERY'SIMUM." Treacle^4-mustard.

E. cheiranthoides. Worm-seed Tr. Leaves spear-shaped, obscurely toothed, roughish, with starry, three-

---

1 Flix-weed, i. e. flux, from its supposed quality in the seeds, (dose one drachm,) of curing fluxes of the bowels. Formerly called "Sophia Chirurgorum," "the wisdom of surgeons." Ger. observes the Paracelsians do brag very much of an herbe called Sophia, &c. We must be content to accept of this for the true Sophia, until some one point out the true one, &c.

2 From St. Bárbara.

3 From eruo, Gr. to preserve, on account of its excellent qualities.

4 From its entering into the exploded Theriaca, or Venice Treacle.
Cheiranthis.


An. June.

*Stem erect, varying in size, and branching, leafy, angular. Ls. stalkless, sometimes quite entire. Fl. numerous, small, yellow, lengthening into a spike-like corymb. Cal. yellowish, erect.*


*Stem upright, about one f., or more, leafy, branched slightly in the upper part. Ls. alternate, deep, shining green, smooth. Fl. small, white. Siliques erect, spreading, long. Stam. glands four.*

Bruised plant, a strong garlic smell: ls. may be eaten. Formerly used for seasoning: praised as an outward application in gangrene, considered as diaphoretic, diuretic: when fowls eat the ls., their flavour rendered very rank: boiled, when near its fl.-state, an excellent green, for food. Seeds bruised provoke sneezing.

**CHEIRANTHUS.**

**Wall-flower.**


Shrubby. May.

*Roots and stems somewhat woody: branches green, numerous, angular, tufted, erect, leafy. Fl. in a corymb, simple cluster, bright golden; delightfully fragrant. Ls. crowded, mostly entire, stalked. Cal. often purplish, or brown. Siliques erect, hoary.*

Var. numerous in gardens.

**HE'SPERIS.** Dame’s-violet.


1 *Anthos, a flower, and cheir, a hand, Gr.*


Per. May, June.

Somewhat hoary. Fl. terminal, corymbose, pale purple, or white; very fragrant in the evening. Sm. Pods without thickened margin.

'ARABIS.' Wall-cress, or Rock-cress.


Walls, dry, sandy ground.

An. April.

Root tapering. Stem solitary, slender, upright, two to ten inches, branched, leafy. Ls. root-ones close to the ground, the rest alternate, stalkless, smaller. Fl. white, corymb-stalks small, growing at length into a lengthened out raceme. Cal.: bristly upwards. Honey-bearing glands very minute, at the base of stams. Siliques slightly curved.

Plant pungent; soon withers away after seeding.


Per. June.

Root woody. Stems many, one much stronger than the rest, erect, one f. and a half, leafy, branched. Ls. root-ones inversely egg-shaped, slender at their base, stem-Is. halbert-spear-shaped, pardy embracing the stem. Fl. small, white, corymb becoming racemose. Siliq. numerous, in a long spike, beaded as it were by the projecting seeds, crowned with the almost stalkless stigma.

By cultivation becomes almost smooth.

A. Turrita. Tower W. Upper leaves toothed, clasping the stem. Flower-stalks the length of the calyx, each with a leafy bractea. Pods linear, flat, thick-

1 Chiefly of a northern hemisphere.
Old walls.** Magdalen College walls. Sb. and Rev. Mr. White, Fellow of Magdalen Coll. Oxford. April, 1832. It grew formerly within the Old Quadrangle. R. W.

Bien. May.

Root woody. Stems full one f., simple, upright. Ls. pale green, root-ones rough, egg-shaped-oblong, lengthened out at the base; stem-ones regularly decreasing upwards in size, somewhat saw-toothed. Fl. pale sulphur, in a leafy spike. Siliq. very long, at first erect. Fl.-stalks short compared with the siliq.

TURRITIS. Tower-mustard.

T. glabra. Smooth T. Root leaves toothed, rough; the rest entire, clasping the stem, smooth. E. B. 777.


Stem straight, smooth, wand-like, two f., or more, leafy, at first simple. Ls. root ones in a tuft, spear-shaped; stem-Is. alternate, stalkless, upright, arrow-shaped. Fl. sulphur, numerous, small, in a corymb, soon becoming a spike. Siliq. long, linear, opening at the base, approaching the stem, tiled.

BRA'SSICA. Cabbage, Turnip, &c.


Cornfields, waste ground.

Bien. April.

Root forming a kind of trunk above ground. Stem branched, about two f., spreading, leafy, smooth. Ls. light green, somewhat glaucous: stem-ones alternate, broader; stalk-ones stalkless. Fl. bright yellow. Cal. yellowish, much spreading. Siliq. on slender stalks, spreading, beaded, with an angular point.

Expressed oil from the seeds for the wool-comber: the seed cake remaining an excellent manure, half a ton to an acre, and for fattening cattle. According to Martyn, Fl. R. it is the residue of the lint-cake, (flax-seed c.) which is used for the latter purpose.


¹ Ang. Sax.
those of the stem smooth; the uppermost entire, or slightly toothed. E. B. 2176. Rapum majus. G. E. 232.

Cultivated fields, and their borders.

Bien, April.

Root a continuation of the stem. Stem upright, branched, leafy, one to three f., and more smooth. Ls. upper stem ones, heart-shaped, embracing the stem, tapering to a point, somewhat glaucous: root-ones stalked, deep green. Fl. bright yellow, numerous, rather large, in terminal corymb, lengthening. Cal. widely spreading. Siliq. cylindric, veiny, smooth, sub-erect.

Root winter food for cattle, and for the table: rendered sweet by cultivation. Aperient, flatulent: the fermented juice by distillation becomes an ardent spirit. The roots in a cellar, or in sand, send out winter sprouts for salad. Introduced into this country as an agricultural object of extent, by Lord Townsend, in the time of George the First. Root of extraordinary size occasionally; viz. thirty-six pounds, and four turnips together of an hundred weight.

Martyn.

Turnip poultice useful application to broken chilblains. The Swedish turnip surely a distinct species.


Root leaves lyre-shaped, rough; stem-leaves smooth, clasping, oblong, partly wing-cleft; all somewhat glaucous. E. B. 2234.

Sides of rivers, marsh ditches. Between Cropredy and Morlington.

Fl. Br.

An. June, July.

Stem slender, erect, branched, leafy, one to two f., somewhat glaucous. Ls. stem-ones heart-shaped-arrow-shaped at the base, uppermost entire, tapering to a point. Fl. yellow, pet. roundish in the limb. Siliq. upright, cylindric, or obscurely four-cornered, veiny. Seeds slightly project. Beak awl-shaped, slightly furrowed, square at the base.

Var. fl. white.

SINA'PIS. Mustard.

S. arvensis. Wild M. Charlock. Siliques with many angles, swollen, rugged, much longer than their own awl-shaped beak. Leaves toothed; partly lyre-
shaped, or halbert-shaped. E. B. 1748. C. 5. 47.
Cornfields.
An. June.
Root tapering, stiff. Stem one to two ft., more or less branched, slightly furrowed, leafy, rough. Ls. harsh, stalked; upper ones stalkless. Cal.-leaves linear, pale green. Cor. bright yellow, rather large. Pet. always yellow, veinless. Siliq. about eight-angled.
Seed mixed with, or instead of mustard. Annoyng weed in the cornfields, of course, to be weeded early before seeding. Seed will vegetate after having lain many years deep in the ground. Young plant may be boiled and eaten.

S. alba. White M. Pods bristly, rugged, spreading; shorter than their own broad and long sword-shaped beak. Leaves lyre-shaped. E. B. 1677. C. 5. 46.
Sinapi album. G. E. 244.
Cultivated, and waste ground.
An. June.
Root small, tapering. Stem one to one ft. and a half, branched, leafy, slightly furrowed, rough. Ls. rough, jagged, toothed, lowest deeply wing-cleft, terminating segment very broad. Cal.-ls. linear, green, horizontal. Cor. yellow, claws long, rather large. Fr.-stalks long, ascending. Seeds globose, yellow. Pod beak rough.
Young herb in salad, with cresses, Lepid. sativum. Seeds culinary, medicinal. See Cullen, &c.

Fields, waste ground.
Useful stimulant in cookery, and in medicine; its continued use not to be recommended. Powdered seeds, the common mustard for the table. Yield an oil not of much acrimony. A table spoonful of the whole seeds aperient: powdered, curdle milk, bruised infused seeds emetic; in cataplasm, as a stimulant applied to the soles of the feet, in sinking stage of fever: topically, in rheumatic pains. Ls. in spring may be boiled, and eaten. See Cullen's Mat. Med.
MONADELPHIA PENTANDRIA. Erödium. 197

RAPHANUS. Radish.


Cornfields, troublesome.

An. June.


Linnaeus supposed the seeds eaten in bread to produce Raphania, a convulsive disease. Taste of the plant acrid. Were the seeds dangerous, they would make great ravages eaten elsewhere: this is not the case.

Class XVI. MONADELPHIA.

Filaments combined in one set.

Order I. PENTANDRIA. Stamens 5.

ERODIUM.² Stork’s-bill.³


An. May, June.

*Stems* mostly branched, leafy. *Ls.* alternate towards the root, often opposite near the extremity of each branch: leaflets mostly alternate, hairy. *Stip.* in pairs, acute, egg-shaped, membranous. *Fl.* opposite to the *ls.* or axillary, lengthened out, umbellated, rose-coloured; *pet.* inversely egg-shaped. *Plant* not inodorous.

Appendages of the seeds in Erod. cicutarium, and Erod. Mos-

---

¹ Raphæ, Ang. Sax.
² Erodëi, Gr. a heron. H.
³ Beaks twisted like a cork-screw, bearded within. Abbæ.
chatum contract into a spiral form when dry, and straighten themselves when moist: its different movements may be seen by alternately moistening and drying them, on a white plate before the fire.

Var. γ. the Erod. pinninellæfolium of Sb. has two or three of its pet. marked with a green depression near the base: a variable mark.


Strong musky smell. Plant very like Erod. cicutarium, more hairy. Ls. broader. Fl. smaller, more numerous, in a roundish head. Stems swollen, and crooked at the joints. Ls. leafl. terminating one three-cleft.

MONADELPHIA DECANDRIA.

GERA'NIUM. Crane’s-bill.


Stems two f. or more, erect, round, red and swollen at the base, branched above in a forked manner, with a l. or two at each subdivision, with one or two pairs of brown, spear-shaped stip. Ls. root-ones on long foot-stalks. Fl.-stalks long with four bract. at their division. Pet. very large, inversely egg-shaped, veiny, fine blue. Cal. awned, drooping and closed after flowering. Style longer than the stam.

Discrim. Ls. in G. sylvaticum much less deeply cut. Its large purple fl. and many and deeply divided ls.
MONADELPHIAC DECANDRIA. Gerānium. 199

Var. Fl. white.


Waste ground, walls, banks, hedges.

An. June.

Stems spreading, round, red, especially in exposed situations, and in autumn with the Is. Ls. opposite, long-stalked, in threes, exterior leaf, running one into the other at the base. Fl. on long, cloven, axillary, and terminal stalks. Partial 1.-stalks short. Cal. hairy. Pet. purple, undivided, a hand-shaped white mark at the base. Herb rank smelling, fleshy. Astringent: smell of the bruised Is. to drive away bugs: infusion for cattle in hematuria. Perhaps recommended by the doctrine of signatures from its red Is.


descr. n. 3.

Walls, shady places.

An. June.

Stems branched in a spreading manner, swelling at the joints, glossy, succulent, often red. Ls. opposite, shining, stalks long, lobes three-cleft, blunt. Fl. rose-red, small.

An elegant and delicate plant.


Meadows, pastures, way sides.

An. May.


Var. Fl. white.

Discrim. In G. rotundifolium the seeds are dotted, and pet. entire.

G. pusillum. Small-flowered Cr. Stalks two-flowered.

Gravelly fields, waste ground.
An. June.

Stems trailing when unsupported, branched, variable in luxuriance. 

Ls. mostly linear, sharp segments. Fl. small, pale purple. 

Cal. awnless.

Discrim. From G. molle, by its even, downy seed-coat: from G. rotundifolium, by the downiness of that part being close-pressed, pointing upwards, and by its smooth seeds: the pet. scarcely exceed the calyx, not so deeply cloven as those of G. molle.


Meadows, pastures.
Per. June.

Stems erect, two or three ft. branches spreading, hairy. Pet. deeply cloven, lobes roundish. Fl. stalks axillary. Fl. pretty large, bluish purple.

Discrim. From G. molle, by the seed-cases, being even, not wrinkled. Fl. much larger.

Var. Fl. white.


Waste ground, barren pastures, walls, banks.
An. June.


Discrim. Seeds dotted, petals entire, rounded.


G. columbinum majus, dissectis foliis. G. E. 938.

Gravelly, waste ground, hedges, fallow fields.
An. June.

**MONADELPHIA POLYANDRIA. Malva.**

G. *columbinum*. **Long-stalked Cr.** Stalks two-flowered, thrice as long as the leaves, which are in five, very deep, jagged segments. Capsules quite even and smooth. Seeds veined like net-work. E. B. 259.

*Fields, dry banks, on a gravelly, or limestone soil. Sm. Cowley. Between Witney and Burford. Sb. (North Hinksey.) Rer. Mr. Round, Balliol College, Oxford. Near Headington Wick Copse. Field near the path, between Tagg’s Farm, and Forest Hill. R. W.*


*Discrim. Its long fl.-stalks, large, five-angled cal. awned; hairs of the stem and stalk point downwards, the rest upwards.*

---

**MONADELPHIA POLYANDRIA.**

MALVA. Mallow.


*Hedges, road sides. Per. June.*

*Stem much branched, spreading, round. Ls. alternate, somewhat heart-shaped, saw-toothed, plaited. Cor. pet. inversely heart-shaped, longer than the cal. rose-coloured, veined with deeper purple than in the next, shining.*

*Discrim. From M. rotundifolia, by its upright, bushy stem, and large purple fl.*

Macilaginous, emollient, but less so than the Althaeæ officinalis (Marsh Mallow.) Fibres of mallows beautiful, finer than camel’s hair.


*Waste ground, way sides in towns or villages. Per. June.*

*Stems short, straddling, not much branched. Ls. notched, plaited, slightly lobed: foot-stalks very long, hairy. Fl. on shorter stalks, axillary. Cor. twice the length of cal. notched, pale purple, or lilac, smaller than in M. sylvestris. Macilaginous, emollient.*
M. moschátá. Musk M. Root leaves kidney-shaped, cut; the rest in five, deep, wing-cleft, jagged segments. Calyx hairy; its outer leaves linear-spear-shaped. E. B. 754. C. 4. 50.


Per. June.

Stems about two f. round. Ls, root-ones on long stalks: stem-Is. on shorter stalks. Fl. axillary, on long stalks, large, rose-coloured. Pet. abruptly jagged.

A beautiful plant during the hot months diffusing a musky odour.

Var. White fl. in gardens.

Class XVII. DIADELPHIA. Filaments combined in two sets.

Order I. HEXANDRIA. Stamens 6.

FUMARIA. Fumitory.

* Pod with many seeds. Nectary single.


Per. April, May.

Root bulbous, solid. Fl. tipped with purple.)


Per. May.

Root fibrous. Fl. lemon-coloured, with yellow tips.)

* * Pod single-seeded. Nectary single.

An. May.

Stem much branched, spreading, leafy. Plant smooth, glauco\-sous, somewhat fleshy. Ls. doubly winged, principal divisions mostly alternate. Clusters of fl. opposite the ls., simple, many-flowered. Fl. alternate. Bract. small. Fl. rose-coloured, keel green to the upper and under petals, which are deep red at the summits. Spur short, blunt.

Tonic. Expressed juice dose two ounces twice a-day, to cleanse the skin from leprous disorders. Cullen. Infusion of the ls. a cosmetic, and to remove freckles.


An. June.

Stem three or four f. Pet. pale red, tipped with deep red.

Discrim. From F. officinalis by its (F. capreol.) greater size, less glaucous hue, twisting foot-stalks, paler, less gaping fl., spur more projecting, larger cal.-ls. pods more globose.

---

DIADELPHIA OCTANDRIA.

POLYGALA. Milk-wort.


Gravelly, heathy pastures.

Per. June.

Stem lying down, and ascending. Ls. deep green, smooth. Fl. blue, white, flesh-coloured, or purple, always marked with green lines, in terminal bunches. Crest of the cor. elegantly fringed. Cal. permanent, becoming green, wrapping up the young pod. Cal.-wings about as long as the cor. Fl. in two sets,
204 DIADELPHIA DECANDRIA. Genista.

like two expanding hands, with four fingers to each. Anth. yellow.

Plant bitter; in infusion, about a quarter of a pint, daily in the morning fasting, expectorant in catarrhous cough: in powder, dose of the root three grains.

DIADELPHIA DECANDRIA.

SPARTIUM. Broom.


Broom tea, a useful remedy in dropsy. The seeds, and ashes have been also used with the same indication. Young fl., sometimes pickled. The black, ripe pod discharges its seeds by an elastic movement. A flaxy substance has been procured from this plant. The twigs for carpet brooms.

GENISTA. Green-weed.


Shrub. June.

Branches low in growth. Fl. bright yellow. Pod nearly cylindric. Ls. alternate, stalkless, undivided. Fl.-ls. shorter than the blossom.

Seeds mildly purgative.

Plant dyes a good yellow colour; with woad a good green. Milk of cows feeding upon it is rendered bitter. Ray.

G. ánglica. Needle Gr. Petty Whin. Thorns nearly

Moist, boggy heaths.* Kidlington Common. Ensham Heath. Sh. (A little beyond Childswell Farm. Bx.)

Shrub. May.


ULEX. Furze.¹


Sandy, gravelly heaths, commons.

Shrub. April; and occasionally at all seasons.


Blossoms make a brilliant appearance, spread over our heaths; Linnaeus fell on his knees at such a brilliant appearance, on viewing this plant in full blossom in England. Impatient of cold. Team horses supported by this plant, cut young, with the thorns bruised in a mill. Blossoms honey scented.

The wood is very hard. The chief use of this shrub is to afford firing for the poor. Its full growth is attained in four years, and it ought not to be cut more frequently. Sm.


Shrub. August, October.

Scarcely half the size. Fl. smaller, and paler.)

ONO'NIS. Rest-harrow.²


¹ Ang. Sax.
² From its strong, woody roots stopping the harrow.
³ Ang. Sax.

Barren pastures, sandy road sides.

Per. June.

Root strong, woody. Branches in a barren soil, and on an old root terminating in a spine. Ls. alternate, stalked, lower ones often in threes. Fl. axillary, short stalked, rose-coloured. Standard twice as long as the wings, and keel. Smith considers Ononis spinosa of some authors as a var. of this, in an older, or more starved state.

**ANTHYLLIS.** Kidney-vetch.


Per. June.


Fl. sometimes scarlet, or white. Herbage, good pasturage for sheep.

**'OROBUS.** Bitter-vetch.


Roots tuberous, outwardly black. Stems one f. Ls, the common stalk projects beyond the leaflets. Fl, purple and red, in long-stalked, axillary clusters. Pod tipped with a permanent, channelled style.

Highlanders said to chew the sweetish roots, which will for a long time repel the attacks of hunger; and brew a sort of liquor from them. This supposed to be the nutritive Chara mentioned in Cæsar's Commentaries, and by Dio.

An elegant plant.

\textsuperscript{1} From its supposed vulnerary qualities.
LATHYRUS. Vetchling, and Everlasting Pea.

* Flowers mostly solitary.


An. June.

Ls. none. Tendrils springing from a pair of large, opposite, stalkless, leaf-like stipulas of an oblong triangular form. Fl. drooping, lemon-coloured, stalks long. Herbage glaucous tinged. Seeds of this, and the other species nutritious.


Bushy places, grassy borders of fields. ** Nuneham, on the right hand side of the London Road, near the four mile stone. Southleigh. Sb. Between the old and new road to Ensham, about half a mile from the Bridge. Near old stone-pits about half a mile, S.W. from South Hinksey. Bx.

An. June.


** Flowers numerous on each stalk.

L. pratensis. Yellow Meadow V. Stalks many-flowered. Tendrils mostly simple, each bearing a pair of spear-shaped leaflets. E. B. 670. C. 3. 44.

Meadows, pastures, thickets.

Per. June.

Stems angular, smooth, two or three f. Stip. unequally arrow-shaped, stem-embracing. Fl. large, bright yellow, on long, erect stalks.

This vetch supplies excellent fodder, early and late, makes good hay, and thrives on a clay soil. First sow the seeds, then part the roots. Said, however, not to be agreeable to cattle: besides producing very few seeds.

L. sylvestris. Narrow-leaved, Everlasting P. Stalks many-flowered. Tendrils branched, each bearing a

_Groves, thickets, moist hedges._ In a Copse under Shotover Hill. _Sb._ Side of the ditch round Headington Copse, not far from Marston Lane. _Br._ (About Bagley Wood. _Br._)

Per. June.

_Stems smooth, five or six f._ _Fl._ many together, on long, axillary stalks: variously tinted with purple and violet, with a green tinge. _Wings_ violet.


_L._ _major latifolius._ G. E. 1229.

_Woods, rare; by some supposed a doubtful nature._ Spernal Park, Warwickshire. _Pn._ _Fl._

Per. July, August.

Larger, smooth. _Fl._ large; _pet._ all rose-coloured.)

_L._ _palustris._ _Blue Marsh V._ See Appendix.

**VICIA. Vetch.**

* _Stalks lengthened out, many-flowered._


_Woods, hedges._ * Medley Grove. _Sb._ Hedges by the side of the road, going from Burford to Wychwood Forest. Between Fulbrook, and the Hit or Miss public-house. _Br._

Per. June.

_Stems_ very numerous, weak, zigzag, slightly furrowed, six to seven f. _Stip._ tipped with a minute bristle. _Fl._ whitish, elegantly streaked with a purple, and greyish blue.

An elegant plant.


_Hedges, thickets, osier grounds, low meadows._

Per. June.

_Stem_ when climbing, three or four f. Each leaf consists of many spear-shaped, entire leaflets. _Fl._ numerous, violet. _Pods_ hanging down, light-brown.

Rather an ornamental plant, with its close long spike of purple flowers. At the extremity of the keel, two deep purple spots.

**Flowers axillary, nearly stalkless.**

_V._ _sativa._ _Common V._ Flowers nearly stalkless,

Cornfields, cultivated grounds.
An. June.


Plant smaller than any variety of Vicia sativa: of a slender, delicate habit, distinguished by its very conspicuous, elegant, crimson fl., white at the keel, and lower edge of the wings, and rather large in proportion to the other parts. E. Fl.


Stem three to four inches, downy. Fl. bluish purple.)


Thickets, hedges.
Per. May.

Stems about two f. weak, climbing with tendrils. Stip. more or less crescent-shaped, and toothed. Cor. variegated with blue, dull purple, and greenish white.

Has been recommended as excellent food for cattle.

ERVUM. Tare.

E. tetraspermum. Smooth-podded T. Flowers mostly

Cornfields, hedges, thickets.

An. June.

Stem branched, weak, climbing, square. Leaflets numerous, alternate, their common stalk ending in a branched tendril. Fl. on long, slender, axillary stalks, drooping, pale blue, veiny. Cal. hairy.

The names Smooth Tare, and Hairy Tare, are applicable to the pods alone, for the herbage is most hairy in the Erv. tetraspermum, or Smooth Tare.


Cornfields, and other cultivated ground.

An. June.

Stems branched, nearly smooth, climbing by branched tendrils. Leaflets numerous, alternate, elliptic, notched at the end. Fl. from about five to seven, on short partial stalks, on a longish, axillary, common stalk, small, pale blue, with a dark spot on each side of the point of the keel. Pods, drooping, short.

ORNITHOPUS. Bird's-foot.


Stems more or less trailing, leafy. Ls. winged, with an odd leaflet, small. Fl. stalkless, in little terminal heads. Standard, and wings elegantly striped with red and white, keel greenish. A small, and beautiful plant.

HIPPOCREPIS. Horse-shoe-vetch.


Stems numerous, trailing. Fl. pale yellow, streaked with brown.

The singular figure of the pods must strike the most casual observer.
HEDYSARUM. Saint-foin.


Dry, chalky hills, open downs.

Per. June.

Plant lying down, two to three f. Fl. spiked, crimson, variegated. Standard egg-shaped, with a little tooth in the notch at the end, red in the middle, with eight or ten deeper coloured lines, white at the edges, and mottled with red: wings red and white; keel reddish, with deeper coloured lines.

Valuable for feeding cattle; grows luxuriantly where grass or corn would yield but small produce.

ASTRAGALUS. Milk-vetch.


Stem two to three f., more or less zigzag. Ls. alternate, leaf. roundish or oval, with an odd one. Slit. egg-shaped, pointed at the base. Fl.-spikes axillary, fl. pale sulphur coloured, often with a brownish tinge. Pods reddish.

Chewed Is. of a sweetish taste, changing to a somewhat unpleasant bitter.

A. hypoglottis.* Purple Mountain M. Stem prostrate. Flowers in round heads. Legumes egg-shaped, deeply channelled along the back, compressed, hairy; hooked at the point. Leaflets blunt. E. B. 274.

Downs, dry pastures. ** Burford Downs. Sh. Under a wall on the side of the road between Witney and Burford, about three or four miles from the latter place. Br.

Per. June.

1 Sain-foin, Fr.
2 i. e. with Is. somewhat tongue-shaped.
DIADELPHIA DECANDRIA. Trifolium.

Stem zigzag. Ls. alternate, spreading, winged with an odd one: leaf, elliptic-egg-shaped, gradually lessening, with the terminal one smaller, hairy beneath, nearly smooth above. Fl. heads erect, axillary, scarcely longer than the ls. until after flowering. Stalk and cal. clothed with black hairs, mixed more or less with white ones. Cor. fine violet.

Var. Fl. white.

TRIFOLIUM. Trefoil, Clover, and Melilot.

The ft. of all the species, dried and powdered, may be made into bread. Ls. in all the British species in threes, hence the name trefoil, three ls.

* Flowers in clusters, or spikes. Seeds one or more. Melilotus.

T. officinale. Common Melilot. Clusters on one side of the stem only. Legume prominent, acute, transversely wrinkled, hairy, with two seeds. Stem erect.

Stipulas awl-shaped. E. B. 1340.

Thickets, hedges, borders of fields.

An. June.


The leaves when dry, and seeds have a flavour approaching to that of bitter almonds; hence a bad weed among bread-corn. Fresh ls. taste and smell like hay.

** Flowers in heads. Seeds several.

(T. ornithopodioides. See Appendix.)


Meadows, pastures.

Per. May.

Ls. alternate, on long, upright stalks: leaf, on small, partial stalks, inversely heart-shaped, or roundish, finely toothed, smooth. Ls. generally stained after flowering, the ft.-heads spread outwards and downwards, like an umbrella. Fl. cream-coloured, rarely reddish, (sometimes become leafy,) hanging down in decay.

Valuable fodder for cattle in the dry, autumnal months: an excellent bottom in pastures. Where this plant abounds spontaneously, an indication of a good soil.

*** Seeds single. Calyx generally hairy.
**T. subterráneum. Subterraneous T.** Heads hairy, of about four flowers. Involucre central, bent back, rigid, starry, embracing the fruit. E. B. 1048. C. 2. 54. Dry, gravelly pastures, barren heathy places.** Shotover Hill, by the road to Cuddesdon. **Sb. and Bx.**

An. June.

Stems trailing, spreading close to the ground, almost concealed by the broad, sheathing stip. of the numerous ls. Leaf. inversely heart-shaped, entire. Fl.-stalks at first erect, before the fruit ripens, bent to the ground, producing from their extremities white thick fibres, star-like at their tips. The long slender milk-white petals render this plant conspicuous. Cal. teeth long, hairy.


Meadows, pastures.

Per. June.

Stems about one f., slightly branched, leafy. Leaf. elliptic, more or less acute, with a pale, crescent-shaped, angular mark. Spikes terminal, solitary, between a pair of nearly stalkless ls. Fl. many, fragrant, light purple, petals united at the base, and to the stem.

Var. Fl. white.

Most valuable for fodder or hay; most nutritious of its tribe. The “holy trefoil’s” leaf formerly supposed a potent charm against witches, probably from its three leaves being emblematic of the Trinity. The heads dye woollen green, with alum, or copperas.


Elevated, dry, chalky, or gravelly pastures. Sm.

Per. June.

Differs from Trif. pratense, in its lax head of fl., longer and narrower stip., and more unequal calyx, and its remarkably zigzag stem. Fl.-heads rather larger. Pet. purple. Leaf. spear-shaped, with minute serratures invisible to the naked eye.


1 Ang. Sax.
Sandy, barren fields.  
Stem mostly erect, much branched, somewhat zigzag.  $L_s$. stalked, $L_e$. nearly stalkless.  $F_l$. numerous, pale reddish.  $C_o$. almost concealed by the teeth of the $c_a_l$.  
A weed, not worthy of cultivation; aromatic when dried.

**T. scabrum.** **Rough Rigid T.** Heads stalkless, axillary, also terminal and egg-shaped. Calyx-teeth unequal, spear-shaped, rigid; finally curved back.  
Stems trailing.  
E.  B.  903.  
C.  6.  48.

Chalky, dry, sandy fields.  * Near Jericho, on the road side, going to Port Meadow.  $S_b$. Side of the road between the Asylum, and Shotover Hill.  Old stone-pits on Bullyingdon Green.  
Bx. Shotover Hill, by the old London Road.  R.  W.

An.  June.  
Stems four to seven inches, stiff, round, hairy.  $L_e$. inversely egg-shaped, or inversely heart-shaped, toothed.  $S_t_i_p$. spear-shaped.  $F_l$.-heads of many thick-set, white, or pale blush-coloured fl.  Segments of the $c_a_l$. in its seeding state most remarkably bent back.

**T. striatum.** **Soft Knotted T.** Heads stalkless, both axillary and terminal, egg-shaped. Calyx elliptical, furrowed, hairy; with straight bristle-shaped teeth.  
Stems trailing.  
E.  B.  1843.  

An.  June.  
Stems often downy, zigzag.  $L_s$. alternate, distant, the lower on long, the upper on short stalks.  $L_e$. inversely egg-shaped, or inversely heart-shaped, finely toothed, downy.  
$S_t_i_p$. egg-shaped, broad, pointed.  $C_o_l$. with ten deep furrows, and five green teeth tapering, which are lengthened out after flowering.  
$C_o_r$. pale rose-coloured.

**Discrim.** The ribs of the $c_a_l$. and the $c_a_l$. itself rounded, nearly globular in shape; by the downy softness of the plant.

**** Calyx of the fruit inflated, bladdery.

**T. fragiferum.** **Strawberry-headed T.** Heads roundish.  
Calyx finally inflated, bent back, with two terminal teeth.  Stems creeping.  
E.  B.  1050.  
C. 2. 55.  
G.  E.  1208.

Moist meadows, pastures.  
Per.  August.  
$L_s$. on long stalks.  $L_e$. inversely egg-shaped, or inversely heart-shaped, sharply toothed.  
$S_t_i_p$. spear-shaped, large, acute.  
$F_l$.-heads roundish.  $P_e_t$. rose-coloured.  
$C_o_l$. greatly inflated in the upper side, tinged with crimson.  
Plant, the habit of Trif. repens.
DIADELPHIA DECANDRIA. Lötus. 215

Produce late, and inconsiderable.  

* * * * * Standards bowed archwise, dry and membranous.


Dry, gravelly fields and pastures.  
An. June.

Leaf. inversely egg-shaped, notched at the end, toothed. Fl. lemon-coloured, permanent, at length brown, and membranous, and distinguished by its broad, furrowed standard. Acceptable to cattle.


Dry, gravelly fields and pastures.  
An. June.

Stems little branched, six to twenty four inches. Ls. the central leaflet on a more partial stalk than in Tr. procumbens, or in Tr. filiforme. The leaf. of all three species inversely egg-shaped, notched at the end, and toothed. Fl. twelve to fifteen, yellow, standard not broad.


An. May.

Plant very slender. Fl. three to eight, leaning one way, yellow, small.

LOTUS. Bird’s-foot-trefoil.


Open, grassy pastures.
Per. June.
Stems much spreading, leafy, angular, with close-pressed hairs. 

* Ls. alternate, hairy, leaf. in threes: a pair of leafy stip. at the base of their common stalk. Leaf. inversely egg-shaped, acute. 

* Fl.-stalks axillary, solitary, very much longer than the ls. Fl. two to five, fine yellow, as they fade, turning orange, a leaf at the base of the fl.-head; keel pale yellow, striped with red at the base. Cal.-teeth, spaces between rounded. Legume shining purple. 

* Fl. greenish when dried; plant worthy of cultivation, pasturage for sheep: makes good hay.


Wet, bushy places, osier holts, hedges.

Per. June.

Stem one to two, or three ft., hairy, like the ls. Fl. six to twelve, duller orange than in Lot. corniculatus. Cal.-teeth, spaces between, narrow and acute, not rounded, as in Lot. corniculatus.


Meadows, fields.* In the broad, green-ward path, leading off the Cowley road, near the gate up to the Asylum. R. W. 1832.

Per. June, August.

Discrim. The general slenderness of the plant, and its spear-shaped leaflets; from L. cornic. and L. major.

MEDICA’GO. Medick.


Per. June, July.

Fl. violet. Perhaps a variety of M. falcata.)

M. lupulina. *Black M. or Nonesuch.* Spikes egg-shaped, erect. Legumes, (pods) kidney-shaped, rugged

An. June.

Stems several, widely spreading, leafy. Ls. like those of a trefoil, leaf. inversely egg-shaped, finely toothed at the front edge. Fl. small, bright yellow. Pods very black, with traces of a spiral structure.

In Norfolk called Nonesuch, usually mixed for a crop with rye grass (Lol. perenne.) Excellent fodder for sheep.


An. June.

Fl.-stalks axillary, solitary, slender. Legumes coiled up into a ball, like a snail’s shell, brown. Fl. yellow. Fodder for cattle.

Class XVIII. POLYADELPHIA.

Filaments combined, in more than two sets.

Order 1. POLYANDRIA. Stamens numerous.

HYPERICUM. St. John’s-wort.¹


¹ St. John’s Wort, in former times, considered as powerful for the expulsion of witches, for the prognostication of the fates of young men, and maidens. In Lower Saxony, girls gather sprigs of it on Midsummer night, and fasten them to the walls of their chamber. If the sprig, the next morning, remain fresh, a suitor may be expected, if it drop, or wither, the maiden is destined to an early grave. Hyp. perforatum was the species used in this country. Fl. B. T. Transparent dots of the Is. lodge an essential oil.

² i. e. andros, aina, man’s blood, as if the plant flowed, when bruised, with a juice like blood.

³ Tout sain, Fr. all-heal.
Moist, shady lanes, thickets and woods.* Shotover Plantations. Stokenchurch. Nettlebed Woods. Sb. In a ditch on the top of Shotover Hill, a little before you come to the gate leading to Mr. Schutz's. Bx.

Shrub. July.

Stem woody, perennial. Ls. opposite, stalkless, wide-spreading, egg-shaped, or rather heart-shaped, entire, veiny, smooth, as the rest of the plant. Panicles terminal, more or less accurately three-forked. Pet. and stam. yellow. Styles of the same colour changing to purple. Fruit purple-black, elliptic.

Discrim. Its shrubby stem, large fl., and black fruit.


Moist meadows, thickets, and about the banks of rivers.

Per. July.

Stems perfectly erect, two f. Ls. opposite, elliptic, or egg-shaped, each pair crossing those next to them. Fl. small, pale yellow. Odour of bruised plant, lemon-like.


Groves, thickets, hedges.

Per. August.

Stems about two f., perfectly erect, leafy. Ls. opposite, each pair crossing those below them, oblong, somewhat elliptic, entire. A short, simple, leafy branch from the bosom of each l., the upper ones bearing fl., and forming a forked, leafy panicle, terminating the stem. Fl. bright yellow. Edges of the cal. and pet. as well as their outward surface, marked with dark purple spots and lines, containing a red, essential oil, staining the fingers. The fl. tinge spirits and oil of a fine purple.

(H. dubium. See Appendix.)


Per. June.
Stems several, slender. Ls. stalkless, opposite, dotted, thin, membranous. Fl. axillary, also terminal, mostly solitary, yellow, in a sort of forked corymb. Cal. edges toothed with purple glands, as also the margins of the pet. Stam. styles, and germ. yellow. Fruit turns red, as it ripens: lower ls. assume the same hue.

Discrim. Small size, slenderness, few flowers.

A pretty plant.


Per. July.

Stems two f. or more. Ls. opposite, their margin dotted with purple beneath. Fl.-panicle terminal, upright, of few, lengthened out, forked branches, destitute of ls. Bract. opposite, spear-shaped, fringed with a row of brown, stalked glands. Pet. lemon-coloured. The fringed cal.-ls. give the fl. some resemblance to the moss-rose.

An elegant plant. Distinguished from Hyp. hirsutum by its smoothness, and the panicle quite destitute of ls.


Thickets, hedges.

Per. July.

Stem about two f., leafy, more or less hairy, panicled in the upper part. Fl. yellow, very numerous. Bract. cal.-ls. and tips of the pet. fringed with blackish stalked glands. Ls. in cross pairs.

A handsome plant.


Stem erect, round. Leaves clasping the stem, heart-shaped, smooth. E. B. 1227. C. 1. 56.


Per. July.

Whole plant smooth. Ls. in distant pairs, stalkless, mostly bent downwards. Fl.-pet. golden yellow, outwardly tipped with scarlet, their edge glandular. Anth. red.

An elegant plant, with its tall, straight, slender, panicled stems, bearing numerous, yellow buds, tipped with red, intermixed with already expanded fl.
Class XIX. SYNGENESIA. Anthers united into a tube. Flowers compound.

Order I. POLYGAMIA AÆQUALIS. Florets all perfect, five stamens each, and one pistil, producing one seed.

Obs. A compound flower is enclosed by one common calyx. Surface of receptacle concave, or flat, or convex, or pyramidal, or globular. Sometimes naked, i.e. marked only with small dots, or cells; or hairy, or chaffy, for separating the florets. Plants of the class Syngenesia generally bitter, but few poisonous. Purton’s Fl.

A natural tribe, consisting of the genuine Compound Flowers, having a common calyx, and combined anthers. Sm.

* Florets all strap-shaped; a natural order.

TRAGOPO'GON. Goat’s-beard.


Plant eighteen inches to two ft., very milky. Fl. solitary, terminal, bright yellow, opening at day-break, and closing before noon, unless the weather be cloudy: hence called, “Go to bed at noon.” LS. grass-like, sheathing the stalk at the base, alternate, sharp pointed, widening at the base. Seeds with feathery crowns, lightly cohering like a cobweb.

Cal. in Huntingdonshire specimens always exactly equal with the corolla, Norfolk ones invariably exceeding it. Woodward in With. Germ., with a tuft of hairs at the summit.
The root cultivated in gardens for Asparagus. *Linn. in Fl. Suec.* Before the stems shoot up, the roots, boiled like Asparagus, have the same flavour, and are nearly as nutritious. *With.* Gerarde, in his Herbal, observes, that in delicate taste, they far surpass either carrots, or parsneps. The spring shoots eaten in the same manner: but the *Trag. porrifolius. Salsify,* was usually cultivated for culinary purposes.

**PICRIS.** Ox-tongue.


*Plant* rough with short hairs, dark green. *Fl.* bright yellow, with spear-shaped bracteas. Branches furrowed, purple on the upper side, and in their axils. *Fl.* from the side of the stem, rising on branches lengthened out above that which terminates the central stem. *Fl.* corymbose. Fruit-stalks loosely scaled up to the *cal.* Globe of seeds and feathers a perfect ball.

**SONCHUS.** Sow-thistle.


1 So called from the bitterness of the plant, *pieros,* Gr. bitter.
SYNGENESIA POLYGAMIA AëQ. Lactuca.

_Cornfields, hedges, chalky soil._ Sm.

Per. _July._

Figure of the _ls._ various. _Plant_ three to four _f._ _Cal._ flower-stalks, and upper part of stem clothed with brown, glandular hairs. _Cor._ large, deep yellow, sometimes outwardly reddish. _Ls._ the uppermost of all entire. _Cal._ after flowering swelling at the base. _L._-segments triangular.

A troublesome weed from its creeping root of oblong, fleshy branches. The flower follows the course of the sun very regularly. Flowers close between eleven and twelve at noon. Horses fond of it. Hairs of _cal._ and fruit-stalks pale green, terminated by yellow globules.


_Cultivated, and waste ground._

An. _July._

Shape of the _ls._ variable. Young flower-stalks clothed with a white, cottony web, soon falling off. _Cal._ smooth, at first cylindrical, afterwards swelling much at the base. Flower-stalks both axillary, and terminal, cymose. _Cor._ yellow. Upper _ls._ oval-spear-shaped, saw-toothed on the edges. _Stem_ brittle.

May be used as a cooling cataplasm. Young leaves in some countries are boiled, and eaten. Flowers open about six, or seven, shut at eleven, or twelve. _Linn._ _Fl._ _Suec._

Horses and rabbits very fond of this plant.

_LACTU'CA._ Lettuce.


_Hedges, borders of fields._* Marston Lane. _Sh._ Side of the New Road, going from Botley to Ensham. _Br._ Between Dunchurch and Southam, Warwickshire. _Br._

Bien. _July._

_Ls._ deep green. Whole plant abounds with a milky juice, smelling like opium: this issues on the slightest touch from the calyx, and more tender leaves. _Root-leaves_ inversely egg-shaped, the rest, smaller, clasping the stem, waved, or indented (toothed.) _Floral leaves_ heart-shaped, pointed. _Fl._ small, palish yellow, their stalks with numerous small bracteas. _Root-leaves_ broad, entire. _Light._ One leaf at the base of each flowering branch. _Fl._ opens about seven, closes about ten, forenoon?

The extract useful in dropsy, in doses from eighteen grains, to three drachms, in twenty-four hours. It proves laxative, promotes urine, and gentle sweats, abates the thirst. _Collin._ According
to Swediaur it is sedative, and diuretic, and useful in dropsy, as opium often proves. See *Mat. Med.*

**PRENANTHES. Wall-lettuce.**


*Per.* *July.*


**LEO'NTODON.**

1  *Dandelion.*


*Meadows, pastures.*

*Per.* *August.*


By culture, and especially by blanching, this herb sufficiently mild to be eaten in a salad. *Sm. Eng. Fl.* Leaves early in spring, an excellent ingredient in salads. The French eat the roots, and blanched leaves, with bread and butter. Many of the inhabitants of Minorca, subsisted on this plant, after the destruction of their harvest. Small birds fond of the seeds. An excellent deobstruent in visceral obstructions. Mr. Purton recommends prescribing with it, Fumaria *officinalis.* May be blanched by the simple process of laying a tile upon the plant. *Mat. Med.* in Extr. and Decoct.

(T. *palustre.* See *Appendix.*)

---

1 i. e. Lion’s tooth, from *León, odous,* Gr.
2 *Dent de lion,* Fr. From the supposed resemblance of the leaf, to the tooth of the lion.
APARGIA. Hawkbit.


Pastures, especially on chalk, or limestone. Sm.

Per. July.

Root spindle-shaped, black. Fl. bright yellow, drooping in bud, in flower erect. Seeds uniform. Ls. generally covered with forked, stiff hairs. Stalks upright, hairs forked. Florets their summits terminate in five teeth, at the back of each a triangular cluster of brown glands.

Fl. opens about four in the morning, shuts at three in the evening generally. Linn. Fl. Suec.


Gravelly heaths, commons. Sm.

Per. July.

Root abrupt. Fl. smaller than in Apargia hispida, without its yellow hairs at the orifice, and without the brown glands at the back of the tip of the florets. Fl. droop before flowering. Cal. nearly smooth. Fl. reddish beneath.


Meadows, pastures.

Per. August.

Fl. bright yellow, small, often reddish outside, numerous. Cal. and top of stalk slightly downy. Root abruptly bitten off, with long, simple fibres from its sides. Flower-stalks scaly, hollow, each containing a small tuft of very white cotton. The root becomes abrupt in the second or third year of the plant’s growth.
Seed-down of central flowers sometimes tapering out into a kind of short, small foot-stalk, feathered, brownish white, which colour readily distinguishes it from Hypochaeris radicata.

HIERA'CIUM. Hawkweed.*


* Stalk naked, single-flowered, immediately from the root.


Smith in Eng. Botany, under plant figured for Hier. murorum (2082) observes: Hier. sylvaticum t. 2031, we presume to be the murorum of all our local Floras.

"The Hier. murorum of Dr. Sibthorp’s Fl. Oxon. is, undoubtedly, the H. sylvaticum of Sir J. E. Smith’s Eng. Flora, which is now (September, 1831) growing in great plenty on the walls of Wadham College garden, but where I could not find a single plant of H. murorum.

There are no specimens of perfect plants, that I know, of Dr. Sibthorp’s in the Sherardian Herbarium; but when he arranged that collection according to the Linnaean arrangement, he appears to have considered the H. murorum, maculatum, and sylvaticum of Smith as mere varieties of the same species.” Bx.


1 A most intricate and difficult genus. 2 Ang.-Sax.
Hier, sylvaticum differs from Hier. murorum in the root-leaves being spear-shaped, and slightly toothed; the leaf-stalks being longer in shape, the stem-leaves more than one, and the whole plant considerably larger. *With*, ed. 1818. p. 898. Root slender, slightly creeping, with long, simple fibres. Stem panieled.


Coppees, groves, thickets.

Per. July.

*Plant* somewhat shrubby, rough, stiff. *Fl.* numerous, bright yellow, open in the forenoon only. *Ls.* alternate, broad, acute, dark green, almost smooth above; paler, somewhat glaucous, very hairy beneath: lower ones spear-shaped elliptical, lengthened out at the base; greater part of those on the stem egg-spear-shaped, half embracing the stem. *Flower-stalks* erect, downy, forming a thin corymb, liable to many different appearances. In shady places, plant sometimes smooth, but always stiff. *Stems* two to three f. or more. *Stigmas* covered with blackish hairs.


G. E. 298.

Groves, gravelly thickets.

Per. July.


*H. amplexicaule.* See Appendix.

**CREPIS.** Hawk’s-beard.


Dry pastures, meadows, waste ground, thatched roofs.

An. June.

*Root* tapering. *Herb* very various in size and luxuriance. *Stem* upright, smooth, rarely a little hairy, generally stained with purple just above each branching. *Paniode* upright, forked, corymbose, and with small leaves. *Fl.* rather small. *Down*
rough, stalkless. *Cal.* furrowed, sprinkled lengthways with clammy hairs. *Styles,* as soon as they have passed through the anthers, brown.

**HYPOCHÆRIS.** Cat’s-ear.

*H. maculata,* and *H. glabra.* See *Appendix.*


Pastures, waste ground.

*Per.* *July.*


*E.*

Scales spear-shaped, one at the base of each branch, with a few white, bristly teeth at the base on each side.

**LÁPSANA.** Nipple-wort.¹

*L. commúnis.* _Common N._ Calyx of the fruit angular.


Waste and cultivated ground.

*An.* *July.*


The young *ls,* in spring, taste like radishes: eaten by the inhabitants of Constantinople, raw as a salad. In some parts of England, boiled as greens. *Light.* *Fl.* *Scot.*

**L. pusilla.** See *Appendix.*

**CICHÓRIUM.** Succory.


Borders of fields, road sides.

*Per.* *July.*


*Stem* two or three ft., hard and tough, alternately branched, with lateral flowers from the side of the stem, mostly in pairs, with

¹ From its supposed virtue in the cure of sore nipples. ¹ Ang.-Sax.
small, stem-clasping leaves. Fl. large, handsome, brilliant sky-blue. Cylinder of the anthers striped blue, and white.

The Is. blanched, a salad in spring, and the roots may be eaten at table. This plant different from Garden Endive, Cich. Endivia. Root roasted, a substitute for coffee in some parts of Germany, said, when dried, to have served to make bread. The herb in a cultivated state, excellent early fodder for horses and cows.

Flowers found white, but rarely.
** Florets all tubular, with a five-cleft spreading limb: a natural order.

**'ARCTIUM. Burdock.**


**Waste ground, way sides, dunghills.**


Plant branched, spreading. Stem erect. Is. on hollow footstalks, very large, when full-sized. Fl. numerous, nearly stalkless, purple. Cal. of numerous narrow scales, each tipped with an incurved hook, by means of which the whole calyx, laden with ripe seeds, easily separating from its stalk, adheres to clothes or the coats of animals, a curious provision by which the seeds are dispersed, the calyx being rubbed to pieces by the animals attempting to remove the encumbrance. Recept. bristly. Cor. tube white, bordered. Anth. bluish purple.

Root and stalks eatable, and nutritive: the stalks should be cut before the plant flowers, the rind peeled off, and then boiled; or they may be eaten raw as a salad. Lightfoot. Decoction of the roots a good substitute for that of Sarsaparilla. Has been given in success in dropsy. Seeds food for birds: recommended to fatten poultry. C.

A. Bardana. Woolly-headed B. Leaves stalked, heart-shaped, nearly entire and even, without prickles.

Calyx when in seed cottony. E. B. 2478.

**Waste ground, way sides, rubbish.** (Bagley Wood. Br.) Lane leading from Bullingdon Green to Cheney Lane, nearly opposite the windmill. Br.

Bien. July, August.

Like the foregoing in size and habit, Is. less waved, (undulated) more downy beneath. Stem of a dull red. Cal. globose. Sm. This species raised from seed is found constant. Wild. Blossom purple.

1 Ang.-Sax.

2 From labein, Gr. (to seize:) from its taking hold of soft clothes, &c. Mixta tenax segeti crescere lappa solet. Ovid.
SERRATULA. Saw-wort. 1


Groves, thickets, grassy pastures.

Per. July.

Ls. smooth on both sides; lower ones generally undivided, sometimes all. Plant firm, rigid. Fl. purple, sometimes white; somewhat corymbose at the top. Down of the seed glossy, with a brown, or gold tinge. Cal. scales of an elegant brown colour. Globular form of the florets resembles an old fashioned wine-glass. Ls. half embracing the stem. Stigma forked deeply. Plant dioecious in effect. Affords a yellow dye for coarse woolen; used in Sweden for that purpose. This plant untouched by cattle.

CA’RDUUS. Thistle. 2

* Leaves running down the stem.

C. nutans. Musk T. Leaves not running all the way from one leaf to another, thorny. Flowers solitary, drooping. Calyx-scales spear-shaped; their upper part spreading. E. B. 1112.

Waste ground, fallow fields, dry, barren pastures.

An? July.

Stem two or three ft., slightly furrowed, slightly cottony. Ls. alternate, green on both sides. Fl. smell strongly of musk in warm weather. Fl.-stalks woolly, round, naked. Cal.-scales leafy points, slightly cottoned. Ls. with a white rib. Styles bent back towards the side. Fl. musky, especially in the evening. Linn. Cal.-scales dull red; the outward spines wide and open, the inward ones erect; terminate in a strong, yellow thorn. Pollen grey, globular, set with fine points. Small stalks naked.

The dried flowers of this, and of Car. lanceolatus, used in some countries for a rennet to curdle milk. Many kinds of moths hover over the flowers at night. The down of this may be used as a material in making paper.


1 Ang.-Sax. 2 Ang.-Sax.
SYNGENESIA POLYGAMIA ÆQ. Carduus.

Hedges, dry, waste ground.
Three f., or more: more green than Card. tenuiflorus: clothed on every side with scalloped leafy wings: edges of these, as well as of the leaves, fringed with numberless straddling thorns of various lengths. The lengthened out flowering-branches terminate in irregular clusters of purple, erect flowers, less than those of Card. nutans. Cal.-scales slightly woolly. Partial flower-stalks thorny: inner calyx-scales coloured; not close as in Cnicus palustris.

Discrim. from Card. nutans, by its upright calyx. Florets cloven half way down, the lowermost segments separated nearly to the base.

C. tenuiflorus. Slender-flowered T. Leaves running down the stem, sinuated, thorny. Flowers crowded, stalkless. Calyx nearly cylindrical; scales egg-shaped at the base; somewhat curved back at the point.

Root-ls. on short footstalks, somewhat lyrate, and a little cottony beneath, (as are the upper ones.) Fl. long, clustered, erect, pale rose-coloured. Cal.-scales with a membranous margin, and strong yellow terminal thorn; pale in their lower part, green at the tip. Florets ten to fifteen, or more. Plant three or four feet high.

**Leaves stalkless.

C. mariánus. Milk T. Our Lady's Thistle. Leaves wavy, thorny, clasping the stem; root ones wing-cleft. Calyx-scales leafy, curved back, channelled; thorny at the margin.

An. June.

Ls. shining, deep green, elegantly marbled along the veins with white, which botanists of the dark ages report to have been caused by the milk of the Virgin Mary falling upon a plant of this species. Fl. large, purple, solitary, at the end of each branch. Cal.-scales each terminating in a long, bent back, strong thorn, fringed at its base with smaller spines. Four or five feet high. Cal. stem naked.

When young, eaten as salad. The young stalks peeled and soaked in water, excellent. Scales of the cup as good as Artichokes. Root good to eat, early in the spring. With. An emulsion may be formed from the oily seeds.
CNICUS. Plume-thistle.

* Leaves running down the stem (decurrent.) Stem winged.


Waste ground, banks by road sides.


Three or four f. Fl. terminal, erect, large, purple. Stem covered like the back of the leaves and calyx with a cotton-like web. Cal.-scales spear-shaped, thorny, spreading. Point of the leaves long, very sharp. Ls. green, rough on the upper side, hoary underneath. Cal.-scales innermost bristly, dry, unarmed. Recept. hairy, conical.

A shelter for other plants: one of the first to grow where other plants would not thrive. The fl. like those of the artichoke curdle milk. Larva of Cin. Cardui feeds on this. Almost all the species of Card. and Chicus, may be eaten, when young. Biennial weed, readily destroyed by mowing it before it seeds.


Sb. 245.

Moist meadows, pastures, watery spots by road sides.


Stem erect, three to six f., very straight, with long, wand-like branches, deep green, often purplish. Ls. dark green. Fl. terminal, deep purple, sometimes white. Cal. with abrupt, close scales, tipped with small, short, harmless prickles. Cal.-scales woolly, green, tipped with deep purple, without a rib along the back.

** Leaves stalkless, or partially running down the stem. Stem not winged.


1 Jermyn's (now Mrs. Ford's) Butterfly Collector's Vade Mecum: a pleasing, useful work, on British Butterflies. 12mo.

Root deeply creeping, very tenacious of life. Stem panicked, solid, angular, smooth, three or four f. Fl. palish purple, sometimes white.

The burnt plant yields good ashes for glass-making. Ray. The down, a useful ingredient in paper-making. With.


Stem three f. or more, erect, much branched, many angled, hairy. Ls. with two ranks of oblong, straddling segments, alternately pointing upwards and downwards, and armed with very strong thorns. Upper side of leaves rough: under, cottony. Fl. solitary, terminal, erect, very large, six or eight inches in circumference. Cal.-scales mostly terminating in a linear, blunt, leafy appendage, fringed, thorny. Fl. sometimes white. Ls. lower spreading on the ground, often two feet long. Cal. as long as an egg.

Recept. edible like the artichoke.


Low, wet pastures, meadows. Per. June.

Root fibrous, creeping. Stem slightly furrowed, one to two f. Lower ls. somewhat cut. Differs from Cn. heterophyllus by the leaves not being woolly underneath, but downy. Generally one flower, and two stem-leaves, half embracing the stem. Fl. red. Anth. with five horny, yellow, spear-shaped points.


Ls. wide-spreading, depressed close to the ground, smooth, shining,
wing-cleft, very thorny. _Cal._-scales narrow, smooth, rather blunt. _Fl._ erect, deep crimson. _Plant_ nearly stemless. 
The leaves spread, and exclude other plants from growing beneath them. The different _Cnici_ and _Cardui_ afford nourishment to the larvae of several insects. When cultivated, and without cultivation, _Cn._ acaulis acquires a stem.

**ONOPORDUM.** Cotton-thistle.

O. _Acanthium._ Common _C._ _T._ Calyx-scales awl-shaped, spreading in every direction. Leaves egg-oblong, sinuated, woolly on both sides. _E. B._ 977. _C._ 5. 57. _Acanthium album._ _G. E._ 1149. _Waste ground, hedge banks, road sides._

_Bien._ _July._

_Hoary green, five ft. high, clothed with a white, cottony web._ _Stem_ winged up to the calyx. _Ls._ completely running down the stem, edged with large, unequal thorns. _Fl._ terminal, solitary, purple. _Cal._ thorns in the lower part bent back. _Cal._ globose. Lower _ls._ with deep, triangular teeth, which are again toothed, each tooth terminated by a sharp, whitish thorn. Upper _ls._ spear-shaped, with a few distant teeth. 
The receptacle, and young stems may be boiled, and eaten. 

_The ancients supposed this plant a specific in cancer._ _Fl._ _Suec._ 

_The seeds a favourite food of small birds, particularly gold-finches._ Heads of this, and _Card._ marianus, used by bird-catchers as a decoy to small birds.

**CARLINE.** Carline-thistle.


_Bien._ _July._

_Stem_ one ft., stiff. _Fl._ erect. _Cal._-scales, inner, long, linear, smooth, radiating, yellowish white, everlasting, like the rays of flowers in Polygam. _Superf._ _Anth._ with two bristles at the base, _Ls._ alternate, sinuated, very thorny, veiny; two yellow spines to each small tooth. _Florets_ central, tubular, purplish. 
The dry plant will remain standing a year and more, battered and bleached, a miserably looking skeleton. _Linn._ _Fl._ _Suec._ Presence of this plant indicates a very barren soil. Said to be useful in _hysteria._ _Amen._ _Acad._

_Named after the Emperor Charlemagne, because reported that a Carlina was pointed out to him by an angel, to cure his_
army of the plague. Root pungent, bitter, tonic; the flowers close before rain; retain this property for a long time.

*** Florets all tubular, level generally; flowers mostly with no ray.

**BIDENS.** Bur-marigold.


*Watery places, sides of ditches and ponds.*

**An. August.**

**Stem** two or three f. **Ls.** opposite, toothed, cut into one large lobe with two or three smaller at its base. **Fl.** solitary, terminating each branch, rather drooping, surrounded with several simple, spreading, entire, rough-edged leaves. **Cal.-scales** streaked with brown. **Ls.** upper simple, oval-spear-shaped. **Cal.** leafy at the base.

Woollen and linen may be dyed yellow with a decoction of this plant. The Cyprinus auratus, gold-fish, has been destroyed by the seeds adhering to the gills and jaws.


*Ditches, ponds.*

7. **Bidens minima,** i. e. smallest. **Dry places where water has been,** and **margins of ponds.** A starved specimen of this plant found on the north side of Shotover Hill. **Ss.**

**An. August.**

**Stem** less spreading than in Bid. tripartita. **Ls.** embracing the stem, undivided. **Fl.** large, brighter yellow than in Bid. tripartita. **Fl.** sometimes with large, radiant, strap-shaped female florets, is the Coreopsis bidens of Linn.

**EUPATORIUM.** Hemp-agrimony.

**E. cannabinum.** Common H. Leaves opposite, in three, or five, deep, spear-shaped segments; the middle one longest. E. B. 428. E. cannabinum mas. G. E. 711.

*Watery, boggy places.*

**Per. July.**

**Stems** two or three f. or more, reddish, erect, branched, downy,

1 From the two teeth in the genus.

2 From Eupator, King of Pontus. *Plin.*
SYNGENESIA POLYGAM. SUPERF. Artemisia. 235

leafy. Fl. very numerous, light reddish purple, in a thick, terminal, clustered corymb. Florets about five, or six, with projecting, long, cloven styles: silvery bristles crown the germen and seed, separating the florets. Plant slightly aromatic. Leaf, towards the point very entire. Fl. sometimes white. Germ. with minute, shining globules. In young plants, the upper ls. simple.

Decoction of the roots violently emetic, and cathartic; a rough medicine in jaundice, and dropsy. An infusion of the plant used to foment ulcers with by Boerhaave. Tournefort mentions that the Turks cure the scurvy with this plant. One ounce of the juice, or one drachm of extract, a dose. Lightf. See G. E.

SYNGENESIA POLYGAM. SUPERFLUA.

* Discoid flowers (rayless.)

TANACETUM. Tansy.


Stems erect, one or two f. Ls. numerous, alternate. Fl. in a terminal, flat corymb, yellow. Perfect florets of disk tubular, five-cleft: of the ray, few, strap-shaped, with three teeth; these florets often wanting.

Plant strong-smelling, very bitter: the seeds to destroy worms, the leaves used to flavour a kind of pudding. A curled rar, found in gardens, more grateful to the stomach. One drachm of the dried flowers beneficial in hysteria arising from suppressions. Lightf. A green dye from this plant. The fly avoids meat rubbed with this plant.

ARTEMISIA.1 Wormwood, and Mugwort.*


1 So called from Artemisia, Queen of Halicarnassus, wife of Mausolus.
2 Ang.-Sax.

A substitute for hops. The oil used to destroy worms. The leaves destroy the sharpness of sour beer, as does the salt. Infusion of the leaves, combined with a salt, strongly diuretic in some dropsical cases. The long continued use of bitters, destroys the tone of the stomach. See Cullen. The flesh of sheep, and the milk of cows, rendered bitter, by eating this plant. Turks fond of it. A fomentation of the plant, steeped in boiling water, good recent and repeated application to a bruise. *With.* &c. Smell of the plant will drive away ants. *Scopoli.* Often laid in drawers and chests in the country to drive away insects.


Waste ground, hedges, borders of fields.
Per. August.

*Stems* three or four f., leafy, branched, with numerous, longitudinal, purplish ribs. *Ls.* alternate, somewhat lyrate, smooth, and dark green above; cottony and very white beneath; three-lobed at the end. *Fl.* in axillary, simple, leafy spikes, or clusters, erect, or straddling, egg-shaped, stalkless. *Floral-Is.* undivided, linear, spear-shaped. *Florets* longer than the calyx. *Stems* sometimes green. *Plant* weakly aromatic, slightly bitter.

Pliny, according to Gerarde, ascribes an extraordinary influence to this plant, worthy the attention of modern travellers, if they could believe, or feel its power: "The traveller or wayfaring man, that hath the herb tied about him, feeleth no wearisomeness at all!" G. 1104. The cottony covering of the herbage, rubbed off, forms the moxa of the Japanese, for performing actual cauterity. Lightfoot remarks that the *moxa* is prepared from the pith, (me-dulla) of the stalk. The young leaves eaten as a pot-herb by the Highlanders. *Light.* Moxa prepared by beating, and rubbing the dried tops and leaves of this plant between the hands, until only the fine, internal, woolly fibres remain, which are then combed and formed into little cones.

Sheep fond of this plant.

**GNAPHALIUM.**

1 *Cudweed.*

2 *Calyx* white, or reddish.

G. *dioicum.* *Mountain C.* Shoots trailing. Stem

1 So called from gnáphalon, Gr. down, or woolliness.

2 From its supposed power to excite rumination in cattle. *Ray.*


Ls. battledore-shaped, pointed, entire, bright green, and smooth above; beneath very white, and cottony. Ls. of the trailing shoots mostly opposite. Flowering stem three or four inches, with alternate, spear-shaped leaves, half embracing the stem, terminated by a simple corymb of four or five flowers, white or reddish; of the nature of the flowers, styled Everlastings.

**Calyx brown, and less ornamental.


Groves, thickets, pastures, in a soil which is dry, or gravelly. Per. August.

One and a half to two f. Cal. brown with a blush-coloured hue. Fl. terminal, and also axillary, stalkless, spiked. Fl.-starchs very short, from the sides of the stem, from the bosom of the leaves, from one to five, or more flowers, the lowermost somewhat distant, the upper crowded.


Sandy, watery places, or where water has stood during winter. An. August.

Stem three to nine inches: distinguished by its very numerous, spreading branches, each terminated by a close head of yellowish brown, shining flowers, encompassed with many leaves. Branches erect at their extremities, alternately subdivided. Cal.-scales spear-shaped, acute, dark, shining brown.


Barren, sandy, or gravelly soil. Shotover Hill, near the road to Cuddesdon. Sb.

An. June.

Stem a few inches, slender, simple, naked below, forked, corymbose above. Ls. alternate, pressed to the stem, woolly on both


*Pastures, fields, waste ground, on gravelly soil.* Sm.


Easily distinguished by its proliferous stem or two or more branches springing from a single head, and as it were overtopping its parent; hence according to Gerarde, called *Herba impia*, or *Wicked Cudweed*. *Ls.* numerous, alternate, erect, waved, woolly on both sides. *Cal.* five-cornered. *Branches* horizontal, mostly two, and sometimes three from below the head terminating the main, and thicker stem: rising above the main stem.

The plant is astringent: the powder and decoction have succeeded in dysentery and diarrhoea. *Lightf.*

**CONY'ZA.** Spikenard.


*Chalky, or limestone situations.* Sm.

Bien. August.

*Plant* downy, bitter, slightly aromatic, upright, two or three f. *Stem* reddish. *Ls.* wrinkled; root-ones large, tapering at the base, notched; upper ones entire. *Fl.* in a terminal, leafy corymb. *Cal.* egg-shaped, outer scales with green tips, the inner erect, reddish, fringed. *Florets* dusky purple, or yellow. The root-leaves resemble somewhat in shape those of the Fox-glove. *Recept.* tuberculated. *Fl.-ls.* small, one on each fruit-stalk.

**Radiated flowers.**

**ERI'GERON.** Flea-bane.

Syngenesia Polygam. Superf. Tussilago. 239

Dry, gravelly, or chalky pastures. Sm.

Stem one or two f., upright, straight, furrowed, purplish, hairy. Fl. many in a racemose form, in long, bracteated, alternate footstalks. Ls. scattered, the lowermost inversely egg-shaped, often coarsely saw-toothed. The flowers appear delicately streaked with blue, from the numerous, linear florets of the ray, encompassing the disk. Seed-down copious, long, rough, by which the plant is easily recognised. Taste of the plant acrid.


Moist, boggy meadows, rivulets, margins of rivers. Sandford Lane. Sb. and R. W. 
Per. April.

1 From tussis, a cough, the plant being reputed good in coughs.
2 From the shape of the leaf.
3 Ang.-Sax.
4 So called from its large leaves, supposed to resemble a petasus, or cap.
Fl.-stalks ten or twelve inches, simple, purple, scaly, rising before the leaves. Florets pale red, all hermaphrodite, in appearance. Ls. on long foot-stalks, growing to two or three feet in diameter, downy beneath. Cal. of four series of reddish, spear-shaped scales.

Planted near bee-hives, as an early flowering plant, by some Swedish economists. The root in the spring resinous, aromatic.

**SENECIO.** Groundsel, or Ragwort.

* Flowers without rays.


Cultivated, or waste ground, dry banks, tops of walls, very common. An. At almost all seasons. Plant slightly fleshy. Fl. terminal, somewhat corymbose. Florets all tubular, yellow, hermaphrodite, so that the species belongs strictly to Polyg. àéqualis. Seed-down stalkless, rough. Cal.-scales spear-shaped, at the base; at length spreading, and star-like in appearance. Ls. alternate.

A strong infusion of the plant emetic. The bruised leaves a suppurative application to boils: the plant is good against worms; the juice may be given to horses for this end. Birds in cages, fed with the young buds, and leaves.

** S. viscosus. Stinking G. Rays rolled back. Leaves wing-cleft, clammy. Outer calyx lax, almost as long as the inner. Stem with many spreading branches.


Whole plant covered with a clammy, fetid liquor, arresting insects, &c., hairy. Stem struggling, not simple, as in Sen. sylvaticus. Fl. twice as long as those of sylvaticus. Cal. hairy. Cal.-scales approaching at the top. Fl. in loose umbels, of two or three.


1 From Senex, an old man, because the seeds are downy, and hoary, like the grey locks of age. Plin. 2 Ang.-Sax.

2 Corruption of the Fr. Seneçon.
Fetid, hairy, clammy. Stem straight, upright, wand-like, about three f. Upper & more finely divided than in Sen. viscosus. Fl. corymbose, numerous, small, pale, with short, small, curved back rays. Ls. segments alternately large, and small.

*** Fl. with spreading rays. Leaves wing-cleft.


*Plentiful on almost every wall in and about Oxford.* Dillenius sent seeds of this to Linnaeus, from the Oxford garden, perhaps the plant, originally a native of Sicily, and South of Europe.

An. June, October.


Woods, hedges, road sides, chalky, or gravelly soil. Sm.

Per. August.


Pastures, waste ground, road sides.

Per. July.

From Jacobus, Lat. for James; in reference to the Saint of that name.

A decoction of the flowers dyes yellow: larva of the handsome Phal. Jacobææ feeds on this.


Marshes, watery places.

Per. July.

*Ls. smooth, variable in form, from egg-shaped, to deeply wing-cleft, of a lighter colour than those of Sen. Jacobea. *Fl. also fewer, larger than S. Jac. *Ls. terminal segment largest.

*** *Fl. radiant. Leaves undivided.


Per. July, August.


SOLIDA'GO.¹ Golden-rod.


Groves, thickets, grassy lanes, heaths. **

Per. August.

Stem branched above, from ten inches to three ft., curved below, then erect, leafy. *Ls. roughish, paler beneath on winged foot-stalks, root-ones inversely egg-spear-shaped, saw-toothed to notched. Stem-Is. alternate, rolled back, more entire. *Fl. yellow, in terminal, and axillary clusters. Bracteas spear-shaped, downy. Rays of the flower from five to nine or ten. Bruised herb smells like wild-carrot. *Cal.-scales spear-shaped, with a green line along the back, and a membranous border.

Valuable plant near bee-hives, flowering late, and thriving on a poor soil. Esteemed vulnerary, diuretic. See Gerarde, and his strange commendations of its virtues.

¹ From a supposed vulnerary power of solidating wounds.
INULA. Elecampane, and Flea-bane.


Moist meadows, pastures, Stanton St. John’s. Sb. Near a foot-path leading from the new to the old road to Ensham, about three miles from Oxford. R. W. Meadow near the Plough Public-house, Horton. R. W.

Stems a yard or more, thick, leafy, branched above, downy. Ls. alternate, large, more downy beneath, slightly saw-toothed, veiny; root-ones on stalks; the rest clasping the stem. Fl. very large, terminal, solitary, bright, golden. Rays of very numerous, linear, spreading florets. Seeds four-angled. Whole plant of large dimensions. Lower Ls. spear-shaped.

Root useful to promote expectoration. Decoction of the root cures sheep of the scab. Bruised and steeped in urine, with balls of ashes and whortle-berries, it dyes blue.


Watery places by road sides, clear ditches.

Per. August.

Stem one f. or more, upright, branched in a corymbose manner, woolly, with alternate, oblong, spreading leaves veiny, their under side more denselyclothed with hoariness. Fl. numerous, terminal, solitary, bright yellow. Anth. with two long bristles at the base. Seeds rough. Plant exhales a soapy smell. Ray. Russian soldiers cured of a dysentery by this herb, according to General Keith’s report. Linn. Fl. Suec.


Moist, sandy, heathy spots, where water has stagnated during winter.*

Noke. Sb. Horton road, leading on to Otmoor. R. W.

An. August.

Stem near two f., erect, spreading, or lying down, often purplish, zigzag, leafy. Ls. spear shaped, or oblong, curved back, hairy

1 From having been said to spring from the tears of Helen. Plin. See also Ger.

**CINERA'RIA.** Flea-wort.


Per. May.


**BELLIS.** Daisy.¹


*Pastures, meadows, almost everywhere.*

Per. May, November. *Sm.*

Tufts of leaves spreading in a star-like form upon the ground. *Ls.* inversely egg-shaped, blunt, notched, slightly hairy, all chiefly from the root. *Stalks* three or four inches, generally upright, round, hairy. *Cal.* dark green, spreading: scales in two rows. *Ray* of several spreading, somewhat linear florets, notched at the tip, polished white, mostly tinged with crimson at the end, especially underneath. *Disk* yellow, tubular. *Recept.* very conical, hollow.

Taste of the leaves somewhat acrid. Not acceptable to cattle, or to geese. Gerarde makes this strange observation: the juice of the leaves and roots “given to little dogs with milk keepeth them from growing great.” The leaves indeed are aperient. Schroder imputes to them similar powers.

Double, as well as proliferous, daisies, red, white, or speckled, common in gardens.

¹ From its closing at night.
SYNGENESIA POLYGAM. SUPERF. Pyrethrum. 245

CHRYSANTHEMUM. Ox-eye.

* Rays white.

Ch. Leucanthemum. Great White O. Moon Daisy.
Leaves clasping the stem, oblong, blunt, cut; toothed in a wing-cleft manner at the base; root-ones inversely egg-shaped, stalked, saw-toothed, inclining to notched.

Pastures, way sides.

Per. June.

Stem erect, two f., furrowed, with red, intermediate ribs. Ls. lower stem ones on long foot-stalks, saw-toothed, cut: the rest stalkless, embrace the stem, alternate, oblong, jagged, toothed, in a winged form about the base. Fl. handsome, large, solitary at the end of each branch: disk flat, yellow, rays pure white, elliptical, two ribbed. Seeds black, with white, elevated ribs.
The young leaves may be eaten in salads.

* * * Rays and disk yellow.

Corn fields, turnip fields, abundant.

An. June.

Stem two or three f., erect, alternately branched, leafy, smooth, and glaucous. Ls. alternate, oblong, pointed, more or less cut, and jagged, three-cleft frequently at the end. Fl. solitary, terminal, their branches gradually thickened upwards, large, handsome, bright golden. Ray-florets in a single series, inversely heart-shaped.

A law obliges the farmer in Denmark to root up this very handsome weed. Dried, is eaten by horses: it dyes yellow.

PYRETHRUM.¹ Feverfew.²

This genus distinguished from Chrysanthemum by the crown of the seed.


¹ Pyrethron, Gr.
² Feferfuge, Ang.-Sax.
³ From Minerva. Plin.

Per. June.

Stem branched, leafy. Ls. alternate, simply, or doubly winged, segments running down the I.-stalk, dull, palish green. Fl.-stalks long, thickest towards their summit. Ray sometimes wanting. Fl. often double, the florets of the disk all becoming strap-shaped, and white. Leaf, two or three pairs, a large one terminating, wedge-shaped, with lobes, the middle of which is three-cleft, the side ones scalloped; magnified leaflets appear sprinkled with minute spangles.

Anti-hysteric, drunk as an infusion. Expressed juice vermifuge. Light. Plant bitter, aromatic, yields an oil by distillation.


Cultivated fields, way sides.


Pyrethrum distinguished from Anthemis, by a naked recept. and from Matricaria by its crowned seed. From Matric. chamomilla by its larger flowers, and its seed crowned at the top, with a very shallow, whitish, membranaceous border.

MATRICARIA. Wild-Chamomile.

This genus differs from Pyrethrum in the total want of a crown to the seed, and in the sharply conical, nearly cylindrical, receptacle. Sm.


Cultivated, and waste grounds, dunghills, road sides.

An. June.

Stem about one f., much branched, very leafy, smooth. Ls. stalkless, clasping the stem, smooth, twice wing-cleft in the lower, often simply winged in the upper leaves. Fl. numerous, terminal, solitary, about the size of the Anth. nobilis, or Common
Chamomile, partaking of a somewhat similar smell. Recept. between a conical, and cylindric form, smooth, naked. Disk greenish yellow. Ray white.

Distinguished from Anth. arvensis, by its smooth, and naked recept. Anth. arven, also more hoary in its appearance. Anth. Côtula, distinguished from M. Chamomilla, by its fetid smell, lighter hue, and narrower, bristly scales of recept.

Properties similar to those of the common chamomile. Light-foot observes that twenty or thirty grains of the flowers, are sudorific: a blue oil obtained from the flowers.

'ANTHEMIS. Chamomile.


Per. July.

Stems about one f., branched, soft-haired. Leaf. slender, entire, or two and three-cleft. Fl. terminal, solitary, white, with a yellow disk. Whole plant intensely bitter, but not disagreeable in smell.

The cold infusion of the flowers, stomachic: the warm, excites vomiting. The tonic, powdered flowers have succeeded in ague. Leaves and flowers for antiseptic fomentations. The double flowers weaker in power than the single.


Cultivated fields. Cornfields. Sb. * Near Botley Pound. Mr. James Benwell; and Bx. Tunbridge field, Stanton St. John’s.

1 James Benwell, employed many years in the Botanic Garden, a very intelligent, although uneducated man, singularly conversant with the Botany, and localities of Oxfordshire plants, and well acquainted with the practical part of some other branches of Natural History. He died Oct. 7, 1819, aged 81 years. John Ireland, M.D. liberally honoured his memory with a respectable funeral: some of the principal scientific persons, in Oxford, attended his remains, at the Doctor’s request; carrying in their hands sprigs of rosemary, to throw into the grave of this humble son of science. A print, I am told, a striking and characteristic likeness, was published of Mr. Benwell, in his 82nd year; and a short memoir may be seen in Jackson’s Oxford Paper, from the pen of Dr. Ireland. R. W. 2 Mr. Benwell’s integrity, and industry, and a natural propriety, and civility of manners, gained him general respect. Though in a humble station, his merits, like those of Willis, the companion of Ray, deserve commemoration.”—Oxford Journal, Oct. 19th, 1819.
ACHILLEA. Yarrow.

The short, broad, rounded florets of the ray afford a good distinction of this genus. Sm.


Root creeping. Stems firm, erect, about two f., smooth. Fl. in a corymb of several flowers; disk and ray white. Fl. rather few, somewhat large. Ls. stalkless, alternate. Florets of the centre very short, dirty yellow.

Juice applied to the mouth provokes the saliva. The dried plant powdered occasions sneezing. Young tops pleasant in salads.

A. Milfolium. Common Y. or Milfoil.3 Leaves

1 From Achilles, the pupil of Chiron.  
2 From ptára, Gr. to sneeze.  
3 Mil, a thousand, from its numerously divided leaves; feuille, a leaf.
SYNGENESIA POLYG. FRUSTRANEA.

CENTAUREA.¹ Knapsweed; and Blue-bottle; and Star-thistle.

* Calyxe-scales fringed.


Var. β. with radiant flowers.


Per. July.

Stem rough, firm, stiff, angular, about two f. Branches alternate. Ls. hard; lower, spear-shaped, many of them somewhat lyrate: upper entire; all alternate, but a little clustered under the flowers. Fl. terminal, solitary, red, hermaphrodite, commonly without a ray, tubular. Calyxe-scales black.

A decoction of the heads of this, said to have afforded relief in diabetés. With.

C. Cyanus. Corn Blue-bottle. Calyx-scales saw-

¹ From the Centaur, Chiron.

**Cornfields.**

**An. July.**

**Stem** two, or three ft., erect, angular, much branched alternately. **Ls.** stalkless, light greyish green, with three ribs, and somewhat cottony beneath; lower ones generally toothed; **root-ones** (in the young plants) entire. **Fl.** solitary. **Cal.-scales** with brown indentations. **Flor.** of the ray, bright, shewy blue, horizontal, very large; of the disk, smaller, purplish. **Filam.** just below the **anth.** with a fringe of silvery hair. **Fl.** dye sugar blue. *Linn. Fl. Suec.*

White and dark-purple varieties introduced into our gardens, but not permanent. The flowers afford a blue colour; the expressed juice mixed with cold alum water. The separate **floret** in *Eng. Bot.* coloured with this, by way of experiment, has stood well for thirty years. *Sm.*


**Borders and ridges of cornfields, way sides.**

**Per. July.**

**Stem** hard, about two ft., erect, alternately branched, leafy. **Fl.** solitary, on long foot-stalks, shewy. **Cal.-scales** triangular, acute, comb-like in the margin, tipped with black. **Cal. globular,** permanent, becoming bent back, very conspicuous from its silvery hue. **Ls.** alternate, **root-ones** on long foot-stalks. **Fl.** purple, very large, sometimes white. **Seeds** food for small birds.

(**C. solstitialis. Yellow St. T.** Not far from Cirencester. **Bobart. in Tur.** See **Appendix.**
Class XX. GYNAAndria. Stamens situated either on the style, or germin.

Order I. Monandria. Stamen, or Stalkless Anther, I.

* Anther of two, distinct, vertical cells, fixed to the summit of the column.

Orchis. Orchis.

The three outer leaves of the flower, in the Orchis tribe, are termed the calyx, the two inner leaves, petals, by Sir J. E. Smith. See his Introduction to Botany, p. 461.

Salep is prepared from the different roots of Orchises; nourishing, and supposed invigorating. Mr. Moulde describes his method of making Salep in Phil. Trans. v. 59. p. 1. See also Percivall's Essays, Pt. II. p. 37.

Mr. Salisbury assures us that he found no difficulty in making the seeds of various Orchideæ germinate, and raised plants in this way. See his Latin Paper in Linn. Trans. v. 7. p. 31. Other persons have also succeeded in raising plants of this tribe from seed.

* Knobs of the root roundish, undivided.


O. hermaphrodita. G. E. 211.


Per. May.

Ls. immediately from the root, oval, two, sometimes three. Those on the stalk resemble spear-shaped stipulas. Spike long, lax. Fl. palish white, greenish, very fragrant, especially morning, and evening. Ls. resemble those of the Lily of the Valley (Convallaria majalis.)


Grossy hills, chalk banks. Sm.* Wychwood Forest, Between Woodstock and Enstone. Caversham Warren. Sh. (Old Stone-
pit, about half a mile west of South Hinksey. Road side between Witney and Burford. Bx.) Slope of the hill, opposite Basildon Grotto, Berks. R. W.

Per. June.

Ls. spear-shaped, acute, five or six. Plant silky, glossy, palish green. Spike close, with buds erect, assuming a pyramidal form, whilst the flowers are expanding. Fl. purple, but are sometimes found white, fragrant. Flowers later than most of the orchis tribe. Bract. coloured, the length of the germen.


Meadows and pastures, in somewhat moist grass.

Per. May.

Root-knobs nearly globose. Ls. spear-shaped, deep green. Spike rather loose, from four to eight, or ten flowers: colour from pale, to reddish purple, but in all the varieties, the calyx-leaves preserve their green-ribbed markings. Disk of the lip pale, dotted with purple. Common stalk, bract. and germ. more or less tinged with purple. The calyx-leaves converge, and form a vaulted arch over the stamens. Stem six inches to a foot.


Pastures, groves, dells.

Per. April.

Ls. root-ones spear-shaped, broad, generally more, or less spotted. Stalk: a foot high, with a large, loose, upright spike of purplish red flowers: bract. of the same hue. Lip spotted at the base.


Roots of this species said to be used particularly for the making of Salep: the roots of the other species probably equally well adapted. Salep is thus made: the largest and soundest bulbs are gathered, skinned, and boiled over a gentle fire for half an hour; afterwards they are strung upon a thread, and hung up to dry in the shade: these, reduced to powder are the restorative and nutritious Salep.

¹ Morio, in allusion to the shape of part of the flower. Gerarde in his Herbal observes in regard to another species. Morio mas, (the Or. mascula) that the flowers are "in shape like to a fool’s hood;" hence the name of Morio, a fool, or jester.


Per. May.
The upper part of the flower, purple brown, lower part, or nect. white, sometimes slightly tinged with purple, and speckled with dark brown points. The flowers on a cursory view, especially before expansion, appear as if scorched, or blackened by heat. Ls. five or six. Stem four to eight inches. Spike short, close set. Helmet of the flower has a burnt appearance.


Chalky hills. Sm.* On hills by the Thames, near Cawsham (Caversham) bridge, a mile from Reading, and on several hills, on the other side the water, towards Wallingford; first observed by Mr. Brown. Merrett, Ray. At Streatley, between Reading and Wallingford; also at Penley Hangings, Stokenchurch, where Dr. Williams first found it. Mr. Bichenho. Sm. in Eng. Fl. Beech Woods between Fawley Court, and Bixgibwen, about a mile and a half from Henley. Professor Daubeney, and Bx.

Per. May.
Chief character of this species, the regular, linear, incurved segments of the lip, broader than in Or. tephrosanthos, and not notched and ragged as in Or. fusca, but much narrower. Bichenho in Tr. Linn. Soc. 12. 32. Fl. distinguished by their silvery ash colour, and the total want of the dark ribs, or stains in Or. fusca. (Or. militaris, E. B. 16.) Sm. E. Fl.

Discrim. Tapering points, and grey hue of the calyx, and the more lengthened out lip, contracted in the middle.

O. tephrosanthos.¹ Monkey O. Knobs of the root oval. Lip of the nectary downy, in five lobes; four of them equal, linear, entire. Spur blunt, not half the length

¹ From its ash-coloured spike, tephros, ashes. Gr.


Per. May.

Lip three-partite, smooth, segments linear, the intermediate one two-cleft, with a sharp point between, petals (calyx-ls.) acute. Spur somewhat incurved, twice as short as the germen. Bract. very short. W. This plant easily known by the narrow segments of the lip, and the petals (calyx-ls.) tapering to a point. A delicate plant, smaller than Or. militaris, or Or. fusca. Spike remarkably abrupt in its termination. Bicheno in Trans. Linn. Soc. 12. 34.

Smith in E. Fl. is doubtful with regard to this species and Or. militaris, both of which differ from Or. fusca, in their taper-pointed calyx. All three smell like Woodruff in drying. E. Fl.

** Knobs of the root tapering, clustered.


Per. June.


*** Knobs of the root hand-shaped (palmate.)


Marshes, moist meadows.
Per. May.
Stem leafy, one to two feet. Ls. sheathing, spear-shaped, broadish, commonly unspotted. Spike close, many-flowered. Bract erect, leafy, sometimes coloured. Fl. pale flesh-coloured, or full rose, or crimson; the spreading calyx dotted. Lip its middle variegated. Spur bent downwards. Cal. two outer segments bent back.

Discrim. Its scarcely three-cleft lip, broad, nearly erect, sharpened leaves, and by its bracteas longer than the germen.


Meadows, pastures, woods.
Per. June.

Plant slender. Stem leafy, simple, twelve to eighteen inches. Ls. spear-shaped, keeled, spotted on both sides. Spike egg-shaped. Bract. purplish, awl-shaped. Ground of the flower, in general, white, tinged with a purple blush, the spots deep purple. Lip intermediate segment, small, and sharp. Fl. sometimes white. Cal. three inner segments approaching at the top, the side ones spreading. The Õr. Morio, and Õr. mascula, have also frequently, spotted leaves.

The bulb destined to bear the next year's plant will sink in water; that from which the present plant springs will, from its comparative lightness, swim in the water. Linn. Fl. Succ.


Per. June.

Stem twelve to eighteen inches, angular above. Ls. spear-shaped, pointed, lower stem-leaves sheathing, upper ones stalkless. Spike long, lax. Fl. flesh-coloured, or pale purple, very fragrant. Calyx-ls. two outer spear-shaped, at right angles with the lip. Spur semitransparent. Fl. sometimes white.

Discrim. Great length of the almost bristle-shaped spur, and its hand-shaped root, sufficient.

1 From an imaginary resemblance of an insect genus, called conops.
HERMINIUM. Musk-Orchis.

This genus clearly marked by the petals and lip nearly resembling each other, being all three-lobed. Sm.


Per. June, July.

This species has, to the casual observer, but one bulb: the bulb for the following year, being slowly and distantly formed at the end of one of the root fibres: one of the least species of the Orchis tribe. Stem four or five inches high. Stalk nearly naked. Lip of nectary cross-shaped. Fl. yellowish-green, sweet. Ls. root ones sheathing: stem-ls. one, or two, stalkless. Bract. spear-shaped.

OPHRYS. Insect-Orchis.


Chalky pastures.** Near Wormsley. Sh. Several parts of Berkshire. Sm. E. Fl. In a Beech Wood, near Henley, near the road to Fawley, almost opposite Fawley Court; in fl. May 23rd, 1831. Bx.

Per. June.

Cal. widely spreading, green. Pet. ascending, linear, resembling the feelers of an insect, very narrow, chocolate colour. Lip oblong, blackish purple, with a blue band, below the upper lobes. Stem nine to fifteen inches. Ls. three or four; spear-shaped, many-veined. Bract. spear-shaped, sheathing, longer than the germen.

Linn. considered all those species of Ophrys which resemble insects, as var. of one species.

O. apifera. Bee Ophrys. Lip the length of the calyx, swollen, with five, bent back, marginal lobes; the terminal one awl-shaped; the rest hairy above. Calyx coloured. Column with a hooked point. E. B. 383. C. 1. 66. Baxter's (Generic,) plates, 8. Testiculus vulpinus secundus sphegodes. G. E. 212.
GYNANDRIA MONANDRIA Neottia.


Stem leafy, a foot high. Nect. purplish brown, spotted with yellow. Calyx-ls. rose-coloured.

Discrim. Most allied to Oph. aranifera, from which it differs in having the three calyx-leaves reddish, and a nect. of five lobes instead of three: the central lobe (a hooked proboscis,) also forms a recurved point, compared by some, to the sting of the bee.

The plant from the curious resemblance of its flower to the bee, is too generally rooted up with avidity by florists, as are other similar species. Every true botanist will gather with a sparing hand, whatever rarity he may meet with.


Orchis andrachnitis. G. E. 216.

Dry, chalky, limestone, or gravelly pastures, and pits. Sm.** Old Stone Quarries, near Wheatley. Between Witney and Burford, on the road side near the four mile stone. Caversham Warren. Sb. Not found about Wheatley, in 1831. Br.

Per. April.

Stem less tall than Op. apifera. Cal.-leaves, and petals, green, shorter than the nect. Nect. slightly notched at the end, hairy, except the spot towards the base, dusky, with greenish margin, green underneath.

Discrim. From Oph. apifera, by its large middle lobe of the nect. simply notched, and not ending in three recurved points: it also flowers two or three months earlier.

Curtis in Flor. Lond. gives his mode of successfully cultivating this species.

** Anther parallel to the stigma, permanent.

NEOTTIA. Ladies' Traces.¹


¹ The protuberant germens, placed one above the other, somewhat resemble plaited hair, whence perhaps the name: traces for tresses.

Per. August.

Bulbs several, oblong. Stem single, five or six inches, with a few small, sheathing leaves. Spike terminal, erect, of many, small, greenish-white, stalkless, sweet-scented flowers, leaning to one side, but arranged in a spiral line, each overshadowed by a concave, pointed bractea. Calyx-leaves, three glued together appearing as one.

Generally found with three bulbs, and a small rose of leaves, and the stem almost bare to the flower-spike.

LISTERA.¹ Listera, or Twayblade.


Per. May.

Root fibrous, perennial. Whole plant greenish. Stem a foot, or eighteen inches, with a pair, generally, of sheathing, elliptical, ribbed, smooth leaves, like those of plantain. Below the leaves, the stem angular, smooth; above them, round, downy, terminating in a long spike of numerous green flowers, each on a foot-stalk, with an acute bractea, not half the length of the germin. Cal. lightly tinged with brown. Fl. fragrant. Seed-vessel globose.


This plant in habit nearly approaches to the genera Orobanche, Lathrea, and Monotropa, found among decayed leaves.

Bulbs in bundles. Whole plant pale brown. Bract. sheathing,

¹ After Dr. Martin Lister, the conchologist.
² From its two leaves, twa, or two, for twain.
Gynandria Monandria Epipactis.

Dry, scaly. Root fixed on one side only. Stem brittle, twelve to fifteen inches, thickest at the base. Spike cylindrical. Small turned up fibres of the root somewhat resemble a bird’s-nest.

*** Anther terminal, fixed.

Epipactis. Helleborine.


Per. July.

Root creeping horizontally. Stem simple, erect, nearly two feet. Ls. many, alternate, all the leaves strongly nerved, thin, somewhat stiff. Spike erect, many flowered. Fl. on short stalks, brownish-green, or dark-purple. Cal. and pet. egg-shaped, green, tinged with purple. Smell of the flower faint, aromatic. Ls. and floral-ls. gradually narrower, as they are placed higher on the stem. Nect. margin purplish, disk dull red, or tawny.


Per. July.


Woods, thickets, chiefly on chalk. Sm.* Shotover Plantations.

Per. July.

Root creeping. Stem about a foot. Ls. ribbed, various in breadth, half sheathing. Fl. three to eight, large, white. Bract. lower ones, like leaves in form. Germ. long, nearly stalkless, slender, deeply furrowed. Pet. not much expanded, enclosing the lip of the nect.


Per. June.

Stem one f., very leafy. Ls. narrow, two-ranked. Fl. white.)


Helleborine angustifolia sexta Clusii. G. E. 442.

Stony, mountainous woods, very rare. Sm. Steep Bank, sloping to the South, Hampton Common, Gloucestershire. Tur.

Per. June, July.

Fl. purple. Lip white.)


---

GYNANDRIA HEXANDRIA.

ARISTOLO'CHIA. Birthwort.

MONOECIA MONANDRIA. Euphorbia.


Per. July. 
Stems nearly two feet, round, erect, slightly furrowed, zigzag. Ls. alternate, stalked, entire, the side nerves branching in a pedate manner. Fl. axillary, on shortish stalks, pale yellow. Cal. of one leaf, globose at the base with six furrows, then funnel-shaped, ending in a tongue-like figure. Stamens very short and thick, grow out of the style. It rarely ripens its fruit, (in fine fruit at the Oxford Botanic Garden, 1832. Br.) except by the assistance of some small insect, Tipula pennicornis, which enters the flower, and being imprisoned there, brushes the pollen about the stigma. This insect observed within the globular base of the flower by Mr. Baxter, Oxford, several times. Purton’s Fl. See Sm. Introd. to Botany, pp. 256, 257. edit. 3.

An abbey plant; among those formerly cultivated in their gardens. 
Roots bitter, acrid, emmenagogue; violently emetic. An ingredient in the once celebrated Portland Powder for gout, now deservedly exploded: the long continued use of bitters very injurious to the stomach. See Cullen Mat. Med. Leaves smell like tincture of Opium, (Laudanum.)

Class XXI. MONOECIA. Stamens and Pistils in separate flowers, on the same plant.

Order I. MONANDRIA. Stamen 1.

EUPHORBIA. Spurge.

What in this genus was formerly considered as a single flower, is now denominated an involucre including one central, pistil-bearing flower without anthers, and several anther-bearing, monandrous ones: each stamen is in itself considered as an imperfect flower. The number of the stamens is inconstant. Best specific characters from the shape of the nect.-leaves, and involucres: number of rays in the umbel, variable. H. *

* Umbel of three branches.

E. Peplus. Petty S. Wart-wort. Umbel mostly three-branchcd, repeatedly forked. Bracteas egg-

1 So called from Euphorbus, physician to King Juba. Plin. 25. 7.

A common weed. 


Root tapering. Stem erect, mostly branched at the base, leafy. Ls. or partial involucres, opposite, nearly stalkless. Seeds marked with depressed dots. Plant light-green.

Discrim. From Euph. helioscopia, by being rather more slender, by its entire leaves, horned nect., and three-cleft umbel. Juice of this, and especially Euph. helioscopia used for destroying warts.


Gravelly cornfields. Sm. 

An. June.

Root small. Stem one, or more, erect, three to six inches, leafy. Plant slender, smooth, pale green. Ls. alternate, stalkless, upright, acute, entire. Nect. each with a pair of green horns. Seeds four-angled. Fl. yellow. Umbel of three, four, or five rays. Involucres of two, three, or four leaves, somewhat bent back. Involucellum of two leaves, hollowed out.

** Umbel of four branches.


Dry, stony thickets, probably naturalized. In several places about Utton, near Reading, Berks, springing up periodically for a year or two after the bushes have been cut, and until choked by briers, &c. Rev. Dr. Beeke, Dean of Bristol.

Bien. June, July.

Erect, two to three feet, purplish. Fl. in the forks.)

** Umbel of five branches.


¹ From its umbel being turned to the sun, as the flower of most other plants.
A common weed.
Main stem upright, generally with side branches at the base. Ls. scattered. Nect. at first green, then yellow. Involucellum of three leaves. Plant bright green.
The corrosive, ulcerating juice applied to remove warts, should be used with caution, near the eyes. The plant gives a disagreeable taste to the flesh of cattle, feeding on it. Linn. Fl. Suec.

**** Umbel of six, or more branches.


Woods, groves, thickets.
Per. April.

Stems several, two feet, curved, round, downy, often red, leafy above. Ls. thickset, alternate, spreading, inversely egg-shaped, spear-shaped, blunt, paler beneath, downy. Fl. small, yellow. Nect. crescent-shaped. The leaves almost evergreen, although of a delicate texture; the plant is elegant in appearance; somewhat shrubby.

A var. with variegated leaves in gardens.

ZANNICHEL'LLIA.¹ Horned-pondweed.


An. June.

Plant with the habit of a Potamogeton, floating, rising to the surface when in flower. Stem thread-shaped, much branched, leafy. Ls. opposite, linear, narrow, acute, entire, grassy. Bract. axillary, tubular, including a pair of flowers. Germ. oblong, compressed, mostly toothed at the back. Stigma much dilated, target-shaped. The collective capsules somewhat resemble a bird’s claw.

¹ So named, in honour of a Venetian apothecary.
MONOECIA TRIANDRIA. Sparganium.

MONOECIA TRIANDRIA.

TYPHA. Cat's-tail, or Reed-mace.


Per. June.

Plant conspicuous by its tall stems, and large, mace-like, brown spikes. Stem six feet, or more, straight, simple, leafy at the bottom. Ls. erect, linear, half an inch to an inch wide. Catkin club-like, terminal, erect. Pistil-bearing part, dark-brown; stamen-bearing yellowish, with a leaf, or two from the base, or middle among the stamens. Each seed on a feathery stalk.

The roots have been eaten in salads: the down used to stuff mattresses; the leaves to bind the hoops of casks. The creeping roots soon choke up a small piece of water.


Smaller, more slender than Typ. latifolia: height nearly equal. Ls. more convex on the underside, not half so broad.

Discrim. The bare space between the pistil, and stamen-bearing catkins, in T. angustifolia.

SPARGANium.1 Bur-reed.


Ditches, margins of ponds, and rivers.

Per. July.

Stem upright, two or three feet, leafy, smooth, divided at the top into many, alternate, slightly zigzag, flowering branches. Ls.

1 Sparganum (swaddling clothes) a bandage, as the broad leaves may be used for bandages.
MONOECIA TRIANDRIA. Carex. 265

root-ones sword-shaped, erect; stem-leaves merely hollow, and sheathing at the base. Fl.-heads alternate, stalkless, many-flowered: lowermost pistil-bearing; upper, stamen-bearing, smaller, more numerous, closer together. Parts of fructification vary in number. Fruit in brown, prickly heads. The Ls. without sharp points serve well for package.


Lowermost head of fl. mostly on a partial stalk. Cal. of a paler brown than in Sp. ramosum; also a smaller plant, though the flower-heads are larger. Anth. (in Sp. simp.) of the stamen-bearing heads, pale yellow.

CAREX. Carex, or Sedge.

In distinguishing the different species of this genus, attention must be paid to the root, the vagina, or sheathing leaves, the shape of the spikes, of the glumes, the number of the stigmas, the shape of the fruit, and irregularities produced by soil, and situation.

The young leaves, and flower-stalks of many Carices are eaten by cattle, and though coarse, afford early pasturage. The large, coarser sorts, might be wrought up, with other materials for thatching, and protection against weather. Carices with creeping roots, are well qualified to give stability to the surface of boggy land. Those growing by the side of rivers, enable the banks to resist the violence of their currents. Cattle not fond of these; and thus man receives more benefit from their growth. See Goodenough on British Carices, in Linn. Trans. vol. 2nd. throughout.

Leaves used for tying young hop-plants to the poles. Where a species of this genus, is said to have vaginas, or sheathing leaves, the spikes are necessarily on foot-stalks; the term vagina, sheath, referring to the floral leaf, embracing the whole, or part of the foot-stalk, or flower-stalk. Id. * Dioecious.


Stem five, or six inches, simple, slender, roundish, leafy below. Ls.

** Spike solitary, simple.


The dark-brown, bent back, highly polished seed-cases give this species a very characteristic appearance. Stem simple, slender, from three to ten inches, sheathed at the base, with several slender, smooth, spreading leaves.

The fibrous root at all times distinguishes this from Car dioica, the root of which is creeping.

*** Spikelets crowded, each composed of barren and fertile florets. Stigmas two.


Root fibrous. Stem six to twelve inches, erect, simple, except at the base, triangular. Ls. flat, keeled. Spikelets compound, all at nearly equal distances. A leafy bractea generally under the lowest spikelet. Glumes, egg-shaped, with a white edge, and broad, green nerve. Fruit ending in a rough-edged beak, notched at the end, but not deeply cloven, nor gaping.

(Carex curta. See Appendix.)


1 From its flea-like appearance.
Hill, near the foot-path. (Bagley Wood.) Br.

Per. June.

Culm (straw stem), a foot, to sixteen inches. 

*Ls.* sheathing the lower part of the stem, rising about equal to it. General *Spike* terminal, erect, largest spikelet terminal. *Bracteas* solitary, spear-shaped, similar to the scales, but broader, and longer at the base of each spikelet, the lowermost longer than the rest, and ending in a leafy, bristly point. In each *spikelet* a few of the lower flowers male, the rest female. *Scales* egg-spear-shaped, acute.

Distinguished in all its stages by the number of the spikelets, the acuteness of the scales, and the situation of the male and female flowers. G.


Host, t. 52.

Moist, shady places, and by ditches. - Marston Lane. Tar Wood. 

*Sb.*

Per. June.

Plant slender, weak, pale, whitish green. *Stem* about one foot, triangular upwards, roundish below, leafy. *Ls.* long, narrow. *Spikes*, except the uppermost, placed in the axil of the leaves, alternate, six, eight, or more, of male and female flowers, three or four of the lowermost very distant, each accompanied by a very long, upright, leafy bractea, taller than the top of the stem; the upper spikelets nearer to each other, with very short bracteas. *Glumes* egg-shaped, membranous. *Stig.* two.

An elegant species.

C. *intermédia.* Soft Brown C. Spikelets numerous, crowded into an oblong, close spike; the lowermost and terminal ones fertile; intermediate ones barren. 


Marshy, watery meadows.

Per. May.

Root creeping. *Stems*, twelve or eighteen inches, or more, leafy at the bottom only. *Ls.* few, nearly upright. *Spike* oblong, bluntish, rusty brown, composed of numerous, crowded, ascending, egg-shaped spikelets, of which two or three of the lowermost, and one or two of the uppermost, are almost entirely with stigmas, the rest, nearly, as completely with stamens. *Bract.* egg-spear-shaped, membranous, brown, the lowest ending in a leafy point. *Stig.* two, sometimes three. Lower spikelets some-
what remote. Resembles Car. ovalis in habit, but its spikelets more numerous, smaller, more spear-shaped. Style in Car. intermedia divided to the base; in Car. ovalis only about one fourth.


Per. June.

Root fibrous. Herbage bright green. Stem upright, twelve or eighteen inches, naked, except at the base. Ls. flattish, narrow, taller than the stem. Spikelets about ten, rather crowded, lower ones distant. Bract, egg-shaped, membranous, the lower-most generally tipped with a rough, leafy point. Glumes egg-shaped. Fruit deeply cloven at the point. Stig, two.

Like Car. vulpina, but smaller; its spike never more than doubly compound, and straw not enlarged under the spike, as in Car. vulp.


Host, t. 55.

Moist, shady pastures.

Per. May.

Plant pale greyish hue. Stem a foot, or more, weak, reclining. Ls. sheathing, taller than the stem, with white, membranous, torn sheaths, and stipulas. Spike erect, lengthened out, interrupted, sometimes branched at the bottom. Spikelets alternate, bracteated, nearly stalkless, upright, egg-shaped. Stig, two, downy, long. Caps, a little spreading, but not diverging. The figure in Engl. Bot. wants the fruit.

Dr. Hooker considers Car. divulsa, a var. of Car. muricata, in Fl. Scot.

C. vulpina. Great Rough C. Spike thrice compound, close, less compact in the lower part, blunt. Fruit spreading, with a notched, rough-edged beak. Scales pointed. The three angles of the stem compressed,

**Water places, margins of ponds, and rivers.**

**Per. June.**

**Stems** many, erect, naked, about two feet, stout. *Ls.* sheathing the lower part, long, deep green, very rough on the edges, and nerve. **Spikelets** several, alternate, rather remote, with a linear bractea to each. *Stig.* 2. **Stem** above the lowest spikelet much diminished in thickness.

This species marked by the stoutness of its straw, the closeness and stiff nature of the spike, and the supra-decomposition: nearly allied to Car. *muricata.*


**Wet pastures, spongy bogs.** Peat bogs on Bullingdon Green.

**Under Headington Wick copse.** *Sb.* **Per. June.**

**Root** fibrous, of very large, firm tufts. **Stems** two or three feet, erect. *Ls.* upright, broadish, rough on the edges, and keel. **Bract.** egg-shaped, terminating in a bristle. *Stig.* two. **Spike** more or less branched.

The lax, branchy spike discriminates this species. The whole spike, at its first opening, three sided, oblong, and acute. This Car. well suited for consolidating boggy, loose ground, by its immense, large-raised tufts.

**** Stamen-bearing, and pistil-bearing florets in separate spikes; the Stamen-bearing one solitary, very rarely or occasionally more than one. Bracteas leafy, often sheathing. (*Pistil-bearing spike, long, and linear. Stamen-bearing spike, terminal.*)

**C. péndula. Great pendulous C.** Sheaths nearly as long as the flower-stalks. Fertile spikes cylindrical, very long, drooping, Fruit densely crowded, egg-shaped, beaked. E. B. 2315. C. 3. 63. Schk. Car. 100. Q. 60. Host, t. 100.

**Most woods, hedges.** Tar Wood. *Sb.* Ditches on both sides of the Faringdon road, going up the hill, just beyond Botley. *Br.* **Per. June.**

**Root** fibrous. **Stem** three to five or six feet, erect, leafy, triangular. *Ls.* long, broad, harsh. **Spikes** on shortish stalks, cylindrical, very long, from five to seven.

**Discrim.** Its great size, very long, cylindrical, drooping, elegant spikes; very small capsules for its size.

**C. strígósus. Loose pendulous C.** Sheaths nearly equal


Per. June,

Root fibrous. Stem erect, slender, two feet, leafy, triangular, taller than the leaves. Ls. light green, broadish. Spikes, female, four, five, or more, on thread-shaped stalks, slender, soon drooping. Stig. three. Seed elliptical, triangular. Spikes all sheathed at the base.

Discrim. From Car. sylvatica, by its flower-stalks scarcely longer than the sheath, by its three cornered and acute capsules, but not with a long, taper beak.


Woods, especially on a clay, wet soil. Sm.

Per. June,

Ls. in tufts from the joints of the roots, yellowish green. Capsules smooth, and with a beak nearly as long as the capsule, cloven at the end. Stig. three. Stamen-bearing spikelet generally single.

The drooping spikes, and their thread shaped stalks, pale green of the leaves, and bending of the stem, render this an elegant plant.

The Laplanders form a wadding of this plant, carded and dressed, for their shoes and gloves, to protect them from the winter cold, and summer heat. Linn. The leaves of this (and of other Carices), are used for binding wine flasks of glass, bottoming common chairs, and for stopping the interstices of casks, by the cooper. Linn. Fl. Suec.

*** Pistil-bearing spikes cylindrical, or oblong, egg-shaped, or roundish.


Wet, shady places; margins of rivers and ponds. Sm. ** Ditch bank at the foot of the bridge, in Binsey Lane. Br. Ditches near Eton, Bucks, not uncommon. Tur.

Per. June.
MONOEICIA TRIANDRIA. Carex. 271

Stem one foot, or more, with three, sharp, rough angles. Spikelets one and a half, to two inches, green, on rough stalks. An elegant species.


Per. June.

Stem erect, twelve, or eighteen inches. Ls. rather short, flat, pale. Bract. leafy, upright, longer than the stem, very slightly sheathing at the base. Spike, stamen-bearing one, single, erect, close, pale brown. Pistil-bearing ones, two or three, short, somewhat egg-shaped, blunt. Fruit nearly equal in length to the glumes, closely set, swollen, smooth, light green.

Discrim. Its palish green colour when in fruit. All the spikes near the top of the stem. Pistil-bearing spikes in their mature state nearly cylindrical.


Boggy meadows.

Per. June.

Stem erect, about a foot generally, triangular, leafy at the base. Ls. bright green, erect, broadish, marked with two rough lines on their upper side. Bract. leafy, remarkably spreading, with very short sheaths. Stamen-bearing Spike spear-shaped, erect, mostly solitary.

Discrim. Its long, straddling, leafy bract, and prickly, round, pistil-bearing heads. Varies greatly in height, and luxuriance.

(Carex Oederi, and C. fulva. See Appendix.)


Muddy marshes.

Per. June.
Root fibrous. Stem twelve to eighteen inches, weak. Ls. short, rather broad, flower-leaves longer, narrower; their upper sheaths almost concealing the flower-stalk: lower sheath enclosing about half the flower-stalk. Fruit cloven at the summit.

Discrim. The great distance of the pistil-bearing spikes from each other: the smoothness of the leaves, and capsules discrim. from Car. hirta.

(C. binervis. See Appendix.)


Discrim. From Car. pilulifera by its shortly stalked spikes, and its fl.-stalks with a sheath nearly equal to the fl.-stalk in length; its creeping root, and erect stalk. Conspicuous in spring, by its numerous, tufted anthers.


Discrim. Capsule somewhat downy as in Car. praecox, but the linear, stamen-bearing spike, the pistil-bearing ones stalkless, and the reclining straw-stalk, distinguish it in every stage.

MONOECIA TRAANDRIA. Carex.

Meadows, moist pastures.
Per. June.
Root creeping. Stem erect, ten to fifteen inches, smooth. Ls. glaucous, shorter than the straw-stalk. Bract. acute, shorter than the stem. Sheaths long, furrowed, pale. Spike, stamen-bearing spike one, sometimes two, spear-shaped, acute. Pistil-bearing spike remote, erect, on slender stalks, twice the length of the sheath; their scales loosely tiled, egg-shaped, pointless. Fruit longer than the scales, egg-shaped, bluntness, capsule rather distant, of a light greenish, or yellowish hue. Sheath lower, enclosing about half the foot-stalk, upper ones nearly the whole. Caps. often affected with the smut, and turned into sooty dust.

Discrim. Its loose, rather distant capsules. In its younger state resembles young specimens of Car. recurva: but in Car. panicosa, the lowermost sheath is full half the length of the footstalk, in Car. recurva, about one quarter.


Moist meadows, pastures, groves, wet, barren, heathy ground.
Per. June.
Root creeping. Whole plant glaucous. Stem upright, from eight to eighteen inches, roundish, with three angles. Ls. erect, broadish, shorter than the stem. Bract. erect, about as high as the stem; sheaths short, with a small appendage on each side. Stamen-bearing spikes linear-spear-shaped, mostly solitary. Pistil-bearing spikes, at first erect, soon drooping, cylindrical, very close, glumes egg-shaped, blackish. Stig. three. Fruit closely tiled, elliptical, bluntly three-angular, swelling, entire, soon black.

Discrim. (Varies much in size and habit.) Its cylindrical, drooping, black spikes, glaucous leaves, short, ear-appendaged sheaths, roundish caps., smooth straw-stalk, creeping root.


Marshes, wet, shady places.
Per. May.
Root creeping. Stems nine to twelve inches. Ls. erect, almost as tall as the stem, narrow, acute, bright green. Bract. at the base, a pair of round, black, ear-like appendages. Stamen-bearing spike mostly solitary, spear-shaped, erect, with green-ribbed scales. Pistil-bearing sp. cylindrical, shortish, blunt, close, its scales elliptical, black, green-ribbed. Fruit permanent after it is ripe. Black glumes of the pistil-bearing spikes appear to the eye, as if deeply margined with a lighter colour. Scales shorter than the ripe, black caps.

Discrim. Fruit in Car. stricta falling almost as soon as ripe. Car. caespitosa, flowers nearly a month later.


Marshes. At Pophills, side of a ditch, near to the river Arrow. Purton's Fl. v. 3. pt. II.

Per. April.

Rather glauceans, erect, one and a half to two f. Spike two inches.)

***** Barren and fertile florets in separate spikes. Barren spikes two or more.

C. acuta. Slender-Spiked C. Stigmas two. Spikes cylindrical, slender; drooping in flower; afterwards erect. Fruit elliptical, with a blunt, undivided beak.


Watery meadows, about ditches and pools.

Per. May.

Root creeping. Stem variable in height, from three inches to one, two, or three feet. Its summit drooping in flower, soon becoming erect. Ls. bright, deep green, drooping near the top. Spikes scales of the stamen-bearing ones spear-shaped, bluntnish; of the pistil-bearing ones linear, sharpish. Bract. one at the base of each pistil-bearing spike.

Discrim. In its young state resembles Car. pendula, distinguished from it by its two stigmas. Discrim. Its slenderness of habit, drooping flowers, compressed, undivided caps. Flowers a week or two later than Car. riparia, and Car. paludosa. Sheaths none.

C. paludosa. Smaller Common C. Stigmas three. Stamen-bearing spikes cylindrical, bluntnish, erect; the pistil-bearing ones with taper-pointed scales. Fruit egg-shaped, triangular, compressed, with a notched

Boggy meadows, about the margins of ditches, and rivers.

Per. April.

Root very creeping. Ls. about half an inch broad, erect. Stem one to two feet. Spikes generally three pistil-bearing, and three stamen-bearing; the latter terminal, near together, with scales oblong, blunt. Bract, sheathless, a leafy one accompanying each pistil-bearing spike; one or two of the lower ones longer than the stem.

Discrim. From Car. acuta, by its less slender, and more erect form, and its three stigs. From Car. riparia, by its more, or less blunt, and not pointed glumes, in stamen-bearing spike; very acute in Car. riparia; its caps. very slightly divided at the summit, but not beaked or forked. Fruit smaller, less inflated, than in Car. riparia.


Watery places, very common.

Per. April.

Root widely creeping. Stem two or three feet, leafy, angles three, very sharp at the edges of the leaves. Ls. broad, erect, those of the stem with a sheathing, veined-like net-work at the base. Spikes mostly three stamen-bearing, and three pistil-bearing. Scales of pistil-bearing spikes spear-shaped, tipped with a small, rough awn. Stamen-bearing spikes crowded, three-angular, generally acute at the end. Bract, sheathless, a leafy one to each pistil-bearing spike, one or two of the lower ones often overtopping the stem: upper bract, somewhat stalkless.

Discrim. Its black, triangular, acute, stamen-bearing spikes, and pointed, forked capsules. Stamen-bearing spikes, before flowering, brownish black; in flower, reddish brown; out of flower, light-brown. Larger than Car. paludosa, broader leaves, thicker spikes.

(C. lavigátu. See Appendix.)


MONOECIA TRIANDRIA. Carex.

Per. June.

Root creeping. Stem upright, two feet. Ls. erect, bright green, longer than the straw-stalk, at the time of flowering. Spikes about three stamen-bearing, and three pistil-bearing, the former slender, acute, with linear, spear-shaped scales. The latter thick, and short, with sharp scales; lower-ones stalked, longer. Stig. three. Fruit thickly ranged, spreading, longer than the scales, egg-shaped, pointed, yellowish, shining, when ripe. Bract. leafy, stalkless, each pistil-bearing spike longer than the extending under straw-stem. Shorter bract. often extending under the stamen-bearing spikes.

Discrim. Its yellow hue, narrow, short scales, and green, inflated, smooth, conic, bladder-like capsules.


C. rostrata. Sb. 32.


Per. June.

Root creeping. Ls. narrow, longer than the straw-stalk. Straw-stalk one to two feet. Spikes two or three stamen-bearing; about the same number of pistil-bearing; topmost stamen-bearing spike often slightly curved, very slender. Bract. one accompanying every spike, upper ones shorter than the straw-stem, one or two of the lower ones much longer, all stalkless.

Discrim. Pistil-bearing spikes longer, and more slender than those of Car. vesicaria, consisting of numerous, spreading, yellowish, inflated, roundish capsules, each terminating in a linear beak, nearly the length of the caps. and cloven at the point, resembling a long necked bottle with a cloven beak.


Wet meadows, woods, watery places.

Per. June.

Root creeping, downy. Straw-stem erect, about two feet. Ls. scarcely so tall as the stem, most hairy beneath; sheath generally woolly. Bract. a leafy one to every pistil-bearing spike, one or two lower ones often higher than the culm (straw-stem.) Spikes pistil-bearing ones, two or three: stamen-bearing, spear-
shaped, with egg-shaped, brown, rather pointed scales, outwardly hairy. Fruit egg-shaped, acute.

Discrim. The thick down of the leaves, and particularly of the sheaths, and capsules.

(C. filiformis. See Appendix.)

MONOECIA TETRANDRIA.  

ALNUS. Alder.


Valuable for piles of bridges, &c., enduring moisture well. The bark and leaves for dying, tanning, and staining nets. Wood used by the wheelwright, and turner. The knots beautifully veined. Sheep will feed on the leaves. Plant astringent. The catkins dye green. Grass grows well under its shade; a picturesque tree, spreading over the still pool: planted in a low meadow, the ground round it becomes boggy.

Wood hard, used for clogs or pattens. The bark dyes linen of a dull red, and, with iron, brown, or black. Sm.

URTICA¹. Nettle.


Plant much branched, pale green, covered with stinging bristles. Bract. small, bent back.

Discrim. From Ur. dioica, by its smaller size, annual, fibrous root, brighter colour, and elliptical leaves.

¹ So called, ab urendo, from burning, or stinging.
The chopped leaves mixed with the food of young turkeys. *Sting* a fine-pointed tube, perforated at top, with a bag of poison at its base. The skin being punctured by the sharp point, the acrimonious fluid rises to the top, and is carried into the wound. A leaf applied of the Dock (Rumex), or of Plantago lanceolata, or of the Nettle itself, is a speedy remedy for the painful sting. *Sting* of this species peculiarly inflammatory.


Waste ground.

Occasionally monoecious. **Roots** creeping. **Stems** erect, three feet, leafy, simple, bluntly four angled, clothed with stinging bristles. **Ls.** stalked, pointed, veiny, saw-toothed. **Stip.** egg-shaped. **Clusters** axillary, in pairs, spreading; longer than the footstalks.

The stalks, like flax or hemp, may be converted into cloth, or paper. Astringent: a leaf put on the tongue, and pressed against the roof of the mouth, stops bleeding at the nose. Paralytic limbs have been advantageously excited by urtication, or striking them with nettles. The young spring shoots eaten boiled. Asses browse on the leaves. The leaves are fed on by the larvae of Pap. Atalanta, Urticae, Paphia, C. Album, and Io; five of our most beautiful butterflies. Nettle tea considered by the vulgar as a diet-drink to purify the blood.

Woollen stuffs dyed green with the juice. The roots, with alum, dye yellow. A rennet made from a strong decoction of nettles; a quart of salt to three pints of decoction, to be bottled up for use. A table spoonful of this will coagulate a large bowl of milk.

---

**MONOECIA PENTANDRIA.**

**BRYO'NIA.** Bryony.


Hedges, thickets.

Per. July.

**Root** very large. **Stems** annual, climbing by simple tendrils. **Ls.** alternate. **Fl.** in axillary bunches, between the tendril and leaf. **Cor.** whitish, veined with green. **Stam.** of three, short
filaments, two of which bear each of them two anthers, the third mostly one. *Style* divided into three branches. *Berries red*, of one cell, full of fetid juice. *Leaf-lobes* obscurely triangular.

*Root* purgative, acrid: one dr. in wine a dose. *Cataplasm* of the root a powerful discutient. One pound of the fresh root in decoction, a purgative for horned cattle. The roots have been formed into the human shape to represent mandrakes. In summer, the root less juicy, and weaker in its power. *Ger.* reports to have seen a root of this plant of half a hundred weight.

The true *B. alba* of *Linn.*, found on the continent, has black fruit, being called alba, from its white root, in contradistinction to *Tamus*, the black-rooted Bryony. *Sm.*

---

**CERATOPHYLLUM.** Hornwort.


*Ditches, fish ponds.*

*Per.* July.

*Plant* much branched, floating under water. *Fl.* stalkless, whorled, each in the bosom of a leaf. *Ls.* whorled, twice-forked, saw toothed, leaflets bristle-shaped; lower ones linear: leaves closer upwards, crowded close towards the end.

**MYRIOPHYLLUM.** Water-Milfoil.


*Ditches, pools.*

*Per.* July.


*Ponds, ditches; less common than* *Myr. spicatum.* *Sm.* By the bridge on the Botley road, near the lane going to Medley. *Sl.*

*Per.* July.

*Ls.* in fives, lower ones comb-like; upper, comb-like-wing-cleft,

1 From its numerously divided leaves. *Mille*, a thousand.
Stem, upper part raised above the surface of the water, clothed to the top with leaves, less finely cut than those under water; all whorled. Fl. axillary, pale green, sometimes hermaphrodite, but lower ones mostly pistil-bearing; upper, stamen-bearing. Stig. four, short, finely tufted.

SAGITTA’RIA. Arrow-head.


Ditches, ponds, margins of rivers.

Per. July.

Stems and footstalks triangular, spongy. Fl. pistil-bearing, few, forming one or two of the lowermost whorls. Ls. on long footstalks; those under water linear. Fl. three in a whorl. Bract. one at the base of each flower oval, spear-shaped. Fl. white, with a purplish tinge at the claw of the petals, which are very transient.

A bulb at the lower part of the root. This a considerable article of food among the Chinese, who cultivate the plant. Fl. Suec.

Very ornamental plant.


ARUM. Cuckoo-pint.


A. vulgar. G. E. 834.

Groves, bushy places, borders of fields, hedge banks.

Per. May.

Ls. root ones generally spotted with black. Stalk immediately from the root, simple. Sheath erect, large, acute, hollow, pale green, sometimes spotted, enfolding the pillar of fructification, whose summit is cylindrical, blunt, purplish, spongy within: below this several rows of glands tipped with fil. then a crowded band of purple anthers, below which stand numerous germens.

The scarlet spike of berries appears conspicuous in the autumn, without leaves. The root abounds with a mucilage, which affords (an acrid, G. E.) starch: the fresh root very acrid: mild by drying. The root dried and powdered used by the French to wash the skin, and called Cypress powder; a good cosmetic. The dried root affords a wholesome nourishment, like flour. The naked summit of the flower-stalk gives out considerable heat, (R. W.)
for several hours subsequent to the first opening of the sheath. See Sm. Intr. Bot. p. 70.

Roots of the plant taken up after the leaves decay, continue acrimonious for a long time. The root has been substituted for soap. The berries acrimonious.

**POTERIUM.** Salad-Burnet.

*P. Sanguisorba.* Common Salad B. Thorns none.


Chalky hills. Sm.

Per. June.


Taste of the leaves resembling cucumber; used in salads. Has been cultivated for cattle: bears mowing three times during the summer: it does not answer.

**QUERCUS.** Oak.


Woods, hedges.

Tree. April.

*Ls.* alternate, nearly stalkless, somewhat inversely egg-shaped, deeply sinuated, lobes blunt. *Fl.* stamen-bearing ones in slender, drooping, stalked, yellow clusters: pistil-bearing three or four, their stalk long: *Calyx* of these latter, entire, scaly, subsequently the cup of the acorn.

Tree remarkable for its picturesque appearance, slowness of its growth, bulk, and longevity. Thrives on a hilly soil of marl or loam. Roots deep; does not bear much lopping. Wood hard, tough, somewhat flexible: preferred for our glorious navy in ship-building, as not easily splintering. Oak saw-dust used for dying fustian, of a drab, or brown colour. The black obtained from the

---

1 Strength: classical name for the oak.
oak apples, bright, but not durable: that from the genuine galls more durable. Bark for tanning leather: from its astringency valuable in medicine, e. g. in ague, &c. The galls, used in making ink, or balls on the leaves, arise from a small insect, a Cynips, depositing an egg on the perforated leaf: the ball grows with the insect worm hatched in its centre. This larva or worm changes to a four-winged insect, like its parent. The larvae of various butterflies and moths feed on the leaves.

The oak in a rich soil, and suitable climate, nearly triples its value of timber in about nine years. An oak in about fifty years becomes fit for the dock-yard, and ship-building. The oak derives its chief nourishment from its tap root, which should, therefore, be preserved from injury. With. The acorns formerly the food of Britons!! Pheasants and hogs eat the acorns also. Timber of this species better than that of Q. sessiliflora. See Ger. Em. 1341. I. Strange remarks on oak apples.

"Dr. Stukeley, in his Itinerarium Curiosum, thus notices the oak which very many inhabitants of Oxford remember to have stood near the entrance of the Water-walk in Magdalen College. 'The old oak is still standing nigh to which the founder ordered his college to be built.' The foundation of the college was in 1448. The tree must have been old and large when the founder assigned the northern boundary to be near the great oak. If we suppose it to have been then between three and four hundred years old, it may have been planted about the time of the Norman conquest. It fell in 1789. It had become hollow, and was much decayed at the root. Its girth was twenty-one feet nine inches; the height about seventy-two feet."—J. S. Duncan's Botanical Theology. Edit. 2nd. p. 84.

Evelyn in his Sylva mentions that this oak may be "seen,— whose branches shoot sixteen yards from the stem." Evelyn's Sylva, (an. 1662.) by Hunter, p. 498. Edit. 1776. Plot in his Oxfordshire (edit. anno 1677.) observes of this once gigantic tree: that "there might 256 horses stand under that tree; or allowing two square feet for a man, 3456 men. Plot, pages 158, 159. An oak to supply the place of the abovementioned celebrated tree was planted, April 8th, 1807, by Mr. Robert Penson, Gardener, Oxford, "on the left as you enter the walk on the spot where the large oak grew."—Robert Penson, Oct. 1832.


Woods, less common than the first. In Bagley Wood, and divers other places, first observed by Mr. Bobart. Roy. (Bagley Wood. Ex.) I found two vars. of this species, one with stalkless leaves; and another with longish, tiled (imbricated) scales, the first at Stanton St. John’s; the second, between Shotover and Cuddesdon. An eminent Botanist to whom the
specimens were sent, informs me, that Q. sessiliflora "varies with sessile (stalkless) leaves, and that the acorn-cups, in the second var. are in a curious state, producing its scales in the form of abortive leaves." R. W. 1832.

Tree. April, May.

Wood far inferior. Ls. more equally wing-cleft; in var. β, downy.

FAGUS. Beech, and Chestnut.


Woods, plantations.

Tree. May.

The Spanish Chestnut, Fagus Castanea, occurs, but we presume not as indigenous.


Woods, on chalky hills. Sm.

Tree. April.


A beautiful tree, bears lopping well, but allows no verdure to flourish under it: thrives in a rich soil: retaining its old leaves during winter, it forms excellent cut hedges for shelter. The wood brittle, soon decaying in the air: under water durable: burnt affords a large quantity of potash. The leaves gathered in autumn form tolerably good mattresses. The nuts, when dried and powdered, make wholesome bread: they fatten swine. The poor in Silesia use the expressed oil of the nuts for butter.

The branches and leaves of this tree feather almost to the ground. The var. with purple foliage very ornamental in shrubberies. The boards of this thinly splitting wood formerly used by the bookbinder for covers of books. Fat of hogs fed on the mast not solid. Linn. Cæsar (De Bello Gallico,) lib. 5. c. 12. asserted, that there was no beech timber in Britain, nor fir.

BETULA. Birch.


Woods.

Tree. April.

Bark of the trunk white, with paper-like outer bark (epidermis)
rugged and dark, when old. Branches elegantly drooping. Ls. alternate, stalked. The foliage in autumn of a full yellow. There is a var. with more drooping branches.

This a very hardy tree. Wood firm, tough, white. The slender twigs formed into brooms and rods: or as Mr. Lightfoot expresses it: “answer the purposes of cleanliness, and correction.” The leaves dye yellow. Hats, surtouts, and cups made of the bark, in the North of Europe, also shoes, coverings for houses, torches. A hole bored in the tree in spring, exudes a sweet sap, which properly fermented, with sugar added, forms a pleasant wine. Bark may be used for tanning, and for rope-making. Canoes made of it. The inner bark anciently used to write upon. The knotty excrescences a beautifully veined wood. Lightfoot in Fl. Scot., recommends Birch-wine as a substitute for the “poisonous whiskey,” and subjoins a receipt for the wine. Horse harness made of the twisted boughs of the birch in some parts of the Scotch Highlands. Garnett.

CARPINUS. Hornbeam.¹


Woods, hedges.

Tree. May.

A low, rigid, elm-like tree. Sm.

CO/RYLUS. Hazel-nut.


Hedges, copses.

Small tree. March.

Ls. produced after the flowers, doubly saw-toothed, veiny. The catkins fall off entire. Styles vivid crimson, twelve or fourteen. Makes good charcoal. Regular revenue raised from nut-woods, cut every sixteen years: freeholders of £15. or £20. per annum, make regularly £60. a-year by their nut-woods. (With.) The wood for fishing-rods, hoops; the shoots for springles to fasten down thatch, and for hurdles. Chips of hazel put into turbid wine to clear it. Twigs of hazel, twisted together, so as to be full of chinks, and steeped in ale during its fermentation, then hung up to dry, put into wort, instead of yeast. An oil from the nuts, used by painters. The diriving rod, for the supposed discovery of water-springs, and metal, taken from the young forked twigs. See

¹ From the hardness of the wood.
Evelyn's *Sylva*, by Hunter, p. 223. See Quarterly Review. No. 44. in Article "Popular Mythology of the Middle Ages," pages 373, 374. and "Curiosities for the Ingenious." Duod. pages 155. to 161.

"The divining-rod when held in a certain position, and under certain circumstances, is said to discover the situation of metals, &c. in the earth, by dipping as it approaches the place beneath which they immediately lie."

Class XXII. DIOECIA. Stamens and Pistils in separate flowers, on different plants.

(MONANDRIA. Stamen I.)

Several willows. Sm.

DIOECIA.

SALIX. Willow, Sallow, and Osier.

Linnaeus observes, that the species of this genus are made out with very great difficulty. *Sp. Pl.* 1449.

The differences found in the germen, styles, and stigmas, together with the shape of the leaves, afford good specific marks for the discrimination of Salices. Seasons for studying the Salices, or Willows, are 1st. their flowering time: 2ndly, the early part of summer, to observe their stipulas, before the leaves come to their full size, and 3rdly, when the leaves come to their full size. They must be observed in their growing state for several seasons, to be well discriminated. The flowering period of willows is of short duration, during the greatest part of the summer we have no flowers to assist our investigations. The willows afford food for a great variety of insects. The large excrescences, on the branches and leaves of willows, are the nests of different species of insects (the Cynips.) The stamen-bearing willows should alone be planted in walks: the pistil-bearing ones multiply too fast, and form a thicket. 1

* Full grown leaves saw-toothed, smooth, or nearly so.


Wet woods, hedges, osier-grounds.

1 The Botanist will find a valuable collection of Grasses, British Willows, and Roses, cultivated in the Botanic Garden, Oxford. Several Willows have been lately planted round Christ-church Meadow.
Tree. *May and August.* Sm.
If suffered to grow, becomes a large tree. *Ls.* smooth on both sides, the base narrow, and sloping off, towards the stalk. *Catk.* cylindrical, yellow, with hairy, blunt scales. *Nect.* very blunt.
*Stig.* spreading, cloven. *Stam.* twice as long as the scales.
It casts off its bark annually in large portions, like the plane-tree. Bark lightly astringent, bitterish, has been found serviceable in the cure of agues: in doses of one or two drachms.

*Sa. amygdalina* very much resembles this species. The narrower-leaved willows generally named osiers; this one of the most valuable for white basket work, producing rods eight or nine feet long, tough, and very durable. *Sm.*


*Banks of rivulets.* "Common almost everywhere about Oxford. Frequent also about Rugby, Warwickshire, 1831." *Br.*
Shrub, or small tree. *May.*
A handsome species, growing from ten to fifteen feet high, casting its bark in the autumn like the other triandrous willows. *Ls.* egg-shaped, or egg-spear-shaped, with a very taper point; the under side light green, scarcely glaucous.

Differs from *Sa. triandra* in its humbler growth, in the leaves being rounded at the base, and in the larger, rounded, ear-shaped *stipulas*; and from *Sa. amygdalina* in the leaves being not glaucous underneath, and in wanting the deep furrows of the young twigs, so remarkable in that species." *Br.*

(S. *amygdalina.* Broad-leaved Triandrous *W.*; or Almond-leaved *W.*. Leaves egg-shaped, saw-toothed, smooth; rounded and unequal at the base. Stamens three. Germin egg-shaped, compressed, smooth; its stalk almost as long as the scale. Stigmas nearly stalkless. Young branches furrowed. E. B. 1636.

*Banks of rivers and ditches.* *Pa. Fl.*
Shrub, or small tree. *April, May; and again in August.*
A large, bushy shrub, casting its bark.)


Tree. *June, July.*
**Salix.**


Deserving of cultivation for its beauty and fragrance. Known by its broad, odoriferous leaves, whose serratures exude a yellow resin, and by its numerous stamens. The leaves afford a yellow dye. The down may be used for cotton, mixed with cotton. Down of willows, a lining for the nests of some kinds of birds.


Shrubby. *April.*

*Ls. a little rounded at the base, dark green. Foot-stalks very broad at their base. Catk. thickish, with inversely egg-shaped, brown, hairy scales. Branches brittle, dark coloured. Scarcely forms a tree. *Ls. in drying become black. *Ls. in the pistil-bearing plant shorter, and less notched, more tapering towards the base.*

*S. vitellina.* Yellow *W.* or Golden Osier. Leaves spear-shaped, tapering to a point, with cartilaginous serratures; smooth above; glaucous and somewhat silky beneath. Stipulas minute, spear-shaped, falling-off (deciduous,) smooth. Germen stalkless, egg-spear-shaped, smooth. Scales linear-spear-shaped, acute, fringed at the base, longer than the pistil. E. B. 1389.

Osier-grounds, swamps.

Tree. *May.*

*Branches* yellow, shining. *Ls. alternate. Catk. cylindrical, acute, appear with the leaves.*

Known at a distance by the yellow colour of its branches. A handsome tree of a moderate height, conspicuous for its gracefully drooping, golden twigs. The down of the seeds has been made into paper: the bark used for dying. Used for palms at Easter in the Greek Russian churches. A tough and flexible osier. Wood tough and white. The lopped pistil-bearing branches become straight.

*S. decipiens. White Welsh, or Varnished W.* Leaves spear-shaped, pointed, saw-toothed, very smooth;

---

1 From *vitellus*, the (yellow) yolk of an egg.
floral ones partly inversely-egg-shaped and curved back. 

Foot-stalks somewhat glandular. Germen tapering, stalked, smooth. Style longer than the cloven stigmas.

Branches smooth, highly polished. E. B. 1937.

Low meadows, moist hedges, osier-grounds. Christ-church Meadow, Oxford. BX.

Tree. May.

"There is a large tree of this species of willow, growing by the side of the ditch round Christ-church Meadow, about a stone's throw from the junction of the Cherwell and Isis. I should guess, from its size, that it cannot be less than fifty years old, and fifty feet high. The trunk, near the ground, measures six feet ten inches in girth. It has been confounded with Sa. fragilis, by some botanists, but it is very distinct from that, and may readily be distinguished from most other willows, by its cane-coloured shining twigs, as if varnished, and when not in leaf, having much more the appearance of a poplar, than a willow; whence it has been called the poplar-willow, and sometimes the cane-willow. The Rev. Dr. Walker, in his History of the Hebrides, vol. ii. p. 267, "thinks it may probably be the Sa. amarina, of Pliny. Hoffmann appears to have been the first who distinguished this as a species. He has described, and figured it in his Historia Salicum, published in 1785—7. The tree in Christ-church Meadow must, I think, have been growing there prior to that time." BX. Oct. 23, 1830.


Marshy grounds, banks of rivers.

Tree. April.

Catk. appearing with the leaves, coming forth at the base of the foot-stalk, with two or three very small leaves. Branches with a slight blow break off. Catk. stamen-bearing ones, cylindrical, scales inversely egg-shaped, villose (with soft hairs.) Nect. of two glands, yellow, the largest between the stamens and spike-stalk (rachis), the smallest between the stamens and scale. Several other smooth willows are also brittle.

Remarkable for the crookedness of its branches, and its large, broad, dark, shining leaves.

Bees fond of the stamen-bearing flowers of this, and other willows. Caterpillar of the white satin moth, (Salicis) feeds on the leaves. Roots boiled for a considerable time, used by the Swedes to stain eggs purple. Fl. Suec. A similar ancient practice, in Scotland, at Easter. See Anemone Pulsatilla.
(S. Russelliana. Bedford W. Leaves spear-shaped, tapering at each end, saw-toothed throughout, very smooth. Foot-stalks glandular, or leafy. Germen tapering, stalked, longer than the scales. Style as long as the stigmas. E. B. 1808.

Banks of rivers, and ditches. Pn. Fl.

Tree. April, May.
A more handsome tree, of a brighter hue. Branches slender and straight, not angular at their insertion like Sa. fragilis. Timber and bark very valuable.) Sm.

Low meadows, banks of rivers and ditches. In a ditch round Christchurch Meadow, Oxford. Bx.

Shrub. March.
Leaves and twigs extremely bitter.

Discrim. Differs, according to Sm. from Sa. Helix, by its spreading, decumbent habit, never becoming a tree; by its purple branches, smaller, and more slender catk. by its small, egg-shaped, blunt, nearly stalkless stigmas. More rare than Sa. Helix.

Hoffmann unites the species Sa. purpurea, and Sa. Helix, under the name of Sa. monandra, followed in this by Curtis, and approved by Hooker in Fl. Scot. But see H. British Fl. 1830. Valuable osier for fine basket-work, but more especially for platting in a growing state into low, close fences, to keep out hares and rabbits, the leaves and bark being so bitter, that those animals will not touch either.

Marshes, osier-grounds, banks of rivulets.

1 So called, because the tops of the branches are sometimes expanded into little scaly heads, somewhat resembling roses: this is the effect of an insect. Curtis.
Tree. May.

**Discrim.** Nine to ten feet. *Ls.* more truly spear-shaped, and taper-pointed than those of *Sa. purpurea.* *Catk.* pistil-bearing ones, somewhat longer, twice as thick, stand on longer stalks. *Germen* stalkless, egg-shaped, silky. *Style* considerably lengthened out, smooth, and naked. *Stig.* linear, lengthened out. *Ls.* also less glaucous, and not so bitter as in *Sa. purpurea.*

 prontoales pale yellowish, or purple ash. *Ls.* much lengthened out. Planted to keep up gravelly banks of rivers. *Sa. purpurea,* a more rare plant than this.


Tree. March, April.

In height, and appearance resembles *Sa. Helix,* but with shorter leaves, foot-stalks short. *Catk.* smaller than in *Sa. Helix; scales* round, black; *stig.* different in shape. The young branches, and leaves much resemble those of a honey-suckle in their glaucous hue, with a purplish tinge, in their upper part. *Ls.* broad, spear-shaped, dilated above the middle, broader and shorter than those of *Sa. Helix.*


*Low meadows, osier-grounds; rare.* Between Maidenhead and Windsor. J. Sherard.

Tree. April, May.

A small tree, with long and narrow tawny brown leaves.

**Full grown leaves entire, more or less silky.**


Sb. 16.

Sandy, mountainous heaths, where the ground is rather moist. Sm.

---

1 Found by Mr. Lambert, abundantly, near his family seat, at Boyton, Wilts. A good osier. Considered by Dr. Hooker, as a very slight variety of *Sa. purpurea,* or *Sa. Helix,* in *Fl. Sodica*  But see his *Br. Fl.* p. 414. 1830.
Shrub. May.
Smallest of our common willows.
Sa. cinerea. See Appendix.

Moist woods, and thickets.
Shrub. April.
Very branching, small tree, with hoary, brownish, ash-coloured branches. Ls. alternate, with short foot-stalks, when fully grown, curled, and waved. Stip. more frequently rounded, toothed, soft-haired, veiny, and persistent. Catk. from the very short side branches, solitary, cylindrical, scales brown, more or less hairy.
Smallest of the Sallows; not so general as Sa. aquatica: covered with small catk. in April, or May, while the leaves are just budding. Branches shoot horizontally to a great extent. Ls. vary much in size: known by their great ruggedness, inversely egg-shaped, or blunt form, and hooked point.


Wet hedge-rows, woods, swamps, banks of ponds, or rivers.
Shrub, or small tree. April.
Ls. with short foot-stalks, more or less acute, even, scarcely rough, all soft, ash-coloured green, the upper surface ultimately becoming smooth, underneath sea-greenish, veiny, and a little hairy.
Nearly allied to Sa. aurita; much smaller in all its parts, than Sa. caprea. Catk. cylindrical, with small, brown-tipped, hairy scales, an oblong nect. to each. Ls. vary in size and shape, more or less inversely egg-shaped, downy, and veiny; thin, soft, pliable, flat, and not crisped, or waved, in which latter particulars they differ greatly from those of Sa. cinerea, and Sa. aurita.

One of the most common of all our willows. The bark has been made into coarse paper, and pasteboard; the wood excellent for fuel, also for stakes, and hurdles, and for waggon staves.


*Woods, hedges.*

**Tree. April.**

**Twigs** downy. *Ls.* variable in shape, alternate, foot-stalked, upper surface somewhat bare, and smooth. *Stamens* yellow. *Seed-vessels* foot-stalked, oval, bellying out at their base, shaggy. *Stip.* only to the uppermost leaves.

Its showy, copious, yellow blossoms make a cheerful appearance in early spring. Its bark bitter, and astringent; has been recommended as a substitute for the Peruvian bark. Its wood useful for hurdles. Its bark may be used for tanning, and for dying linen yarn black. The wood tough, makes good charcoal for gun-powder, and for dyeing. The catkins early food for bees. *Discrim.* Easily known by its large, broad, roundish leaves, waved at their edges, and clothed beneath with a thick, white, cottony down. *Catkins* very thick, and blunt. *Scales* of the flower-buds silvery before expansion. Succeeds best in a dry soil.

The *catkins* vulgarly called *goslings,* from their similarity of colour, and appearance, about the time when goslings are hatched: covered with blossoms before the leaves appear.

Wood used for cutting-boards and whetting-boards of shoemakers, to smooth their knives upon. *Lightfoot.*


1 Literally goat's (willow,) from supposition of goats browsing on it.

2 "Sibth. seems to include under this species, the *Salix cinerea,* and *Sal. aquatica* of the *Eng. Fl.,* both very common about Oxford. I have not yet met with the true *Salix acuminata* of *Sm. Fl. Brit.* Oct. 1830." *Bx.* *S. acuminata* var. *rugosa.* *Sm.* Common about the Cherwell. Christchurch Meadow. *Bx.* With smaller, more rugged leaves. *Sm.*
Rather moist woods and hedges, frequent. Sm.
Tree. April.
Tree scarcely so large as Sa. cáprea. Ls. three to four inches, by one inch.


Wet meadows, osier-grounds, banks of rivers.
Tree-like. May.
Branches very long, silky. Ls. scattered, with short foot-stalks, somewhat erect: under side of the leaves with an elevated nerve, and numerous, diverging, somewhat parallel veins. Style lengthened out, and thread-shaped. Ls. longer than in any other species, narrow, almost linear. Caps. stalkless, egg-shaped, silky.

Many varieties of this species, cultivated in osier-grounds: the value of the common-osier, for basket-work is universally known: is used also for hoops. Planted to keep up the banks of rivers. In thriving situations, and where osiers are in demand, osier-grounds have been known to pay an annual rent of ten pounds an acre: ordinarily, if properly managed, they pay four or five. W ith.

The specific distinctions of Sa. stipularis, and Sa. mollissima, rest, according to Dr. Hooker, upon very slight grounds; so nearly allied are they to Sa. viminalis. Fl. Scotica. But see his Br. Fl. p. 423.

Discrim. Silvery appearance of the leaves underneath, the long, and slender neéct, of the stamen-bearing flowers, and the very long style of the pistil-bearing flower.
Osiers differ from willows in their long, straight, flexible, and mostly tough twigs; their generally stalkless germens, and lengthened out styles and stigmas. Sm.


Meadows and osier-grounds. Pn. Fl.
Shrub. April, May.
Shrub, with reddish, wand-like, but brittle twigs. Sm.

(S. stipularis. Auricled Osier. Leaves spear-shaped, pointed, slightly wavy, obscurely notched; soft and
nearly naked above; white and downy beneath. Stipulas half-heart-shaped, stalked, very large. Nectary cylindrical. Germin egg-shaped, nearly stalkless, as well as the linear, undivided stigmas. E. B. 1214.

Osier-beds. Pn. Fl.

Shrub. March.

Shrub, with upright, downy, reddish, tall, but brittle twigs. Ls. about a span, almost upright.)


Moist woods, low pastures, meadows.

Tree. May; often again in July. Sm.

Ls. alternate, with short foot-stalks, taper-pointed, acutely and regularly, finely saw-toothed. Catk. lengthened out, slender. Scales elliptically spear-shaped, brown, downy. Stamens yellow, a little longer than the scales.

When allowed to grow without lopping, becomes a very large and lofty tree; soon decays, if lopped. The wood is white, agreeable to burn, as not smoking, and affording a regular heat: from its whiteness preferred for making milk-pails, and butter-firkins: used also for flooring, for chests, and boxes. The bark, boiled with water, in a copper vessel, will dye wool or silk of a blood-red; with the addition of a little alum, of a cinnamon colour. The bark recommended in the cure of agues by the Rev. Mr. Stone, Phil. Trans. v. 53. p. 195. a drachm of the powdered bark, given every four hours, between the fits. The bark of the Sa. triandra, Sa. fragilis, and Sa. caprea, have the same properties. See White’s Observations, &c. on the Broad-leaved Willow, (Sa. caprea,) Bath, 1798. This species one of the best in the genus for tanning: of very rapid growth: a good tree to plant in avenues, for its agreeable shade, and the beautiful, silvery appearance of the leaves. The inner bark has afforded a miserable substitute for bread.

DIOECIA TRIANDRIA.

RUSCUS. Butcher’s-broom.¹


¹ From its use.
Woods in Counties of Oxford, and Berks; not far from Reading. *Bobart in Raii Syn.*

Per.? *March.*

Biennial? evergreen for one winter, herbaceous. *Stems* about two feet, round, branched, stiff, slightly furrowed. *Ls.* dark green, alternate, spreading, twisted, hard, entire, tipped with a sharp thorn; bearing a solitary flower about the middle, on the upper side. *Berry* globular, large, scarlet. *Fl.* in reality, on a foot-stalk, from the bosom of the leaf, yellowish white.

Bacon and cheese defended from the mice, by its sharp, prickly leaves and boughs placed round them.

---

**DIOECIA TETRANDRIA.**

**VISCUM.** Mistletoe.


Small Shrub. *May.*


Bird-lime from the berries, and bark. The berries eaten by the Thrush, Fieldfare, &c. pass through them, and adhere to the bark of trees, where they vegetate. *Plant* eaten greedily by sheep. This the sacred plant of the Druids.1 Used to dress up churches and houses at Christmas.2 Formerly prescribed in epilepsy.

---

**DIOECIA PENTANDRIA.**

**HU'MULUS.** Hop.

*H. Lupulus.* Common *Hop.* (One sp. only known.) **E. B. 427. Lupus salicarius. G. E. 885.**

Thickets, hedges.

Per. *June.*

*Stems* twining, from right to left, angular, rough, leafy. *Ls.* opposite, foot-stalked; upper heart-shaped, undivided; lower ones, three, or five-lobed, saw-toothed, veiny, rough. *Stip.* bent back. *Fl.* greenish-yellow, pistil-bearing ones, bitter, fragrant.

---

2 See "Selection from Gent. Mag." vol. i. p. 245.
Its climbing twigs, vine-like leaves, and clustered, and catkinned flowers ornamental. The use of the catkins of the hop in beer, first introduced in the beginning of the sixteenth century, and then considered as an adulteration of the liquor. Covering hop-grounds with stones recommended to prevent the breed of insects, (aphides) upon them. The young shoots eaten in the spring. Cloth, and paper, may be made from the stalks, steeped in water and beaten. The plant will dye wool yellow.

Tinct. and extract of hops, mild opiates. Pillow of hops said to have the same opiate effect. Linn. in Sp. Pl. puts this strange question under H. Lupulus: what is that electric murmur, like very distant thunder, when the wind agitates the hop-poles? Seeds used in constipation. Fl. Suec.

---

**DIOECIA HEXANDRIA.**

**TAMUS.** Black Bryony.


Root blackish outwardly. Stems slender, long, twining, though without tendrils. Ls. dark green, variable in shape, from kidney, to heart-spear, and triangular-spear-shaped, and to halbert-shaped. Fl. greenish. Berries red.

The tawny leaves, and red berries, a decoration to our hedges, in autumn. Root acrid, formerly used as a stimulating plaster. The young shoots eaten as asparagus.

---

**DIOECIA OCTANDRIA.**

**POPULUS.** Poplar.


Moist woods.

Tall tree. March.

Root creeping, with abundance of suckers. Bark smooth: branches

---

1 See Sm. Introd. Botany, p. 482.


*Wet,* turf*y* meadows. *Sm.*

Tree. *March.*


Moist woods.

Tree. *March.*

*Ls.* with a little point, bluntly toothed, entire at the base, quivering with almost every breath of air, by their long, vertically flattened foot-stalks. *Sip.* bristle-shaped, visible on the most luxuriant shoots only. *Catk.* scales of the pistil-bearing flowers hand-shaped, jagged. *Germen* short, thick. *Stig.* crimson. At the base of the young leaves, two united glands.

Leaves beset sometimes with red globules, the nest of a *Tipula,* (an insect.) Dark smooth, green, used for torches: favourite food of beavers. *Fl.* Suec. Drives away crickets. *Fl.* Suec. Grows in all situations, and in all soils. Wood light, woolly, soft, durable in the air. The Highlanders, according to Lightfoot, suppose our Saviour's cross made of this tree, and that hence its leaves never rest.

P. *nigra.* Black P. Leaves deltoid, pointed, saw-toothed, smooth on both sides. Catkins all lax and

_Watery places, banks of rivers._

_Tree._ March.

_Footstalks_ only half as long as the leaves. _Ls._ trowel-shaped, deep green. _Catk._ drooping. _Germ._ lengthened out, slender, egg-shaped.

Wood not apt to splinter: for gun-stocks. Bark to support the nets of fishermen. The red berry-like substances on the leaves, occasioned by an insect. Grows rapidly; bears cropping. Inner bark has been converted into bread, in Kamtschatka. Paper may be made of the cotton-down of the seeds. Roots dissolve into a jelly-like kind of substance, formerly used for bringing on a callus in fractured bones.

---

**DIOECIA ENNEANDRIA.**

**MERCURIA' LIS.** Mercury.


_Banks, bushy places, groves._

_Per._ April.

_Stems_ one foot high. _Ls._ rough, opposite, stalked, egg-shaped, saw-toothed, dark green. Supposed _nect._ very narrow, rising above the styles. _Stamen-bearing spikes_ longer than the leaves. _Caps._ rough, hairy. _Fl._ green.

_Fetid, very poisonous._ Sir H. Sloane, in Raii Syn. Has been recommended as a pot-herb: its virulence diminished by boiling. In drying, turns blue: steeped in water, affords a fine, deep blue, not fixable. Lightfoot mentions that the infusion has been taken to bring on a salivation: the experiment dangerous with so poison-ous a plant.


_Waste, or cultivated ground._ **??**

_An._ August.

_Plant_ darkish, fleshy, shining green, fetid. _Ls._ egg-shaped, acute, saw-toothed. _Pistil-bearing flowers axillary, on simple footstalks, about two together, sometimes with a stamen-bearing _fl._ _Caps._ double, prickly.
Qualities similar to those of M. perennis, but less virulent: removes warts: mucilaginous: purgative, as a syrup.

HYDRO'CHARIS. Frog-bit.


Ditches, ponds.

Per. July.


DIOECIA MONADELPHIA.

JUNI'PERUS. Juniper.


Low shrub. May.

Stems and branches intricate, widely spreading. Ls. sharp-pointed, linear, smooth, evergreen, glaucous on the upper side. Catk. axillary, small, stalkless, with tiled bract. Berry round, green; when ripe, in two years dark purple, with a glaucous tinge, sweetish. Juice of the plant resinous. Plant variable in growth.

Easily transplanted. Wood hard, durable, for veneering, &c. Bark for ropes. From the berries gin, diuretic. Gum Sandarach, or Pounce, from this shrub. The true Geneva, a malt spirit, distilled a second time, with Junipers added. The berries, according to With., left out, and the flavour given to the spirit by oil of turpentine. Berries eaten by thrushes and grouse, give the flesh a pitchy taste. Infusion of the berries with gin, for dropsical patients. A Beer from the berries, among the Swedes. Juniper wood cinders keep light a long time. Oil of Juniper acts on the kidneys powerfully like turpentine.
300

POLYGAMIA MONOECIA. A’triplex.

TAXUS. Yew.


Tree. March.

Trunk straight, smooth, with deciduous bark. Ls. dark green, smooth, evergreen. Fl. axillary, with tiled bract. Stamen-bearing fl. sulphur-coloured, without cal. Pistil-bearing ones with a small, green cal., which at length becomes of a fine red colour, waxy, and soft, surrounding the seed.

Wood hard, beautifully red grained: at present, for inlaying, and for mill-wheel cogs. Planted in church yards for its funeral appearance, and for archers’ bows anciently. Bears clipping well, hence suited to the now obsolete Dutch taste of gardening, and cut into various grotesque shapes. Makes excellent screen-hedges. The berries sweet, innocent: the green leaves deadly poisonous. Tree said to attain more than four hundred years. Tree of great diameter: one mentioned by Lightfoot, and seen by Pennant, of fifty-six feet and a half in circumference. Bears transplanting when old. Berries of the yew, sweet, mucilaginous, eatable. R. W. Seeds poisonous? J. H. See Richard, Botanique Medicale.

Class XXIII. POLYGAMIA.

Order I. MONOECIA.

A’TRIPLEX. Orache.


Cultivated, and waste ground, dung hills.

An. August.

Root fibrous. Ls. alternate, stalked, mealy beneath: lower ones halbert-shaped, one of the auricles sometimes wanting, deeply, irregularly toothed; the upper more narrow, spear-shaped, mostly

1 Ang. Sax. See some fine lines to the “Yew,” in Mr. Gillet’s pleasing little volume, entitled the “Juvenile Wreath,” &c. p. 37. Duod. 1832. See also, “Selection from Gent. Mag.” vol. i. p. 346.
entire. *Fl.* clusters terminal, and from the side, long, interrupted, somewhat leafy. *Valves* of the seeds toothed only at the edges. *Seeds* dotted.

Sometimes used for a pot-herb, like spinach. *Ls.* and stem beautifully studded with shining particles, when covered with early dew.


*Cultivated and waste ground.*

An. August.

*Stems* more straddling than in *Atr. patula*; deep, glaucous hue, slightly furrowed. *Ls.* lower ones, halbert-shaped, not toothed, nor sinuated: upper, spear-shaped, entire, all spreading horizontally. *Cal.* valves entire at the edge, disk either smooth, or with only a few tubercles. *Seed* half the size of *Atr. patula*, scarcely dotted.

Considered by Hooker as a *var.* of *Atr. patula*, in *Fl. Scotica*. Doubtfully distinct: not constant to its characters. *Greville.*

Found with *Atr. patula*: both species conspicuous by their long, straight, straddling branches, with enlarged calyx, by which last mark, an *Atriplex* is distinguished from a *Chenopodium*.

END OF THE PHANEGAMOUS FLORA OF OXFORDSHIRE, AND ITS CONTIGUOUS COUNTIES.

---

1 *Phanogamous plants* are *flowering plants*, in contradistinction to *Mosses, Lichens*, &c. of the Class Cryptogamia.
APPENDIX.

(MOSTLY PLANTS OF THE CONTIGUOUS COUNTIES.)

* Fraxinus heterophylla. Simple-leaved Ash. Leaves both simple and compound, with tooth-like serratures. E. B. 2476.

Woods and hedges. See Flora, page 3.

Tree. April, May.

Ls. occasionally in threes, or even of five leaflets.

A variety of Fr. excelsior? Sm.

Galium anglicum. Wall Bed-straw. Leaves about six in a whorl, spear-shaped, pointed, fringed with prickles.


Walls, and dry, sandy ground. Warwickshire. Pn. Fl.

An. June, July.

Scarcely a span. Fl. few, pale yellow. Sm.


Thickets, on stony, or sandy ground. St. Vincent’s Rocks, Gloucestershire. Turner.

Per. June, August.

Ls. evergreen, broad. Berry black. Sm.


Shrub. July.

Stem erect, bushy, four to five feet. Fl. small, reddish, or cream-coloured. Sm.

Ribes alpinum. Tasteless Mountain Currant. No prickles. Clusters always erect. Bracteas longer than

Woods, rare. See Flora, p. 67.

Shrub. May.

Berry red, insipid, mucilaginous. Sm.


Sandy swamps and thickets, banks of rivers. See Flora, p. 67.

Shrub. May.

Ls. strongly scented when rubbed. Berry black. Sm.


Limestone rocks; rare. See Flora, p. 83.

Per. May, June.

Glaucous, even, about a span high. Sm.


Dry pastures.

Per. September.

Stalk three inches. Ls. channelled, numerous. Fl. rose-coloured. Stam. reddish; pistil blue. Sm.


Per. June.

Stem erect, eight inches. Ls. kidney-shaped, abrupt. Sm.


Shrub. June.

Six to nine inches, evergreen. Fl. white, or reddish, drooping. Sm.

Siléne nutans. Nottingham Catchfly. Panicle with drooping, partly forked, branches; from one side of the stem only. Petals deeply cloven, with linear-segments, and an acute, cloven scale. Leaves elliptic-spear-

Limestone rocks. See Flora, p. 122.
Per. June, July.
Cal. half an inch long, its ribs downy. Fl. white, fragrant in the evening. Sm.


Rocks, rare. See Flora, p. 127.
Per. July.
Reddish, eight to nine inches. Ls. closely tiled. Pet. yellow. Sm.

Rosa spinosissima. Burnet Rose. Flower-stalks without bracteas, mostly smooth, as well as the simple calyx. Fruit globose, abrupt, somewhat depressed. Prickles of the stem straight, unequal, numerous, intermixed with glandular bristles. Leaflets roundish, smooth, with simple serrations. E. B. 170.


Rocks, rare. See Flora, p. 127.
Per. July.
Reddish, eight to nine inches. Ls. closely tiled. Pet. yellow. Sm.

Rosa spinosissima. Burnet Rose. Flower-stalks without bracteas, mostly smooth, as well as the simple calyx. Fruit globose, abrupt, somewhat depressed. Prickles of the stem straight, unequal, numerous, intermixed with glandular bristles. Leaflets roundish, smooth, with simple serrations. E. B. 170.

Sandy heaths. See Flora, p. 138.
Shrub. July.

Shrub. June.
A densely branched bush, about three feet high, distinguished in the common French plant by long, slender, flexuose twigs, with large, nearly straight, or falcate, or even uncinate, prickles, and small, distant, spear-shaped leaflets, mostly seven, acute, (mostly, but not invariably,) at the base as well as at the point. The petioles are glandulose, sometimes hairy, and bear a few straightish or curved prickles. The peduncles and calyx-tube are usually naked, but occasionally both, or the former only, bear setae, which are larger on the base of the tube, although less remarkably than in R. rubiginosa. The calyx-segments are variously glandulose, and the narrowly spear-shaped pinnae issued more or less exactly at right angles, and have little sharp divaricated, gland-tipped teeth. The
styles are included, and very slightly hairy. In Mr. Bree's plant, which I have seen only under cultivation, I find but little difference, except that the ramuli are less flexuose, and the leaflets not remarkably distant, rather larger, and more hairy, almost shaggy beneath. The pinnae of the calyx are less divaricated, and have glands on the edges only, (as they have in a specimen gathered by Mr. Woods, at Troyes, which, also, has larger leaflets.) The flowers are white, clustered or solitary, according, as usual, to their situation on the bush. The fruit is scarlet, egg-shaped, (rounded at the base,) when solitary: I have no note of its shape in the bunches. The prickles, which have a few setae among them, are numerous, the larger ones strongly hooked. Whether setae exist in the foreign plants I know not; I find none in my limited number of specimens. Desvaux, Journ. de Bot. for 1813. v. ii. p. 116. assigns to this species nine vars. and describes five of them as wanting glands, or bearing them only on the petioles. He expresses a strong persuasion that both R. sepium and R. rubiginosa pass into R. canina."

Hooker's Brit. Fl. v. 1, p. 235, 236.


Elevated pastures. See Flora, p. 145.

Per. April, May.
Stems spreading all round. Pet. yellow.

* Stratiótés aloídes. Water Aloe, or Water-soldier.

Pools, and ditches. In the Isis, near the cottages, Nuneham Park.

Per. July.
Putting forth suckers (stoloniferous,) floating. Fl. white; some imperfect. Sm.


1 De Candolle describes the fruit of the French plant as longer than that of R. rubiginosa.
Sandy fields, rare. See Flora, p. 160.

An. April, May.

Hairy, glutinous, aromatic. Fl. yellow.


Moist, waste ground, rare. See Flora, p. 163.

Per. August, September.

Green, viscid; smell acrid. Stam. prominent. Sm.

Mentha rubra. Tall Red Mint. Flowers whorled.


Ditches, and watery places. See Flora, p. 164.

Per. September.

Smoothish, four to six flowers. Fl. large, reddish. Sm.


Waste ground, muddy, or calcareous soil. See Flora, p. 184.

An. June.

Plant one foot. Ls. fleshy. Fl. minute. Sm.


Limestone rocks, and walls. See Flora, p. 184.

An. March, April.

Stem branched, two to three inches, smooth. Fl. small, white. Sm.


Per. July, August.

Plant four feet, stalk winged. Fl. variegated with blue and purple. Sm.

Trifolium ornithopodioides. Bird's-foot Trefoil. Flow-
ers about three together. Legume prominent, eight-seeded, twice as long as the calyx. Stems reclining. E. B. 1047. C. 2. 53.


An. June, July.

Fl. slender, pale reddish; keel very small. Sm.

Hypericum dubium. Imperforate St. John's wort.


Per. July, August.

Young root shoots bright red. Fl. yellow. Sm.


Per. June, July.

Smaller. Fl. stained with red outside. Sm.

Hieracium amplexicaule. Stem-clasping Hawkweed.


Mr. Bicheno observes, that it has an equally good right to a place in the British Flora as Senecio squalidus, and some other plants.

Per. August.

A most distinct and well marked species, everywhere clothed with brownish glandular hairs, most thick on the peduncle and involucre. The lower stalk-leaves are more or less oblong, the upper ones truly heart-shaped. Hooker's British Flora. The plant smells like tallow. Bx.


Per. July.


An. June, August.

Various in size. **Fl.** small, bright yellow. Sm.


An. June.

Ls. depressed. **Fl.** small, yellowish. Sm.


Cultivated fields, hedges; rare. See Flora, p. 250.

An. July to September.

Stem one foot and a half to two feet. **Fl.** bright yellow. Sm.


Mountainous woods; very rare. See Flora, p. 260.

Per. June.

One foot. **Fl.** of a rich dark brown; lip swollen, yellow. Sm.


Wat. commons. See Purt. Flora.

Per. July. Of humble growth, and less yellow than C. flava. Sm.


Per. June. Bright green, smooth, three feet. Fruit green. Sm.

_Boggy meadows, not common._ Shortwood near Pucklechurch, Gloucestershire. _Tur._

Per. _June._

About two feet, smooth. _Ls._ narrow. _Spikes_ blackish. _Sm._

_Salix rubra_. *Green leaved Osier*. Stamens combined below. Leaves linear-spear-shaped, lengthened out, acute, smooth, with shallow serratures; green on both sides. Stigmas egg-shaped, undivided. E. B. 1145.

_Low meadows, osier-grounds, &c._ Between Maidenhead and Windsor. J. Sherard, in _Sm. E. Fl._

Tree. _April, May._

A small tree, with long, tawny branches. _Ls._ long and narrow. _Sm._
DIFFERENCES OF NOMENCLATURE.

H. Hooker Fl. Lond.

Chara hispida, is the Chara tomentosa of Sb.
Callitriche aquatica, is the C. aquatica of E. B.
Cladium Mariscus, is the Schoenus Mariscus of E. B.
Fédia Genus, formerly part of the genus Valériana of E. B. &c.
Rynchóspora Genus, formerly part of the genus Schoenus of E. B. &c.
Scirpus caricinus, is the Schoenus compressus of E. B.
Eleócharis genus, part of the genus Scirpus of E. B. &c.
Phalaris arundinacea, is the Calamagrostis colorata of Sb.
Phleum ásperum, is the Phleum paniculátum of E. B., and the
Phalaris paniculata of Sb.
Alopecurus agrestis, is the Al. myosuroídes of C.
Agrostis vulgáris, is the Agr. tenuis of Sb.
Aira cristáta, is the Poa cristáta of Sb.
Holcus avenácus, is the Avéna elátior of C.
Glycéría genus, is part of the genus Poa of Linn. &c.
Glycéría fluitans, is the Festuca fluitans of Sb.
Triódia decembens, is the Poa decumbens of E. B. and the
Festuca decumbens of Sb.
Festuca ovína, is the Fest. tenuifólia of Sb.
——— gigantéa, is the Brom. gigantéus of C. and Sb.
——— sylvatica, is the Bromus sylvaticus of E. B.
——— pinnáta, is the Bromus pinnatus of E. B.
Bromus racemosus, is the Bromus pratensis of E. B. and Bromus
arvensis of E. B.
——— asper, is the Bromus hirsútus of C. and Sb.
Galium saxatile, is the Gal. procumbens of Sb.
Galium tricorne, is the Gal. spúrium of Sb.
Mè'nhia erecta, is the Sagina erecta of E. B., C., and Sb.
Myosótis palustris, is the Myos. scorióides palustris of C.
VERSECOLOR, is the Myos. nana of Sb.
Prímula vulgáris, is the Pr. acaulis of C. and Sb.
VERIS, is the Pr. officíalis of C.
Villársia nympháèoides, is the Menyanthes nympháèoides of E. B. and Sb.
Anagallis cérúlea, is the An. arvensis, var. g. of Sb.
Erythreea Centaurium, is the Chironía centaurium of E. B.
and C.
Chenopodium fícilíóium, is the Chen. viride of C., and the Ch.
sérótinum of Sb.
ólídum, is the Ch. Vulvária of Sb.
acuífólium, is the Ch. políyspernum of C. and Sb.
Ulmus montána, is the Ulmus effúsa of Sb.
Cuscuta Epíthymum is the C. Europea of E. B. and Sb.?
Tórílis Anthrísicus, is the Caúcalis Anthrísicus of E. B., C., and Sb.
infesta, is the Caúcalis infesta of E. B. and C., and C.
avrënsis of Sb.
nodósa, is the Cauçalis nodósa of E. B. &c.
Anthrísicus vulgáris, is the Scandix Anthrísicus of E. B., C.,
and Sb.
Myrrhis odoráta, is the Scandix odoráta of E. B. and Sb.
temulenta, is the Chaërophyllum temulentum of E. B.,
C., and Sb.
Búnióum flexuósum, is the B. Bulbocástanum of C.
Sium inundáatum, is the Sison inundáatum of E. B. &c.
Œnante Phellándrium, is the Phellándrium aquaticum of E. B.
&c. Pimpinella dissecta of Sb. is a var. of P. saxífraga of the Fl.
of Oxfordshire, &c.
Cúdium Siláus, is the Peucédanum Siláus of E. B. &c.
Pastináca satíva, is the Past. sylvestris of Sb.
Scilla nutans, is the Hyacinthus non scriptus of C. and Sb.
Juncus compressus, is the J. bulbósus of E. B. &c.
acuíflórus, is the J. articulátus of E. B. and the J.
ne- morósus of Sb.
Juncus lampócarpus, is the J. compressus of Sb.
Lucióla genus, is part of the genus Juncus.
Rumex sanguineus, is the Rumex acúitus of C. Rumex g. viri-
dis of Sb. is a var. of R. sanguineus of the Fl. of Oxfordshire.
DIFFERENCES, &c. 315

Rumex Hydrolápathum, is the R. aquaticus of E. B. &c.
Epilóbium parviívórum, is the Epilob. villósum of C. and Sb.
Callúna vulgarís, is the Eríca vulgáris of E. B., C., and Sb.
Poly’gonum lapathiífólium, is the Pol. pensylvánicum of C. Polyg. salíciítólium of Sb. is a var. of Pol. lapathiífólium of Sm.
Py’rola minor, is the Pyr. rósea of E. B. 2543.
Siléne infláta, is the Cucúbalus Behen of E. B. and Sb.
Stellária média, is the Alsíne média of C. &c.

—— glauca, is the Stel. media of Sb.

Lychnis dioica, comprises the Lych. diurna, and Lych. vesperína, of Sb. Both these species of Sb. considered by Sm. as var. of Lych. dioica.

Cerástium vulgátum, is the C. viscósum of C. and Sb.

—— viscósum of C. the vulgátum of C. and Sb.
Prunus Cérasus, and Prunus Aвиum, See Fl. of Oxfordshire.
Méspilus Oxyacantha, is the Crátegus monógyna of Sb.
Pyrus termitínális, is the Crátegus termínális of E. B. and Sb.

—— aucupária, is the Sorbus aucúpária of E. B. Rosa tomentosa, is the R. villósa of Sb.?

—— micrantha, is the R. rubíginósa 2 of H. Fl. Lond.

—— Borréri, is the R. dumétórum of E. B. and the R. rubíginósa inodora of H. L.

—— sarmentacea, is the R. canína of C.

—— sépium, is a var. of R. rubíginosa, Lindley Ros.

—— sy’styla, is the R. collína of E. B.
Potentílla Fragariástrum, is the Fragária sterílis of E. B., C., &c.

—— Tormentílla officínalis, is the Potentílla Tormentílla of Sb.

—— reptans, is the Potentílla procumbens of Sb.
Nuphar lútea, is the Nymphéa lútea of E. B., Sb., &c. Tília Européa 2. rubra of Sb. is a var. of T. grandifólia of the Fl. of Oxfordshire.

Anémóne Pulsatílla, is the An. pratensis of Sb.

Ranunculus aquátilis, contains Sibthor’p’s R. heterophyllus, R. aquatílis, R. cirícínátus, and R. fluviátílis, under it as varieties.

Mentha hírsáta, is the M. aquática of Sb. Mentha satíva of E. B. is a var. of M. hírsuta of Sm. E. Fl.

Galeóbdlolón lúteum, is the Galeóbdlolón Galeópsis of Sb.

Thymus Calamintha, is the Melissa Calamintha of Sb.

—— Nepeta, is the M. Nepeta of Sb.

Bártsia Odontítes, is the Euphrásia Odontítes of C. and Sb.
Orobanche elatior, is the Or. major of Sb. (Dr. Williams, Prof. Bot. Oxford.)

Camelina sativa, is the Alyssum sativum of E. B.

Lepidium campestre, is the Thlaspi campestre of E. B., C., and Sb.

Hutchinsia petraea, is the Lepidium petraeum of E. B.

Teesdalia nudicaulis, is the Ibéris nudicaulis of E. B. and C.

Senebiéra Corónopus, is the Corónopus Ruelli of E. B.

Cardamine hirsuta, is the C. flexuosa of Withering.

Nasturtium officinale, is the Sisymbrium Nastúrtium of E. B., C., and Sb.

— sylvestre, is the Sisym. sylvestre of E. B. &c.

— terrestre, is the Sisymb. terrestre of E. B., C., and Sb.

— amphibium, is the Sisymb. amphibium of E. B. and Sb.

Sisymbrium officinale, is the Ery’simum officinale of E. B., C., and Sb.

Barbaréa vulgáris, is the Erysimum Barbarea of E. B. and Sb.

Cheiranthus fruticulósus, is the Ch. Cheiri of Sb.

Hésperis matronalis, is the Hesp. inodóra of E. B.

ʿArabis thaliana, is the Sisymb. thalianum of H. Br. Fl.

— hirsuta is the Turrítis hirsuta of Sb. and E. B.

Erodium cicutário γ., is the Erod. pimpinellaefólium of Sb.

— cicutário, is the Geránium cicutário of C.

Geranium pusillum, is the Geránium parvifórum of Sb. and C.

Trifolium procumbens, is the Trif. agrárium of C.

— minus, is the Trif. procumbens of C.

Lotus major, is the Var. ė. villósus of Sb.

— tenuis, is the Lotus decumbens of Sm. E. Fl.

Medicágio maculata, is the Med. polymorpha of E. B. and C.

Hypéricum quadrangulum, is the Hyp. quadranguláre of Sb.

Leóntodon Taráxacum, is the Taraxacum officinale of Sb.

Apário hispida, is the Leóntodon hispidum of Sb. and C., and the Hedy’pnois hispida of E. B.

— hirta, is the Hedy’pnois hirta of E. B. and Leóntodon hirtum of C. and Sb. and the Thrincia hirta of H. Br. Fl.

— autumnális, is the Hedyp. autumnális of E. B. and Leóntodon autumnale of Sb.

Hieracium sylvaticum, is the Hierac. murórum of Sb.

Cárduluus acanthóides, is the polyacanthos of C. and Sb.
The Genus Cnicus, made part of the genus Cúndus of Linn.

--- germainicum, is the Filágó montána of Sb.

Senécio tenuífolius, is the Sen. crucífolius of C.

Inula pulicária, is the In. uligínósa of Sb.

Cinerária integrífolia, is the Cin. campestris of H.

Py'rethrum inodórum is the Chrysanthemum inodor. of Sb.

--- viridis, is the Satýr'ium viride of Sb. and E. B. and Ha-

--- grandíflóra, is the Epipactis pallen of H. L. and Ser.

--- ensífolia, is the Ser. ensifolia of E. B.

--- rubra, is the Ser. rubra of E. B.

--- ovális, is the Ca. leporína of Sb.

--- intermédia, is the Ca. dísticha of Sb.

--- muricáta is the Ca. spícula of Sb.

--- recurva, is the Ca. flacca of Schkr.

--- acuta, is the Ca. grácilis of C. and Sb.

--- paludósá, is the Ca. acúta of C. and Sb.

--- ripária, is the Ca. crassa of Host.

--- amþllácea, is the Ca. rostráta of Sb.

Alnus glutínósa, is the Bétula Alnus of E. B. and Sb.

Salix Helix, and Salix purpúrea, are united by Curtis, and Hoff-

--- aquática, is the Sa. acuminata of Sb.? and Sa. cinerea of With.

--- Smithiána, is the Sa. mollíssima of E. B.

--- angístífolia, is the Atr. pátula of Sb.
## INDEX

### OF THE

### PRINCIPAL ENGLISH NAMES.

<table>
<thead>
<tr>
<th>Name</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abele-tree</td>
<td>296</td>
</tr>
<tr>
<td>Acorus, or Sweet-flag</td>
<td>95</td>
</tr>
<tr>
<td>Adonis-flower</td>
<td>154</td>
</tr>
<tr>
<td>Agrimony</td>
<td>132</td>
</tr>
<tr>
<td>—- Hemp</td>
<td>234</td>
</tr>
<tr>
<td>Alder</td>
<td>277</td>
</tr>
<tr>
<td>—- Buckthorn</td>
<td>66</td>
</tr>
<tr>
<td>Ale-hoof</td>
<td>164</td>
</tr>
<tr>
<td>Alexanders</td>
<td>81</td>
</tr>
<tr>
<td>Alkanet</td>
<td>49</td>
</tr>
<tr>
<td>—- Bastard</td>
<td>49</td>
</tr>
<tr>
<td>All-heal (Tutsan)</td>
<td>217</td>
</tr>
<tr>
<td>Aloe, Water</td>
<td>152, 3</td>
</tr>
<tr>
<td>Andromeda, Marsh</td>
<td>304</td>
</tr>
<tr>
<td>Anemone</td>
<td>152</td>
</tr>
<tr>
<td>Angelica</td>
<td>82</td>
</tr>
<tr>
<td>Apple-tree</td>
<td>136</td>
</tr>
<tr>
<td>Archangel</td>
<td>165</td>
</tr>
<tr>
<td>—- Yellow</td>
<td>167</td>
</tr>
<tr>
<td>Arrow-grass</td>
<td>104</td>
</tr>
<tr>
<td>—- Head</td>
<td>280</td>
</tr>
<tr>
<td>Asarabacca</td>
<td>131</td>
</tr>
<tr>
<td>Ash</td>
<td>3, 303</td>
</tr>
<tr>
<td>—- Mountain</td>
<td>137</td>
</tr>
<tr>
<td>Asparagus</td>
<td>95</td>
</tr>
<tr>
<td>Aspen</td>
<td>297</td>
</tr>
<tr>
<td>Asphodel, Bog, Lancashire</td>
<td>94</td>
</tr>
<tr>
<td>Avens</td>
<td>146</td>
</tr>
<tr>
<td>Barberry</td>
<td>101</td>
</tr>
<tr>
<td>Barley</td>
<td>32</td>
</tr>
<tr>
<td>Bartsia</td>
<td>173</td>
</tr>
<tr>
<td>Base-rocket</td>
<td>133</td>
</tr>
<tr>
<td>Basil, Wild</td>
<td>170</td>
</tr>
<tr>
<td>Bastard-Alkanet</td>
<td>49</td>
</tr>
<tr>
<td>—- Cyperus</td>
<td>270</td>
</tr>
<tr>
<td>—- Stone-parsley</td>
<td>79</td>
</tr>
<tr>
<td>—- Toad-dox</td>
<td>68</td>
</tr>
<tr>
<td>Beaked-parsley</td>
<td>76</td>
</tr>
<tr>
<td>Beak-rush</td>
<td>12</td>
</tr>
<tr>
<td>Beam-tree, White</td>
<td>137</td>
</tr>
<tr>
<td>Bear's-foot</td>
<td>159</td>
</tr>
<tr>
<td>Bed-straw</td>
<td>37, 303</td>
</tr>
<tr>
<td>Beech</td>
<td>283</td>
</tr>
<tr>
<td>Bee-nettle</td>
<td>167</td>
</tr>
<tr>
<td>Bee-Orchis (Ophrys)</td>
<td>256</td>
</tr>
<tr>
<td>Bell-flower</td>
<td>56</td>
</tr>
<tr>
<td>Bennet Herb</td>
<td>146</td>
</tr>
<tr>
<td>Bennet Way</td>
<td>32</td>
</tr>
<tr>
<td>Bent-grass</td>
<td>18</td>
</tr>
<tr>
<td>Betony</td>
<td>167</td>
</tr>
<tr>
<td>—- Paul's</td>
<td>3</td>
</tr>
<tr>
<td>—- Water</td>
<td>180</td>
</tr>
<tr>
<td>Bilberry</td>
<td>109</td>
</tr>
<tr>
<td>Bindweed</td>
<td>55</td>
</tr>
<tr>
<td>Birch</td>
<td>283</td>
</tr>
<tr>
<td>Bird's-foot</td>
<td>210</td>
</tr>
<tr>
<td>—- trefoil</td>
<td>215</td>
</tr>
<tr>
<td>Bird's-nest</td>
<td>117</td>
</tr>
<tr>
<td>—- (carrot</td>
<td>74</td>
</tr>
<tr>
<td>Birthwort</td>
<td>260</td>
</tr>
<tr>
<td>Bistort</td>
<td>112</td>
</tr>
<tr>
<td>Bitter-sweet</td>
<td>63</td>
</tr>
<tr>
<td>Bitter-vetch</td>
<td>206</td>
</tr>
<tr>
<td>Blackberry</td>
<td>142</td>
</tr>
<tr>
<td>Black-Bindweed</td>
<td>115</td>
</tr>
<tr>
<td>—- Bryony</td>
<td>296</td>
</tr>
<tr>
<td>—- Horehound</td>
<td>169</td>
</tr>
<tr>
<td>—- Thorn</td>
<td>135</td>
</tr>
<tr>
<td>Bladderwort</td>
<td>7</td>
</tr>
<tr>
<td>Blinks</td>
<td>34</td>
</tr>
<tr>
<td>Blue-bottle</td>
<td>249</td>
</tr>
<tr>
<td>Bog-Asphodel</td>
<td>94</td>
</tr>
<tr>
<td>—- bean</td>
<td>52</td>
</tr>
<tr>
<td>—- rush</td>
<td>12</td>
</tr>
<tr>
<td>Borage</td>
<td>50</td>
</tr>
<tr>
<td>Bramble</td>
<td>142</td>
</tr>
<tr>
<td>Brank</td>
<td>115</td>
</tr>
<tr>
<td>Brome-grass</td>
<td>28</td>
</tr>
<tr>
<td>Brooklime</td>
<td>4</td>
</tr>
<tr>
<td>Brookweed</td>
<td>64</td>
</tr>
<tr>
<td>Broom</td>
<td>204</td>
</tr>
<tr>
<td>—- Butcher's</td>
<td>294</td>
</tr>
<tr>
<td>—- rape</td>
<td>181</td>
</tr>
<tr>
<td>Bryony, Black</td>
<td>296</td>
</tr>
<tr>
<td>—- Red-berried</td>
<td>278</td>
</tr>
<tr>
<td>Buck-bean</td>
<td>50</td>
</tr>
<tr>
<td>Buck-thorn</td>
<td>65</td>
</tr>
<tr>
<td>Buck-wheat</td>
<td>Page 112</td>
</tr>
<tr>
<td>------------</td>
<td>----------</td>
</tr>
<tr>
<td>Bugle</td>
<td>160</td>
</tr>
<tr>
<td>Bugloss</td>
<td>51</td>
</tr>
<tr>
<td>Viper's</td>
<td>-</td>
</tr>
<tr>
<td>Bullace</td>
<td>134</td>
</tr>
<tr>
<td>Bull-rush</td>
<td>12</td>
</tr>
<tr>
<td>Burdock</td>
<td>226</td>
</tr>
<tr>
<td>Bur-marigold</td>
<td>234</td>
</tr>
<tr>
<td>reed</td>
<td></td>
</tr>
<tr>
<td>Burnet</td>
<td>41</td>
</tr>
<tr>
<td>Burnet-rose</td>
<td>138</td>
</tr>
<tr>
<td>Salad</td>
<td></td>
</tr>
<tr>
<td>Saxifrage</td>
<td>83, 304</td>
</tr>
<tr>
<td>Bur-parsley</td>
<td>75</td>
</tr>
<tr>
<td>Butcher's-Broom</td>
<td>294</td>
</tr>
<tr>
<td>Butter Bur</td>
<td>239</td>
</tr>
<tr>
<td>Butter-cups</td>
<td>156</td>
</tr>
<tr>
<td>Butter-wort</td>
<td>6</td>
</tr>
<tr>
<td>Cabbage</td>
<td>194</td>
</tr>
<tr>
<td>Calamint</td>
<td>171</td>
</tr>
<tr>
<td>Caltrops, Freshwater</td>
<td>44</td>
</tr>
<tr>
<td>Cammock</td>
<td>205</td>
</tr>
<tr>
<td>Campion (Catchfly)</td>
<td>121</td>
</tr>
<tr>
<td>Campion (Lychnis)</td>
<td>128</td>
</tr>
<tr>
<td>Canary-grass</td>
<td>16</td>
</tr>
<tr>
<td>Candy-tuft</td>
<td>186</td>
</tr>
<tr>
<td>Carex</td>
<td>265</td>
</tr>
<tr>
<td>Carline-thistle</td>
<td>233</td>
</tr>
<tr>
<td>Carrot</td>
<td>74</td>
</tr>
<tr>
<td>Catchfly</td>
<td>121</td>
</tr>
<tr>
<td>Nottingham</td>
<td></td>
</tr>
<tr>
<td>Cat-mint</td>
<td>161</td>
</tr>
<tr>
<td>Cat's-ear</td>
<td>227</td>
</tr>
<tr>
<td>Cat's-tail-grass</td>
<td>16</td>
</tr>
<tr>
<td>Reed-mace</td>
<td>264</td>
</tr>
<tr>
<td>Celandine</td>
<td>147</td>
</tr>
<tr>
<td>Celery, Wild</td>
<td>82</td>
</tr>
<tr>
<td>Centaury</td>
<td>64</td>
</tr>
<tr>
<td>Chaffweed</td>
<td>41</td>
</tr>
<tr>
<td>Chamomile</td>
<td>247</td>
</tr>
<tr>
<td>Wild</td>
<td>246</td>
</tr>
<tr>
<td>Chara</td>
<td>1</td>
</tr>
<tr>
<td>Charlock</td>
<td>195</td>
</tr>
<tr>
<td>Jointed</td>
<td>197</td>
</tr>
<tr>
<td>Chequered Daffodil</td>
<td>92</td>
</tr>
<tr>
<td>Cherry</td>
<td>134</td>
</tr>
<tr>
<td>Chervil</td>
<td>76</td>
</tr>
<tr>
<td>Needle</td>
<td>76</td>
</tr>
<tr>
<td>Chestnut</td>
<td>283</td>
</tr>
<tr>
<td>Chickweed</td>
<td>122</td>
</tr>
<tr>
<td>Germander</td>
<td>5</td>
</tr>
<tr>
<td>Mouse-ear</td>
<td>129</td>
</tr>
<tr>
<td>Plantain-leaved</td>
<td>124</td>
</tr>
<tr>
<td>Small water</td>
<td>34</td>
</tr>
<tr>
<td>Chironia</td>
<td>64</td>
</tr>
<tr>
<td>Christmas</td>
<td>43</td>
</tr>
<tr>
<td>Cicely</td>
<td>77</td>
</tr>
<tr>
<td>Cinquefoil</td>
<td>144</td>
</tr>
<tr>
<td>Marsh</td>
<td>147</td>
</tr>
<tr>
<td>Cistus</td>
<td>151</td>
</tr>
</tbody>
</table>

**INDEX OF THE**
<table>
<thead>
<tr>
<th>Name</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dock</td>
<td>102</td>
</tr>
<tr>
<td>Dodder</td>
<td>72</td>
</tr>
<tr>
<td>Dog-rose</td>
<td>140</td>
</tr>
<tr>
<td>Dog's-tail-grass</td>
<td>25</td>
</tr>
<tr>
<td>Dog-wood</td>
<td>41</td>
</tr>
<tr>
<td>Drop-wort</td>
<td>137</td>
</tr>
<tr>
<td>Duckweed</td>
<td>7</td>
</tr>
<tr>
<td>Dwale</td>
<td>62</td>
</tr>
<tr>
<td>Earth-nut</td>
<td>77</td>
</tr>
<tr>
<td>Egiantine</td>
<td>139</td>
</tr>
<tr>
<td>Elder</td>
<td>86</td>
</tr>
<tr>
<td>Elecampane</td>
<td>243</td>
</tr>
<tr>
<td>Elm</td>
<td>71</td>
</tr>
<tr>
<td>Enchanter's Night-shade</td>
<td>3</td>
</tr>
<tr>
<td>Eringo</td>
<td>74</td>
</tr>
<tr>
<td>Everlasting</td>
<td>236</td>
</tr>
<tr>
<td>Everlasting-Pea</td>
<td>207</td>
</tr>
<tr>
<td>Eye-bright</td>
<td>174</td>
</tr>
<tr>
<td>Featherfoil</td>
<td>53</td>
</tr>
<tr>
<td>Fescue-grass</td>
<td>25</td>
</tr>
<tr>
<td>Feverfew</td>
<td>245</td>
</tr>
<tr>
<td>Field Madder</td>
<td>36</td>
</tr>
<tr>
<td>Figwort</td>
<td>179</td>
</tr>
<tr>
<td>Flag, Sweet</td>
<td>95</td>
</tr>
<tr>
<td>Flax</td>
<td>88</td>
</tr>
<tr>
<td>Flax-seed</td>
<td>46</td>
</tr>
<tr>
<td>Flea-bane</td>
<td>238, 243</td>
</tr>
<tr>
<td>Flea-wort</td>
<td>244</td>
</tr>
<tr>
<td>Flix-weed</td>
<td>191</td>
</tr>
<tr>
<td>Fleur-de-luce</td>
<td>11</td>
</tr>
<tr>
<td>Flowering-rush</td>
<td>117</td>
</tr>
<tr>
<td>Fluelin</td>
<td>177</td>
</tr>
<tr>
<td>Fly-honeysuckle</td>
<td>303</td>
</tr>
<tr>
<td>Fool's-parsley</td>
<td>79</td>
</tr>
<tr>
<td>Forget-me-not</td>
<td>46</td>
</tr>
<tr>
<td>Fox-glove</td>
<td>180</td>
</tr>
<tr>
<td>Fox-tail-grass</td>
<td>17</td>
</tr>
<tr>
<td>French-willow</td>
<td>106</td>
</tr>
<tr>
<td>Fringed Water-lily</td>
<td>53</td>
</tr>
<tr>
<td>Fritillary</td>
<td>92</td>
</tr>
<tr>
<td>Frog-bit</td>
<td>299</td>
</tr>
<tr>
<td>Fumitory</td>
<td>292</td>
</tr>
<tr>
<td>Furze</td>
<td>205</td>
</tr>
<tr>
<td>Garlick</td>
<td>91</td>
</tr>
<tr>
<td>Gentian</td>
<td>73</td>
</tr>
<tr>
<td>Geranium</td>
<td>198</td>
</tr>
<tr>
<td>Gerarde, Herb</td>
<td>82</td>
</tr>
<tr>
<td>Germander</td>
<td>160</td>
</tr>
<tr>
<td>--- chickweed</td>
<td>5</td>
</tr>
<tr>
<td>--- speedwell</td>
<td>5</td>
</tr>
<tr>
<td>Gill</td>
<td>164</td>
</tr>
<tr>
<td>Gipsy-wort</td>
<td>8</td>
</tr>
<tr>
<td>Goat's-beard</td>
<td>220</td>
</tr>
<tr>
<td>Golden-rod</td>
<td>242</td>
</tr>
<tr>
<td>--- saxifrage</td>
<td>119</td>
</tr>
<tr>
<td>Goldilocks</td>
<td>155</td>
</tr>
<tr>
<td>Gold of Pleasure</td>
<td>183</td>
</tr>
<tr>
<td>Gooseberry</td>
<td>66</td>
</tr>
<tr>
<td>Goose-corn</td>
<td>97</td>
</tr>
<tr>
<td>--- foot</td>
<td>69</td>
</tr>
<tr>
<td>--- grass</td>
<td>38, 39</td>
</tr>
<tr>
<td>--- tongue</td>
<td>248</td>
</tr>
<tr>
<td>Gorse</td>
<td>205</td>
</tr>
<tr>
<td>Gout-weed</td>
<td>82</td>
</tr>
<tr>
<td>Grass, Arrow</td>
<td>104</td>
</tr>
<tr>
<td>--- Barley</td>
<td>32</td>
</tr>
<tr>
<td>--- Beet</td>
<td>18</td>
</tr>
<tr>
<td>--- Brome</td>
<td>28</td>
</tr>
<tr>
<td>--- Canary</td>
<td>16</td>
</tr>
<tr>
<td>--- Cat’s-tail</td>
<td>16</td>
</tr>
<tr>
<td>--- Cock’s-foot</td>
<td>25</td>
</tr>
<tr>
<td>--- Cotton</td>
<td>14</td>
</tr>
<tr>
<td>--- Conch</td>
<td>33</td>
</tr>
<tr>
<td>--- Dog’s-tail</td>
<td>25</td>
</tr>
<tr>
<td>--- Fescue</td>
<td>25</td>
</tr>
<tr>
<td>--- Fox-tail</td>
<td>17</td>
</tr>
<tr>
<td>--- Goose</td>
<td>38, 39</td>
</tr>
<tr>
<td>--- Hair</td>
<td>19</td>
</tr>
<tr>
<td>--- Hare’s-tail Cotton</td>
<td>11</td>
</tr>
<tr>
<td>--- Heath</td>
<td>21</td>
</tr>
<tr>
<td>--- Knot</td>
<td>112</td>
</tr>
<tr>
<td>--- Lyne</td>
<td>32</td>
</tr>
<tr>
<td>--- Mat</td>
<td>15</td>
</tr>
<tr>
<td>--- Meadow</td>
<td>23</td>
</tr>
<tr>
<td>--- Melic</td>
<td>21</td>
</tr>
<tr>
<td>--- Millet</td>
<td>18</td>
</tr>
<tr>
<td>--- Millet Cypress</td>
<td>14</td>
</tr>
<tr>
<td>--- Of Parnassus</td>
<td>87</td>
</tr>
<tr>
<td>--- poly</td>
<td>132</td>
</tr>
<tr>
<td>--- Quaking</td>
<td>24</td>
</tr>
<tr>
<td>--- Rye</td>
<td>31</td>
</tr>
<tr>
<td>--- Scorpion</td>
<td>46</td>
</tr>
<tr>
<td>--- Scurvy</td>
<td>185</td>
</tr>
<tr>
<td>--- Soft</td>
<td>21</td>
</tr>
<tr>
<td>--- Sweet</td>
<td>22</td>
</tr>
<tr>
<td>--- Timothy</td>
<td>16</td>
</tr>
<tr>
<td>--- Vernal</td>
<td>9</td>
</tr>
<tr>
<td>--- Wheat</td>
<td>33</td>
</tr>
<tr>
<td>--- Whitlow</td>
<td>185</td>
</tr>
<tr>
<td>Great Water-radish</td>
<td>189</td>
</tr>
<tr>
<td>Greek-valerian</td>
<td>56</td>
</tr>
<tr>
<td>Green-weed</td>
<td>204</td>
</tr>
<tr>
<td>Grey-mill, or Millet</td>
<td>48</td>
</tr>
<tr>
<td>Gromwell</td>
<td>48</td>
</tr>
<tr>
<td>Ground-ivy</td>
<td>164</td>
</tr>
<tr>
<td>Ground-pine</td>
<td>306</td>
</tr>
<tr>
<td>Groundsel</td>
<td>240</td>
</tr>
<tr>
<td>Guelder-rose</td>
<td>86</td>
</tr>
<tr>
<td>Hair-grass</td>
<td>19</td>
</tr>
<tr>
<td>Hare-bell</td>
<td>94</td>
</tr>
<tr>
<td>Hare’s-ear</td>
<td>84</td>
</tr>
<tr>
<td>Hare’s-tail-grass</td>
<td>14</td>
</tr>
</tbody>
</table>
INDEX OF THE

Agricultural Plants

Hart-wort 85
Haver 30
Hawk-bit 224
Hawk's-beard 226
Hawk-weed 225
Hawthorn 135
Hazel-nut 284
Heart's-ease 60
Heath 110
Hedge-mustard 199
Hellebore 75
Helleborine 158
Hemlock 259
Hemlock - Less 80
Hemp-agrimony 284
Hemp-nettle 166
Hembane 62
Hen-bit 166
Herb-bennet 146
Gerarde 82
Paris 116
Robert 199
two-pence 54
High-taper 61
Hog-weed 85
Holly 43
Hone-wort 79
Honey-suckle 65
Fly 303
Hooded-milfoil 7
Hop 295
Horehound, Black 169
Water 8
White 169
Hornbeam 284
Horned-pondweed 263
Hornwort 279
Horse-radish 185
Horse-shoe-vetch 210
Hound's-tongue 49
Houseleek 133
Hutchesia 184
Hyacinth 94
Wild 94
Insect-orchis 256
Iris, Yellow-water 95
Ivy 95
Ground 164
Jack-by-the-hedge 192
Jacob's-ladder 56
John's-wort, St. 217
Jointed Charlock 197
Juniper 259
Kidney-vetch 206
Kipper-nut 77
Knapweed 249
Knavel 120
Knot-grass 112
Lady's-finger 206
Lady's Traces 257
Lady's Bedstraw 37
Mantle 42
Slipper 260
Smock 187
Thistle 230
Lamb's Lettuce 11
Lancashire Bog-Asphodel 94
Larkspur 152
Laurel, Spurge 111
Less-Hemlock 79
Lettuce 222
Wall 223
Lily of the Valley 95
Lily, Water, White 149
Yellow 149
Lyme-tree 150
Linden-tree 150
Ling 110
Liquorice, Wild 211
Lizern 258
Live-long 125
London Rocket 190
Loosestrife 54
Purple 135
Loosewort 176
Lychnis 128
Lyme-grass 32
Madder, Field 36
Madder, Wild 303
Madwort, Mountain 4
Mallow 201
Mantle, Lady's 42
Mangle 112
Mare's-tail 1
Marigold, Bur 234
Corn 245
Marsh 159
Marigold 170
Marsh Andromeda 304
Chneufol 147
Marigold 159
Penny-wort 84
Trefoil 52
Mat-grass 15
May 135
May-weed 246, 248
Meadow-grass 23
rue 153
saffron 105
sweet 137, 138
Meadows, Queen of the 158
Medick 216
Medlar 185
<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melic-grass</td>
<td>21</td>
</tr>
<tr>
<td>Melilot</td>
<td>212</td>
</tr>
<tr>
<td>Mercury</td>
<td>298</td>
</tr>
<tr>
<td>Mezereon</td>
<td>111</td>
</tr>
<tr>
<td>Mignonette, Wild</td>
<td>133</td>
</tr>
<tr>
<td>Milfoil</td>
<td>248</td>
</tr>
<tr>
<td>—— Hooded</td>
<td></td>
</tr>
<tr>
<td>—— Water</td>
<td>7</td>
</tr>
<tr>
<td>Milkwort</td>
<td>203</td>
</tr>
<tr>
<td>Milk-vetch</td>
<td>211</td>
</tr>
<tr>
<td>Millet-Cypress-grass</td>
<td>14</td>
</tr>
<tr>
<td>Millet-grass</td>
<td>18</td>
</tr>
<tr>
<td>Mill, or Millet, Grey</td>
<td>48</td>
</tr>
<tr>
<td>Mill, Mountain</td>
<td>88</td>
</tr>
<tr>
<td>Mint</td>
<td>162</td>
</tr>
<tr>
<td>—— Cat</td>
<td>161</td>
</tr>
<tr>
<td>—— Horse</td>
<td>162</td>
</tr>
<tr>
<td>Mistletoe</td>
<td>295</td>
</tr>
<tr>
<td>Mithridate Mustard</td>
<td>184</td>
</tr>
<tr>
<td>—— Pepper wort</td>
<td>183</td>
</tr>
<tr>
<td>Monchla</td>
<td>46</td>
</tr>
<tr>
<td>Money-wort</td>
<td>54</td>
</tr>
<tr>
<td>Moon Daisy</td>
<td>215</td>
</tr>
<tr>
<td>Moschatel</td>
<td>116</td>
</tr>
<tr>
<td>Mountain Ash</td>
<td>137</td>
</tr>
<tr>
<td>—— Germander</td>
<td>4</td>
</tr>
<tr>
<td>—— Madwort</td>
<td>4</td>
</tr>
<tr>
<td>—— Sorrel</td>
<td>101, 304</td>
</tr>
<tr>
<td>—— Speedwell</td>
<td>4</td>
</tr>
<tr>
<td>Mouse-ear (Myosotis)</td>
<td>46</td>
</tr>
<tr>
<td>—— chickweed</td>
<td>129</td>
</tr>
<tr>
<td>Mouse-tail</td>
<td>90</td>
</tr>
<tr>
<td>Mud-wort</td>
<td>171</td>
</tr>
<tr>
<td>Mugweed</td>
<td>37</td>
</tr>
<tr>
<td>Mugwort</td>
<td>286</td>
</tr>
<tr>
<td>Mulein</td>
<td>61</td>
</tr>
<tr>
<td>Musk-orchis</td>
<td>256</td>
</tr>
<tr>
<td>—— thistle</td>
<td>229</td>
</tr>
<tr>
<td>Mustard</td>
<td>195</td>
</tr>
<tr>
<td>—— Hedge</td>
<td>190</td>
</tr>
<tr>
<td>—— Mithridate</td>
<td>184</td>
</tr>
<tr>
<td>—— Tower</td>
<td>194</td>
</tr>
<tr>
<td>—— Treacle</td>
<td>191</td>
</tr>
<tr>
<td>Narcissus</td>
<td>91</td>
</tr>
<tr>
<td>Navel-wort</td>
<td>125</td>
</tr>
<tr>
<td>Navev, Wild</td>
<td>195</td>
</tr>
<tr>
<td>Needle-chervil</td>
<td>76</td>
</tr>
<tr>
<td>—— Shepherd’s</td>
<td>76</td>
</tr>
<tr>
<td>Nettle</td>
<td>277</td>
</tr>
<tr>
<td>—— Bee</td>
<td>167</td>
</tr>
<tr>
<td>—— Dead</td>
<td>165</td>
</tr>
<tr>
<td>—— Yellow</td>
<td>167</td>
</tr>
<tr>
<td>—— Hemp</td>
<td>166</td>
</tr>
<tr>
<td>—— Stinging</td>
<td>277</td>
</tr>
<tr>
<td>Nightshade</td>
<td>63</td>
</tr>
<tr>
<td>—— Deadly</td>
<td>62</td>
</tr>
<tr>
<td>—— Enchanter’s</td>
<td>3</td>
</tr>
<tr>
<td>Nipple-wort</td>
<td>227</td>
</tr>
<tr>
<td>Nonesuch</td>
<td>216</td>
</tr>
<tr>
<td>Nottingham Catchfly</td>
<td>304</td>
</tr>
<tr>
<td>Nut, Earth</td>
<td>77</td>
</tr>
<tr>
<td>—— Hazel</td>
<td>284</td>
</tr>
<tr>
<td>—— Kipper</td>
<td>77</td>
</tr>
<tr>
<td>—— Pig</td>
<td>77</td>
</tr>
<tr>
<td>Oak</td>
<td>281</td>
</tr>
<tr>
<td>Oat, or Oat-grass</td>
<td>30</td>
</tr>
<tr>
<td>Olive, Spurge</td>
<td>111</td>
</tr>
<tr>
<td>Orache</td>
<td>300</td>
</tr>
<tr>
<td>Orichis</td>
<td>251</td>
</tr>
<tr>
<td>—— Insect</td>
<td>256</td>
</tr>
<tr>
<td>Orgine</td>
<td>125</td>
</tr>
<tr>
<td>Osier</td>
<td>285</td>
</tr>
<tr>
<td>Our Lady’s-Thistle</td>
<td>230</td>
</tr>
<tr>
<td>Ox-eye Daisy</td>
<td>245</td>
</tr>
<tr>
<td>Ox-tongue</td>
<td>221</td>
</tr>
<tr>
<td>Pausy</td>
<td>60</td>
</tr>
<tr>
<td>Paris, Herb</td>
<td>116</td>
</tr>
<tr>
<td>Park-leaves</td>
<td>217</td>
</tr>
<tr>
<td>Parnassus, Grass of</td>
<td>87</td>
</tr>
<tr>
<td>Parsley</td>
<td>82</td>
</tr>
<tr>
<td>—— Bastard Stone</td>
<td>79</td>
</tr>
<tr>
<td>—— Beaked</td>
<td>76</td>
</tr>
<tr>
<td>—— Bur</td>
<td>75</td>
</tr>
<tr>
<td>—— Fool’s</td>
<td>79</td>
</tr>
<tr>
<td>—— Hedge</td>
<td>75</td>
</tr>
<tr>
<td>—— Pier</td>
<td>42</td>
</tr>
<tr>
<td>—— Rough Cow</td>
<td>77</td>
</tr>
<tr>
<td>—— Smooth Cow</td>
<td>76</td>
</tr>
<tr>
<td>Parsnep</td>
<td>84</td>
</tr>
<tr>
<td>—— Water</td>
<td>78</td>
</tr>
<tr>
<td>Pasque flower</td>
<td>152</td>
</tr>
<tr>
<td>Paul’s Betony</td>
<td>3</td>
</tr>
<tr>
<td>Pea, Everlasting</td>
<td>207</td>
</tr>
<tr>
<td>—— Heath</td>
<td>206</td>
</tr>
<tr>
<td>Pearl-wort</td>
<td>45</td>
</tr>
<tr>
<td>Pear-tree</td>
<td>136</td>
</tr>
<tr>
<td>Pellitory of the Wall</td>
<td>42</td>
</tr>
<tr>
<td>Penny-Cress</td>
<td>184</td>
</tr>
<tr>
<td>—— royal</td>
<td>164</td>
</tr>
<tr>
<td>Penny-wort, Marsh</td>
<td>84</td>
</tr>
<tr>
<td>Pepper-saxifrage</td>
<td>83</td>
</tr>
<tr>
<td>—— Wall</td>
<td>126</td>
</tr>
<tr>
<td>—— wort</td>
<td>183</td>
</tr>
<tr>
<td>—— Mithridate</td>
<td>183</td>
</tr>
<tr>
<td>Periwinkle</td>
<td>68</td>
</tr>
<tr>
<td>Persian-willow</td>
<td>106</td>
</tr>
<tr>
<td>Persicaria</td>
<td>112</td>
</tr>
<tr>
<td>Peter’s-wort, St.</td>
<td>218</td>
</tr>
<tr>
<td>Petty-whin</td>
<td>204</td>
</tr>
<tr>
<td>Pheasant’s-eye</td>
<td>164</td>
</tr>
<tr>
<td>Pig-nut</td>
<td>77</td>
</tr>
<tr>
<td>Pile-wort</td>
<td>155</td>
</tr>
<tr>
<td>Pimpernel</td>
<td>54, 304</td>
</tr>
<tr>
<td>—— Water</td>
<td>64</td>
</tr>
<tr>
<td>—— Yellow</td>
<td>54</td>
</tr>
<tr>
<td>Pink</td>
<td>121</td>
</tr>
<tr>
<td>Plantain</td>
<td>40</td>
</tr>
<tr>
<td>—— Water</td>
<td>105</td>
</tr>
<tr>
<td>Plantain leaved Chickweed</td>
<td>Page</td>
</tr>
<tr>
<td>---------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Blommar's Spikenard</td>
<td>324</td>
</tr>
<tr>
<td>Plum</td>
<td>134</td>
</tr>
<tr>
<td>Plum-thistle</td>
<td>231</td>
</tr>
<tr>
<td>Pond-weed</td>
<td>43</td>
</tr>
<tr>
<td>—— Horned</td>
<td>263</td>
</tr>
<tr>
<td>Poplar</td>
<td>296</td>
</tr>
<tr>
<td>Poppy</td>
<td>148</td>
</tr>
<tr>
<td>Potentilla</td>
<td>141</td>
</tr>
<tr>
<td>Prickwood</td>
<td>66</td>
</tr>
<tr>
<td>Primrose</td>
<td>52</td>
</tr>
<tr>
<td>Print, or Prim Print</td>
<td>3</td>
</tr>
<tr>
<td>Purple-loose-strife</td>
<td>131</td>
</tr>
<tr>
<td>Purse, Shepherd's</td>
<td>184</td>
</tr>
<tr>
<td>Purslane</td>
<td>101</td>
</tr>
<tr>
<td>Quaking-grass</td>
<td>24</td>
</tr>
<tr>
<td>Queen of the Meadows</td>
<td>138</td>
</tr>
<tr>
<td>Quicken-tree</td>
<td>137</td>
</tr>
<tr>
<td>Quinsey-wort (see Squinancy-wort)</td>
<td>36</td>
</tr>
<tr>
<td>Radish</td>
<td>197</td>
</tr>
<tr>
<td>—— Horse</td>
<td>185</td>
</tr>
<tr>
<td>—— Great Water</td>
<td>189</td>
</tr>
<tr>
<td>Ragged Robin</td>
<td>128</td>
</tr>
<tr>
<td>Ragwort</td>
<td>240</td>
</tr>
<tr>
<td>Ramsoms</td>
<td>92</td>
</tr>
<tr>
<td>Ranunculus</td>
<td>151</td>
</tr>
<tr>
<td>Rape</td>
<td>194</td>
</tr>
<tr>
<td>Raspberry</td>
<td>142</td>
</tr>
<tr>
<td>Rattle, Red</td>
<td>176</td>
</tr>
<tr>
<td>—— Yellow</td>
<td>173</td>
</tr>
<tr>
<td>Red-rattle</td>
<td>176</td>
</tr>
<tr>
<td>Reed</td>
<td>31</td>
</tr>
<tr>
<td>Reed-mace</td>
<td>264</td>
</tr>
<tr>
<td>Rest-harrow</td>
<td>205</td>
</tr>
<tr>
<td>Rib-wort</td>
<td>40</td>
</tr>
<tr>
<td>Roan-tree</td>
<td>137</td>
</tr>
<tr>
<td>Robert, Herb</td>
<td>190</td>
</tr>
<tr>
<td>Rock-cress</td>
<td>153</td>
</tr>
<tr>
<td>Rocket</td>
<td>133</td>
</tr>
<tr>
<td>—— Base</td>
<td>133</td>
</tr>
<tr>
<td>—— London</td>
<td>190</td>
</tr>
<tr>
<td>—— Yellow</td>
<td>191</td>
</tr>
<tr>
<td>Rock-rose</td>
<td>151</td>
</tr>
<tr>
<td>Rose-bay</td>
<td>106</td>
</tr>
<tr>
<td>Rose</td>
<td>138</td>
</tr>
<tr>
<td>—— Burnet</td>
<td>138</td>
</tr>
<tr>
<td>—— Dog</td>
<td>140</td>
</tr>
<tr>
<td>—— Rock</td>
<td>151</td>
</tr>
<tr>
<td>Rough Cow-parsley</td>
<td>77</td>
</tr>
<tr>
<td>Rush</td>
<td>96</td>
</tr>
<tr>
<td>—— Beak</td>
<td>12</td>
</tr>
<tr>
<td>—— Bog</td>
<td>12</td>
</tr>
<tr>
<td>—— Bull</td>
<td>12</td>
</tr>
<tr>
<td>—— Club</td>
<td>12</td>
</tr>
<tr>
<td>—— Flowering</td>
<td>117</td>
</tr>
<tr>
<td>—— Spike</td>
<td>14</td>
</tr>
<tr>
<td>—— Twig</td>
<td>9</td>
</tr>
<tr>
<td>—— Wood</td>
<td>99</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Plant Name</td>
<td>Page</td>
</tr>
<tr>
<td>------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Spindle-tree</td>
<td>66</td>
</tr>
<tr>
<td>Spiraea</td>
<td>137</td>
</tr>
<tr>
<td>Spurge</td>
<td>261</td>
</tr>
<tr>
<td>Laurel</td>
<td>111</td>
</tr>
<tr>
<td>Olive</td>
<td>111</td>
</tr>
<tr>
<td>Squill</td>
<td>94,304</td>
</tr>
<tr>
<td>Squinancy-wort</td>
<td>36</td>
</tr>
<tr>
<td>Star of Bethlehem</td>
<td>93</td>
</tr>
<tr>
<td>earth</td>
<td>40</td>
</tr>
<tr>
<td>thistle</td>
<td>249</td>
</tr>
<tr>
<td>wort Water</td>
<td>2</td>
</tr>
<tr>
<td>Stinging-nettle</td>
<td>277</td>
</tr>
<tr>
<td>Stitchwort</td>
<td>122</td>
</tr>
<tr>
<td>Stock-nut</td>
<td>284</td>
</tr>
<tr>
<td>Stone-crop</td>
<td>125</td>
</tr>
<tr>
<td>Stone-parsley, Bastard</td>
<td>79</td>
</tr>
<tr>
<td>Stork's-bill</td>
<td>197</td>
</tr>
<tr>
<td>Strawberry</td>
<td>144</td>
</tr>
<tr>
<td>Succory</td>
<td>227</td>
</tr>
<tr>
<td>Sulphur-wort</td>
<td>80</td>
</tr>
<tr>
<td>Sun-dew</td>
<td>89</td>
</tr>
<tr>
<td>Sweet-Briar</td>
<td>139</td>
</tr>
<tr>
<td>Flag</td>
<td>95</td>
</tr>
<tr>
<td>grass</td>
<td>22</td>
</tr>
<tr>
<td>Swine's-cress</td>
<td>186</td>
</tr>
<tr>
<td>Sycamore</td>
<td>112</td>
</tr>
<tr>
<td>Tansy</td>
<td>235</td>
</tr>
<tr>
<td>Tare</td>
<td>209</td>
</tr>
<tr>
<td>Teasel</td>
<td>34</td>
</tr>
<tr>
<td>Teesdalia</td>
<td>184</td>
</tr>
<tr>
<td>Thistle</td>
<td>220</td>
</tr>
<tr>
<td>Carline</td>
<td>233</td>
</tr>
<tr>
<td>Cotton</td>
<td>233</td>
</tr>
<tr>
<td>Cursed</td>
<td>231</td>
</tr>
<tr>
<td>Musk</td>
<td>229</td>
</tr>
<tr>
<td>Our Lady's</td>
<td>230</td>
</tr>
<tr>
<td>Plume</td>
<td>231</td>
</tr>
<tr>
<td>Star</td>
<td>249</td>
</tr>
<tr>
<td>Throew-wax</td>
<td>84</td>
</tr>
<tr>
<td>Thyme</td>
<td>170</td>
</tr>
<tr>
<td>Timothy-grass</td>
<td>16</td>
</tr>
<tr>
<td>Toad-flax</td>
<td>176</td>
</tr>
<tr>
<td>Bastard</td>
<td>68</td>
</tr>
<tr>
<td>Tooth-wort</td>
<td>187</td>
</tr>
<tr>
<td>Tormentil</td>
<td>145</td>
</tr>
<tr>
<td>Tower-mustard</td>
<td>194</td>
</tr>
<tr>
<td>Traveller's-joy</td>
<td>153</td>
</tr>
<tr>
<td>Treacle-mustard</td>
<td>191</td>
</tr>
<tr>
<td>Trefoil</td>
<td>212</td>
</tr>
<tr>
<td>Bird's-foot</td>
<td>215</td>
</tr>
<tr>
<td>Tulip</td>
<td>92</td>
</tr>
<tr>
<td>Turnip</td>
<td>194</td>
</tr>
<tr>
<td>Tutsan</td>
<td>217</td>
</tr>
<tr>
<td>Tway-blade</td>
<td>258</td>
</tr>
<tr>
<td>Twig rush</td>
<td>9</td>
</tr>
<tr>
<td>Two-pence, Herb</td>
<td>54</td>
</tr>
<tr>
<td>Valerian</td>
<td>10</td>
</tr>
<tr>
<td>Valerian, Greek</td>
<td>56</td>
</tr>
<tr>
<td>Valley, Lily of the</td>
<td>95</td>
</tr>
<tr>
<td>Venus' comb</td>
<td>76</td>
</tr>
<tr>
<td>Vernal-grass</td>
<td>9</td>
</tr>
<tr>
<td>Vervain</td>
<td>162</td>
</tr>
<tr>
<td>Vetch</td>
<td>208</td>
</tr>
<tr>
<td>Bitter</td>
<td>266</td>
</tr>
<tr>
<td>Horse-shoe</td>
<td>210</td>
</tr>
<tr>
<td>Kidney</td>
<td>206</td>
</tr>
<tr>
<td>Milk</td>
<td>211</td>
</tr>
<tr>
<td>Vetchling</td>
<td>207</td>
</tr>
<tr>
<td>Villarsia</td>
<td>53</td>
</tr>
<tr>
<td>Violet</td>
<td>59</td>
</tr>
<tr>
<td>Dame's</td>
<td>192</td>
</tr>
<tr>
<td>Water</td>
<td>53</td>
</tr>
<tr>
<td>Viper's-bugloss</td>
<td>51</td>
</tr>
<tr>
<td>Wake Robin</td>
<td>280</td>
</tr>
<tr>
<td>Wall-cress</td>
<td>193</td>
</tr>
<tr>
<td>flower</td>
<td>192</td>
</tr>
<tr>
<td>lettuce</td>
<td>223</td>
</tr>
<tr>
<td>pellitory</td>
<td>42</td>
</tr>
<tr>
<td>pepper</td>
<td>126</td>
</tr>
<tr>
<td>Wart-cress</td>
<td>186</td>
</tr>
<tr>
<td>Wart-wort</td>
<td>202</td>
</tr>
<tr>
<td>Water Aloe</td>
<td>152</td>
</tr>
<tr>
<td>Betony</td>
<td>180</td>
</tr>
<tr>
<td>Chickweed, small</td>
<td>34</td>
</tr>
<tr>
<td>Cress</td>
<td>188</td>
</tr>
<tr>
<td>Dropwort</td>
<td>80</td>
</tr>
<tr>
<td>Elder</td>
<td>86</td>
</tr>
<tr>
<td>Horehound</td>
<td>8</td>
</tr>
<tr>
<td>Iris, yellow</td>
<td>95</td>
</tr>
<tr>
<td>Lily, fringed</td>
<td>53</td>
</tr>
<tr>
<td>Lily, (white and yellow)</td>
<td>149</td>
</tr>
<tr>
<td>Milfoil</td>
<td>279</td>
</tr>
<tr>
<td>Parsnep</td>
<td>78</td>
</tr>
<tr>
<td>Pimpernel</td>
<td>64</td>
</tr>
<tr>
<td>Plantain</td>
<td>105</td>
</tr>
<tr>
<td>Soldier</td>
<td>152</td>
</tr>
<tr>
<td>Starwort</td>
<td>2</td>
</tr>
<tr>
<td>Violet</td>
<td>53</td>
</tr>
<tr>
<td>wort</td>
<td>116</td>
</tr>
<tr>
<td>Way-bennet</td>
<td>32</td>
</tr>
<tr>
<td>Wayfaring-tree</td>
<td>86</td>
</tr>
<tr>
<td>Weasel-snout</td>
<td>167</td>
</tr>
<tr>
<td>Weed, Green</td>
<td>204</td>
</tr>
<tr>
<td>Weld, or Yellow-weed</td>
<td>133</td>
</tr>
<tr>
<td>Wheat, Buck</td>
<td>112</td>
</tr>
<tr>
<td>Cow</td>
<td>174</td>
</tr>
<tr>
<td>grass</td>
<td>33</td>
</tr>
<tr>
<td>Whin</td>
<td>295</td>
</tr>
<tr>
<td>Petty</td>
<td>294</td>
</tr>
<tr>
<td>White-beam-tree</td>
<td>137</td>
</tr>
<tr>
<td>Horehound</td>
<td>169</td>
</tr>
<tr>
<td>rot</td>
<td>84</td>
</tr>
<tr>
<td>thorn</td>
<td>135</td>
</tr>
<tr>
<td>White Water-lily</td>
<td>149</td>
</tr>
<tr>
<td>Whitlow-grass</td>
<td>183</td>
</tr>
<tr>
<td>Whortle-berry</td>
<td>109</td>
</tr>
<tr>
<td>Wild Basil</td>
<td>170</td>
</tr>
<tr>
<td>Plant</td>
<td>Page</td>
</tr>
<tr>
<td>-----------------------</td>
<td>------</td>
</tr>
<tr>
<td>Wild Celery</td>
<td>82</td>
</tr>
<tr>
<td>—— Chamomile</td>
<td>246</td>
</tr>
<tr>
<td>—— Hyacinth</td>
<td>94</td>
</tr>
<tr>
<td>—— Liquorice</td>
<td>211</td>
</tr>
<tr>
<td>—— Madder</td>
<td>303</td>
</tr>
<tr>
<td>—— Mignonette</td>
<td>133</td>
</tr>
<tr>
<td>—— Navew</td>
<td>195</td>
</tr>
<tr>
<td>—— Oat, or Haver</td>
<td>30</td>
</tr>
<tr>
<td>—— Pear-tree</td>
<td>136</td>
</tr>
<tr>
<td>—— Tansy</td>
<td>235</td>
</tr>
<tr>
<td>Willow</td>
<td>285</td>
</tr>
<tr>
<td>—— herb</td>
<td>106</td>
</tr>
<tr>
<td>Winter-cress</td>
<td>191</td>
</tr>
<tr>
<td>—— green</td>
<td>118</td>
</tr>
<tr>
<td>Woodbine</td>
<td>65</td>
</tr>
<tr>
<td>Woodruff</td>
<td>36</td>
</tr>
<tr>
<td>Wood-rush</td>
<td>99</td>
</tr>
<tr>
<td>Wood sage</td>
<td>160</td>
</tr>
<tr>
<td>—— sorrel</td>
<td>127</td>
</tr>
<tr>
<td>Wood waxen</td>
<td>204</td>
</tr>
<tr>
<td>Worm-seed</td>
<td>191</td>
</tr>
<tr>
<td>Wormwood</td>
<td>235</td>
</tr>
<tr>
<td>Woundwort</td>
<td>108</td>
</tr>
<tr>
<td>Wych elm</td>
<td>71</td>
</tr>
<tr>
<td>—— Hazel</td>
<td>72</td>
</tr>
<tr>
<td>Yarrow</td>
<td>248</td>
</tr>
<tr>
<td>Yellow-Devil's-bit</td>
<td>224</td>
</tr>
<tr>
<td>—— Pimpernel</td>
<td>54</td>
</tr>
<tr>
<td>—— Rattle</td>
<td>173</td>
</tr>
<tr>
<td>—— Rocket</td>
<td>191</td>
</tr>
<tr>
<td>—— Water-Iris</td>
<td>95</td>
</tr>
<tr>
<td>—— lily</td>
<td>149</td>
</tr>
<tr>
<td>—— weed, or weld</td>
<td>133</td>
</tr>
<tr>
<td>—— wort</td>
<td>108</td>
</tr>
<tr>
<td>Yew</td>
<td>300</td>
</tr>
<tr>
<td>Yorkshire Sanicle</td>
<td>6</td>
</tr>
</tbody>
</table>
**INDEX**

**TO**

**THE GENERA.**

N. B. Figures in first columns refer to the Introduction pages.

<table>
<thead>
<tr>
<th>Acer</th>
<th>109</th>
<th>122</th>
</tr>
</thead>
<tbody>
<tr>
<td>Achillea</td>
<td>127</td>
<td>248</td>
</tr>
<tr>
<td>Acorus</td>
<td>108</td>
<td>95</td>
</tr>
<tr>
<td>Adonis</td>
<td>116</td>
<td>154</td>
</tr>
<tr>
<td>Adoxa</td>
<td>110</td>
<td>116</td>
</tr>
<tr>
<td><em>Eregopodium</em></td>
<td>104</td>
<td>82</td>
</tr>
<tr>
<td><em>Ethisa</em></td>
<td>105</td>
<td>79</td>
</tr>
<tr>
<td>Agrimonio</td>
<td>113</td>
<td>132</td>
</tr>
<tr>
<td><em>Agrostemma</em></td>
<td>112</td>
<td>128</td>
</tr>
<tr>
<td>Agrostis</td>
<td>94</td>
<td>18</td>
</tr>
<tr>
<td>Aira</td>
<td>94</td>
<td>19</td>
</tr>
<tr>
<td>Ajuga</td>
<td>117</td>
<td>160</td>
</tr>
<tr>
<td>Alchemilla</td>
<td>97</td>
<td>42</td>
</tr>
<tr>
<td>Alisma</td>
<td>108</td>
<td>105</td>
</tr>
<tr>
<td>Allium</td>
<td>107</td>
<td>91</td>
</tr>
<tr>
<td>Alnus</td>
<td>130</td>
<td>277</td>
</tr>
<tr>
<td>Alopecurus</td>
<td>94</td>
<td>17</td>
</tr>
<tr>
<td>Anagallis</td>
<td>99</td>
<td>54</td>
</tr>
<tr>
<td>Anhusha</td>
<td>98</td>
<td>49</td>
</tr>
<tr>
<td>Andromeda</td>
<td>111</td>
<td>304</td>
</tr>
<tr>
<td>Anemonoe</td>
<td>116</td>
<td>152</td>
</tr>
<tr>
<td>Angelica</td>
<td>105</td>
<td>82</td>
</tr>
<tr>
<td>Anthemis</td>
<td>127</td>
<td>247</td>
</tr>
<tr>
<td>Anthoxanthum</td>
<td>93</td>
<td>9</td>
</tr>
<tr>
<td>Anthusicus</td>
<td>102</td>
<td>76</td>
</tr>
<tr>
<td>Anthyllis</td>
<td>123</td>
<td>206</td>
</tr>
<tr>
<td>Antirrhinum</td>
<td>118</td>
<td>176</td>
</tr>
<tr>
<td>Apargia</td>
<td>125</td>
<td>224</td>
</tr>
<tr>
<td>Apium</td>
<td>104</td>
<td>82</td>
</tr>
<tr>
<td>Aquilegia</td>
<td>115</td>
<td>152</td>
</tr>
<tr>
<td>Arabis</td>
<td>120</td>
<td>193</td>
</tr>
<tr>
<td>Aretium</td>
<td>125</td>
<td>228</td>
</tr>
<tr>
<td>Arenaria</td>
<td>111</td>
<td>124</td>
</tr>
<tr>
<td>Aristolochia</td>
<td>128</td>
<td>260</td>
</tr>
<tr>
<td>Artemisia</td>
<td>126</td>
<td>235</td>
</tr>
<tr>
<td>Arum</td>
<td>132</td>
<td>280</td>
</tr>
<tr>
<td>Aurindo</td>
<td>96</td>
<td>31</td>
</tr>
<tr>
<td>Asarum</td>
<td>113</td>
<td>131</td>
</tr>
<tr>
<td>Asparagus</td>
<td>95</td>
<td></td>
</tr>
<tr>
<td>Asperula</td>
<td>97</td>
<td>36</td>
</tr>
<tr>
<td>Astragalus</td>
<td>123</td>
<td>211</td>
</tr>
<tr>
<td>Atriplex</td>
<td>135</td>
<td>300</td>
</tr>
<tr>
<td>Atropa</td>
<td>100</td>
<td>62</td>
</tr>
<tr>
<td>Avena</td>
<td>95</td>
<td>30</td>
</tr>
<tr>
<td>Ballota</td>
<td>117</td>
<td>169</td>
</tr>
<tr>
<td>Barbarea</td>
<td>120</td>
<td>191</td>
</tr>
<tr>
<td>Bartsia</td>
<td>118</td>
<td>173</td>
</tr>
<tr>
<td>Bellis</td>
<td>126</td>
<td>244</td>
</tr>
<tr>
<td>Berberis</td>
<td>106</td>
<td>101</td>
</tr>
<tr>
<td>Betonica</td>
<td>117</td>
<td>167</td>
</tr>
<tr>
<td>Betula</td>
<td>132</td>
<td>283</td>
</tr>
<tr>
<td>Bidens</td>
<td>126</td>
<td>234</td>
</tr>
<tr>
<td>Borago</td>
<td>135</td>
<td>50</td>
</tr>
<tr>
<td>Brassica</td>
<td>121</td>
<td>194</td>
</tr>
<tr>
<td>Briza</td>
<td>95</td>
<td>24</td>
</tr>
<tr>
<td>Bromus</td>
<td>130</td>
<td>278</td>
</tr>
<tr>
<td>Bunium</td>
<td>103</td>
<td>77</td>
</tr>
<tr>
<td>Bupleurum</td>
<td>104</td>
<td>84</td>
</tr>
<tr>
<td>Butomus</td>
<td>110</td>
<td>117</td>
</tr>
<tr>
<td>Callitriche</td>
<td>91</td>
<td>2</td>
</tr>
<tr>
<td>Calluna</td>
<td>109</td>
<td>110</td>
</tr>
<tr>
<td>Caltha</td>
<td>116</td>
<td>159</td>
</tr>
<tr>
<td>Camelina</td>
<td>119</td>
<td>183</td>
</tr>
<tr>
<td>Campanula</td>
<td>100</td>
<td>56</td>
</tr>
<tr>
<td>Cardamine</td>
<td>120</td>
<td>187</td>
</tr>
<tr>
<td>Carduus</td>
<td>125</td>
<td>229</td>
</tr>
<tr>
<td>Carex</td>
<td>129</td>
<td>265</td>
</tr>
<tr>
<td>Carllina</td>
<td>125</td>
<td>233</td>
</tr>
<tr>
<td>Carpinus</td>
<td>131</td>
<td>284</td>
</tr>
<tr>
<td>Caucalis</td>
<td>103</td>
<td>75</td>
</tr>
<tr>
<td>Centaurea</td>
<td>127</td>
<td>249</td>
</tr>
<tr>
<td>Centunculus</td>
<td>97</td>
<td>41</td>
</tr>
<tr>
<td>Cerastium</td>
<td>112</td>
<td>129</td>
</tr>
<tr>
<td>Ceratophyllum</td>
<td>131</td>
<td>279</td>
</tr>
<tr>
<td>Charophyllum</td>
<td>102</td>
<td>76</td>
</tr>
<tr>
<td>Chara</td>
<td>91</td>
<td>1</td>
</tr>
<tr>
<td>Cheiranthis</td>
<td>120</td>
<td>102</td>
</tr>
<tr>
<td>Chelidonium</td>
<td>115</td>
<td>147</td>
</tr>
<tr>
<td>Chenopodium</td>
<td>101</td>
<td>69</td>
</tr>
<tr>
<td>Chlora</td>
<td>109</td>
<td>108</td>
</tr>
<tr>
<td>Chrysanthemum</td>
<td>127</td>
<td>245</td>
</tr>
<tr>
<td>Index</td>
<td>Page</td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>------</td>
<td></td>
</tr>
<tr>
<td>Chrysosplenium</td>
<td>111</td>
<td></td>
</tr>
<tr>
<td>Cichorium</td>
<td>121</td>
<td></td>
</tr>
<tr>
<td>Cineraria</td>
<td>127</td>
<td></td>
</tr>
<tr>
<td>Circae</td>
<td>92</td>
<td></td>
</tr>
<tr>
<td>Cistus</td>
<td>115</td>
<td></td>
</tr>
<tr>
<td>Cladium</td>
<td>93</td>
<td></td>
</tr>
<tr>
<td>Clematis</td>
<td>116</td>
<td></td>
</tr>
<tr>
<td>Clinopodium</td>
<td>117</td>
<td></td>
</tr>
<tr>
<td>Cnicus</td>
<td>125</td>
<td></td>
</tr>
<tr>
<td>Coelhearia</td>
<td>119</td>
<td></td>
</tr>
<tr>
<td>Colchicum</td>
<td>108</td>
<td></td>
</tr>
<tr>
<td>Comarum</td>
<td>114</td>
<td></td>
</tr>
<tr>
<td>Conium</td>
<td>103</td>
<td></td>
</tr>
<tr>
<td>Convallaria</td>
<td>107</td>
<td></td>
</tr>
<tr>
<td>Convolvulus</td>
<td>99</td>
<td></td>
</tr>
<tr>
<td>Conyza</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td>Cornus</td>
<td>97</td>
<td></td>
</tr>
<tr>
<td>Corylus</td>
<td>131</td>
<td></td>
</tr>
<tr>
<td>Cotyledon</td>
<td>119</td>
<td></td>
</tr>
<tr>
<td>Crepis</td>
<td>124</td>
<td></td>
</tr>
<tr>
<td>Crocus</td>
<td>93</td>
<td></td>
</tr>
<tr>
<td>Cuscuta</td>
<td>101</td>
<td></td>
</tr>
<tr>
<td>Cynoglossum</td>
<td>98</td>
<td></td>
</tr>
<tr>
<td>Cynosurus</td>
<td>95</td>
<td></td>
</tr>
<tr>
<td>Cyripedium</td>
<td>128</td>
<td></td>
</tr>
<tr>
<td>Dactylis</td>
<td>95</td>
<td></td>
</tr>
<tr>
<td>Daphne</td>
<td>110</td>
<td></td>
</tr>
<tr>
<td>Datura</td>
<td>99</td>
<td></td>
</tr>
<tr>
<td>Daucus</td>
<td>102</td>
<td></td>
</tr>
<tr>
<td>Delphinium</td>
<td>115</td>
<td></td>
</tr>
<tr>
<td>Dentaria</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td>Dionthus</td>
<td>111</td>
<td></td>
</tr>
<tr>
<td>Digitalis</td>
<td>118</td>
<td></td>
</tr>
<tr>
<td>Dipusac</td>
<td>96</td>
<td></td>
</tr>
<tr>
<td>Draba</td>
<td>119</td>
<td></td>
</tr>
<tr>
<td>Drosera</td>
<td>106</td>
<td></td>
</tr>
<tr>
<td>Echium</td>
<td>98</td>
<td></td>
</tr>
<tr>
<td>Eleocharis</td>
<td>94</td>
<td></td>
</tr>
<tr>
<td>Elymus</td>
<td>96</td>
<td></td>
</tr>
<tr>
<td>Epilobium</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td>Epipactis</td>
<td>128</td>
<td></td>
</tr>
<tr>
<td>Erica</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td>Erigeron</td>
<td>127</td>
<td></td>
</tr>
<tr>
<td>Eriophorum</td>
<td>94</td>
<td></td>
</tr>
<tr>
<td>Erodium</td>
<td>121</td>
<td></td>
</tr>
<tr>
<td>Eruum</td>
<td>123</td>
<td></td>
</tr>
<tr>
<td>Erygiunm</td>
<td>102</td>
<td></td>
</tr>
<tr>
<td>Erysimum</td>
<td>121</td>
<td></td>
</tr>
<tr>
<td>Erythrea</td>
<td>99</td>
<td></td>
</tr>
<tr>
<td>Euonymus</td>
<td>101</td>
<td></td>
</tr>
<tr>
<td>Eupatorium</td>
<td>126</td>
<td></td>
</tr>
<tr>
<td>Euphorbia</td>
<td>129</td>
<td></td>
</tr>
<tr>
<td>Euphrasia</td>
<td>118</td>
<td></td>
</tr>
<tr>
<td>Fagus</td>
<td>131</td>
<td></td>
</tr>
<tr>
<td>Fedia</td>
<td>93</td>
<td></td>
</tr>
<tr>
<td>Festuca</td>
<td>95</td>
<td></td>
</tr>
<tr>
<td>Fragaria</td>
<td>114</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Page</td>
<td></td>
</tr>
<tr>
<td>Fraxinus</td>
<td>92</td>
<td></td>
</tr>
<tr>
<td>Fritillaria</td>
<td>108</td>
<td></td>
</tr>
<tr>
<td>Fumaria</td>
<td>122</td>
<td></td>
</tr>
<tr>
<td>Galanthus</td>
<td>107</td>
<td></td>
</tr>
<tr>
<td>Galeobdolon</td>
<td>117</td>
<td></td>
</tr>
<tr>
<td>Galium</td>
<td>96</td>
<td></td>
</tr>
<tr>
<td>Genista</td>
<td>192</td>
<td></td>
</tr>
<tr>
<td>Gentiana</td>
<td>101</td>
<td></td>
</tr>
<tr>
<td>Geranium</td>
<td>121</td>
<td></td>
</tr>
<tr>
<td>Geum</td>
<td>114</td>
<td></td>
</tr>
<tr>
<td>Glechoma</td>
<td>116</td>
<td></td>
</tr>
<tr>
<td>Glycera</td>
<td>95</td>
<td></td>
</tr>
<tr>
<td>Gnaphalium</td>
<td>126</td>
<td></td>
</tr>
<tr>
<td>Hedera</td>
<td>101</td>
<td></td>
</tr>
<tr>
<td>Hedysarum</td>
<td>193</td>
<td></td>
</tr>
<tr>
<td>Helleborus</td>
<td>116</td>
<td></td>
</tr>
<tr>
<td>Heracleum</td>
<td>105</td>
<td></td>
</tr>
<tr>
<td>Herminium</td>
<td>128</td>
<td></td>
</tr>
<tr>
<td>Hesperis</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td>Hieracium</td>
<td>124</td>
<td></td>
</tr>
<tr>
<td>Hippocrepis</td>
<td>123</td>
<td></td>
</tr>
<tr>
<td>Higraphus</td>
<td>91</td>
<td></td>
</tr>
<tr>
<td>Holcus</td>
<td>95</td>
<td></td>
</tr>
<tr>
<td>Hordeum</td>
<td>96</td>
<td></td>
</tr>
<tr>
<td>Hottonia</td>
<td>99</td>
<td></td>
</tr>
<tr>
<td>Humulus</td>
<td>133</td>
<td></td>
</tr>
<tr>
<td>Hutchinsia</td>
<td>119</td>
<td></td>
</tr>
<tr>
<td>Hyacinthus</td>
<td>107</td>
<td></td>
</tr>
<tr>
<td>Hydrocharis</td>
<td>134</td>
<td></td>
</tr>
<tr>
<td>Hydrocotyle</td>
<td>104</td>
<td></td>
</tr>
<tr>
<td>Hyoscyamus</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td>Hypericum</td>
<td>124</td>
<td></td>
</tr>
<tr>
<td>Hypochseris</td>
<td>124</td>
<td></td>
</tr>
<tr>
<td>Iberis</td>
<td>119</td>
<td></td>
</tr>
<tr>
<td>Ilex</td>
<td>97</td>
<td></td>
</tr>
<tr>
<td>Inula</td>
<td>127</td>
<td></td>
</tr>
<tr>
<td>Iris</td>
<td>93</td>
<td></td>
</tr>
<tr>
<td>Jasione</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Juncus</td>
<td>108</td>
<td></td>
</tr>
<tr>
<td>Juniperus</td>
<td>135</td>
<td></td>
</tr>
<tr>
<td>Lactuca</td>
<td>125</td>
<td></td>
</tr>
<tr>
<td>Lamiun</td>
<td>117</td>
<td></td>
</tr>
<tr>
<td>Lapsana</td>
<td>125</td>
<td></td>
</tr>
<tr>
<td>Lathrea</td>
<td>118</td>
<td></td>
</tr>
<tr>
<td>Lathyrus</td>
<td>123</td>
<td></td>
</tr>
<tr>
<td>Lema</td>
<td>92</td>
<td></td>
</tr>
<tr>
<td>Leontodon</td>
<td>125</td>
<td></td>
</tr>
<tr>
<td>Lepidium</td>
<td>119</td>
<td></td>
</tr>
<tr>
<td>Leucojum</td>
<td>107</td>
<td></td>
</tr>
<tr>
<td>Ligustrum</td>
<td>92</td>
<td></td>
</tr>
<tr>
<td>Limosella</td>
<td>118</td>
<td></td>
</tr>
<tr>
<td>Linum</td>
<td>106</td>
<td></td>
</tr>
<tr>
<td>Listera</td>
<td>128</td>
<td></td>
</tr>
<tr>
<td>Lithospermum</td>
<td>98</td>
<td></td>
</tr>
<tr>
<td>Lolium</td>
<td>96</td>
<td></td>
</tr>
<tr>
<td>Lonicera</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Index Name</td>
<td>Page</td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>------</td>
<td></td>
</tr>
<tr>
<td>Lotus</td>
<td>124</td>
<td></td>
</tr>
<tr>
<td>Luciola</td>
<td>108</td>
<td></td>
</tr>
<tr>
<td>Lychnis</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td>Lycopsis</td>
<td>98</td>
<td></td>
</tr>
<tr>
<td>Lycopus</td>
<td>92</td>
<td></td>
</tr>
<tr>
<td>Lysimachia</td>
<td>99</td>
<td></td>
</tr>
<tr>
<td>Lythrum</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td>Malva</td>
<td>121</td>
<td></td>
</tr>
<tr>
<td>Marrubium</td>
<td>117</td>
<td></td>
</tr>
<tr>
<td>Matricaria</td>
<td>126</td>
<td></td>
</tr>
<tr>
<td>Medicago</td>
<td>123</td>
<td></td>
</tr>
<tr>
<td>Melampyrum</td>
<td>118</td>
<td></td>
</tr>
<tr>
<td>Melica</td>
<td>95</td>
<td></td>
</tr>
<tr>
<td>Mentha</td>
<td>116</td>
<td></td>
</tr>
<tr>
<td>Menyanthes</td>
<td>99</td>
<td></td>
</tr>
<tr>
<td>Mercurialis</td>
<td>134</td>
<td></td>
</tr>
<tr>
<td>Mesplius</td>
<td>114</td>
<td></td>
</tr>
<tr>
<td>Milium</td>
<td>94</td>
<td></td>
</tr>
<tr>
<td>Moenchia</td>
<td>98</td>
<td></td>
</tr>
<tr>
<td>Monotropa</td>
<td>110</td>
<td></td>
</tr>
<tr>
<td>Montia</td>
<td>96</td>
<td></td>
</tr>
<tr>
<td>Myosotis</td>
<td>98</td>
<td></td>
</tr>
<tr>
<td>Myosurus</td>
<td>106</td>
<td></td>
</tr>
<tr>
<td>Myriophyllum</td>
<td>130</td>
<td></td>
</tr>
<tr>
<td>Myrrhis</td>
<td>103</td>
<td></td>
</tr>
<tr>
<td>Narcissus</td>
<td>107</td>
<td></td>
</tr>
<tr>
<td>Nardus</td>
<td>94</td>
<td></td>
</tr>
<tr>
<td>NARTHICUM</td>
<td>107</td>
<td></td>
</tr>
<tr>
<td>Nasturtium</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td>Neottia</td>
<td>128</td>
<td></td>
</tr>
<tr>
<td>Nepeta</td>
<td>117</td>
<td></td>
</tr>
<tr>
<td>Nuphar</td>
<td>115</td>
<td></td>
</tr>
<tr>
<td>Nymphaea</td>
<td>115</td>
<td></td>
</tr>
<tr>
<td>Oenanthe</td>
<td>103</td>
<td></td>
</tr>
<tr>
<td>Ononis</td>
<td>123</td>
<td></td>
</tr>
<tr>
<td>Onopordium</td>
<td>125</td>
<td></td>
</tr>
<tr>
<td>Ophiys</td>
<td>128</td>
<td></td>
</tr>
<tr>
<td>Orchis</td>
<td>128</td>
<td></td>
</tr>
<tr>
<td>Origanum</td>
<td>117</td>
<td></td>
</tr>
<tr>
<td>ORTHOGALUM</td>
<td>107</td>
<td></td>
</tr>
<tr>
<td>Ornithopus</td>
<td>123</td>
<td></td>
</tr>
<tr>
<td>Orobancha</td>
<td>118</td>
<td></td>
</tr>
<tr>
<td>Orobus</td>
<td>128</td>
<td></td>
</tr>
<tr>
<td>Oxalis</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td>OXYRIA</td>
<td>108</td>
<td></td>
</tr>
<tr>
<td>Papaver</td>
<td>115</td>
<td></td>
</tr>
<tr>
<td>Parietaria</td>
<td>97</td>
<td></td>
</tr>
<tr>
<td>Paris</td>
<td>110</td>
<td></td>
</tr>
<tr>
<td>Parnassia</td>
<td>106</td>
<td></td>
</tr>
<tr>
<td>Pastinaca</td>
<td>105</td>
<td></td>
</tr>
<tr>
<td>Pedicularis</td>
<td>118</td>
<td></td>
</tr>
<tr>
<td>Pepis</td>
<td>107</td>
<td></td>
</tr>
<tr>
<td>Phalaris</td>
<td>91</td>
<td></td>
</tr>
<tr>
<td>Phleum</td>
<td>94</td>
<td></td>
</tr>
<tr>
<td>Picris</td>
<td>125</td>
<td></td>
</tr>
<tr>
<td>Pimpinella</td>
<td>103</td>
<td></td>
</tr>
<tr>
<td>Pinguicula</td>
<td>92</td>
<td></td>
</tr>
<tr>
<td>Plantago</td>
<td>97</td>
<td></td>
</tr>
<tr>
<td>Poa</td>
<td>95</td>
<td></td>
</tr>
<tr>
<td>Polemonium</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Polygala</td>
<td>122</td>
<td></td>
</tr>
<tr>
<td>Polygonum</td>
<td>110</td>
<td></td>
</tr>
<tr>
<td>Populus</td>
<td>134</td>
<td></td>
</tr>
<tr>
<td>Potamogeton</td>
<td>98</td>
<td></td>
</tr>
<tr>
<td>Potentilla</td>
<td>114</td>
<td></td>
</tr>
<tr>
<td>Poterium</td>
<td>130</td>
<td></td>
</tr>
<tr>
<td>Prenanthes</td>
<td>125</td>
<td></td>
</tr>
<tr>
<td>Primula</td>
<td>99</td>
<td></td>
</tr>
<tr>
<td>Prunella</td>
<td>117</td>
<td></td>
</tr>
<tr>
<td>Prunus</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td>Pyrethrum</td>
<td>127</td>
<td></td>
</tr>
<tr>
<td>Pyroja</td>
<td>111</td>
<td></td>
</tr>
<tr>
<td>Pyrus</td>
<td>114</td>
<td></td>
</tr>
<tr>
<td>Quercus</td>
<td>131</td>
<td></td>
</tr>
<tr>
<td>Radiola</td>
<td>98</td>
<td></td>
</tr>
<tr>
<td>Ranunculus</td>
<td>116</td>
<td></td>
</tr>
<tr>
<td>Raphanus</td>
<td>121</td>
<td></td>
</tr>
<tr>
<td>Reseda</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td>Rhamnus</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Rhaeathus</td>
<td>118</td>
<td></td>
</tr>
<tr>
<td>RHYNOCHOPORA</td>
<td>93</td>
<td></td>
</tr>
<tr>
<td>Ribes</td>
<td>101</td>
<td></td>
</tr>
<tr>
<td>Rosa</td>
<td>114</td>
<td></td>
</tr>
<tr>
<td>Rubia</td>
<td>303</td>
<td></td>
</tr>
<tr>
<td>Rubus</td>
<td>114</td>
<td></td>
</tr>
<tr>
<td>Rumex</td>
<td>108</td>
<td></td>
</tr>
<tr>
<td>Ruscus</td>
<td>133</td>
<td></td>
</tr>
<tr>
<td>Sagia</td>
<td>98</td>
<td></td>
</tr>
<tr>
<td>Sagittaria</td>
<td>131</td>
<td></td>
</tr>
<tr>
<td>Salix</td>
<td>132</td>
<td></td>
</tr>
<tr>
<td>Salvia</td>
<td>92</td>
<td></td>
</tr>
<tr>
<td>Sambucus</td>
<td>106</td>
<td></td>
</tr>
<tr>
<td>Samolus</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Sanguisorba</td>
<td>97</td>
<td></td>
</tr>
<tr>
<td>Sanicula</td>
<td>102</td>
<td></td>
</tr>
<tr>
<td>Saponaria</td>
<td>111</td>
<td></td>
</tr>
<tr>
<td>Saxifraga</td>
<td>111</td>
<td></td>
</tr>
<tr>
<td>Scabiosa</td>
<td>96</td>
<td></td>
</tr>
<tr>
<td>Scandix</td>
<td>102</td>
<td></td>
</tr>
<tr>
<td>Schoenius</td>
<td>93</td>
<td></td>
</tr>
<tr>
<td>SCILLA</td>
<td>107</td>
<td></td>
</tr>
<tr>
<td>Scirpus</td>
<td>93</td>
<td></td>
</tr>
<tr>
<td>Selenanlus</td>
<td>111</td>
<td></td>
</tr>
<tr>
<td>Scrophularia</td>
<td>135</td>
<td></td>
</tr>
<tr>
<td>Scutellaria</td>
<td>117</td>
<td></td>
</tr>
<tr>
<td>Sedum</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td>Sempervivum</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td>Senebiera</td>
<td>119</td>
<td></td>
</tr>
<tr>
<td>Senecio</td>
<td>127</td>
<td></td>
</tr>
<tr>
<td>Serratula</td>
<td>126</td>
<td></td>
</tr>
<tr>
<td>Sherardia</td>
<td>127</td>
<td></td>
</tr>
<tr>
<td>Silene</td>
<td>111</td>
<td></td>
</tr>
<tr>
<td>Sinapis</td>
<td>121</td>
<td></td>
</tr>
<tr>
<td>Sison</td>
<td>103</td>
<td></td>
</tr>
<tr>
<td>Sisymbrium</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td>Index</td>
<td>Page</td>
<td>Page</td>
</tr>
<tr>
<td>-------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>Sium</td>
<td>103</td>
<td>78</td>
</tr>
<tr>
<td>Smynium</td>
<td>104</td>
<td>81</td>
</tr>
<tr>
<td>Solanum</td>
<td>100</td>
<td>63</td>
</tr>
<tr>
<td>Solidago</td>
<td>127</td>
<td>242</td>
</tr>
<tr>
<td>Sonchus</td>
<td>125</td>
<td>221</td>
</tr>
<tr>
<td>Sparganium</td>
<td>129</td>
<td>264</td>
</tr>
<tr>
<td>Spartium</td>
<td>122</td>
<td>204</td>
</tr>
<tr>
<td>Spergula</td>
<td>112</td>
<td>130</td>
</tr>
<tr>
<td>Spiraea</td>
<td>114</td>
<td>137</td>
</tr>
<tr>
<td>Stachys</td>
<td>117</td>
<td>168</td>
</tr>
<tr>
<td>Stellaria</td>
<td>111</td>
<td>122</td>
</tr>
<tr>
<td>Stratiotes</td>
<td>152</td>
<td>340</td>
</tr>
<tr>
<td>Symphytum</td>
<td>98</td>
<td>50</td>
</tr>
<tr>
<td>Tanus</td>
<td>133</td>
<td>296</td>
</tr>
<tr>
<td>Tanacetum</td>
<td>126</td>
<td>235</td>
</tr>
<tr>
<td>Taxus</td>
<td>135</td>
<td>300</td>
</tr>
<tr>
<td>Teesdalia</td>
<td>119</td>
<td>184</td>
</tr>
<tr>
<td>Teucrium</td>
<td>117</td>
<td>169</td>
</tr>
<tr>
<td>Thalictrum</td>
<td>116</td>
<td>153</td>
</tr>
<tr>
<td>Thesium</td>
<td>101</td>
<td>68</td>
</tr>
<tr>
<td>Thlaspi</td>
<td>119</td>
<td>184</td>
</tr>
<tr>
<td>Thymus</td>
<td>117</td>
<td>170</td>
</tr>
<tr>
<td>Tilia</td>
<td>115</td>
<td>150</td>
</tr>
<tr>
<td>Tordylium</td>
<td>105</td>
<td>85</td>
</tr>
<tr>
<td>Torilis</td>
<td>103</td>
<td>75</td>
</tr>
<tr>
<td>Tormentilla</td>
<td>114</td>
<td>145</td>
</tr>
<tr>
<td>Tragopogon</td>
<td>125</td>
<td>220</td>
</tr>
<tr>
<td>Trifolium</td>
<td>123</td>
<td>212</td>
</tr>
<tr>
<td>Triglochin</td>
<td>108</td>
<td>104</td>
</tr>
<tr>
<td>Triodia</td>
<td>95</td>
<td>24</td>
</tr>
<tr>
<td>Triticum</td>
<td>96</td>
<td>33</td>
</tr>
<tr>
<td>Tulipa</td>
<td>108</td>
<td>92</td>
</tr>
<tr>
<td>Tusialago</td>
<td>127</td>
<td>239</td>
</tr>
<tr>
<td>Typha</td>
<td>129</td>
<td>264</td>
</tr>
<tr>
<td>Ulex</td>
<td>122</td>
<td>205</td>
</tr>
<tr>
<td>Ulmus</td>
<td>102</td>
<td>71</td>
</tr>
<tr>
<td>Urtica</td>
<td>130</td>
<td>277</td>
</tr>
<tr>
<td>Utricularia</td>
<td>92</td>
<td>7</td>
</tr>
<tr>
<td>Vaccinium</td>
<td>109</td>
<td>109</td>
</tr>
<tr>
<td>Valeriana</td>
<td>98</td>
<td>10</td>
</tr>
<tr>
<td>Verbascum</td>
<td>99</td>
<td>61</td>
</tr>
<tr>
<td>Verbena</td>
<td>117</td>
<td>162</td>
</tr>
<tr>
<td>Veronica</td>
<td>92</td>
<td>3</td>
</tr>
<tr>
<td>Viburnum</td>
<td>105</td>
<td>86</td>
</tr>
<tr>
<td>Vicia</td>
<td>123</td>
<td>208</td>
</tr>
<tr>
<td>Villarsia</td>
<td>99</td>
<td>53</td>
</tr>
<tr>
<td>Vinca</td>
<td>100</td>
<td>68</td>
</tr>
<tr>
<td>Viola</td>
<td>101</td>
<td>59</td>
</tr>
<tr>
<td>Viscum</td>
<td>133</td>
<td>295</td>
</tr>
<tr>
<td>Zannichelia</td>
<td>129</td>
<td>263</td>
</tr>
</tbody>
</table>
INDEX

TO THE

PRINCIPAL TECHNICAL TERMS, &c.

WHICH OCCUR IN THE

INTRODUCTION.

<table>
<thead>
<tr>
<th>Acerineae</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acotyledonous plants</td>
<td>55, 56, 59</td>
</tr>
<tr>
<td>Aculeus</td>
<td>33</td>
</tr>
<tr>
<td>Ate</td>
<td>16</td>
</tr>
<tr>
<td>Albumen</td>
<td>86</td>
</tr>
<tr>
<td>Albuminum</td>
<td>41</td>
</tr>
<tr>
<td>Alge</td>
<td>22</td>
</tr>
<tr>
<td>Alismaceae</td>
<td>60</td>
</tr>
<tr>
<td>Amarellidea</td>
<td>61</td>
</tr>
<tr>
<td>Amentaceae</td>
<td>68</td>
</tr>
<tr>
<td>Amentum</td>
<td>14</td>
</tr>
<tr>
<td>Anther</td>
<td>17</td>
</tr>
<tr>
<td>Apetalous plants</td>
<td>56, 57</td>
</tr>
<tr>
<td>Apocynae</td>
<td>63</td>
</tr>
<tr>
<td>Aquifoliaceae</td>
<td>67</td>
</tr>
<tr>
<td>Arillus</td>
<td>36, 50</td>
</tr>
<tr>
<td>Arista</td>
<td>14</td>
</tr>
<tr>
<td>Aristolochiae</td>
<td>61</td>
</tr>
<tr>
<td>Aroidae</td>
<td>60</td>
</tr>
<tr>
<td>Asparagineae</td>
<td>60</td>
</tr>
<tr>
<td>Asphodeli</td>
<td>60</td>
</tr>
<tr>
<td>Atripliceae</td>
<td>62</td>
</tr>
<tr>
<td>Awn</td>
<td>14</td>
</tr>
<tr>
<td>Beard</td>
<td>16</td>
</tr>
<tr>
<td>Berberidæ</td>
<td>65</td>
</tr>
<tr>
<td>Berry</td>
<td>18</td>
</tr>
<tr>
<td>Betulineæ</td>
<td>67</td>
</tr>
<tr>
<td>Blossom</td>
<td>15</td>
</tr>
<tr>
<td>Boragineæ</td>
<td>63</td>
</tr>
<tr>
<td>Bractea</td>
<td>33</td>
</tr>
<tr>
<td>Buds</td>
<td>45</td>
</tr>
<tr>
<td>Bulb</td>
<td>25, 45</td>
</tr>
<tr>
<td>coated</td>
<td>25</td>
</tr>
<tr>
<td>scaly</td>
<td>25</td>
</tr>
<tr>
<td>solid</td>
<td>25</td>
</tr>
<tr>
<td>Bulbils</td>
<td>45</td>
</tr>
<tr>
<td>Bunch</td>
<td>33</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bundle</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calyx,</td>
<td>13</td>
</tr>
<tr>
<td>acute</td>
<td>15</td>
</tr>
<tr>
<td>augmented</td>
<td>14</td>
</tr>
<tr>
<td>blunt</td>
<td>15</td>
</tr>
<tr>
<td>caducous</td>
<td>15</td>
</tr>
<tr>
<td>ciliated</td>
<td>15</td>
</tr>
<tr>
<td>deciduous</td>
<td>15</td>
</tr>
<tr>
<td>double</td>
<td>14</td>
</tr>
<tr>
<td>entire</td>
<td>15</td>
</tr>
<tr>
<td>imbricated</td>
<td>14</td>
</tr>
<tr>
<td>lopped</td>
<td>15</td>
</tr>
<tr>
<td>many-flowered</td>
<td>14</td>
</tr>
<tr>
<td>obtuse</td>
<td>15</td>
</tr>
<tr>
<td>persistent</td>
<td>15</td>
</tr>
<tr>
<td>prickly</td>
<td>15</td>
</tr>
<tr>
<td>serrate</td>
<td>15</td>
</tr>
<tr>
<td>single</td>
<td>14</td>
</tr>
<tr>
<td>squarrose</td>
<td>14</td>
</tr>
<tr>
<td>tiled</td>
<td>14</td>
</tr>
<tr>
<td>wanting</td>
<td>14</td>
</tr>
<tr>
<td>Cambium</td>
<td>40</td>
</tr>
<tr>
<td>Campanulaceæ</td>
<td>63</td>
</tr>
<tr>
<td>Caprifoliaceæ</td>
<td>64</td>
</tr>
<tr>
<td>Capsule</td>
<td>18</td>
</tr>
<tr>
<td>cell</td>
<td>18</td>
</tr>
<tr>
<td>column</td>
<td>18</td>
</tr>
<tr>
<td>disseminate</td>
<td>18</td>
</tr>
<tr>
<td>locumament</td>
<td>18</td>
</tr>
<tr>
<td>partition</td>
<td>18</td>
</tr>
<tr>
<td>suture</td>
<td>18</td>
</tr>
<tr>
<td>valve</td>
<td>18</td>
</tr>
<tr>
<td>Caryophyllæ</td>
<td>66</td>
</tr>
<tr>
<td>Catkin</td>
<td>14</td>
</tr>
<tr>
<td>Celastrineæ</td>
<td>67</td>
</tr>
<tr>
<td>Cell</td>
<td>14</td>
</tr>
<tr>
<td>Cotylæ</td>
<td>67</td>
</tr>
<tr>
<td>Characeæ</td>
<td>59</td>
</tr>
<tr>
<td>Term</td>
<td>Page(s)</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Chenopodaceae</td>
<td>62</td>
</tr>
<tr>
<td>Chorisanthery</td>
<td>64</td>
</tr>
<tr>
<td>Cichoraceae</td>
<td>64</td>
</tr>
<tr>
<td>Cistee</td>
<td>66</td>
</tr>
<tr>
<td>Clasper</td>
<td>33</td>
</tr>
<tr>
<td>Classes</td>
<td>21, 58</td>
</tr>
<tr>
<td>Linnaean Classifications</td>
<td>21, 22</td>
</tr>
<tr>
<td>Cluster</td>
<td>33</td>
</tr>
<tr>
<td>Colchicaceae</td>
<td>60</td>
</tr>
<tr>
<td>Columella</td>
<td>50</td>
</tr>
<tr>
<td>Composite</td>
<td>64</td>
</tr>
<tr>
<td>Cone</td>
<td>19</td>
</tr>
<tr>
<td>Conferæ</td>
<td>59</td>
</tr>
<tr>
<td>Coniferae</td>
<td>68</td>
</tr>
<tr>
<td>Convolvulaceæ</td>
<td>63</td>
</tr>
<tr>
<td>Corolla</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Term</td>
<td>Page</td>
</tr>
<tr>
<td>-----------------------</td>
<td>------</td>
</tr>
<tr>
<td>Gentianae</td>
<td>63</td>
</tr>
<tr>
<td>Genus</td>
<td>54</td>
</tr>
<tr>
<td>Geraniacae</td>
<td>65</td>
</tr>
<tr>
<td>Germinations of seeds</td>
<td>52</td>
</tr>
<tr>
<td>Gland</td>
<td>33</td>
</tr>
<tr>
<td>Glume</td>
<td>14</td>
</tr>
<tr>
<td>Grazing</td>
<td>44</td>
</tr>
<tr>
<td>Gramineae</td>
<td>60</td>
</tr>
<tr>
<td>Grossulariaceae</td>
<td>66</td>
</tr>
<tr>
<td>Hair</td>
<td>33</td>
</tr>
<tr>
<td>Haloragaceae</td>
<td>66</td>
</tr>
<tr>
<td>Helmet</td>
<td>16</td>
</tr>
<tr>
<td>Hepaticæ</td>
<td>22</td>
</tr>
<tr>
<td>Hilm</td>
<td>36, 52</td>
</tr>
<tr>
<td>Honey-cup</td>
<td>17</td>
</tr>
<tr>
<td>Husk</td>
<td>14</td>
</tr>
<tr>
<td>Hydrocharidæ</td>
<td>61</td>
</tr>
<tr>
<td>Hygrobiæ</td>
<td>66</td>
</tr>
<tr>
<td>Hypericinæ</td>
<td>65</td>
</tr>
<tr>
<td>Hypocorolly</td>
<td>62</td>
</tr>
<tr>
<td>Hypopetalæ</td>
<td>65</td>
</tr>
<tr>
<td>Ilicineæ</td>
<td>67</td>
</tr>
<tr>
<td>Inembryonate vegetables</td>
<td>55</td>
</tr>
<tr>
<td>Inflorescence</td>
<td>33</td>
</tr>
<tr>
<td>Integument, herbaceous</td>
<td>39</td>
</tr>
<tr>
<td>Involucræ</td>
<td>14</td>
</tr>
<tr>
<td>partial</td>
<td>14</td>
</tr>
<tr>
<td>universal</td>
<td>14</td>
</tr>
<tr>
<td>Irideæ</td>
<td>61</td>
</tr>
<tr>
<td>Jasmineæ</td>
<td>63</td>
</tr>
<tr>
<td>Junceæ</td>
<td>63</td>
</tr>
<tr>
<td>Junci</td>
<td>60</td>
</tr>
<tr>
<td>Keeil</td>
<td>16</td>
</tr>
<tr>
<td>Kernel</td>
<td>36</td>
</tr>
<tr>
<td>Labiateæ</td>
<td>63</td>
</tr>
<tr>
<td>Leaf, acerose</td>
<td>27, 32</td>
</tr>
<tr>
<td>acuminate</td>
<td>29</td>
</tr>
<tr>
<td>acute</td>
<td>29</td>
</tr>
<tr>
<td>alternate</td>
<td>32</td>
</tr>
<tr>
<td>amplexicaul</td>
<td>32</td>
</tr>
<tr>
<td>arrow-shaped</td>
<td>27</td>
</tr>
<tr>
<td>awl-shaped</td>
<td>27</td>
</tr>
<tr>
<td>battledore-shaped</td>
<td>27</td>
</tr>
<tr>
<td>bijugate</td>
<td>32</td>
</tr>
<tr>
<td>bilobate</td>
<td>28</td>
</tr>
<tr>
<td>binate</td>
<td>30</td>
</tr>
<tr>
<td>bipartite</td>
<td>29</td>
</tr>
<tr>
<td>bipinnate</td>
<td>31</td>
</tr>
<tr>
<td>bipinnatifid</td>
<td>28</td>
</tr>
<tr>
<td>biternate</td>
<td>31</td>
</tr>
<tr>
<td>blunt</td>
<td>29</td>
</tr>
<tr>
<td>bundled</td>
<td>33</td>
</tr>
<tr>
<td>canaliculate</td>
<td>30</td>
</tr>
<tr>
<td>carinate</td>
<td>30</td>
</tr>
<tr>
<td>cauline</td>
<td>31</td>
</tr>
<tr>
<td>Leaf, chaffy</td>
<td>32</td>
</tr>
<tr>
<td>channelled</td>
<td>30</td>
</tr>
<tr>
<td>comb-like</td>
<td>28</td>
</tr>
<tr>
<td>conjugate</td>
<td>30</td>
</tr>
<tr>
<td>connate</td>
<td>32</td>
</tr>
<tr>
<td>cordate</td>
<td>27</td>
</tr>
<tr>
<td>costate</td>
<td>30</td>
</tr>
<tr>
<td>crenate</td>
<td>29</td>
</tr>
<tr>
<td>crescent-shaped</td>
<td>27</td>
</tr>
<tr>
<td>cuneiform</td>
<td>27</td>
</tr>
<tr>
<td>curled</td>
<td>29</td>
</tr>
<tr>
<td>cylindrical</td>
<td>30</td>
</tr>
<tr>
<td>dagger-pointed</td>
<td>29</td>
</tr>
<tr>
<td>decurrent</td>
<td>32</td>
</tr>
<tr>
<td>decussate</td>
<td>33</td>
</tr>
<tr>
<td>deltoid</td>
<td>27</td>
</tr>
<tr>
<td>demersed</td>
<td>32</td>
</tr>
<tr>
<td>dentate</td>
<td>29</td>
</tr>
<tr>
<td>depressed</td>
<td>32</td>
</tr>
<tr>
<td>diamond-shaped</td>
<td>28</td>
</tr>
<tr>
<td>digitate</td>
<td>30</td>
</tr>
<tr>
<td>doubly-winged</td>
<td>31</td>
</tr>
<tr>
<td>doubly-ternate</td>
<td>31</td>
</tr>
<tr>
<td>egg-shaped</td>
<td>27</td>
</tr>
<tr>
<td>elliptic</td>
<td>27</td>
</tr>
<tr>
<td>emarginate</td>
<td>29</td>
</tr>
<tr>
<td>emersed</td>
<td>32</td>
</tr>
<tr>
<td>ensiform</td>
<td>30</td>
</tr>
<tr>
<td>enire</td>
<td>29</td>
</tr>
<tr>
<td>equitant</td>
<td>32</td>
</tr>
<tr>
<td>erect</td>
<td>31</td>
</tr>
<tr>
<td>fasciculated</td>
<td>33</td>
</tr>
<tr>
<td>fiddle-shaped</td>
<td>28</td>
</tr>
<tr>
<td>fingered</td>
<td>30</td>
</tr>
<tr>
<td>fleshy</td>
<td>30</td>
</tr>
<tr>
<td>furrowed</td>
<td>30</td>
</tr>
<tr>
<td>halber-shaped</td>
<td>28</td>
</tr>
<tr>
<td>hand-shaped</td>
<td>28</td>
</tr>
<tr>
<td>hastate</td>
<td>28</td>
</tr>
<tr>
<td>heart-shaped</td>
<td>27</td>
</tr>
<tr>
<td>horizontal</td>
<td>32</td>
</tr>
<tr>
<td>imbricated</td>
<td>33</td>
</tr>
<tr>
<td>jagged</td>
<td>29</td>
</tr>
<tr>
<td>jointed</td>
<td>29</td>
</tr>
<tr>
<td>keeled</td>
<td>29</td>
</tr>
<tr>
<td>kidney-shaped</td>
<td>27</td>
</tr>
<tr>
<td>facinate</td>
<td>28</td>
</tr>
<tr>
<td>lanceolate</td>
<td>27</td>
</tr>
<tr>
<td>linear</td>
<td>27</td>
</tr>
<tr>
<td>linguiform</td>
<td>30</td>
</tr>
<tr>
<td>lobed</td>
<td>28</td>
</tr>
<tr>
<td>lopped</td>
<td>29</td>
</tr>
<tr>
<td>lunulate</td>
<td>27</td>
</tr>
<tr>
<td>lyrate, or lyre-shaped</td>
<td>28</td>
</tr>
<tr>
<td>mucronate</td>
<td>29</td>
</tr>
<tr>
<td>natant</td>
<td>32</td>
</tr>
<tr>
<td>needle-shaped</td>
<td>27, 32</td>
</tr>
<tr>
<td>notched</td>
<td>29</td>
</tr>
<tr>
<td>oblong</td>
<td>27</td>
</tr>
<tr>
<td>obovate</td>
<td>27</td>
</tr>
<tr>
<td>obtuse</td>
<td>29</td>
</tr>
<tr>
<td>Leaf, orbiculate</td>
<td>Page</td>
</tr>
<tr>
<td>-------------------</td>
<td>------</td>
</tr>
<tr>
<td>oval</td>
<td>26</td>
</tr>
<tr>
<td>ovate</td>
<td>27</td>
</tr>
<tr>
<td>palmate</td>
<td>28</td>
</tr>
<tr>
<td>panduriform</td>
<td>28</td>
</tr>
<tr>
<td>partite</td>
<td>28</td>
</tr>
<tr>
<td>pectinate</td>
<td>28</td>
</tr>
<tr>
<td>pedate</td>
<td>32</td>
</tr>
<tr>
<td>peltate</td>
<td>31</td>
</tr>
<tr>
<td>perfoliate</td>
<td>32</td>
</tr>
<tr>
<td>pinnate</td>
<td>30</td>
</tr>
<tr>
<td>abruptly</td>
<td>31</td>
</tr>
<tr>
<td>alternately</td>
<td>31</td>
</tr>
<tr>
<td>decursively</td>
<td>31</td>
</tr>
<tr>
<td>interruptedly</td>
<td>31</td>
</tr>
<tr>
<td>oppositely</td>
<td>31</td>
</tr>
<tr>
<td>with an odd one</td>
<td>31</td>
</tr>
<tr>
<td>pinnatifid</td>
<td>28</td>
</tr>
<tr>
<td>plaited</td>
<td>28</td>
</tr>
<tr>
<td>pointed</td>
<td>29</td>
</tr>
<tr>
<td>premorse</td>
<td>29</td>
</tr>
<tr>
<td>quadrate</td>
<td>32</td>
</tr>
<tr>
<td>quinate</td>
<td>30</td>
</tr>
<tr>
<td>quine</td>
<td>32</td>
</tr>
<tr>
<td>radical</td>
<td>32</td>
</tr>
<tr>
<td>reniform</td>
<td>27</td>
</tr>
<tr>
<td>repent</td>
<td>29</td>
</tr>
<tr>
<td>retuse</td>
<td>29</td>
</tr>
<tr>
<td>rhomboid</td>
<td>28</td>
</tr>
<tr>
<td>ribbed</td>
<td>30</td>
</tr>
<tr>
<td>round</td>
<td>26</td>
</tr>
<tr>
<td>roundish</td>
<td>26</td>
</tr>
<tr>
<td>rugged</td>
<td>29</td>
</tr>
<tr>
<td>rugose</td>
<td>29</td>
</tr>
<tr>
<td>runcinate</td>
<td>28</td>
</tr>
<tr>
<td>sagittate</td>
<td>27</td>
</tr>
<tr>
<td>saw-toothed</td>
<td>29</td>
</tr>
<tr>
<td>semi-amplexicaul</td>
<td>32</td>
</tr>
<tr>
<td>semi-cylindric</td>
<td>30</td>
</tr>
<tr>
<td>seminal</td>
<td>31</td>
</tr>
<tr>
<td>sene</td>
<td>32</td>
</tr>
<tr>
<td>serrated</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Natural families, Key to</td>
<td>Page</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Naydææ</td>
<td>58</td>
</tr>
<tr>
<td>Nectary</td>
<td>17</td>
</tr>
<tr>
<td>Nut</td>
<td>18</td>
</tr>
<tr>
<td>Nutrition</td>
<td>37, 48</td>
</tr>
<tr>
<td>Nymphæææ</td>
<td>61</td>
</tr>
<tr>
<td>Onograræ</td>
<td>66</td>
</tr>
<tr>
<td>Orchidæ</td>
<td>61</td>
</tr>
<tr>
<td>Orders</td>
<td>22</td>
</tr>
<tr>
<td>Angiospernia</td>
<td>22</td>
</tr>
<tr>
<td>Gymnospernia</td>
<td>22</td>
</tr>
<tr>
<td>Polygamia æqualis</td>
<td>23</td>
</tr>
<tr>
<td>frustraneæ</td>
<td>23</td>
</tr>
<tr>
<td>necessaria</td>
<td>23</td>
</tr>
<tr>
<td>segregata</td>
<td>23</td>
</tr>
<tr>
<td>Siliculosa</td>
<td>23</td>
</tr>
<tr>
<td>Siliquosa</td>
<td>23</td>
</tr>
<tr>
<td>Organs of reproduction</td>
<td>49</td>
</tr>
<tr>
<td>Orobanchææ</td>
<td>62</td>
</tr>
<tr>
<td>Oxalidæ</td>
<td>65</td>
</tr>
<tr>
<td>Palate</td>
<td>16</td>
</tr>
<tr>
<td>Panicle</td>
<td>34</td>
</tr>
<tr>
<td>Papaverææ</td>
<td>65</td>
</tr>
<tr>
<td>Paronychieæ</td>
<td>66</td>
</tr>
<tr>
<td>Pediculares</td>
<td>62</td>
</tr>
<tr>
<td>Peduncle</td>
<td>26</td>
</tr>
<tr>
<td>Perianth</td>
<td>13</td>
</tr>
<tr>
<td>of the flower</td>
<td>13</td>
</tr>
<tr>
<td>of the fructification</td>
<td>13</td>
</tr>
<tr>
<td>of the fruit</td>
<td>13</td>
</tr>
<tr>
<td>Pericarp</td>
<td>18, 36, 50</td>
</tr>
<tr>
<td>Perichantium</td>
<td>14</td>
</tr>
<tr>
<td>Pericorolly</td>
<td>63</td>
</tr>
<tr>
<td>Perigonium</td>
<td>49</td>
</tr>
<tr>
<td>Peripetaly</td>
<td>66</td>
</tr>
<tr>
<td>Peristaminy</td>
<td>62</td>
</tr>
<tr>
<td>Petiole</td>
<td>26</td>
</tr>
<tr>
<td>Pistil</td>
<td>17</td>
</tr>
<tr>
<td>Germen</td>
<td>17</td>
</tr>
<tr>
<td>Stigma</td>
<td>18</td>
</tr>
<tr>
<td>Style</td>
<td>17</td>
</tr>
<tr>
<td>Pith</td>
<td>42</td>
</tr>
<tr>
<td>Placenta</td>
<td>50</td>
</tr>
<tr>
<td>Plantaginæ</td>
<td>62</td>
</tr>
<tr>
<td>Plantule</td>
<td>52</td>
</tr>
<tr>
<td>Podosperm</td>
<td>50, 51</td>
</tr>
<tr>
<td>Polémoniææ</td>
<td>63</td>
</tr>
<tr>
<td>Pollen</td>
<td>17</td>
</tr>
<tr>
<td>Polygalæ</td>
<td>65</td>
</tr>
<tr>
<td>Polygoneæ</td>
<td>62</td>
</tr>
<tr>
<td>Polypetalous plants</td>
<td>56, 57</td>
</tr>
<tr>
<td>Pomaceæ</td>
<td>67</td>
</tr>
<tr>
<td>Pome</td>
<td>18</td>
</tr>
<tr>
<td>Portulacææ</td>
<td>66</td>
</tr>
<tr>
<td>Potameæ</td>
<td>60</td>
</tr>
<tr>
<td>Potamophileæ</td>
<td>60</td>
</tr>
<tr>
<td>Prickles</td>
<td>24, 33</td>
</tr>
<tr>
<td>Primulaceæ</td>
<td>62</td>
</tr>
<tr>
<td>Props</td>
<td>33</td>
</tr>
<tr>
<td>Raceme</td>
<td>33</td>
</tr>
<tr>
<td>Ranunculaceæ</td>
<td>65</td>
</tr>
<tr>
<td>Receptacle</td>
<td>19</td>
</tr>
<tr>
<td>bristly</td>
<td>19</td>
</tr>
<tr>
<td>chaffy</td>
<td>19</td>
</tr>
<tr>
<td>common</td>
<td>19</td>
</tr>
<tr>
<td>naked</td>
<td>19</td>
</tr>
<tr>
<td>of flower</td>
<td>19</td>
</tr>
<tr>
<td>of fructification</td>
<td>19</td>
</tr>
<tr>
<td>of fruit</td>
<td>19</td>
</tr>
<tr>
<td>of seeds</td>
<td>19</td>
</tr>
<tr>
<td>proper</td>
<td>19</td>
</tr>
<tr>
<td>Resedææ</td>
<td>66</td>
</tr>
<tr>
<td>Rhamneææ, Rhamni</td>
<td>67</td>
</tr>
<tr>
<td>Ribesiaæ</td>
<td>66</td>
</tr>
<tr>
<td>Root</td>
<td>24, 38</td>
</tr>
<tr>
<td>bitten</td>
<td>25</td>
</tr>
<tr>
<td>branching</td>
<td>25</td>
</tr>
<tr>
<td>bulbous</td>
<td>25</td>
</tr>
<tr>
<td>creeping</td>
<td>25</td>
</tr>
<tr>
<td>fibrous</td>
<td>25</td>
</tr>
<tr>
<td>fusiform</td>
<td>24</td>
</tr>
<tr>
<td>granulated</td>
<td>25</td>
</tr>
<tr>
<td>premorse</td>
<td>25</td>
</tr>
<tr>
<td>repent</td>
<td>25</td>
</tr>
<tr>
<td>spindly-shaped</td>
<td>24</td>
</tr>
<tr>
<td>tuberous</td>
<td>25</td>
</tr>
<tr>
<td>Rosaceææ, Roseææ</td>
<td>67</td>
</tr>
<tr>
<td>Rubiaceæ</td>
<td>64</td>
</tr>
<tr>
<td>Salicarieæ</td>
<td>67</td>
</tr>
<tr>
<td>Salicinææ</td>
<td>67</td>
</tr>
<tr>
<td>Sanguisorbiææ</td>
<td>67</td>
</tr>
<tr>
<td>Santalaceæ</td>
<td>62</td>
</tr>
<tr>
<td>Sap</td>
<td>48</td>
</tr>
<tr>
<td>Sarcocarp</td>
<td>36, 50</td>
</tr>
<tr>
<td>Saxifrageæ</td>
<td>66</td>
</tr>
<tr>
<td>Scæpe</td>
<td>26</td>
</tr>
<tr>
<td>Scrophulariae</td>
<td>62</td>
</tr>
<tr>
<td>Scrophularineæ</td>
<td>62</td>
</tr>
<tr>
<td>Seed</td>
<td>19, 52</td>
</tr>
<tr>
<td>coat</td>
<td>36</td>
</tr>
<tr>
<td>cotyledon</td>
<td>36</td>
</tr>
<tr>
<td>eye, or scar</td>
<td>52</td>
</tr>
<tr>
<td>Sempervivææ</td>
<td>66</td>
</tr>
<tr>
<td>Sheath</td>
<td>14</td>
</tr>
<tr>
<td>Silicæ</td>
<td>18</td>
</tr>
<tr>
<td>Silique</td>
<td>18</td>
</tr>
<tr>
<td>Solaneæ</td>
<td>18</td>
</tr>
<tr>
<td>Spadix</td>
<td>14</td>
</tr>
<tr>
<td>Spatha</td>
<td>14</td>
</tr>
<tr>
<td>Species</td>
<td>24, 54</td>
</tr>
<tr>
<td>Spike</td>
<td>33</td>
</tr>
<tr>
<td>Spikelet</td>
<td>34</td>
</tr>
<tr>
<td>Spine</td>
<td>33, 48</td>
</tr>
<tr>
<td>Spirææ</td>
<td>67</td>
</tr>
<tr>
<td>Stalk</td>
<td>26</td>
</tr>
<tr>
<td>Stamens</td>
<td>17</td>
</tr>
<tr>
<td>anther</td>
<td>17</td>
</tr>
<tr>
<td>epigynous</td>
<td>56, 57</td>
</tr>
<tr>
<td>Term</td>
<td>Page</td>
</tr>
<tr>
<td>----------------------</td>
<td>------</td>
</tr>
<tr>
<td>Stamens, filament</td>
<td>17</td>
</tr>
<tr>
<td>hypogynous</td>
<td>56, 57</td>
</tr>
<tr>
<td>perigynous</td>
<td>56, 57</td>
</tr>
<tr>
<td>pollen</td>
<td>17</td>
</tr>
<tr>
<td>Standard</td>
<td>16</td>
</tr>
<tr>
<td>Stem, angular</td>
<td>26</td>
</tr>
<tr>
<td>climbing</td>
<td>25</td>
</tr>
<tr>
<td>creeping</td>
<td>25</td>
</tr>
<tr>
<td>dichotomous</td>
<td>26</td>
</tr>
<tr>
<td>diffuse</td>
<td>26</td>
</tr>
<tr>
<td>erect</td>
<td>25</td>
</tr>
<tr>
<td>flexuous</td>
<td>26</td>
</tr>
<tr>
<td>forked repeatedly</td>
<td>26</td>
</tr>
<tr>
<td>jointed</td>
<td>26</td>
</tr>
<tr>
<td>lax</td>
<td>26</td>
</tr>
<tr>
<td>procumbent</td>
<td>25</td>
</tr>
<tr>
<td>proliferous</td>
<td>26</td>
</tr>
<tr>
<td>radican</td>
<td>25</td>
</tr>
<tr>
<td>repent</td>
<td>25</td>
</tr>
<tr>
<td>rooting</td>
<td>25</td>
</tr>
<tr>
<td>round</td>
<td>26</td>
</tr>
<tr>
<td>scandent</td>
<td>25</td>
</tr>
<tr>
<td>straight</td>
<td>25</td>
</tr>
<tr>
<td>trailing</td>
<td>25</td>
</tr>
<tr>
<td>turning</td>
<td>26</td>
</tr>
<tr>
<td>twining</td>
<td>26</td>
</tr>
<tr>
<td>upright</td>
<td>25</td>
</tr>
<tr>
<td>winged</td>
<td>26</td>
</tr>
<tr>
<td>zigzag</td>
<td>26</td>
</tr>
<tr>
<td>Stems</td>
<td>39</td>
</tr>
<tr>
<td>Stigma</td>
<td>18</td>
</tr>
<tr>
<td>Stipe</td>
<td>26</td>
</tr>
<tr>
<td>Stipula</td>
<td>33, 47</td>
</tr>
<tr>
<td>Straw</td>
<td>26</td>
</tr>
<tr>
<td>Strobile</td>
<td>19</td>
</tr>
<tr>
<td>Style</td>
<td>17</td>
</tr>
<tr>
<td>Supports</td>
<td>24, 25, 33</td>
</tr>
<tr>
<td>Sutures</td>
<td>18</td>
</tr>
<tr>
<td>Synantheræ</td>
<td>64</td>
</tr>
<tr>
<td>Tendril</td>
<td>33</td>
</tr>
<tr>
<td>Thorn</td>
<td>33, 48</td>
</tr>
<tr>
<td>Throat</td>
<td>16</td>
</tr>
<tr>
<td>Thymelæ</td>
<td>62</td>
</tr>
<tr>
<td>Thrysus</td>
<td>34</td>
</tr>
<tr>
<td>Tiled</td>
<td>14</td>
</tr>
<tr>
<td>Tiliææ</td>
<td>65</td>
</tr>
<tr>
<td>Tissue, cellular</td>
<td>35</td>
</tr>
<tr>
<td>vascular</td>
<td>35</td>
</tr>
<tr>
<td>Trees</td>
<td>25</td>
</tr>
<tr>
<td>Trophosperm</td>
<td>50</td>
</tr>
<tr>
<td>Trunk</td>
<td>25</td>
</tr>
<tr>
<td>Tuft</td>
<td>34</td>
</tr>
<tr>
<td>Turio</td>
<td>45</td>
</tr>
<tr>
<td>Typhæææ, Typhæ</td>
<td>60</td>
</tr>
<tr>
<td>Umbel</td>
<td>14, 34</td>
</tr>
<tr>
<td>partial</td>
<td>14</td>
</tr>
<tr>
<td>universal</td>
<td>14</td>
</tr>
<tr>
<td>Umbelliferæ</td>
<td>64</td>
</tr>
<tr>
<td>Umbilicus</td>
<td>36</td>
</tr>
<tr>
<td>Urticææ</td>
<td>67</td>
</tr>
<tr>
<td>Vacciniææ</td>
<td>63</td>
</tr>
<tr>
<td>Valerianææ</td>
<td>64</td>
</tr>
<tr>
<td>Valves</td>
<td>18</td>
</tr>
<tr>
<td>Varieties</td>
<td>54</td>
</tr>
<tr>
<td>Verbenæææ</td>
<td>63</td>
</tr>
<tr>
<td>Violariææ</td>
<td>66</td>
</tr>
<tr>
<td>Volva</td>
<td>14</td>
</tr>
<tr>
<td>Whorl</td>
<td>33</td>
</tr>
<tr>
<td>Wide-spreading</td>
<td>14</td>
</tr>
<tr>
<td>Wings</td>
<td>16</td>
</tr>
<tr>
<td>Wood</td>
<td>41</td>
</tr>
</tbody>
</table>
CORRECTIONS AND ADDITIONS.


Page 15. E. pubescens—add E. B. Suppl. 2633.

Page 17. For P. paniculata, read Phalaris, &c.

Page 40. Expunge the first i, in Plaintain.

Page 49. After Anchusa, **.


Page 59. For Viola, read Violet.

Page 87. Add, White berried elder. Sir Joseph Lock's Grounds, Headington, near the London Road. R. W.

Page 91. Expunge Bx. hábitat, for Narcissus Pseudo, &c.

Page 97. Top—for Octandria, read Hexandria.


Page 118. Andromeda, &c.—for Over Heath, read Iver, &c. and expunge Mr. Sandys' habitat.

Page 124. A. tenuifólia—add Headington, on a wall, and on the ground. 1832. R. W.


Page 130. Expunge under C. aquat. Larbrea of DC.

Page 148. Papaver hybrid.—for Ensham road, read Woodstock, &c.

Page 152. After Banbury, add Road.

Page 162. Mentha sylvest.—add Cuddesdon, by the Wheatley Road-side, near the Palace. R. W.

Page 168. S. sylvatica—for Ls. minute, read acuminate, (i.e. taper-pointed.)

Page 178. A. repens—add after chalky banks, an *, for scarce.

Page 178. A. Linária—add Path between the Asylum, and Bullingdon Green. R. W.

Page 182. O. elátor—add Field between Barton, and Sandhill. R. W.
Page 187. On the first a in Dentária, place an acute accent.


Page 223. For T. palustre, read L. &c.

Page 246. After College, add Gardens.

Page 280. In Sagittifolia, substitute a small s.

Page 282. For 1448, read 1458.

Page 299. After Hydrocharis—add i.e. delighting in water. Gr.

Page civ. For White-root, read White-rot.

Drummond’s Letters, &c. A few passages in this interesting little work, to be read with caution and explanation.

The following is a list of several plants, mentioned in Sir Alexander Croke’s critical and elegant edition of the “Régimen Sánitätis Salernitánum.” Talboys, Oxford, 1830:—Sage, Wormwood, Poppy, Fennel, Mallow, Mint, Primrose, Tansy, Mustard, Violet, Nettle, Chervil, Elicampane, Penny-royal, Celandine, Sallow, Vervain, Henbane.

Respecting the Elsfieľd hábitat for Lonicéra Caprifólium, Flora, p. 65. See Lady Smith’s interesting Memoir and Correspondence of the late Sir J. E. Smith, 1832. vol. i. p. 438. See also in the same work, vol. i. a concise Memoir of the scientific and munificent Professor, Dr. J. Sibthorp, with three of his letters, &c.

Any mistakes pointed out by the reader or critic, will be corrected in a future Supplement to this Work. Number of Plants, introduced into the Flora of Oxfordshire, and its Contiguous Counties, about eight hundred, and ninety-four. Callitriche; see more in H. Br. Fl. and Arnott in Journ. of Nat. and Geog. Sc. vol. i. p. 426, &c.

L. rugósum, naturalized between Oxford and Iffley, and in Christ Church Meadow. Br.

Antirrhinum purpureum, not uncommon on old walls in Oxford. R. W.


THE END.
Edited by the same Author.

ARISTOTELIS

DOCTRINÆ MORALIS EPITOME,
PER THEOPH. GOLIUM.

Oxonii: Typis N. Bliss, 1814, duod.—Little more than a hasty reprint of a once scarce work.

ANTONII RICCOBONI PARAPHRASIS IN RHETORICAM ARISTOTELIS.

AD EDITIONEM HANC ACCESSERUNT, MURETI SUMMÆ BREVIORES.

LONDINI, 1820. 8vo.

By the same Author.

PLAIN AND CURSORY THOUGHTS ON CATHOLIC EMANCIPATION, &c.

BY CHAS. MACKLIN, ESQ. 1829.

A FRIENDLY LETTER, &c.

BY PHILIPPUS ANTI-OIANDER, S.T.P.

Oxford, 1831.


A FEW WORDS IN FAVOUR OF PROFESSOR POWELL, AND THE SCIENCES, &c.

BY PHILOMATH: Oxoniensis, 1832.

See Gent. Mag. for December 1832. p. 450.

Latin Works preparing for publication, by the same Author.

1. SPECIMENS OF LATIN STYLE, from the earliest existing Records of the Language, to the Extinction of the Western Empire; with a short Critical, and Biographical Account of the several Authors, whose works are quoted.

2. THE LIFE OF WILLIAM OF WAYNFLETE, FOUNDER OF MAGDALEN COLLEGE, OXFORD, including a Sketch of the Manners, Customs, Literature, and general State of Society, in the Age in which the Founder lived.