

THE
HAND-BOOK OF PLAIN BOTANY;

OR,
LINNÆAN LESSONS

On Common Plants,

FOR FIELD AND GARDEN PRACTICE.

FOR THE USE OF SCHOOLS AND SELF-INSTRUCTION.

On a Plan suggested by J. S. Menteth, Esq., of Closeburn Hall, Dumfriesshire.

BY JAMES RENNIE, A.M.,

PROFESSOR OF ZOOLOGY, KING'S COLLEGE, LONDON.



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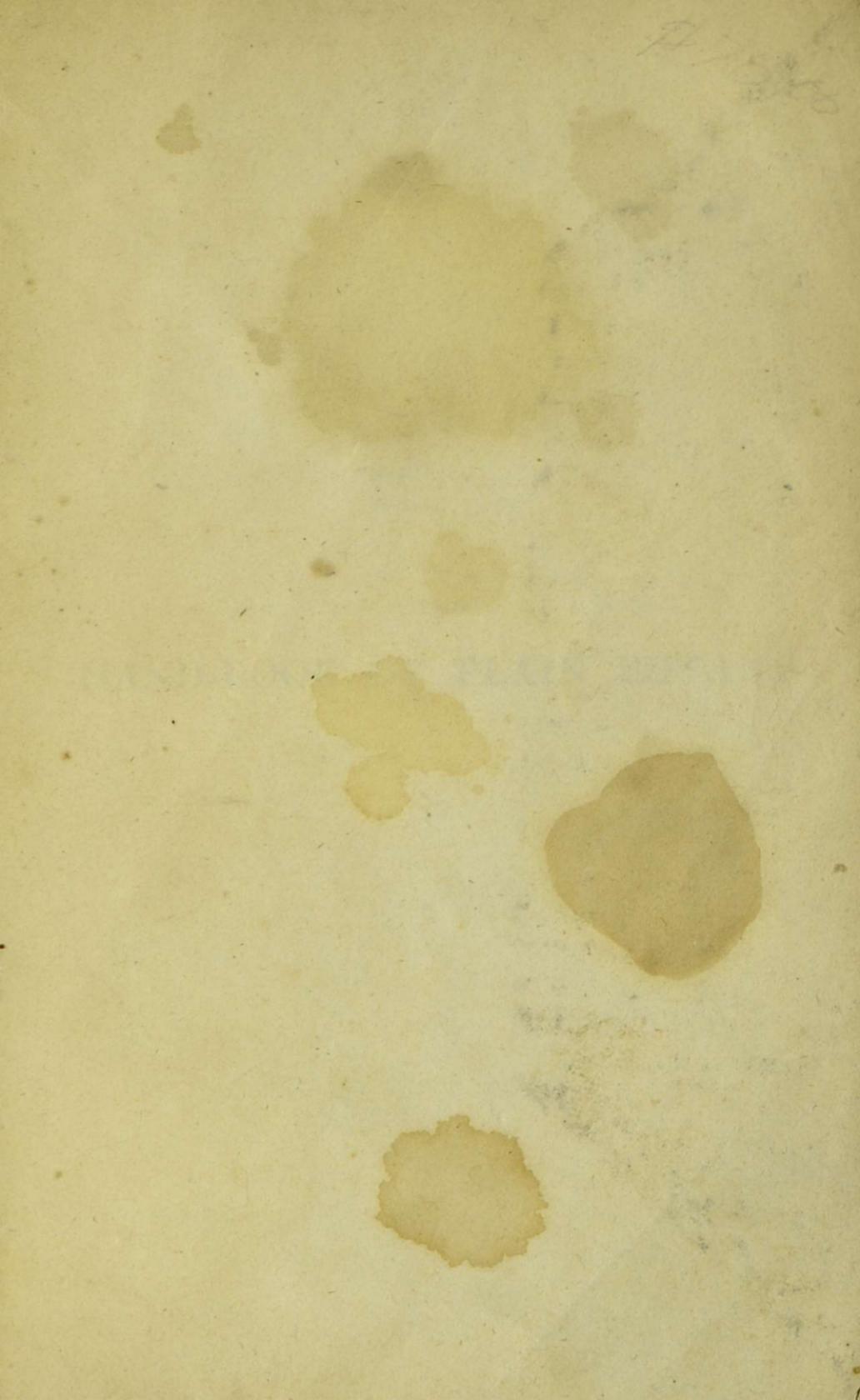
DUBLIN.

MDCCCXXXIV.

PRICE TWO SHILLINGS.

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Nanct van Cortlandt
from
her affectionate Husband
June 1 1841



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THE
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O F
P L A I N B O T A N Y.

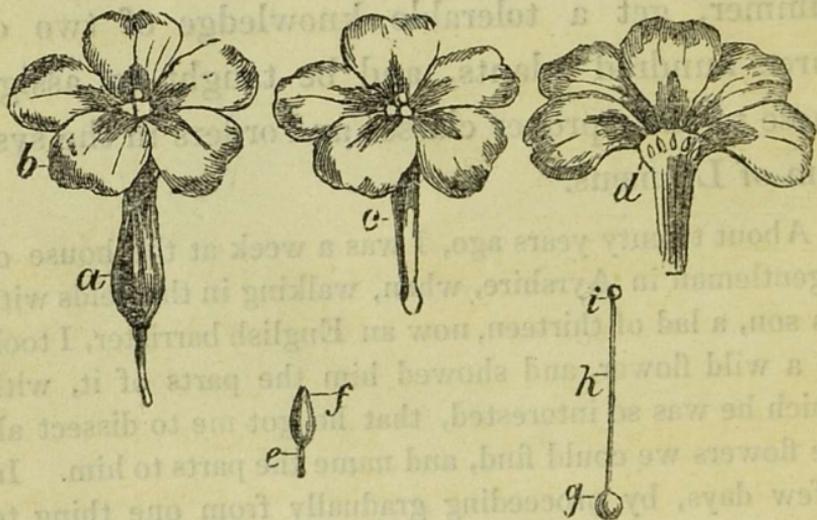
By learning about a dozen terms, and being able to number as far as thirty, which every child can do, any boy or girl may, in the course of one summer, get a tolerable knowledge of two or three hundred plants, and be taught to assign these to their proper classes and orders in the system of Linnæus.

About twenty years ago, I was a week at the house of a gentleman in Ayrshire, when, walking in the fields with his son, a lad of thirteen, now an English barrister, I took up a wild flower, and showed him the parts of it, with which he was so interested, that he got me to dissect all the flowers we could find, and name the parts to him. In a few days, by proceeding gradually from one thing to another, he learned to name and class nearly one hundred plants. Industry and perseverance of course were exerted by my young pupil, and myself as well, more than is usual

in such cases; but if so much could be done in less than a week, might not ordinary industry, I may fairly ask, do at least twice or thrice as much in a whole summer?

We must begin then by learning these dozen terms, without which we can no more get on in botany than we could write without knowing the letters.

The best way to learn the dozen terms is to get any flower, such as a lily, a primrose, or a buttercup, and have somebody who knows the several parts, and their names, to go over them once and again, naming them each time, till the pupil has them perfect. If nobody can be had to do this, I must try what I can do by means of an engraved figure of a flower: here is one of a primrose, and the same is very little different from the cowslip, the polyanthus, the auricula, the garden convolvulus, the potato, and many other common plants.



A Primrose dissected to show the parts: *a*, the calyx; *b*, the corolla; *c*, the petal; *d*, the stamens; *e*, the filament; *f*, the anthers; *g*—*i*, the pistil; *g*, the ovary; *h*, the style; *i*, the stigma.

THE TWELVE MAIN TERMS OF BOTANY.

1. On the outside of the primrose a green sort of cup is seen, in which the coloured part stands as an egg does in an egg-cup. This, which is marked by the letter *a* in the figure, the learner may call the *flower-cup*, but botanists call it by the Greek name

Calyx.

2. Within this flower-cup, or *calyx*, which may be cut off to show what it contains, is seen the coloured part of the flower,—the part, I mean, which is yellow in the primrose, blue in the violet, and red in the rose. The learner may call this coloured part the *blossom*, but botanists call it by the Latin name,

Corolla.

3. The blossom, or *corolla*, may now be cut off, when it will be seen in the primrose to be of one piece, while in the rose and other flowers it is of several pieces or leaves. The learner may call each of the pieces a *flower-leaf*, but botanists call it a

Petal.

4. Within the flower-leaf, or *petal*, in the primrose, five small bodies may be seen standing round in a circle, with little tips somewhat shaped like a barleycorn, though not nearly so large, and a slender stalk to support these. Each of the five small bodies the learner may call a *male*, but botanists call it a

Stamen.

5. The male part, or *stamen*, as we have seen, has two parts, the under part and an upper part. The learner may call the under part the *stalk*, but botanists call it the

Filament.

6. The learner may call the upper part of the male the *tip*, but botanists call it the

Anther.

7. When the tip, or *anther*, of the male is broken, or bursts, as it always does of itself as soon as it is ripe, a coloured powder is seen, which the learner may call the *tip-dust*, but botanists call it

Pollen.

8. When the calyx, the corolla, and the stamens are all cut away, the centre part of the flower alone will remain on the top of the stem. This part the learner may call the *female*, but botanists call it the

Pistil.

9. The female, or *pistil*, may be said to consist of a base, a middle, and a top. The base of the pistil is always more or less bulged out, and from its containing the seeds the learner may call it the *seed-organ*, but botanists call it the

Ovary.

10. The middle of the pistil the learner may call the *pillar*, but botanists call it the

Style.

11. The top of the pistil the learner may call the *summit*, but botanists call it the

Stigma.

12. The learner does not absolutely require to be taught any particular terms about the leaves, the branches, the stems, and the roots, though the common books on botany have some hundreds of

these. There is only one more term which I shall mention at present, and which applies to a peculiar sort of leaf, sometimes, according to the sort of plant, found on the flower-stem, often at the base of leaves, and sometimes surrounding fruits as the calyx does the corolla. This, which botanists call by more than one name, according to its situation, I shall, for the ease and convenience of the learner, call the

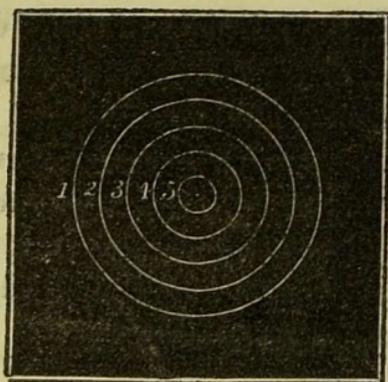
Scale.

Now these dozen terms,—

1 Calyx,	7 Pollen,
2 Corolla,	8 Pistil,
3 Petal,	9 Ovary,
4 Stamen,	10 Style,
5 Filament,	11 Stigma,
6 Anther,	12 Scale,

are all which I shall trouble the learner to get perfectly to begin with. One or two others, but not, I think, more than half a dozen, may be wanted as we proceed, and these I shall explain when they occur.

It will make it easier for the learner to master these dozen terms to consider the several parts as placed in five circles, one within the other, as represented by the cut in the next page.



On the outer circle (1) I place the *scale*, whether it be leaf-scale, flower-scale, or fruit-scale.

On the second circle (2) I place the flower-cup, or *calyx*, whether it consist of one piece or several pieces.

On the third circle (3) I place the blossom, or *corolla*, whether it consist of one *petal* or several.

On the fourth circle (4) I place the males, or *stamens*, whatever be their number, with their stalks, or *filaments*, and their tips, or *anthers*, containing the tip-dust or *pollen*.

On the inner circle (5) I place the female part, or *pistil*, with the seed-organ, or *ovary*, at the base, the pillar, or *style*, in the middle, and the summit, or *stigma*, on the top.

When the learner examines any flower, these five circles must be kept in mind, and the parts placed on each of them must be examined in their order, beginning with the outer circle.

It will sometimes happen, however, that all the parts belonging to the five circles will not be found; but after

a little experience, the learner will easily distinguish whether it is the *calyx* or the *corolla*, or any other part which is wanting to complete all the circles.

The dozen terms having been got perfectly, by going over them once and again, as well as the order in which the parts of the flower are placed on the five circles, the learner may next be taught how to find the class in which any flower is ranked by Linnæus.

THE LINNÆAN CLASSES.

It was the plan of Linnæus to make the flowers of plants, according to the number of their stamens, and a few other circumstances, an index to find the class to range them in ; and therefore the botanist consults a flower in the same way as he might consult the index of a book to find a particular chapter or page.

It will be easy for the learner who knows the stamens in a flower to number them, though a few are so small as to require to be examined with a pocket magnifying glass ; and it will also be easy to find whether they are longer or shorter than one another, and whether they be separated or united in one or more bundles ; and also whether there be pistils in the flower, or wanting.

Nothing more than these circumstances, so easy to ascertain, are required, in order to place any flower in its proper class, as I shall now show.

LESSON ON THE CLASSES.

Let the learner get together as many fresh flowers as he can, and begin with one of those in which the parts appear to be most distinct,—going on to the others in succession, and attending chiefly to the number of the stamens.

When the stamens have been carefully examined as to their number, their length, and their positions, the answers to the following twenty-four questions will at once point out which of the twenty-four Linnæan classes any flower belongs to, be it from the field or from the garden.

Has it one stamen?

Then it belongs to class 1.



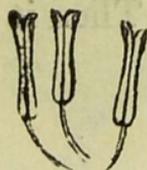
Has it two stamens?

Then it belongs to class 2.



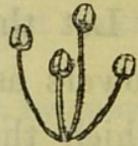
Has it three stamens?

Then it belongs to class 3.



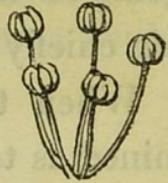
Has it four stamens, all of equal length?

Then it belongs to class 4.



Has it five stamens?

Then it belongs to class 5.



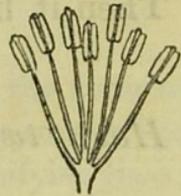
Has it six stamens, all of equal length?

Then it belongs to class 6.



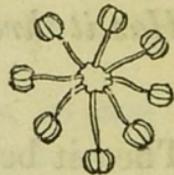
Has it seven stamens?

Then it belongs to class 7.



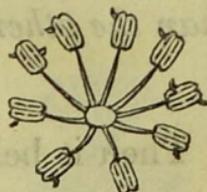
Has it eight stamens?

Then it belongs to class 8.



Has it nine stamens?

Then it belongs to class 9.



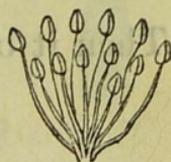
Has it ten stamens?

Then it belongs to class 10.



Has it twelve stamens?

Then it belongs to class 11.



Has it more than twelve stamens inserted upon the calyx?

Then it belongs to class 12.



Has it more than twelve stamens inserted at the base of the ovary?

Then it belongs to class 13.



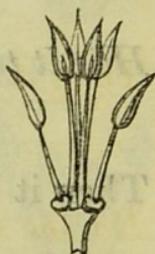
Has it four stamens, and two of these longer than the other two?

Then it belongs to class 14.



Has it six stamens, and two of these shorter than the other four?

Then it belongs to class 15.



Are the filaments of the stamens united in one bundle?

Then it belongs to class 16.



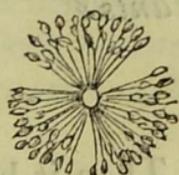
Are the filaments of the stamens united in two bundles?

Then it belongs to class 17.



Are the filaments of the stamens united in more than two bundles ?

Then it belongs to class 18.



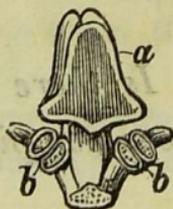
Are the anthers of the stamens united ?

Then it belongs to class 19.



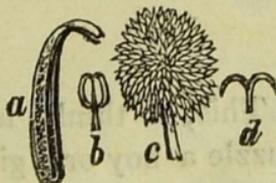
Do the stamens adhere to the pistil ?

Then it belongs to class 20.



Have the flowers only stamens without pistils, or pistils without stamens, on the same plant ?

Then it belongs to class 21.



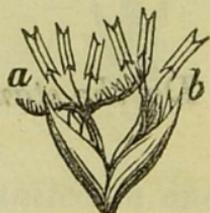
Have the flowers stamens only without pistils, and pistils only without stamens, on different plants?

Then it belongs to class 22.



Have the flowers both stamens and pistils, and also, as in Class 21, only stamens or only pistils?

Then it belongs to class 23.



Is there no obvious flower, and neither stamens nor pistils?

Then it belongs to class 24.



This, I think, is all very simple, and cannot greatly puzzle a boy or a girl, even at the early age of eight or ten years.

Having then gone over these twenty-four classes again and again, till they are well fixed in the memory, the next thing is to do the same with what botanists call orders, which are smaller divisions, in which flowers or plants are ranged, as companies of soldiers are ranged in a regiment.

LESSON ON THE ORDERS.

As the stamens regulate the twenty-four classes, so do the pistils regulate the several orders into which these classes are divided, some of the classes having more, and some of them fewer orders.

A few of the orders depend upon other circumstances besides the number of the pistils; but it will be better to leave these to be explained when we come to them, than to puzzle the learner with them here.

The answers to the following nine questions will furnish a key to the orders depending upon the number of the stamens in the first thirteen classes.

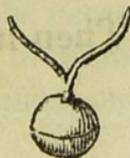
Has the flower one pistil?

Then it belongs to order 1.



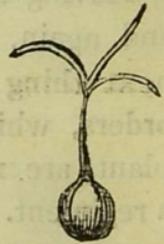
Has the flower two pistils?

Then it belongs to order 2.



Has the flower three pistils?

Then it belongs to order 3.



Has the flower four pistils?

Then it belongs to order 4.



Has the flower five pistils?

Then it belongs to order 5.



Has the flower six pistils?

Then it belongs to order 6.



Has the flower seven pistils?

Then it belongs to order 7.



Has the flower ten pistils?

Then it belongs to order 10.

Has the flower twelve pistils ?

Then it belongs to order 12.

Were plants made for the system, and not the system for plants, we should have all of these orders in each class ; but this is by no means so, and none of the classes has all these nine orders up to twelve, but some of them only as far as two, and these, moreover, do not always follow the order of numbers. There is also an order in four of the classes for flowers containing many pistils. In the twelve orders we shall write order 1, order 2, and so on ; in all other cases we shall write first order, second order, and so on.

From the sixteenth to the twenty-second class, with one exception, the orders are taken from the number of the stamens, similar to the classes in the first thirteen.

The foregoing particulars being well understood, the learner may next take a number of common flowers, collected at any season in the field or the garden, and by examining their stamens and pistils, according to what has been said of them above, may endeavour to find their place in the following pages, where, if they be of common occurrence, they will in all probability be inserted under their proper class and order. But here it will be necessary to tell the reader something of the smaller divisions of orders in which several species are arranged under one genus.

GENERA, SPECIES, AND VARIETIES.

The nature of what is called a genus will be better understood perhaps by reference to animals. The horse and the ass, for instance, are placed under one genus, and the turtle dove, the wood pigeon, and the tame pigeon, under one genus; in the same way as the onion and the leek are placed under one genus, and the pink and sweet-william under another genus.

Botanists always give a genus a Latin name, but it is not at first necessary for the learner who does not understand Latin to attend to this. If it is attended to, every letter in the word must be pronounced as in English, and no material mistake will in that case take place. The accents placed over Latin words in some books are a piece of useless pedantry, and are often erroneous.

Species are the smaller divisions of genera; thus, the ass is a species of the genus horse, and the sweet-william is a species of the genus pink.

Every species has a Latin name following the name of the genus, which, like that, need not at first be attended to.

As species are the smaller divisions of genera, so are varieties the smaller divisions of species.

The blood-horse and the cart-horse, for example, are varieties of the species horse, as the white pink and the purple pink are varieties of the species pink.

The varieties have not usually a Latin name, but are in botanical books numbered one, two, three, and so on, sometimes by figures, and sometimes by the Greek letters, as the stars in the constellations are similarly marked.

Taking two of the foregoing examples, and placing the English name first, the genus, species, and varieties will be written thus—

Sweet William (*Dianthus barbatus*)

Var. 1, with white flowers.

Var. 2, with red flowers.

Clove Pink (*Dianthus Caryophyllus*).

The learner will now be prepared to refer any flower to its class, order, genus, species, or variety.

FIRST CLASS.



In this class are placed the plants whose flowers have only one stamen.

Order 1.



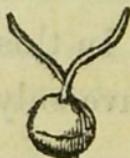
In this order are placed the plants whose flowers have only one pistil.

The more common plants which the order contains are spur-flower, glasswort, and mares-tail, of which we shall describe the following only.

Red Spur-flower (*Centranthus ruber*, formerly *Valeriana rubra*). A perennial from one to two feet high, blowing from May till September in a thick bunchy head; blossom crimson, each flower with a spur and one stamen; seed-vessel with three cells and one seed; leaves spear-shaped, entire, smoothish, rather succulent, the upper ones sometimes toothed.

This plant, usually called red valerian, is a native of the south of Europe, but has become partly wild in Britain. It is showy, hardy, and easily cultivated by dividing the root.

Order 2.



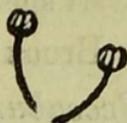
In this order are placed the plants whose flowers have only two pistils.

There is only one common genus in this order, of which we shall describe the following species only.

Straw Berry Blite (*Blitum capitatum*). An annual from Austria, two feet high, blowing from May to August; blossom without petals; heads with spikes at the top; calyx cleft, and as it ripens taking the form of a berry containing one seed.

It is pretty when in fruit, hardy, and must be sown on lime-rubbish early in spring.

SECOND CLASS.



In this class are placed the plants whose flowers have two stamens.

Order 1.



In this order are placed the plants whose flowers have one pistil only.

The more common field and garden plants which it contains are privet, lilac, jasmine, speedwell, slipper-wort,

rosemary, and sage, of which we shall describe the following only.

Common Lilac (*Syringa vulgaris*). A tall shrub from Persia, about eight or ten feet high, blowing in May; blossom lilac purple and fragrant; corolla with four divisions; capsule of two cells; leaves egg-oblong and sweet-smelling; branches stiff and whitish-coloured.

There are five or more varieties in the colour of the blossom. It is easily propagated by suckers taken up late in autumn or early in spring. This, as well as the two dwarf species, looks pretty in a flower-pot*.

Brooklime, or Spring Speedwell (*Veronica Beccabunga*). A perennial herb, two feet high, blowing from May to July; blossom bright blue, in two opposite bunches; leaves shining, fleshy, egg-oblong, and flat; stem lying down near the base and taking root.

It grows in thick patches, and is common in shallow ditches and streams coming from springs. It is sometimes eaten as salad, and the juice is given to infants as an opening medicine.

Wrinkled Slipperwort (*Calceolaria rugosa*). A perennial plant from Chili, two feet high,

* See "Alphabet of Scientific Gardening," second edition, page 71.

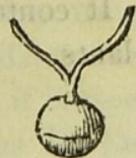
blowing from August to September; blossom fine bright yellow; flowering branches at the top of the plant; corolla button-shaped, bulging, and gaping; calyx with four divisions; capsules with two cells and four valves; leaves spear-shaped, with spreading teeth.

This is what gardeners call a frame plant, but is as hardy as most plants kept in rooms, and is pretty in a pot. It is easily propagated by cuttings in common soil.

Garden Sage (*Salvia officinalis*). A perennial, from the south of Europe, from one to two feet high, blowing from June to July; blossom reddish crimson, in distant whirls; the calyx purplish and notched; corolla gaping, tubular, and two-lipped; leaves egg-oblong and wrinkled.

A useful aromatic plant, hardy, and easily propagated by cuttings in autumn or spring. For use it is cut when in flower, and dried in the shade. Splendid sage (*Salvia splendens*) is a fine plant in a pot, but will not stand any frost.

Order 2.



In this order are placed the plants whose flowers have two pistils.

The only common plant is the following.

Sweet-scented Spring Grass (*Anthoxanthum odoratum*). A perennial, from one to two feet high, blowing in May; the flowers in form of a greenish spike, yellowish when the seeds ripen; calyx chaffy, with two husks, and hairy on the outside; corolla chaffy, with two awned valves, the blossom longer than the awns, and on a short stalk.

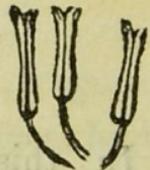
This is the most fragrant of the grasses when dried, and is the chief source of the odour of new-mown hay. It does not answer to sow it by itself, but is profitable with other grasses.

Order 3.



In this order are placed the plants whose flowers have three pistils.

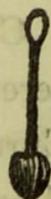
It contains the pepper plants, but no common garden plants.



THIRD CLASS.

In this class are placed the plants whose flowers have three stamens.

Order 1.



In this order are placed the plants whose flowers have one pistil.

The common field and garden plants which it contains are valerian, lamb's lettuce, saffron, gladiole, iris or flag, bog-rush, club-rush, and cotton grass. We shall describe the following only.

Spring Crocus, or Saffron (*Crocus vernus*). A perennial, from the south of Europe, six inches high, blowing from February to April; blossom purple, with reddish veins, and a very long tube, the upper part cut into six equal divisions; the stigmas cut into three jagged and wedge-shaped lobes.

It is naturalised among meadows and fields about Nottingham. The saffron of the shops is formed of the dried pistils. It is easily propagated by off-sets from the corms, erroneously called bulbs, taken up before midsummer. It may also be raised from seed sown as soon as it is ripe, in light earth. There are numerous varieties in the gardens, differing in colour, but chiefly yellow and purple. The corms should be taken up every third year before midsummer, and planted again in autumn.

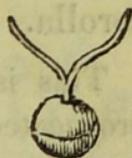
Common Gladiole (*Gladiolus communis*). A perennial bulbous plant, from the south of Europe, two feet high, blowing from June to July; blossom fine pink red, placed upon one side of a tall spike; calyx in form of a sheath; corolla in form of a tube, the upper part irregularly six-parted; stigmas three; the seeds winged.

This is a fine border-flower, which may be easily propagated in loam or peat soil by off-sets taken from the bulbs in the autumn.

German Iris, or Blue Flag (*Iris Germanica*). A perennial, from Germany, three feet high, blowing from May to June; blossom large and fine blue; lower flowers stalked; flower with six divisions, every other division bent back; stigmas shaped like petals; stem with many flowers, which are longer than the leaves, and the lower ones on foot-stalks, the upper ones without stalks.

A showy and hardy border-flower, easily propagated by dividing, in spring or autumn, what is called the root, but which is rather an underground stem than a root. The least bit will grow. Several other species of iris are not uncommon in gardens.

Order 2.



In this order are placed the plants which have two pistils.

The common field and garden plants it contains are most of the grasses, wheat, barley, rye, oats, quake grass, and feather grass. We shall describe the following only.

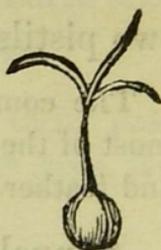
Annual Meadow Grass (*Poa annua*). An annual from three to six inches high, the flowers in a loose spike, and the little spikes egg-oblong, and all placed on one side, each containing about five flowers; the corolla chaffy, flat, keeled, sharp-pointed, but without awns; the stem flattish; the root fibrous.

This is the little grass so common on gravel walks, and as a garden weed.

Great Quake Grass (*Briza maxima*). An annual from the south of Europe, a foot and a half high, blowing in June and July; the flowers in drooping, dangling, oval, yellowish, spikes; the corolla chaffy, bulging, expanded, concave, and

without any keel or awns ; the seed united to the corolla.

This is a very curious border plant, hardy, and easily propagated by sowing the seeds in spring. There are several species of quake grass, but with much smaller spikes, not uncommon in meadows and pastures.



Order 3.

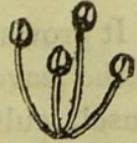
In this order are placed the plants whose flowers have three pistils.

It contains only one common field plant.

Water Blinks (*Montia fontana*). An annual, from three to six inches high, blowing from April to May ; blossom white, on a curved stalk ; calyx with two or three leaves ; corolla with one petal, irregular, with five divisions ; capsule with one cell, three valves, and three seeds ; stem erect and spreading ; leaves egg-oblong, smooth, fleshy, and placed opposite each other.

It is a very pretty plant, and is frequent in springs upon heaths and mountains.

FOURTH CLASS.



In this class are placed the plants whose flowers have four stamens.

Order 1.



In this order are placed the plants whose flowers have one pistil.

The common field and garden plants in this order are ladies' mantle, burnet, teasel, scabious, ladies' bedstraw, woodroof, plantain, and dogwood. We shall describe the following only.

Wood Teasel (*Dipsacus sylvestris*). A native biennial, blowing from June to August; blossom purple; common calyx with many leaves; corolla in the form of a tube, with four divisions, one seed crowned by the calyx; flower-scale straight; head somewhat egg-oblong; leaves in opposite pairs, joined at the base, and either entire or

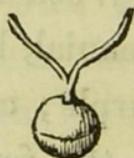
jagged ; the mid-rib, and likewise the stem, studded with hooked prickles.

It grows in copses and wet hedge banks. The joinings of the leaves are usually full of rain water. The fullers' teasel, cultivated for dressing cloth, is probably only a variety without hooks on the prickles.

Waybread Plantain, or Waybron (*Plantago major*). A native perennial, one foot high, blowing from May to July ; blossom white ; calyx with four divisions ; corolla four-parted, with the border bent backward ; stamens very long ; capsule with two cells cut round, and with many seeds ; leaves egg-shaped, smoothish, generally shorter than the foot-stalk ; spike long, slender, and stiff ; flower-scale concave.

It grows by way sides and the borders of fields. The seed spikes are gathered for cage birds. The leaves are, in the north, applied to cuts and sores.

Order 2.

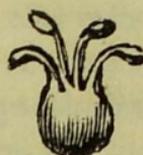


In this order are placed the plants whose flowers have two pistils.

It contains no common plant.

There is no Order 3 in this class.

Order 4.



In this order are placed the plants whose flowers have four pistils.

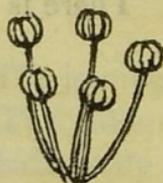
The common field plants in this order are the holly, pond-weed, and pease-wort. We shall describe the following only.

Common Holly (*Ilex aquifolium*). An evergreen native shrub or tree, from five to twenty feet high; blossom white; calyx with four or five teeth, very small; corolla wheel-shaped, with four divisions; stigmas four; berry scarlet or yellow, with four one-seeded pips; leaves sharp-pointed, shining, waved, with thorny teeth.

Holly grows in woods and hedges. There are numerous varieties with variegated leaves. The wood is used for turning, the bark for making birdlime. The berries gathered in November are kept in sand till October following, and sown or dibbled half an inch deep. Many will not appear above ground before two or three years. It bears cutting well, and makes fine hedges.



FIFTH CLASS.



In this class are placed the plants whose flowers have five stamens.

Order 1.



In this order are placed the plants whose flowers have one pistil.

The common field and garden plants in this order are marvel of Peru, heliotrope, forget-me-not, pimpernel, primrose, flame-flower, Jacob's ladder, tobacco, convolvulus, periwinkle, potato, bell-flower, honeysuckle, vine, balsam, violet, ivy, currant, and cockscomb. We shall describe the following only.

Primrose (*Primula vulgaris*). A native perennial, four inches high, blowing from March till June; blossom brimstone yellow; capsule with one cell; corolla funnel-shaped, having a passage at the opening; stigma round; leaves

egg-oblong, toothed, wrinkled, shaggy or hoary beneath ; flower-stalks as long as the leaves.

It grows in woods and copses, particularly in clay soils. There are numerous varieties in colour and form ; and it is most probably the origin of all the garden polyanthuses. The seed may be sown in spring or in autumn, and the roots of fine sorts may be divided. It answers best with shade and moisture.

Potato (*Solanum tuberosum*). A perennial plant from America, two feet high, blowing in May and June ; blossom purple or white ; calyx not falling off ; corolla round or bell-shaped, with five plaited divisions ; anthers in some degree united, opening by a double pore at the end ; berry with two cells and many seeds ; root tuberous.

There are numerous varieties produced by crossing and sowing the crossed seeds.

Woodbine Honeysuckle (*Caprifolium periclymenum*). A native perennial, from five to twenty feet high, blowing from May till July ; blossom fragrant ; calyx with five teeth or entire ; corolla with a long tube, the border with five divisions, regular, or two-lipped ; stamens the

length of the corolla ; stigma round ; berry scarlet, having three cells with many seeds ; leaves opposite and smooth ; stems twining.

It grows in hedges and woods. The seeds may be sown in autumn when ripe, or layers or cuttings may be made from old plants.

Hearts Ease, or Pansy (*Viola tricolor*). A native annual plant, half a foot high, blowing from April till September ; blossom purple, yellow, and white ; calyx smooth, only half the size of the blossom ; leaves egg-oblong, with a large leaf-scale, toothed ; stem with angles, spreading, and branched.

It grows in corn fields, and there are numerous varieties easily raised from seed, which ought not to be more than one year old. Fine varieties may be multiplied by layers or cuttings.

Ivy (*Hedera helix*). A native evergreen climbing shrub, from one to forty feet high, blowing in October and November ; blossom green ; petals five, oblong ; berry with five seeds surrounded by the calyx ; leaves egg-shaped, with five angled divisions, very shining, often veined with whitish lines ; stems very long, creeping, throwing out

numerous clasps, by which they adhere to hard substances.

There are several varieties easily propagated by layers. It is a great mistake to suppose that ivy renders walls damp, or kills the trees on which it climbs.

Red Currant (*Ribes rubrum*). A native shrub, four feet high, blowing from April till May; blossom green; petals five; the stamens arising from the calyx; berry, red or white, with many seeds; leaves smooth, hanging, blunt, with five divisions; stem erect.

There are several varieties procured by crossing, and sowing the crossed seeds. The varieties are easily multiplied by cuttings.

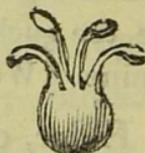
Order 2.



In this order are placed the plants whose flowers have two pistils.

The more common field and garden plants placed here, are the gentians, saltwort, goose-foot, beet, elm, chervil, eryngo, carrot, hemlock, parsley, and parsnep. We shall describe the following only.

Order 4.



In this order are placed the plants whose flowers have four pistils.

The only genus placed here is Grass of Parnassus, of which we shall describe one species only.

Marsh Grass of Parnassus (*Parnassia palustris*). A native perennial, half a foot high, blowing from July to August ; blossom white ; capsule with four valves, and numerous seeds ; leaves from the root, heart-shaped, taper-pointed.

What are absurdly called nectaries are fine parcels of green bristles, with yellow knobs like pins' heads, from nine to thirteen between the petals. It grows in upland meadows and bogs, and bears a fine showy flower.

Order 5.



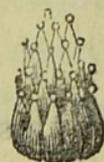
In this order are placed the plants whose flowers have five pistils.

The more common field and garden plants placed here are flax, thrift, and sea-lavender. We shall describe the following only.

Thrift, or Sea Pink (*Armeria maritima*). A native perennial, half a foot high, blowing from May till July; blossom red, in a head; calyx with two leaves, entire, plaited, membranous; petals five; one seed; leaves line-like, flat, blunt.

It grows on the sea shore, and on very high mountains. It makes a good garden border, and is easily propagated by dividing the roots.

Order 6.



In this order are placed the plants whose flowers have many pistils.

It contains only one not uncommon field-plant.

Mouse Tail (*Myosurus minimus*). A native annual, one-fourth of a foot high, blowing from April till May; blossom yellow, calyx spurred at the base; petals five, with tubular claws; seeds naked; leaves quite entire.

It grows in corn-fields and gravelly pastures. The stamens vary in number from four to twenty.

SIXTH CLASS.



In this class are placed the plants whose flowers have six stamens all of equal length.

Order 1.



In this order are placed the plants whose flowers have one pistil.

The more common field and garden plants placed here are the daffodil, pine-apple, snow-drop, snow-flake, various lilies, rush, spiderwort, aloe, tulip, crown imperial, lily of the valley, Solomon's seal, garlic, onion, leek, star of Bethlehem, asparagus, hyacinth, and barberry. We shall describe the following only.

Daffodil, or Glen, (*Narcissus pseudo-narcissus*).
A native perennial bulbous-rooted plant, one foot high, blowing from March till April; blossom

pale yellow; flower-scale sheathing, containing one flower; calyx of six equal divisions; corolla in form of a cup, funnel-shaped, of a single leaf, and saw-toothed; stamens placed within the cup; flower-stalk two-edged, straight.

There are double varieties in gardens, easily propagated by off-sets from the bulbs. The white narcissus, and the poetic or two-flowered white, are species of this genus esteemed for their beauty and fragrance.

Snowdrop (*Galanthus nivalis*). A native perennial bulbous-rooted plant, half a foot high, blowing from January till March; blossom white; flower-scale sheathing; calyx with three concave divisions; the corolla cup-formed, with three small notched divisions; stigma simple; leaves smooth; flower-stalk with one blossom.

There are double and single varieties easily propagated by off-sets from the bulbs.

Virginian Spider Wort (*Tradescantia Virginiaca*). A perennial plant from North America, one foot and a half high, blowing from May till October; blossom fine blue, in clustered umbels; calyx with three leaves; corolla with three petals; filaments with jointed hairs; capsule with three cells; leaves spear-shaped, smooth.

It is easily propagated in common garden soil, or in peaty loam, by dividing the root.

Common Tulip (*Tulipa Gesneriana*). A perennial bulbous-rooted plant, from the Levant, two feet high, blowing from April till May; blossom variegated, flower erect and smooth; calyx or corolla with six divisions, bell-shaped, blunt, smooth; no style; leaves egg-oblong and spear-pointed; stem erect.

This is the origin of numerous garden varieties procured by crossing and sowing the crossed seeds, and easily propagated in rich mould by off-sets from the bulbs. The sweet-scented tulip, sometimes found wild in chalk-pits, is a different species.

Oriental Hyacinth (*Hyacinthus orientalis*). A perennial bulbous-rooted plant from the Levant, nine inches high, blowing from March till April; blossom blue; flowers funnel-shaped, bellied at the base, with six divisions, flower erect; stamens arising from the middle of the flower; cells of the capsule with two seeds.

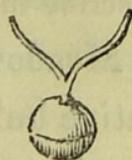
There are many varieties, red, white, and sometimes, though rare, yellow. The bulbs will blow well in dark-coloured water-glasses, but this injures them from blowing

again. They are easily propagated in rich mould by offsets from the bulbs.

Barberry (*Berberis vulgaris*). A native shrub, about eight feet high, blowing from April till May; blossom yellow; calyx with five leaves; petals six, with glands upon their claws; berry orange, with one cell, having from two to four seeds; bunches drooping; leaves egg-oblong, fringed, and toothed.

The barberry-bush is easily propagated by layers. An absurd opinion prevails among farmers that the barberry causes red rust among corn—as absurd as the notion that the barberry bark will cure jaundice because it is yellow.

Order 2.



In this order are placed the plants whose flowers have two pistils.

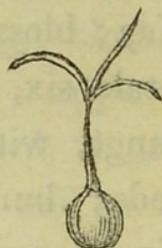
The only more common field and garden plants placed here are rice and mountain sorrel. We shall only describe the following.

Kidney-leaved Sorrel (*Oxyria reniformis*). A native perennial plant, half a foot high, blowing from June till July; blossom green; flower-scale

sheathing; calyx with two leaves; petals two; pistils two; leaves kidney-shaped.

It is only found in mountainous situations, and is a pretty plant.

Order 3.



In this order are placed the plants whose flowers have three pistils.

The more common field and garden plants placed here are arrow-grass, meadow-saffron, and dock. We shall describe the following only.

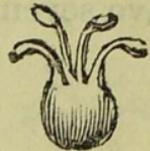
Meadow Saffron (*Colchicum autumnale*). A native bulbous-rooted perennial, three inches high, blowing from September till October; blossom purple; corolla six-parted, with a long tube proceeding directly from the root; anthers incumbent; capsules three, connected and bulging; leaves flat, spear-shaped, erect, appearing in spring, and withering before the flower blows.

It is easily propagated by off-sets from the bulbs. All the plant is used as a powerful but not a safe remedy in gout and rheumatism.

Common Sorrel (*Rumex Acetosa*). A native perennial, two feet high, blowing from June till July; blossom reddish green, in bunchy panicles; calyx with three leaves; petals three, converging; seed one and three-sided; leaves oblong and arrow-headed.

It grows commonly in pastures and meadows; and is known to every child by the agreeable acid taste of its leaves. The small sorrel of heaths and barren places is a different species.

Fourth Order.



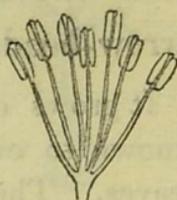
In this order are placed plants whose flowers have many pistils.

It contains only one common genus, found wild in Britain, of which we shall describe one species only.

Water Plantain (*Alisma plantago*). A perennial water-plant, one foot and a half high, blowing from June till July; blossom purple, with six divisions, the outer divisions falling off late like a calyx, the three inner like petals; stamens six; seed-organs varying in number, one-seeded;

capsules distinct, not opening, bluntly three-cornered; leaves egg-oblong and pointed.

It may readily be recognised in ponds and canals by its broad leaves and tall branching spike of flowers. It is poisonous.



SEVENTH CLASS.

In this class are placed the plants whose flowers have seven stamens.

Order 1.



In this order are placed the plants whose flowers have one pistil.

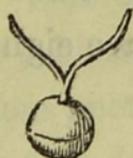
The commoner field and garden plants placed here are winter-green, horse chestnut, and calla. We shall describe the following only.

Horse Chestnut (*Æsculus hippocastanum*). An ornamental tree, from Asia, forty feet high, blowing from April till May; blossom reddish white, in spikes; calyx with one bulging leaf; corolla

with five unequal petals, downy upon the surface, plunged in the calyx ; capsule with three cells, seeds large, chestnut like ; leaves with seven finger-shaped divisions.

It is easily propagated by sowing the seeds.

Order 2.

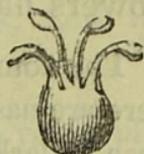


In this order are placed the plants whose flowers have two pistils.

It contains no common plants.

There is no Order 3.

Order 4.

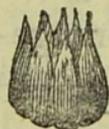


In this order are placed the plants whose flowers have four pistils.

It contains no very common plants.

There are no Orders 5 and 6.

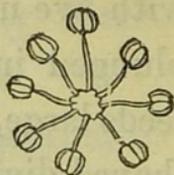
Order 7.



In this order are placed the plants whose flowers have seven pistils.

It contains no common plant.

EIGHTH CLASS.



In this class are placed the plants whose flowers have eight stamens.

Order 1.



In this order are placed the plants whose flowers have one pistil.

The common field and garden plants which are placed here are nasturtium or Indian cress, heath, evening primrose, Clarkia, willow-herb, Fuchsia, whortleberry, and daphne. We shall describe the following only.

Tall Nasturtium, or Indian Cress (*Tropæolum majus*). A tender annual, from Peru, six feet high, blowing from June till October; blossom orange-yellow; calyx with one leaf and five spurred divisions; petals five, unequal, blunt; nuts leathery and furrowed, containing one roundish seed; leaves target-shaped and spreading.

A well-known trailing and climbing plant, with showy flowers, and seeds used for pickling. It may be sown in March. The small nasturtium is a different species. There are varieties of both with double flowers.

Evening Primrose (*Oenothera biennis*). A biennial plant from North America, four feet high, blowing from June till September; blossom yellow; calyx tube-like, with four divisions; petals four, plunged in the calyx; stigma with four divisions; capsule with four cells, and four valves; seeds naked, fixed to a four-cornered central column; leaves oblong, spear-shaped and flat; stem covered with short sharp points, and long loose hairs.

The seeds may be sown in April, and the young plants transplanted in the autumn.

Grey Heath (*Erica cinerea*). A native evergreen dwarf shrub, one foot high, blowing from June till September; blossom purple in drooping spikes; calyx with four leaves; corolla with four divisions, not falling off; anthers crested; capsule membranous, with four or eight cells; leaves three in a whirl.

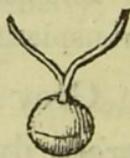
It is more showy than the common heath, and is easily

propagated by layers or sowing the seed in sandy peat. It makes a prettier bordering than box.

Scarlet Fuchsia (*Fuchsia coccinea*). An ever-green shrub from Chili, six feet high, blowing from May till August; blossom scarlet and purple, drooping; foot-stalk arising from the base of the leaf with one flower; calyx bright scarlet, funnel-shaped, and falling off; petals four, clear purple in the throat of the calyx; stigma in form of a head; berry oblong, blunt, with four corners and four cells; leaves in threes, and saw-toothed.

Not uncommon in pots, and easily propagated in peaty loam by cuttings in autumn. It will not stand exposure to frost.

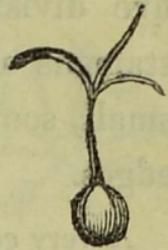
Order 2.



In this order are placed the plants whose flowers have two pistils.

It contains no very common plants.

Order 3.



In this order are placed the plants whose flowers have three pistils.

The only very common field or garden plant placed here is the genus joint-wort, containing buck-wheat and persicaria, of which we shall describe the following.

Persicaria (Polygonum orientale). An annual from the East Indies, six feet high, blowing from July till October; blossom red; corolla like a calyx, with five divisions; seed one, angular and covered; stamens and stigmas varying in number; leaves oblong; leaf-scales hairy; stem erect.

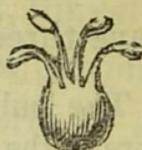
The seeds may be sown in March or later; but in the south it often sows itself, and the young plants will bear transplanting.

Bird Joint Wort (Polygonum aviculare). A native trailing annual, stems three feet, blowing from April till October; blossom green, at the inner base of the leaf; corolla like a calyx, with

five divisions; seed one, angular and covered; stamens and stigmas varying in number; leaves small, somewhat spear-shaped, and rough at the edges.

A very common plant by road-sides and wastes, whose seeds are much relished by small birds and poultry.

Order 4.



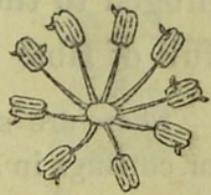
In this order are placed the plants whose flowers have four pistils.

The more common field and garden plants placed here are paris, gloryless, and water-wort. We shall describe the following.

Gloryless (*Adoxa moschatellina*). A native perennial, three inches high, blowing from March till May; blossom greenish-white; calyx with two or three divisions; corolla with four or five divisions; berry one celled with four or five seeds, united with the calyx; leaves delicate green and divided.

It grows in copses and woods, and may be propagated by dividing the roots.

NINTH CLASS.



In this class are placed the plants whose flowers have nine stamens.

Order 1.



In this order are placed the plants whose flowers have one pistil.

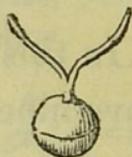
It contains only one genus, the laurel, that is very common, of which we shall describe the following species only.

The Noble Laurel or Sweet Bay (*Laurus nobilis*). An evergreen shrub from Italy, fifteen feet high, blowing from April till May; blossom yellow-white, flowers in spiked bunches at the base of the leaves; calyx with four and six divisions; three glands, with two bristles surrounding the seed organ; anthers opening across, valves

hinged to the upper side, leaves spear-shaped and full of ribs.

There are several varieties easily propagated by layers or cuttings in sandy loam.

Order 2.



In this order are placed the plants whose flowers have two pistils.

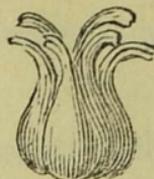
It contains only one genus, rhubarb, very common, of which we shall describe the following species only.

Wave-leaved Rhubarb (*Rheum undulatum*). A thick-rooted perennial from China, four feet high, blowing from May till June; blossom whitish-green; corolla with six divisions not falling off; seed three-cornered; leaves waved at the edges and shaggy, with long loose hairs; leaf-stalk flat above, with a sharp edge.

There are many garden varieties, easily propagated by sowing the seed in April, in a warm border, or by dividing the roots.

There are no Orders 3, 4, and 5.

Order 6.



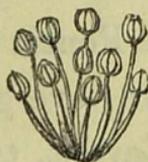
In this order are placed the plants whose flowers have six pistils.

It contains only one not uncommon genus, the flowering rush, of which we shall describe the following species.

Common Flowering Rush, or Water Gladiole (*Butomus umbellatus*). A native perennial water-plant, two feet or more high, blowing from June till July; blossom pink, very handsome, the stalks formed like the spokes of an umbrella, with six divisions; capsules six, with many seeds; leaves sharp-edged.

It may be planted in ponds or slow streams, and is easily propagated by dividing the roots.

TENTH CLASS.



In this class are placed the plants whose flowers have ten stamens.

Order 1.



In this order are placed the plants whose flowers have one pistil.

The more common field and garden plants placed here are fraxinella, rue, laurel-rose, and strawberry-tree. We shall describe the following only.

Rue (*Ruta graveolens*). An evergreen shrubby plant from the south of Europe, three feet high, blowing from June till September; blossom greenish-yellow; calyx with five divisions; petals concave, entire; capsule lobed; leaves doubly divided, little leaves or leaflets egg-oblong.

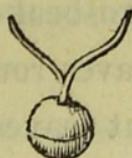
It is easily propagated by cuttings. It does not appear to have so much medicinal power as is commonly believed.

Pontic Laurel Rose (*Rhododendron Ponticum*). An evergreen shrub from Gibraltar and the Levant, twelve feet high, blowing from May till June; blossom showy, purplish-red in bundles; calyx with five divisions; corolla somewhat bell or

wheel-shaped ; stamens inclining downwards ; capsule with five cells ; leaves oblong, smooth, of the same colour on both sides.

Several varieties are to be found in gardens, all easily propagated by layers in a sandy peat soil.

Order 2.



In this order are placed the plants whose flowers have two pistils.

The more common field and garden plants placed here are knawel, hydrangea, saxifrage, soapwort, and pink. We shall describe the following only.

Garden Hydrangea (*Hydrangea hortensis*). A shrubby plant, from China, three feet high, blowing from April till September ; blossom pink, in a rayed bouquet ; calyx five-toothed ; petals five ; capsule with two cells and two beaks, opening by a hole between the beaks ; leaves narrowed at each end, and smooth.

It is easily propagated by cuttings or layers, and may be brought to bear blue flowers by means of wood ashes, peat earth, or iron rust, in the soil.

None-so-Pretty, or London Pride (*Saxifraga umbrosa*). A native evergreen perennial, one foot high, blowing from April till June; blossom flesh-coloured, in a loose spike; calyx with five divisions; petals five, dotted with scarlet; capsule two-beaked, and one-celled, with many seeds; leaves roundish, with gristly notches; stem without leaves.

A common border flower, easily propagated by dividing the roots; the stools will also strike without roots.

Sweet-William (*Dianthus barbatus*). A biennial, or rather perennial, from Germany, fifteen inches high, blowing from June till July; blossom pink, in a tufted bouquet; calyx cylindrical; one-leaved, with scales at the base, egg-oblong, awl-pointed, and as long as tube; petals five, with claws; capsule cylindrical, with one cell; leaves spear-shaped.

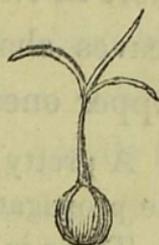
There are numerous varieties, easily propagated by cuttings taken in Autumn. When the seed is sown, the plants will not flower the same season, and will rarely come true.

Clove Pink (*Dianthus Caryophyllus*). An

evergreen native perennial, two feet high, blowing from June till August; blossom flesh-coloured; calyx cylindrical, one-leaved, with scales at the base, very short, and egg-oblong; petals five, very broad, beardless, and with claws; capsule cylindrical, with one cell; stem branched; leaves grass-like, somewhat channelled, and sea-green.

There are numerous varieties, including the carnation, easily propagated by layers and cuttings, called pipings, done in August. New varieties are obtained by sowing crossed seed.

Order 3.



In this order are placed the plants whose flowers have three pistils.

The more common field and garden plants placed here are campion, catchfly, stitchwort, and sandwort. We shall describe the following only.

Pink Catchfly (*Silene Armeria*). A native annual, one foot and a half high, blowing from July till September; blossom pink, in a tufted bouquet; calyx with one bulging leaf; petals

five, with claws, and crowned; capsule, opening at the end, with many seeds; leaves oblong, spear-shaped.

The seeds may be sown in spring, with the other hardy annuals.

Hedge Stitchwort (*Stellaria Holostea*). A native evergreen perennial, one foot high, blowing from March till June; blossom white and showy; calyx with five spreading leaves; petals five, cleft in two; capsule one-celled, with many seeds; leaves sharp-pointed, and somewhat rough, the upper ones broader and shorter.

A pretty flower, common in hedges and copses. It may be propagated, but not easily, by dividing the roots.

There is no Order 4.

Order 5.



In this order are placed the plants whose flowers have five pistils.

The more common field and garden plants placed here are navelwort, stonecrop, wood-sorrel, lampwort, mouse-ear, and spurrey. We shall describe the following only.

Acrid Stone-crop (*Sedum acre*). A native evergreen perennial plant, three inches high, blowing in June; blossom yellow, divided into three parts; calyx with five divisions; petals five; five scales at the bottom of the seed-organ; leaves somewhat egg-oblong, and fleshy.

It is common on old house-roofs and walls, and is easily propagated, as it sometimes is in pots, by dividing the roots.

Common Wood Sorrel (*Oxalis acetosella*). A native evergreen perennial, three inches high, blowing from April till May; blossom whitish, with numerous flesh-coloured veins; petals five, oval, blunt, sometimes united at the base; stamens united at the base, the five outer shortest; capsule oblong, or cylindrical, opening when ripe with a spring; root toothed and creeping; leaves in threes, like clover.

It is easily propagated by off-sets from the roots, and is sometimes cultivated for salads.

Scarlet Lychnis, or Lampwort (*Lychnis Chalcedonica*). A perennial, from Russia, two feet high, blowing from June till July; blossom red,

in tufted umbels; calyx one-leaved, cylindrical, ribbed, and clawed; petals five, clawed, with two lobed divisions; capsule five-celled.

It is easily propagated by dividing the roots, or by sowing the seeds in spring. There are varieties with white and with double flowers.

Smooth Rose Campion (*Lychnis Cæli rosa*, or *Agrostemma Cæli rosa*). An annual, from the Levant, one foot high, blowing from July till August; blossom flesh-coloured, single at the top of the forking, paniced, erect, stem; calyx one-leaved and leathery; petals with five claws; capsule one-celled; leaves smooth.

It is easily propagated by seeds sown in spring. There are two perennial species of rose campion, with downy leaves, common in gardens.

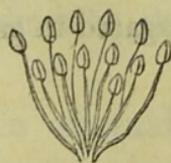
There are no Orders 6, 7, 8, and 9.

Order 10.

In this order are placed the plants whose flowers have ten pistils.

There are no very common plants placed here.

ELEVENTH CLASS.



In this class are placed the plants whose flowers have twelve stamens.

Order 1.



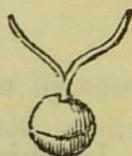
In this order are placed the plants whose flowers have one pistil.

The more common field and garden plants placed here are asarabacca, snow-drop tree, purslane, and grasspoly. We shall describe the following only.

Grasspoly, or Purple Loosestrife (*Lythrum salicaria*). A native perennial plant, four feet high, blowing from July till August or later; blossom purple; flowers spiked; calyx twelve-toothed, in the form of a tube, unequal at the base; petals six, arising from the calyx; capsule having two cells with many seeds; leaves spear-shaped, and placed opposite each other.

It is common by the banks of rivers, and may be propagated in gardens by dividing the root.

Order 2.



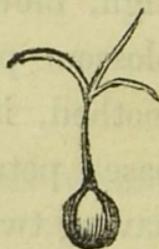
In this order are placed the plants whose flowers have two pistils.

It contains only one common field plant, agrimony, which we shall describe.

Agrimony (*Agrimonia eupatoria*). A native perennial, three feet high, blowing from June till July; blossom yellow, in a tall spike; calyx with five teeth, surrounded by another; petals five, twice as long as the calyx; fruit bristly; leaves of the stem winged, with the divisions egg-oblong.

It grows on hedge banks and on the borders of fields, and is gathered to make tea.

Order 3.



In this order are placed the plants whose flowers have three pistils.

The more common plants placed here are spurge and woad, in which is mignonette. We shall describe the following only.

Mignonette (*Reseda odorata*). An annual, from Egypt, one foot high, blowing from June till October; flowers fragrant, greenish-yellow, but without petals; fence of flower-scales many-leaved and spreading; leaves with three lobed divisions; fertile flowers, central, and surrounded with barren flowers, fringed, and with petals.

The seed may be sown in spring; or in autumn, when to be kept in-doors through the winter, for mignonette will not stand frost. Tree mignonette is an evergreen perennial, kept in green-houses.

Wartwort Spurge (*Euphorbia helioscopia*). A native annual, nine inches high, blowing from July till August, or later; the flowers growing in a broad wheel-like umbel, five-cleft and forked; the fencing flower-scale of one leaf; the corolla without petals; the leaves pale green, wedge-shaped, smooth, and saw-toothed on the margin. All the plant giving out a thick milky juice.

It is common as a weed in corn-fields and gardens. The juice is acrid, and will destroy warts and freckles.

Orders 4, 5, 6.

There are no very common plants in these three orders.

There are no Orders 7, 8, 9, 10 and 11.

Order 12.

In this order are placed the plants whose flowers contain twelve pistils.

There is only one common genus, the houseleek, of which we shall describe the following species only.

Roof Houseleek, or Fooze (*Sempervivum Tectorum*). A native evergreen perennial, one foot high, blowing from June till September; flowers in a stiff spike; blossom flesh-coloured; calyx with twelve divisions; petals twelve; capsules twelve, with many seeds; leaves fringed; suckers spreading.

Not uncommon on walls and roofs, and may be propagated so as to cover a whole coping, by sticking on the off-sets with clay or cow dung. The juice is acrid, and will destroy warts and freckles.

TWELFTH CLASS.



In this class are placed the plants whose flowers have twenty stamens attached to the calyx.

Order 1.



In this order are placed the plants whose flowers have one pistil.

The more common field and garden plants placed here are, the cactus, cereus, syringa, myrtle, almond, peach, apricot, plum and cherry. We shall describe the following only.

Showy Cactus (*Cactus speciosissimus*). A tender evergreen perennial, from South America, three feet high, blowing in July; blossom fine crimson; calyx tiled; petals numerous, in many rows, the inner the largest; stigma with many divisions; berry with many seeds; whole plant erect, with deep

furrows, slightly quadrangular, with toothed angles.

A pretty plant for pots, and easily propagated by cuttings in dry mould ; much water will be injurious.

Garland Syringa (*Philadelphus coronaria*). An ornamental shrub from the south of Europe, eight feet high, blowing from May till June ; blossom yellowish-white, and very fragrant ; calyx with four or five divisions ; petals four or five ; pistil with four divisions ; capsule having four or five cells, with many seeds ; leaves egg-oblong, somewhat toothed, and deeply ribbed.

It is very easily propagated by layers, and large old plants may be transplanted with little fear of killing them. There is a dwarf variety two feet high.

Common Plum (*Prunus domestica*). A native fruit-tree, twenty feet high, blowing in March and April ; blossom white ; calyx with five divisions ; petals five ; stone fruit with a hard smooth nut ; leaves spear-shaped, rolled lengthways ; branches without thorns.

To have good sorts of plums, grafting is indispensable.

Orders 2 and 3 contain no common plants ; and there no Order 4.

Order 5.



In this order are placed the plants whose flowers have five pistils; but many of these vary by having only two pistils, and this at first may sometimes puzzle a beginner.

The more common field and garden plants placed here are the medlar, hawthorn, pear, apple, quince, meadow sweet, and the fig marigolds. We shall describe the following only.

Hawthorn, or May-bush (*Crataegus oxyacantha*). A native ornamental shrub, fifteen feet high, blowing from May to June; blossom white or reddish and fragrant; calyx with five teeth, spear-pointed, nearly smooth; petals spreading; stigmas smooth; fruit red, fleshy, oblong, closed by the teeth of the calyx, or by the thickened disk; stone single or double; leaves blunt, somewhat three-parted, saw-toothed and smooth.

The hawthorn is raised from seeds; the varieties are propagated by budding. The pyracantha, so often trained on walls for its showy berries, is a species of this genus.

Crab Apple (*Pyrus Malus*). A native fruit-tree, twenty feet high, blowing from April till May; blossom fragrant, white and red; calyx with five teeth; petals roundish; stigmas smooth; apple closed with five cells, having two seeds in thin smooth membranous cells; leaves egg-oblong, pointed, saw-toothed, and smooth.

It grows wild in woods and hedges; but to have good sorts of apples, the trees must be grafted.

Mountain Ash, or Rowan Tree (*Pyrus aucuparia*). A native ornamental tree from ten to thirty feet high, blowing from May till June; blossom white, in wheel-shaped umbels; calyx with five teeth; petals roundish; berries scarlet, with five cells, each cell with two seeds; leaves winged, saw-toothed, and smooth on both sides.

It is common in woods and on moist rocks, and is propagated by seeds.

Meadow Sweet (*Spiræa ulmaria*). A native perennial, two feet high, blowing from June till July; blossom very fragrant, yellowish-white; calyx spreading, with five divisions; petals five; capsule one-celled, two-valved, opening inwards,

with from one to three seeds; leaves winged, downy beneath, the division at the top larger, and parted into three lobed divisions, the side ones undivided.

It grows in moist places, and may be propagated by dividing the roots.

Ice Plant (*Mesembryanthemum crystallinum*). A tender biennial from Greece, one foot high, blowing from May till August; blossom white; calyx five-cleft; petals many, line-like; capsule many-seeded; leaves warty, large oblong-pointed, wavy, frosted, as with ice, with three nerves beneath.

The seeds may be sown in sandy loam, but do not grow well without artificial heat, though the plants will thrive out of doors in summer.

Order 3.



In this order are placed the plants whose flowers have many pistils.

The more common field and garden plants placed here are the rose, bramble and raspberry, strawberry, cinquefoil,

tormentil, and avens. We shall describe the following only.

Sweet Briar (*Rosa rubiginosa*). A native shrub, from two to seven feet high, blowing from June till July; blossom rose-red; flowers concave; calyx with the pistils distinct; fruit orange-red, nearly globular, beset with a few small prickles; fruit-stalks with very minute prickles; prickles hooked, with smaller and straighter ones intermixed; leaf-stalks rough, with hairs and minute prickles; leaves fragrant and winged; the leaflets doubly saw-toothed, hairy, with rusty coloured glands beneath; branches somewhat smooth, but with scattered and rather large prickles.

There are several varieties, among which is a wild one without smell. It is propagated by seeds, which take two years to come up, and by layers. Cuttings are difficult to make strike, and plants often die when transplanted.

Dog Rose (*Rosa canina*). A native ornamental shrub, from two to eight feet high, blowing from June till July; flowers rose-red; the pistils distinct and not united: calyx with the

divisions winged and falling off; the leaves smooth and slightly hairy, without glands; the prickles uniform and hooked.

There are many varieties, and the beginner may be puzzled to distinguish some of these from the numerous wild species, of which there are about twenty British, independent of innumerable garden sorts.

Common Bramble (*Rubus fruticosus*). A nearly evergreen native trailing shrub, blowing from July till August; calyx lobed, with the divisions turned back; petals white or purplish; prickles alternate, strong, bent back; fruit black, rather acid; leaves in threes or fives; stem angular, purplish, very long, woody, and tough.

There are several varieties and several native species. The fruit may be preserved in form of jelly.

Tall Strawberry, or Hautbois (*Fragaria elatior*). A native evergreen fruiting plant, a foot and a half high, blowing from April till May; blossom white; calyx of the fruit bent back; the down on the flower stalks and leaf stalks much spreading.

This is the original of most of the numerous garden

sorts of strawberries; but though it is found wild in our woods it is not the commonest wild strawberry.

Nepal Cinquefoil (*Potentilla Nepalensis*). A hardy evergreen trailing plant from Nepal, a foot and a half high, blowing from June or earlier all the summer; the blossom is reddish purple; the calyx ten-cleft; petals five; leaf scales large and entire; root leaves with five divisions; stem leaves with three divisions; the divisions wedge-shaped and saw-toothed.

A pretty pot or garden plant, easily propagated by dividing the root. The sort with blackish purple flowers is a different species.

THIRTEENTH CLASS.



In this class are placed the plants whose flowers have from twenty to one thousand stamens not attached to the calyx.

Order 1.



In this order are placed the plants whose flowers have one pistil.

The more common field and garden plants placed here are bloodwort, celandine, horned poppy, poppy, water-lily, lime tree or linden, rock rose, and sun rose. We shall describe the following only.

Corn Poppy (*Papaver Rhæas*). A native annual plant, two feet high, blowing from June till July; blossom scarlet; calyx with two leaves falling off; petals four; capsule smooth, round, one celled, and opening by pores; leaves many cleft, stem hairy.

It is common in corn fields as a weed; there are numerous garden varieties raised from seed sown in spring. The tall smooth garden poppy is a different species.

Linden or Lime Tree (*Tilia Europæa*). A native forest tree, fifty feet high, blowing from June till September; blossom yellowish green in small bunches; flower scales large; calyx five parted; petals five, without any scale at the base; capsule leathery, globular, with five cells and four

valves opening at the base ; one seeded ; leaves heart-shaped and saw-toothed.

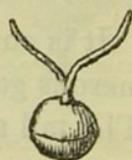
It is easily propagated by layers ; and as the wood is soft and easily cut, it is much used in making light articles.

Common Sun Rose (*Helianthemum vulgare*).

A native trailing evergreen, half-a-foot high ; blossom gold yellow in a loose spike ; calyx with five unequal divisions ; stamens upright, bending down as soon as touched ; petals roundish ; leaf-scale fringed, spear-shaped ; leaves egg-oblong, slightly rolled back ; stem rather shrubby, mostly simple.

It grows on gravelly banks, and there is a garden variety, with double flowers, easily propagated by cuttings.

Order 2.



In this order are placed the plants whose flowers have two pistils.

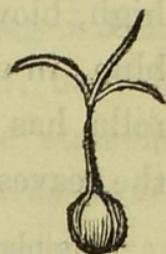
It contains only one genus, pæony, common in gardens, of which we shall describe the following species only.

Common Pæony (*Pæonia officinalis*). A bul-

bous-rooted perennial from Switzerland, blowing from May till June ; blossom deep rose red ; calyx with five leaves ; petals five ; style of the pistil wanting ; capsule many-seeded, like a pod, downy, and nearly straight ; leaves with divisions unequally cut, smooth, and egg-spear shaped.

There are many garden varieties, some double-flowered, and of various colours, all easily propagated by dividing the roots in autumn or spring.

Order 3.



In this order are placed the plants whose flowers have three pistils.

The more common field and garden plants placed here are larkspur and monkshood. We shall describe the following only.

Dwarf Larkspur (*Delphinium Ajacis*). A hardy annual from Switzerland, two feet high, blowing from June till July ; blossom pink, with-

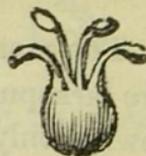
out a calyx ; flower scale equal in length to the flower stalk ; petals five, with forked spur behind ; seed pods from one to three, downy ; stem erect, rather smooth and scarcely branched.

There are numerous garden varieties of all colours, and some double, easily propagated by seed sown in spring.

Monk's Hood or Aconite (*Aconitum Napellus*). A European turnip-rooted perennial, four feet high, blowing from May till July ; blossom dark blue, in a tall spike ; there is no calyx ; the corolla has five petals, the highest being arched ; the leaves are deeply divided.

This plant, so common in gardens, is a deadly poison. There is another taller species that flowers in the autumn. Both are easily propagated by dividing the plant.

Order 4.



In this order are placed the plants whose flowers have four pistils.

It contains no very common plant.

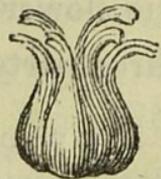
Order 5.

In this order are placed the plants whose flowers have five pistils.

The more common field and garden plants in this order are columbine and fennel flower, or nigella. We shall describe the following only.

Common Columbine (*Aquilegia vulgaris*). A native perennial, three feet high, blowing in July ; blossom blue, spur behind the flower, bent inwards ; stigmas not longer than the stamens ; capsules velvety ; seeds black ; leaves nearly smooth ; stem upright, branched, somewhat angular ; herb mostly smooth, rarely downy.

It is not very commonly found wild, and there are several garden varieties easily propagated by seeds, or by dividing the plants.

Order 6.

In this order are placed the plants whose flowers have many pistils.

The more common field and garden plants in this order are the tulip tree, magnolia, hepatica, anemone, virgin's bower or clematis, pheasant's eye or Adonis, pilewort, buttercup or ranunculus, globe flower, winter aconite, hellebore, and marsh marigold. We shall describe the following only.

Common Hepatica (*Hepatica triloba*). A European perennial, four inches high, blowing from February till April; blossom purple; calyx with three leaves, and one flowered; petals six to nine, in two or three rows; seed-organs numerous; leaves with three lobed divisions.

There are numerous garden varieties of all colours, some double; all easily propagated in sandy loam by dividing the plants.

Garden Anemone (*Anemone hortensis*). A perennial from the Levant, nine inches high, blowing from April till May; blossom striped; fence of flower scales of three leaves distant from the flower; petals from ten to twelve; leaves three parted, with wedge-shaped lobes.

It is propagated in sandy peat by dividing the root and planting in October. There is another garden species, and of both are several varieties.

Adonis, or Pheasant's Eye (*Adonis autumnalis*).

A native annual plant, one foot high, blowing from May till October; blossom crimson; calyx with five leaves; petals five to fifteen, concave, and scarcely longer than the calyx; fruit netted in an egg-shaped head.

It is easily propagated by sowing the seed in spring, or what is better, in autumn, protecting the young plants from frost, though they will stand our ordinary winters.

Pilewort, or Lesser Celandine (*Ficaria ranunculoides*). A native perennial, half a foot high, blowing from March till May; blossom bright yellow; calyx with three leaves, falling off; petals nine, with a pore on the claw; leaves heart-shaped and shining; stem leafy; the roots like a bunch of small white figs.

Common in woods, hedge-banks, and meadows. Wordsworth has written some pretty verses on the plant.

Bulbous Buttercup (*Ranunculus bulbosus*). A native somewhat bulbous rooted perennial plant, half a foot high, blowing from May till June; blossom yellow; leaves of the calyx bent

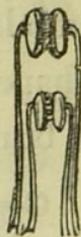
backward; leaves rayed, three cut, with three-cleft divisions; stem erect.

This is the commonest buttercup in pastures; the other species have not the calyx leaves bent back.

European Globe Flower, or Lucken Gowan (*Trollius Europæus*). A native perennial, two feet high, blowing from May till June; flowers pale yellow, in form of a small ball; calyx with fifteen leaves; petals five to ten, equal in length to the stamens; capsules many seeded.

It grows on river banks, and is not uncommon in gardens, as well as another foreign species of a dark yellow, both easily propagated by division.

FOURTEENTH CLASS.



In this class are placed the plants whose flowers have four stamens of unequal length, two shorter and two longer.

First Order.

In this order are placed the plants whose flowers have four seeds at the bottom of the calyx, without any obvious covering.

The more common garden plants placed here are the bugle, germander, savory, hyssop, lavender, mint, ground-ivy, archangel, dead-nettle, wound-wort, horehound, marjoram, thyme, balm, basil, and self-heal. We shall describe the following only.

Lavender (*Lavandula spica*). An evergreen shrubby perennial from the south of Europe, two feet high, blowing in July and September; flowers blue in a spike; calyx egg-shaped, somewhat toothed, supported by a flower scale; stamens within the tube; leaves rolled at the edges; whole plant fragrant.

There are several varieties, easily propagated by cuttings in sandy loam.

Common Mint, or Spearmint (*Mentha viridis*). A native perennial, two feet high, blowing in

August; blossom purple, in cylindrical spikes interrupted; teeth of the calyx somewhat hairy; leaves wedge spear-shaped, at the base finely saw-toothed, smooth on each side; all the plant fragrant.

It grows in marshes, and is cultivated by dividing the roots. Peppermint and corn-mint are different species.

Ground Ivy (*Glechoma hederacea*). A native evergreen creeping perennial, one foot high, blowing from March till May; blossom blue; calyx in form of a tube, with five teeth; the upper lip of the corolla cleft, the lower three-lobed; leaves kidney-shaped and scalloped; the whole plant fragrant.

It grows commonly on hedge-banks, and is gathered for tea.

White Archangel, or Dea Nettle (*Lamium album*). A native evergreen perennial, two feet high, blowing from April till September, or later; blossom white, in whorls of twenty flowers; calyx five-cleft, each pair of anthers like a cross; leaves heart-shaped, pointed, saw-toothed, on leaf stalks.

A common plant by way-sides and hedge-banks, and not unlike the large nettle. The red or purple dea nettle is also a very common annual weed.

Wild Marjoram (*Origanum vulgare*). A native perennial, two feet high, blowing from June till October; blossom purple, growing in panicles, the flower scales longer than the calyx; corolla with the upper lip cloven and blunt, the under lip three-cleft and spreading; the whole plant fragrant.

It is not uncommon on dry banks, and may be propagated by division. The sweet marjoram of gardens is a different species.

Wild Thyme (*Thymus Serpyllum*). A native evergreen trailing perennial, three inches high, blowing from June till August; blossom purple; flowers growing in a head; stems lying down; leaves flat, blunt, fringed at the base; the whole plant fragrant.

This is not the garden thyme, which is from the south of Europe; both are easily propagated by division or by cuttings.

Common Balm (*Melissa officinalis*). A creeping evergreen perennial from the south of Europe,

one foot high, blowing from June till October; blossom yellowish white, in whorls, halved, and nearly sitting; flower scales oblong and stalked; leaves egg-oblong, pointed, and saw-toothed; the whole plant is fragrant.

It is easily propagated in the garden or in pots by division; the fragrance is lost by drying.

Second Order.



In this order are placed the plants whose flowers have the seeds distinctly covered or enclosed in a shell or capsule.

The more common field and garden plants placed here are trumpet flower, bears breech, cow wheat, vervain, broom rape, rattle grass, eye bright, snap-dragon, toad flax, louse wort, foxglove, and figwort. We shall describe the following only.

Rooting Trumpet Flower (*Bignonia radicans* or *Tecoma radicans*). A climbing perennial from North America, thirty feet high, blowing from July till August; blossom orange, bunches at the top; calyx with five divisions, cup-shaped;

corolla with five divisions, bell-shaped, bulging below ; tube twice as long as the calyx ; pod with two cells ; seeds with membranous wings ; leaves winged ; leaflets egg-oblong, pointed, and toothed.

It is propagated in sandy peat, by dividing the roots, or by layers or cuttings.

Common Vervain (*Verbena officinalis*). A native perennial, two feet high, blowing from June till September ; blossom purple, in spikes ; calyx in five divisions ; corolla funnel-shaped, with a tube bent inwards, and an unequal border with five divisions ; stamens four, fertile ; fruit bladdery, covered, withering ; seeds four ; leaves in many divisions.

It grows by road sides, chiefly near villages, where it is supposed to have been introduced of old by the Druids, among whom it was sacred.

Rattle Grass, or Cock's-comb (*Rhinanthus Crista Galli*). A native annual, one foot high, blowing from June till August ; blossom yellow ; calyx four-parted and bulging ; corolla gaping, the upper lip pressed together ; capsule with two cells, blunt, as if pressed together ; leaves spear-pointed and saw-toothed.

The capsules are, from their form, termed “baw-bees” in the North. It is very common in pastures, and well known.

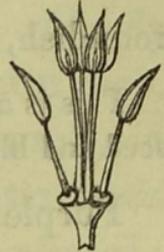
Great Snapdragon (*Antirrhinum majus*). A native evergreen perennial, three feet high, blowing from June till August; blossom pink, on a bunched spike, with divisions, glandular, hairy, oblong, and blunt; calyx with five leaves; corolla not spurred, the upper lip in two divisions, bent backwards; capsule slanting at the base, without valves, opening at the end by three pores; leaves spear-shaped and opposite.

There are several garden varieties, of several colours, easily propagated in dry soil by seeds or cuttings.

Common Toadflax (*Linaria vulgaris*, or *Antirrhinum Linaria*). A native perennial, one foot or more high, blowing from June till September; blossom yellow, placed somewhat in a tiled form; calyx in five divisions, with the two lower divisions remote; corolla spurred and gaping; the orifice closed by a prominent piece termed the palate; capsule oblong, with two valves, opening at the end into from three to five divisions; leaves spear-shaped, grass-like, and close; stem

erect; spikes at the top without foot stalks; the whole plant smells disagreeably.

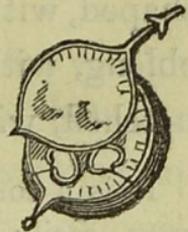
A very common and showy plant on hedge banks.



FIFTEENTH CLASS.

IN this class are placed the plants whose flowers have six stamens, two being always shorter than the other four.

There are two orders, founded on the form of the seed-vessel.



First Order.

In this order are placed those plants whose seed-vessel is in form of a roundish purse or pouch.

The more common field and garden plants in this order are sea kale, buckthorn, woad, shepherd's purse, candy tuft, pepper wort, scurvy grass and horse-reddish, awl wort, nail wort, mad wort, and honesty. We shall describe only the following.

Sea Kale (*Crambe maritima*). A native

bulbous rooted perennial, a foot and a half high, blowing in May and June; blossom white, long; filaments forked; pod blunt; leaves sea green, roundish, many-toothed; stem quite smooth.

This is a plant cultivated in gardens by raising it from seed and blanching the shoots.

Purple Foxglove (*Digitalis purpurea*). A native biennial, four foot high, blowing from June till September; blossom purple red; foot-stalk of the flower straight, and as long as the calyx; calyx with five divisions; corolla bell-shaped, with five divisions across, pointed; capsule oblong, with two cells; leaves rough, wrinkled, notched, with their divisions egg-oblong.

It is a common and showy plant in woods and hedgerows, easily reared from seed sown in spring. It is a deadly poison, and furnishes a powerful medicine.

Shepherd's Purse (*Capsella Bursa pastoris*, formerly *Thlaspi Bursa pastoris*). A native annual, from three inches to one foot and a half high, blowing from February till November; blossom white; small pods somewhat triangular, with a notch like a heart; two cells with many seeds; root leaves many cleft.

A very common plant on walls, wastes, and road-sides, and a weed in gardens and corn-fields, varying much in size.

Purple Candytuft (*Iberis umbellata*). A hardy annual from the south of Europe, one foot high, blowing from June to July; blossom purple, in form of an umbelled bouquet, the two outer petals the largest; little pods, with two lobes pointed; leaves spear-shaped, taper-pointed, lower saw-toothed, upper entire.

It is a pretty border flower, easily raised from seed sown in spring.

Horse Radish, or Red Cole (*Cochlearia armoracia*). A perennial, three feet high, blowing in May and June; blossom white, growing in clusters; the calyx with egg-oblong, concave spreading leaves; the corolla with four petals, twice the length of the calyx; pods like an ellipsis; leaves oblong, notched, those on the stem spear-shaped, toothed or cut; root large and fleshy.

It is easily cultivated by dividing the root.

Spring Wall Wort (*Erophila vulgaris*, or

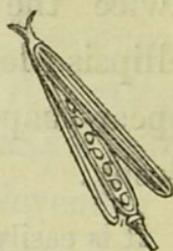
Draba verna). A native annual, three inches high, blowing from March till April; blossom white; calyx equal; petals two parted; the stem, from the root, covered with flowers from five to fifteen in number; seed pods shorter than the stalk, with flat valves, seeds few, without edges.

Common on the tops of walls and on barren heaths: one of the first of our spring plants observed in flower.

Biennial Honesty (*Lunaria biennis*). A biennial from Germany, four feet high, blowing from May till June; blossom light purple or lilac; calyx almost in form of two pouches; petals nearly entire; stamens not toothed; pods broad, like the moon, flat, and blunt at each end.

Common in corn-fields in Germany, and easily propagated in gardens by sowing the seed in spring or autumn.

SECOND ORDER.



In this order are placed the plants whose seed-vessel is a longish cylindrical pod.

The more common field and garden plants placed here are lady's smock or cuckoo flower, wall cress, tower mustard, winter cress, water cress, field mustard, hedge mustard, sauce-alone, wall flower, stock, rocket, cabbage and turnip, charlock, and raddish. We shall describe the following only.

Lady's Smock or Cuckoo Flower (*Cardamine pratensis*). A native evergreen perennial, one foot high, blowing from April till May; blossom light purple; summit of the pistil with a head, the style very short, stem leaves many divided; the divisions line-like, or spear-shaped and entire; root leaves winged, the leaflets roundish.

A common and pretty plant in moist pastures, and may be eaten as cress.

Water Cress (*Nasturtium officinale*). A native evergreen perennial, one foot high, blowing from May till July; blossom white, calyx equal at the base, spreading, summit two-lobed; leaves many-cleft, the divisions oblong, rather heart-shaped, and unequally dilated; the seed pod roundish, short, and declining.

It is common by the sides and in the shallows of

streams, and is easily cultivated by division or raised from seed. Many acres are cultivated near London.

Wall Flower (*Cheiranthus Cheiri*). A half-hardy perennial evergreen from the south of Europe, two feet high, blowing from March, or earlier, till July; blossom orange yellow; calyx double pouched at the base; summits of the pistils with bent back lobes; leaves spear shaped and entire; hairs two parted, lying on the surface, close, or none; seed pods line-like and roundish.

It is easily raised from seeds, and fine double varieties are easily propagated by cuttings or layers.

Ten-week Stock (*Mathiola annua*). A hardy annual from the south of Europe, two feet high, blowing from May till November; blossom striped; the summit of the pistil approaching and thickish; leaves spear-shaped, blunt, and hoary; seed pods rather cylindrical, without glands; stem not shrubby, erect, and branched.

This esteemed flower is best sown in the autumn, and the plants kept protected during winter, but may be sown in the open ground in spring. The Brompton and the Giant stock are varieties of another species, a native perennial.

Common Rocket (*Hesperis matronalis*). An evergreen perennial, from Italy, four feet high, blowing from May till August; blossom purple or white, very fragrant; the footstalks of the flowers as long as the calyx; petals egg-oblong, the little pods uneven, smooth, not thickened at the edge; the summits of the pistils two, erect and approaching; leaves oblong, spear-shaped, and toothed.

The single varieties are raised from seed; the double are propagated by cuttings or division.

Turnip (*Brassica rapa*). A native thick-rooted biennial, two feet high, blowing in April; blossom yellow; calyx closed; summit of the pistil small, short, and blunt; seed-pod roundish, seeds in one row; root leaves in the shape of a lyre, stem leaves cut, upper leaves entire.

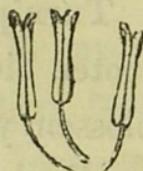
There are many varieties, all raised from seed sown in summer.

SIXTEENTH CLASS.



IN this class are placed the plants whose flowers have from three to many stamens, with their filaments, united into a tube around the pistil.

There are eight orders, founded on the number of the stamens.

First Order.

In this order are placed the plants whose flowers have three stamens united into a tube.

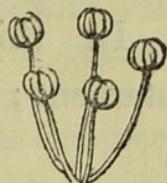
The only common garden plant placed here, is the following.

The Peacock Tiger Flower (*Tigridia pavonia*). A hardy bulbous-rooted perennial from Mexico, one foot high; blowing from May till September;

blossom orange red, and speckled with darker spots ; calyx in form of a sheath, two leaved ; petals six, flat, the three outer ones large ; filaments united into a very long thread ; leaves sword-shaped and ribbed ; stem simple and wavy.

It is easily propagated by off-sets from the bulbs.

Second Order.



In this order are placed the plants whose flowers have five stamens united into a tube.

The more common field and garden plants placed here are passion flower and heron's bill, of which we shall describe the following only.

Blue Passion Flower (*Passiflora cærulea*). A climbing shrub from Brazil, thirty feet high, blowing from June till October ; blossom blue outside, and purple and white within ; calyx with five divisions coloured ; threads of the crown

shorter than the corolla ; fruit stalked and fleshy ; leaves hand-formed, five-parted, and entire.

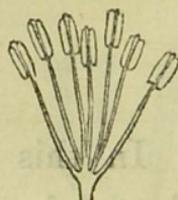
There are several varieties, all propagated by cuttings or layers.

Third Order.



In this order are placed plants with six stamens ; but it contains no common plants.

Fourth Order.



In this order are placed the plants whose flowers have seven stamens united into a tube.

The common garden plants it contains are the numerous species and varieties of stork's bill so commonly kept in pots under the name of *geraniums*, though the plants called by botanists geraniums are placed below in the Sixth Order. We shall describe the following only.

Old Scarlet or Horse-Shoe Geranium (*Pelargonium zonale*). A half-hardy evergreen from

the Cape of Good Hope, two feet high, blowing from April till December; blossom scarlet, flower-stalks many flowered; calyx with five divisions, the upper division ending in a honey tube running down the footstalk; petals five, irregular, and wedge-shaped; leaves rounded, with indistinct lobes, and a dark zone in form of a horse-shoe, more or less distinct.

There are several varieties, such as the one with white bordered leaves. It is readily propagated by cuttings. The pots should not be much watered. There are several hundreds of species and varieties kept in pots and green-houses.

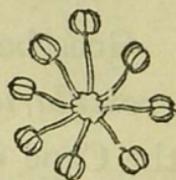
Gooseberry-leaved Geranium (*Pelargonium grossularioides*). A half-hardy evergreen, from the Cape of Good Hope, two feet high, blowing from April till August; blossom pink; about two flowers on one flower-stalk; calyx with five divisions, the upper division ending in a honey tube running down the footstalk; leaves like those of the gooseberry, heart-shaped, roundish, cut toothed; stems square and very smooth.

It is propagated by seeds and cuttings, and has been cultivated since 1731.

Oak-leaved Geranium (*Pelargonium quercifolium*). A half-hardy evergreen, from the Cape of Good Hope, three feet high, blowing from March till August; blossom purple; calyx with five divisions, the upper division ending in a honey tube running down the footstalk; leaves strong scented, formed like those of the oak, heart-shaped, many cleft with rounded recesses; lobes blunt and notched; branches and footstalks of the leaves rough with stiff hair.

This is a very common plant in pots, easily propagated by cuttings.

Fifth Order.



In this order are placed plants whose flowers have eight stamens united in a tube.

It contains no very common plants.

Sixth Order.

In this order are placed the plants whose flowers have ten stamens united in a tube.

The common field and garden plants placed here are crane's bill, furze or whin, butcher's broom, laburnum and broom, restharrow, kidney vetch, and lupine. We shall describe the following only.

Dove's Foot Crane's Bill (*Geranium molle*). A native annual, three inches high, blowing from April till August; blossom purple; calyx five leaved; petals five, regular; glands five, honey bearing, united to the base of the longer filaments; leaves kidney-shaped, fruit smooth, but wrinkled.

A delicate pretty plant, common as a weed in fields and gardens. There are several not very dissimilar native species.

Furze or Whin (*Ulex Europæa*). A native evergreen shrub, six feet high, blowing from

February till January; blossom yellow; flower scale egg-oblong and loose; calyx of two leaves, with a small scale at the base on each side; teeth approaching; seed pod bulged out.

It is easily propagated by seeds, and is sometimes used for hedges.

Laburnum, Golden Chain, or Pea Tree (*Cytisus laburnum*). An ornamental tree, fifteen feet high, from Switzerland, blowing from May till June; blossom yellow, in bunches, simple and hanging; calyx two lipped; seed pods hairy and slender at the base.

It is easily propagated by seeds.

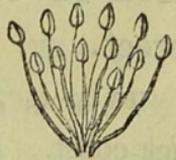
Common Broom (*Cytisus scoparius*, formerly *Spartium scoparium*). A native ornamental shrub, from three to six feet high, blowing from April till June; blossom yellow, at the inner base of the leaves; calyx two lipped, the upper lip nearly entire, or with two small teeth, the lower one three toothed; upper petal large and broadly egg-oblong, the under petal blunt, including the stamens; seed pods flat, and hairy at the edge.

Common on dry wastes, and easily propagated by seed: when transplanted it often dies.

Yellow Lupine (*Lupinus luteus*). An annual, from Sicily, two feet high, blowing from July till August; blossom yellow, very fragrant; calyx two lipped and whirled; upper lip two parted, lower three toothed; anthers five oblong and five round; the seed pod leathery and flattish.

This species is preferred on account of its sweet scent: the seeds are sown in spring.

Seventh Order.



In this order are placed the plants whose flowers have twelve stamens united into a tube.

It contains no very common garden plants.

Eighth Order.

In this order are placed the plants whose flowers have many stamens united in a tube.

The more common field and garden plants placed here

are, mallow, holly hock, lavatera, Chinese rose, tea, and camellia. We shall describe the following only.

Wild Mallow (*Malva sylvestris*). A native evergreen perennial, four feet high, blowing from May till October; blossom purple; calyx double, the outer one three-leaved; the small footstalks of the flowers, and the footstalks of the leaves, hairy; capsules cheese-like and many, with one seed in each; leaves lobed and pointed; stem erect.

This is common by way-sides, particularly near the sea-coast. It is often popularly mistaken for the marsh mallow which is not common and has whitish hoary leaves.

Holly Hock (*Althæa rosea*). A biennial, from China, from four to eight feet high, blowing from July till September; blossom white; calyx double, from six to nine parted; capsules cheese-like and many, with one seed in each; flowers placed at the inner base of the leaf; leaves, with from five to seven angles, heart-shaped, notched, and rough; stem upright and hairy.

There are many varieties of all colours, and many double. None of these can with certainty be raised from seed, but cuttings may be tried.

Three Month Lavatera (*Lavatera trimestris*). An annual, from the south of Europe, two feet high, blowing from June till September; blossom pale delicate rose-red, the small footstalks of the flowers alone; calyx double, the outer with three divisions; capsules cheese-like and many, with one seed in each; leaves smoothish, roundish, heart-shaped, the upper ones angular; stem not shrubby.

Easily raised from seeds sown in spring. The tree mallow is a rare and splendid native species, with a velvety leaf.

Japan Camellia (*Camellia Japonica*). A half-hardy evergreen shrub, from China, from two to ten feet high, blowing from February till July; blossom red, flowers at the top rather solitary; calyx tiled, many-leaved, the inner leaflets largest, thick, stiff; leaves egg-oblong, taper-pointed, and saw-toothed.

There are numerous varieties of all colours, and many double, easily raised from seeds, layers, or cuttings. The tea tree is a species of this genus.

SEVENTEENTH CLASS.



IN this class are placed the plants whose flowers have the filaments of their stamens united into two parcels or bundles.

There are four orders, founded on the number of the stamens. The flowers are almost all shaped like a pea blossom.

First Order.

In this order are placed the plants whose flowers have five stamens in two parcels.

It contains no common plant.

Second Order.

In this order are placed the plants whose flowers have six stamens in two parcels.

Fumitory is the only very common genus placed here.

Bulbous Fumitory (*Fumaria solida* or *Corydalis bulbosa*). A native bulbous-rooted perennial, six inches high, blowing in February and March ; blossom pink ; petals four, with a spur at the base ; seed-pod with two valves and many seeds ; leaves doubly three-divided, the divisions oblong, wedge-shaped ; stem erect, with scales below the lowest leaf.

Easily propagated in garden borders, or in pots by division. It is not common wild.

Third Order.

In this order are placed the plants whose flowers have eight stamens in two parcels.

Milk wort is the only very common genus placed here.

Common Milk Wort (*Polygala vulgaris*). A native evergreen perennial, six inches high, blowing from May till June ; blossom blue, white, or pale rose-red ; flowers crested ; calyx with five leaves, two of them winged and coloured ; wings

of the calyx three-ribbed, blunt, the length of the corolla; capsule flattish, leaves grass-like and lance-pointed.

It grows on heaths and in woods, and is very common.

Fourth Order.

In this order are placed the plants whose flowers have ten stamens in two parcels.

The more common field and garden plants placed here are medick and lucern, fenugreek, melilot, trefoil, and clover, bird's foot trefoil, liquorice, locust tree, milk vetch, saint foin, bean, vetch or tare, lentil, pea, sweet pea, and everlasting pea, carmyle, and kidneybean. We shall describe the following only.

White Clover (*Trifolium repens*). A native evergreen perennial, one foot and a half high, blowing from May till September; blossom white or reddish white, flower tufted; teeth of the calyx nearly equal; pods having four seeds falling off,

leaves in threes on a long leaf-stalk; leaflets egg-oblong, notched at the end, and saw-toothed.

It is common on pastures, and is raised from seed. This seems to be the original Irish shamrock.

Bird's-foot Trefoil, or Yellow Clover (*Lotus corniculatus*). A native evergreen perennial, one foot and a half high, blowing from June till August; blossom sweet scented, yellow; wings of the corolla cohering by their upper edge; pod cylindrical and spreading, like fingers; stems lying down.

A very pretty plant, common on barren places, and easily propagated by seeds.

Locust Tree, or Common Acacia, or White Laburnum (*Robinia Pseud-acacia*). A tree, forty feet high, from North America, blowing from May till June; blossom purplish white; flowers in bunches; calyx with four divisions, the upper division two parted; pod protuberant and long; leaves winged and odd with leaflet at the tip.

This is the ornamental tree, so much praised by Mr. Cobbett as a fast grower. It is easily raised from seeds.

Garden Bean (*Faba vulgaris*, formerly *Vicia faba*). An annual, from Egypt, three feet high, blowing from June till July; blossom white with dark lines; pistil bearded beneath the stigma; pods with little or no footstalk; leaves winged, the leaflets egg-oblong and entire, leaf scales arrow-shaped, and toothed at the base.

There are many varieties easily raised from seed sown in spring or autumn.

Garden Pea (*Pisum sativum*). An annual climbing plant, from the south of Europe, from one to four feet high, blowing from June to September; blossom white, with several flowers on the same stalk; the pistil with three angles, keeled above, and downy; the calyx with the two upper segments shorter than the rest; leaves winged, the leaf stalks round, the leaf scales rounded below and scalloped.

There are numerous varieties, all easily raised from seed.

Sweet Pea (*Lathyrus odoratus*). A half-hardy climbing annual, from Sicily, four feet high,

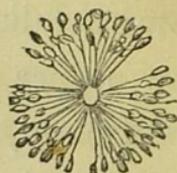
blowing from June to July; blossom white; flower stalks with two flowers; calyx with the two upper divisions shortest; summit of the pistil plain, downy above, broader upwards; tendrils two-leaved; leaves winged; leaflets egg-oblong; seed pods hairy.

There are many varieties of colour, all easily raised from seeds sown in spring.

Scarlet Runner (*Phaseolus multiflorus*). A climbing half hardy perennial from Asia, twelve feet high, blowing from June till September, or later; blossom scarlet or white; flowers in a bunch, the length of the leaves; two flower-stalks; flower-scales less than calyx, and lying close to the stem; lower petal with the stamens and summit of the pistil twisted spirally.

This is a valuable plant for the kitchen garden, and is kept in the north in pots, as a flower. It is easily raised from seed; but the young plants will not stand any frost. The kidney or French bean is a different species.

EIGHTEENTH CLASS.



In this class are placed the plants whose flowers have the filaments of their stamens united in more than two parcels or bundles.

There are two orders founded on the number of the stamens.

Order 1.

In this order are placed the plants whose flowers have ten stamens in more than two parcels.

It contains no very common garden plant.

Order 2.

In this order are placed the plants whose flowers have many stamens, with their filaments in more than two parcels.

The only very common field and garden plants placed here are the orange tree and St. John's Wort.

Common St. John's Wort (*Hypericum perforatum*). A native evergreen perennial, one foot and a half high, blowing from July till August; blossom yellow, giving out a bloody juice when squeezed; calyx with five divisions; petals five; summits of the pistils three; leaves oblong and blunt, with bright dots when held up to the light; stem flattish.

A similar but more delicate native species is *H. pulchrum*. Both are common in woods, and may be propagated by seeds or division.

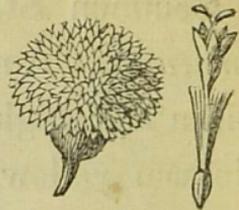
NINETEENTH CLASS.



In this class are placed the plants whose flowers (all made up of a head of little flowers or florets) have the anthers of their stamens united into a tube.

It is divided into five orders, founded on the difference of the florets composing the head of the flower, with respect to their stamens and pistils, as will be presently explained.

Order 1.



In this order are placed the plants whose flowers have all the florets in a head of the same form and structure, that is, all flattish, as in dandelion, or all tube-shaped, as in thistles.

The more common field and garden plants placed here are goat's-beard, sow thistle, lettuce, dandelion, ox tongue, hawk-weed, cat's ear, nipple wort, chicory and endive, burdock, sour wort, thistle, cotton thistle, artichoke, goldy locks, and costmary. We shall describe the following only.

Garden Lettuce (*Lactuca sativa*). An annual, four feet high, blowing in June and July; blossom yellow; fence of flower scales tiled, cylindrical; scales with a membranous margin; the down of the fruit simple, having a short stalk; leaves rounded, those on the stem heart-shaped; stem in the form of a bunch.

There are numerous varieties, all easily raised from seed sown in spring or summer. The endive-leaved is a different species.

Common Dandelion (*Leontodon Taraxacum*). A native evergreen perennial, one foot high, blowing from May till July, and even in winter; blossom yellow; the fence of the compound calyx having scales that are frequently lax and feeble; the down of the seed simple, having a short stalk; leaves toothed and jagged.

When blanched the leaves may be used as salad; the extract is medicinal for the stomach and liver.

Nipple Wort (*Lapsana communis*). A native annual, a foot and a half high, blowing from June till July; blossom yellow; the compound calyx with scales at the base; the footstalk of the flowers slender; leaves egg-oblong, having a foot stalk, angular, and toothed.

It is a common plant by way-sides and in woods, and a weed in fields and gardens.

Burdock (*Arctium Lappa*). A native biennial, three feet high, blowing from July till August; blossom purple; the compound calyx having each of its scales with a hook bending inward at

the point; the down of the seeds simple; leaves very broad, heart-shaped, and having foot stalks.

This is common on waste grounds and way-sides. There is a variety having the heads with cob-webbed down.

Nodding or Musk Thistle (*Carduus nutans*). A native annual, two feet high, blowing from July till August; blossom purple; compound calyx bulging and tiled, with thorny scales; down of the fruit roughish, falling off; leaves running down the stem, full of thorns or prickles.

A handsome thistle, not uncommon on rubbish and road-sides.

Milk Thistle, or St. Mary's Thistle (*Carduus Marianus*, or *Silybum Marianum*). A native biennial, five feet high, blowing in July; blossom purple; the compound calyx bellying and tiled; scales somewhat leafy, bent back, and thorny at the edge; down of the seed line-like, chaffy, and falling off; leaves as if blotched with milk, waved, thorny, embracing the stem; root leaves winged.

Not uncommon on banks and road-sides, and easily

raised from seed; certainly not the Scottish heraldic thistle, as has been supposed.

Spear Thistle (*Cnicus lanceolatus*, or *Cirsium lanceolatum*). A native biennial, three feet high, blowing from July till August; blossom purple; compound calyx bulging and tiled, with thorny scales; down of the seed feathery, falling off; leaves running down the stem, covered with rough hairs, many cleft, their divisions generally two-lobed, spreading and thorny, or prickly.

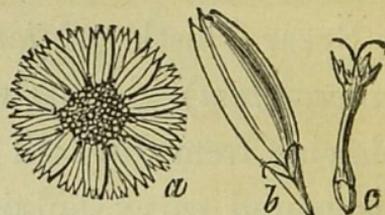
This is a more common thistle than the last, and larger: it is probably the original of the Scottish heraldic thistle.

Cotton Thistle (*Onopordum acanthium*). A native biennial six feet high, blowing from July till August; blossom purple; the compound calyx bulging, its scales spreading, and thorny or prickly; down of the seed roughish, and falling off; leaves egg-oblong, wavy, and thorny, running down the stem, and woolly on both sides, whence the name.

This plant, as well as the St. Mary's, or Milk thistle, is often kept in gardens as the true Scottish

thistle, which, unless it be the spear thistle, seems quite imaginary.

Order 2.



a, flower ; *b*, floret of the circumference, bearing pistils only ;
c, floret of the disk, bearing pistils and stamens.

In this order are placed the plants whose flowers have the outside florets of the head with pistils and no stamens, while the inside or centre florets have both stamens and pistils.

The more common field and garden plants placed here are tansy, wormwood, and mugwort and southernwood, cudweed, everlasting, fleabane, coltsfoot, groundsel, starwort or aster, China aster, golden rod, ash-wort, elecampane, leopard's bane, daisy, dahlia, African and French marygold, gold-flower, feverfew, chamomile, and milfoil or yarrow. We shall describe the following only.

Tansy (*Tanacetum vulgare*). A native evergreen perennial, two feet high, blowing from July till August ; blossom yellow ; compound calyx in form of a half globe, tiled ; florets of the circum-

ference three cleft ; the seed vessels crowned with a membranous margin ; leaves double, many cleft, cut, and saw-toothed ; the whole plant smelling strong.

A common plant by dry river banks, and sometimes kept as an herb in gardens.

Southernwood, or Aipleringhy (*Artemisia Abrotanum*). A fragrant shrub from the south of Europe, four feet high, blowing from August till October ; blossom yellowish green ; compound calyx downy, in form of a half globe ; florets of the circumference awl-shaped ; seed vessels crowned with a membranaceous down ; lower leaves twice cleft, upper leaves cleft, very slender.

It is very common in gardens, and easily propagated by cuttings. Wormwood and mugwort are species of this genus.

Common Coltsfoot (*Tussilago farfara*). A native perennial, six inches high, blowing from March till April ; blossom yellow ; compound calyx simple, equal, somewhat membranous, bulging ; down of the seed simple ; leaves broad,

heart-shaped, angular-toothed, downy or cottony beneath, and not coming up till the flower fades.

A common plant in sandy and clayey wastes, the flowers of which are gathered to make a cough decoction.

Common Groundsel (*Senecio vulgaris*). A native annual, a span to one foot high, blowing all the year round; blossom yellow, without rays on the circumference; compound calyx cylindrical; the scales with their tips often brown; the down of the seed not on a foot-stalk; leaves wing-toothed, and somewhat embracing the stem.

Very common in fields and gardens, and on waste ground and rubbish: sold in London for cage-birds.

Broad Michaelmas Daisy, or Starwort (*Aster grandiflorus*). A hardy perennial from North America, two feet high, blowing from Michaelmas till killed by the frost; blossom purple; compound calyx tiled; its lowermost scales spreading; florets of the circumference more than ten; down of the seed simple; leaves line-like, rigid, pointed,

those of the branches turned back, rough, with stiff hairs at the edge.

There are a great number of species, all termed Michaelmas daisies, easily propagated by division, so as sometimes to become weeds.

China Aster (*Callistema hortense*, or *Aster Chinensis*). A half hardy annual, from China, two feet high, blowing from July till September; blossom dark purple; compound calyx tiled; its lowermost scales spreading; florets of the circumference more than ten; down of the seed simple; branches with single heads; leaves egg-oblong, coarsely toothed, stalked, those of the stem without foot-stalks, wedge-shaped at the base; stem covered with rough hairs.

Numerous varieties of all colours, and many double, are raised from seed (best in a hot-bed) and transplanted: the new sorts from Germany are the finest.

Golden Rod (*Solidago Virg-aurea*). A native perennial, two feet high, blowing from July till September; blossom yellow, in loose, spiked, erect, and crowded bunches; the compound calyx

tilled ; its scales converging ; florets of the circumference of the same colour as the disk ; down of the seed rough ; leaves of the stem spear-shaped, the lower ones elliptical.

It is easily propagated by division.

Wild Daisy (*Bellis perennis*). A native evergreen perennial, three inches high, blowing in March and August, as well as occasionally all the year ; blossom white, with a yellow disk ; compound calyx cup-shaped, and its scales equal ; leaves egg-oblong, notched ; flower stalk leafless, with a single flower.

The double and red garden varieties originate from the wild daisy, and are easily propagated by division.

Dahlia (*Dahlia superflora*). A tuberous-rooted perennial from Mexico, from three to six feet high, blowing from July till November ; blossom purple ; compound calyx double, the outer one many leaved, the inner one eight parted ; chaffy scales at the base of the seed ; leaves winged ; leaflets egg-oblong, taper-pointed, saw-toothed, shining, and smooth beneath.

There are numerous garden varieties of all colours, and many double, raised from seed, and easily propagated, by taking up the roots in autumn, and dividing them in the spring, or by cuttings or seeds.

French Marigold (*Tagetes patula*). A tender annual from Mexico, two feet high, blowing from July till October; blossom yellow and orange; florets of the circumference five; compound calyx simple, one-leaved, five-toothed, tubular, smooth, the foot-stalk with one flower; leaves fringed; leaflets spear-shaped, fringed, and saw-toothed; seed down with five erect awns.

There are numerous garden varieties raised from seed sown late in spring. The African marigold is a different and taller species, also from Mexico.

Chinese Gold Flower, or Chrysanthemum, (*Chrysanthemum Sinense*). A half-hardy perennial evergreen from China, three feet high, blowing from October till November, or later; compound calyx cup-shaped, and tiled with scales, whose borders are membranous; leaves leathery, stalked, waved, many cleft, toothed, and sea-green.

There are numerous garden varieties, of all colours,

many of them double, easily propagated by cuttings or divisions; planted in spring.

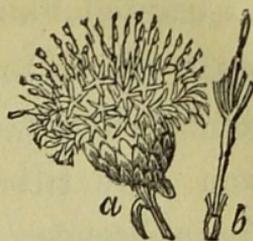
Chamomile (*Anthemis nobilis*). A native creeping evergreen perennial, six inches high, blowing from July till September; blossom white; compound calyx cup-shaped; leaves double, many cleft.

There is a variety with double flowers: it is easily propagated by division. The flowers are medicinal.

Yarrow, or Millefoil (*Achillea millefolium*). A native perennial evergreen herb, two feet high, blowing from June till October; blossom white or pink; compound calyx oblong, tiled, unequal; seed vessel naked; leaves minutely divided, their divisions line-like, toothed, pointed, twice fringed, slightly hairy; stems furrowed.

This is common in pastures and on hedge banks. There is a garden sort with yellow flowers, which is a different species.

Order 3.



a, flower; *b*, floret of the disk.

In this order are placed the plants whose flowers have the outside florets of the head without either stamens or pistils, while the inside or centre florets have both stamens and pistils.

The more common field and garden plants placed here are sunflower and Jerusalem artichoke, faireye, knapweed, bluebottle, and sweet sultan. We shall describe the following only.

Common Sunflower (*Helianthus annuus*). An annual from South America, six feet high, blowing from July till October; blossom yellow; compound calyx tiled, spreading rather rigidly at right angles; foot-stalk thick; heads drooping; leaves all heart-shaped, and three ribbed.

Easily raised from seed sown in spring. The Jerusalem artichoke is a species of this genus, but it seldom flowers.

Common Faireye (*Coreopsis tinctoria*, or *Calliopsis bicolor*). An annual introduced in 1822 from Arkansa, two to three feet high, blowing from May till August; blossom yellow in the circumference, and dark brown in the centre; compound calyx double, each many leaved; seed vessel flattish, having a margin round; seed down, with two horns; leaves much divided and fringed.

A showy flower, easily raised from seed, either in a hot-bed, or in the open ground. It will even sow itself.

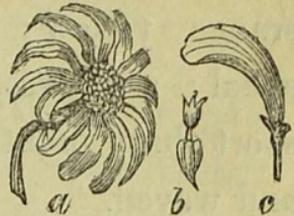
Corn Blue Bottle (*Centaurea cyanus*). A native annual, three feet high, blowing from June till August; blossom blue; compound calyx scaly; scales saw-toothed; corollas of the circumference funnel-shaped, longer than those of the centre; seed down, simple; leaves line-like, entire, the lowermost toothed.

Common in corn-fields, and often sown as a border flower, of which there are purple, white, and other varieties.

Sweet Sultan (*Centaurea moschata*). An annual from Persia, two feet high, blowing from July till October; blossom purple, fragrant; compound calyx roundish, smooth, scaly, the scales egg-oblong; corollas of the circumference funnel-shaped, longer than those of the centre; seed down, simple; leaves in the form of a lyre, and toothed.

It may be sown either in a hot-bed or in the open ground.

Order 4.



a, flower; *b*, floret of the disk, bearing stamens only; *c*, floret of the circumference, bearing a pistil only.

In this order are placed the plants whose flowers have the outside florets of the head with stamens and no pistils, and the inside or centre florets with pistils and no stamens.

The more common field and garden plants placed here are the various species of marigold, of which we shall describe the following only.

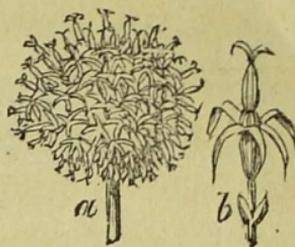
Corn Marigold, or Gule Gowan (*Calendula arvensis*). A native annual, two feet high, blowing from May till September; blossom large, and dark yellow; compound calyx many leaved, and equal; seed vessel boat-shaped, covered with short sharp points, bent inward.

A troublesome weed in corn-fields, in some districts.

Garden Marigold (*Calendula officinalis*). An annual, from the south of Europe, three feet high, blowing from June till September; blossom large, orange yellow; compound calyx many-leaved, equal; seed vessel boat-shaped, covered with short sharp points, bent inward; the leaves broad and waved.

There are double garden varieties, very showy, but too common to be much esteemed.

Order 5.



a, flower; *b*, floret, in its own calyx.

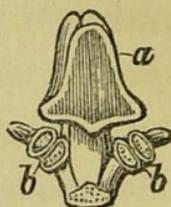
In this order are placed the plants whose flowers are situated several together, with a general calyx, each floret having besides its particular calyx.

The only more common garden plant placed here is the following.

Round-headed Globe Thistle (*Echinops sphaerocephalus*). A hardy perennial from Austria, five feet high, blowing from July till August; blossom light blue; compound calyx one flowered; florets tubular, of two sexes; heads bristly, and beset with stiff spines; leaves many cleft, downy above, woolly beneath; stem branched.

It is propagated as a border flower by division.

TWENTIETH CLASS.



a, the pistil ; *b b*, the stamens.

In this class are placed the plants whose flowers have the stamens standing upon the pistil.

There are three orders founded upon the number of the stamens.

Order 1.

In this order are placed the plants whose flowers have one stamen, or anther, standing on the pistil.

The more common field and garden plants placed here are the numerous orchises, twyblade, baldary, and eyebrow flowers. We shall describe the following only.

Butterfly Orchis (*Platanthera bifolia*, or *Orchis bifolia*). A native tuberous-rooted perennial, one foot high, blowing from May till June; blossom white, upper lip of the corolla arched, or vaulted, under lip entire, with a spur; cells of the anthers widely divided at their

base by the broad interposed summit of the pistil; spur line-like, twice as long as the seed organ; the twin leaves egg-oblong, and narrowed at the base.

It is propagated in peaty loam, by dividing the roots.

Spot-leaved Baldary (*Orchis maculata*). A native tuberous-rooted perennial, a foot and a half high, blowing from June till July; blossom flesh-coloured, with darker spots; corolla gaping, lip spurred on the under side; at the base three inner divisions of the flower-cup converging; spur cylindrical, shorter than the seed organ; flower scales as long as the seed organ; leaves oblong, spear-pointed, and blotched with black or dark brown.

Propagated in peaty loam by dividing the root, but the rearing of them is rather precarious.

Tway Blade (*Neottia latifolia*, or *Listera ovata*). A native perennial, one foot high, blowing from May till June; blossom green; flowers converging; lip with two lobes; summit of the pistil closed, nearly flat, with a strong cross

furrow; stem with only a pair of oblong opposite leaves.

Easily propagated by division, but rare in gardens.

Order 2.

In this order are placed the plants whose flowers have two stamens standing on the pistil.

The only common field plant placed here is the following.

Lady's Slipper (*Cypripedium Calceolus*). A native perennial, one foot high, blowing from May till July; blossom yellow; lip bellied and bulging, shorter than the leaves of the calyx; anthers divided by a petal-like lobe; stem leafy.

Propagated by division, but rare in gardens.

Order 3.

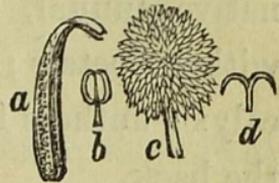
In this order are placed the plants whose flowers have six stamens standing on the pistil.

The only common plant placed here is the following.

Common Birthwort (*Aristolochia Clematitis*).
 A native perennial, two feet high, blowing from
 May till August; blossom yellow; corolla with
 one petal, strap-shaped, bulging at the base;
 capsule with six cells, and many seeds; leaves
 roundish, heart-shaped, bluntish, and stalked;
 stem erect.

Found in woods in England, and propagated by
 dividing the root.

TWENTY-FIRST CLASS.



a, catkin of male flowers; *b*, stamen from ditto; *c*, bunch of
 female flowers; *d*, pistil from ditto.

In this class are placed the plants on which
 some of the flowers have stamens only without
 pistils, and others of the flowers have pistils only
 without stamens, but all on the same plant.

There are ten orders, founded on the numbers and
 parcelling of the stamens.

Order 1.



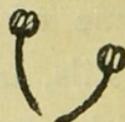
In this order are placed the plants whose male flowers have only one stamen.

The only common plant placed here is the following.

Marsh Ditchweed (*Zannichellia palustris*). A native annual, two feet high, blowing in July, without petals; fertile flowers, with a one-leaved calyx; anthers four celled; seed vessel toothed on the back.

Found in ditches, and abundant in some marshes.

Order 2.



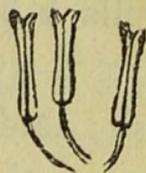
In this order are placed the plants whose male flowers have two stamens.

The only very common plants it contains are the several species of duckweed.

Lesser Duck Weed (*Lemna minor*). A native annual, floating on water, blowing in June and July; leaves small, thick, nearly oblong, pressed together; roots solitary; it is seldom found in flower.

There are three native species besides this found covering stagnant water with a green surface.

Order 3.



In this order are placed the plants whose male flowers have three stamens.

The more common field and garden plants placed here are cat's tail, bur-reed, and Indian corn, or Cobbett's corn. We shall describe the following only.

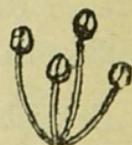
Branchy Bur-reed (*Sparganium ramosum*). A native perennial, two feet high, blowing in July and August, without petals; flowers in dense heads; flowers with a three-leaved calyx; common flower stalk branched; summit of the pistil line-like; leaves very tall, triangular at the base, their sides hollow.

Common in ditches ; the seeds are good for young geese and turkeys.

Maize, Indian Corn, or Cobbett's Corn (*Zea Mays*). An annual, first brought from America, in 1562, two feet or more high, blowing from July till September ; male flowers in distinct spikes ; the calyx a two-flowered blunt husk ; corolla a blunt chaff ; in the female flowers the calyx a two-valved chaff ; corolla a two-valved husk ; seeds solitary, adhering to a long column ; leaves entire, and very long, broad, and flag-like.

Raised from seeds sown late in spring. Mr. Cobbett is quite wrong in supposing this to have grown in Judea at the time of our Saviour.

Order 4.



In this order are placed the plants whose male flowers have four stamens.

The more common field and garden plants placed here are alder, birch, box-tree, mulberry, and nettle. We shall describe the following only.

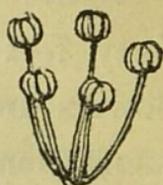
White Birch (*Betula alba*). A native tree, forty feet high, blowing in April and June; flowers in catkins; scales three-flowered; stamens from ten to twelve; pistils two; seed organ two celled, one barren, fruit flattish, with a membranous margin, one-seeded; leaves triangularly egg-oblong, pointed doubly, saw-toothed, smooth, and shining.

Common in woods, and easily propagated by seeds. The weeping birch is a different species, not uncommon in Wales, &c.

Common Nettle (*Urtica dioica*). A creeping rooted perennial, two feet and a half high, blowing from July to September; blossom greenish; clusters of flowers much branched in pairs, mostly having female flowers on one side and male on the other; seed vessel one-seeded, shining; leaves egg-oblong, taper-pointed, and heart-shaped at the base.

The stinging nettle is a different species, being an annual, very short, with unbranched flowers and unpointed leaves, and found on rubbish.

Order 5.



In this order are placed the plants whose male flowers have five stamens.

The only common field and garden plants placed here are the amaranths, containing prince's feather and love-lies-bleeding.

Love-lies-bleeding (*Amaranthus caudatus*). An annual from the East Indies, four feet high, blowing from August till September; blossom dull red, bunches much divided, drooping; capsule one-celled, cut round about; leaves spear-shaped, and egg-oblong; stem nodding.

Easily raised from seed, and a handsome border flower when well grown. Prince's feather is a different species from Virginia.

Order 6.



In this order are placed the plants whose male flowers have six stamens.

Neither this nor the seventh and eighth orders contain any very common plants.

Order 9.



In this order are placed the plants whose male flowers have many stamens.

The more common field and garden plants placed here are horn-wort, water-milfoil, arrow-head, burnet, chestnut, hornbeam, beech, hazel, walnut, oak, plane-tree, and cuckoo-pint. We shall describe the following only.

Beech (*Fagus sylvatica*). A native forest tree, seventy feet high, blowing from April till May; flowers greenish white, without petals; the nuts

termed *mast*, are one seeded, invested with the enlarged flower-scale; leaves egg-oblong, smooth and shining, indented, and their margins fringed.

Julius Cæsar was mistaken in supposing the beech not to be a native of Britain. It is raised from seeds.

Hazel (*Corylus Avellana*). A native shrub, ten feet high, blowing from February till April; male flowers in catkins, yellow, without petals; stamens eight; anthers one-celled; female flowers crimson; nut one-seeded, surrounded at the base with the enlarged, united, leathery flower-scales, which then becomes bell-shaped, rather spreading, as if torn at the margin; leaves roundish, heart-shaped, and pointed.

There are several species cultivated, one the filbert, with red kernels, propagated by layers.

Common Oak (*Quercus Robur*). A native forest tree, sixty feet high, blowing from April till May; flowers greenish, without petals; the nut, termed an acorn, is oblong, one-celled, one-seeded, surrounded at the base by the enlarged cup-shaped fruit-scale; leaves on foot-stalks, falling off, lobed, oblong, smooth, widening towards

the tip; lobes blunt; foot-stalks of the fruit two or three inches long.

There is another common species of oak whose acorns have no foot-stalks. Both are raised from seeds.

Cuckoo Pint (*Arum maculatum*). A native bulbous-rooted perennial, one-foot high, blowing from May till July; blossom white; the calyx is a convoluted sheath; spike club-shaped, blunt, shorter than the sheath; berry one-celled, one-seeded; leaves all from the root, halbert arrow-shaped, lobes turned downwards.

The root is manufactured into what is sold as arrow-root.

Order 10.

In this order are placed the plants whose male flowers have the filaments of their stamens united into a tube.

The more common field and garden plants placed here are the pine, fir, larch, cedar, cypress, arbor-vitæ,

gourd, cucumber, and bryony. We shall describe the following only.

Larch (*Larix Europæa*). A forest tree from Germany, blowing in March and April; the male flowers small, the female flowers large and reddish purple.

It is raised from seed and grows freely. The cedar of Lebanon is a species of this genus.

Cucumber (*Cucumis sativus*). A trailing annual from the East Indies, four feet long, blowing from July till September; blossom large, yellow; male flowers with the calyx, having five teeth, the corolla five-parted, filaments three; the female flower with the calyx five-toothed, the corolla five-parted; seed-organ with three divisions; fruit growing to a foot and a half long, oblong, very rough, with protuberances; seeds with a sharp edge.

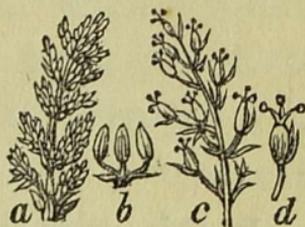
It is raised from seed, which does not succeed so well unless sown on a hot-bed.

White Bryony (*Bryonia dioica*). A native, tuberous-rooted, climbing plant, eight feet high, blowing from May till September; blossom

whitish-green; flowers bunchy, both of the male and female; the corolla with five divisions; the calyx with five indentations; the berry scarlet and round, with many seeds; leaves heart-shaped, hand-formed, five-lobed and toothed, with hardened dots.

It may be raised from seed, and is a good arbour plant.

TWENTY-SECOND CLASS.



a, male flowers; *b*, stamens from do.; *c*, female flowers; *d*, pistils from do.

In this class are placed the plants in which some flowers have stamens only, and others have pistils only, but on separate individual plants.

There are thirteen orders, founded on the number and parcelling of the stamens.

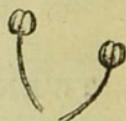
Order 1.



In this order are placed the plants whose male flowers have one stamen.

It contains no very common plant.

Order 2.



In this order are placed the plants whose male flowers have two stamens.

The willow is the only very common genus placed here. We shall describe the following.

Weeping Willow (*Salix Babylonica*). An ornamental tree, thirty feet high, blowing in May; blossom greenish, without petals accompanying the leaves; capsule one-celled, two-valved, many-seeded; leaves spear-shaped, taper-pointed, sharply saw-toothed, smooth, sea-green

beneath; leaf-scales small, half-oblong, taper-pointed, rolled back; branches long and drooping.

It is a mistake to suppose this plant likes watery places, as its native soil is dry and sandy. It is easily propagated in the south by cuttings.

White Willow (*Salix alba*). A native forest tree, from four to forty feet high, blowing from April till May; the flowers in long slender catkins, with yellow stamens, and without petals; capsule one-celled, two-valved, many-seeded, the summits of the pistils thick and deeply cloven; leaves spear-pointed, saw-toothed, permanently silky on both sides, the younger ones silvery, the lowest saw-teeth glandular.

The dried bark is used for ague. It is propagated by cuttings. There are numerous other species of willow.

Third Order.



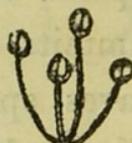
In this order are placed the plants whose male flowers have three stamens.

The only common field plant placed here is the following.

Crowberry (*Empetrum nigrum*). A native trailing, evergreen shrub, blowing in April and May, one foot high, without petals; berry black, round, with several seeds; leaves line-like and oblong.

Not uncommon on heaths: the berries are not very palatable.

Fourth Order



In this order are placed the plants whose male flowers have four stamens.

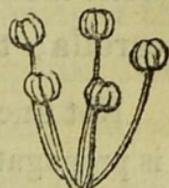
The only very common field plants placed here are gale and missletoe.

Missletoe (*Viscum album*). An evergreen, parasite shrub, two feet high, blowing in May; blossom white; petals four, bulging at the base; heads of flowers axillary; berry whitish, one-

seeded, containing a glutinous juice ; leaves spear-shaped and blunt ; stem branching in pairs.

It may be propagated on trees by sticking the berries in clefts of the bark.

Fifth Order.



In this order are placed the plants whose male flowers have five stamens.

The more common field and garden plants placed here, are spinach, hemp, and hop. We shall describe the following only.

Spinage, or Spinach (*Spinacia oleracea*). An annual plant, native country unknown, one foot and a half high, blowing from March till October ; blossom green ; male flower with the calyx five-parted ; female seed with one within the hardened calyx ; leaves arrow-headed.

A well-known pot-herb of three varieties, raised from seed.

Hop (*Humulus lupulus*). A native climbing

perennial, fifteen feet high, blowing from June till August; blossom yellow, with flower-scales; the male flowers in panicles, whitish, with a five-leaved calyx, and no corolla; the female flowers with a one-leaved, entire, spreading calyx, and no corolla; the fruit-cones egg-oblong, and drooping.

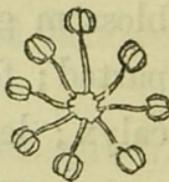
Not uncommon in hedges, and much cultivated. It is propagated by division, but may be raised from seed.



Sixth Order.

In this order are placed the plants whose male flowers have six stamens.

It contains no very common plants.



Seventh Order.

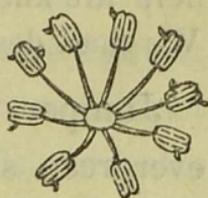
In this order are placed the plants whose male flowers have eight stamens.

The only common genus placed here is the poplar.

Aspen, or Trembling Poplar, or Quaking Ash (*Populus tremula*). An ornamental native tree, fifty feet high, blowing in March and April; flowers in catkins, without petals; summits of the pistils four, having an ear-like base; capsule two-celled, two-valved, and many-seeded; leaves nearly round, broadly toothed, smooth on both sides, on long foot-stalks, easily moved by the slightest breath of wind.

Propagated by seeds or cuttings. The bark is a good medicinal bitter.

Eighth Order.



In this order are placed the plants whose male flowers have nine stamens.

The only common field plants placed here are mercury and frogbit.

Wood Mercury (*Mercurialis perennis*). A native perennial, one foot high, blowing from April till May; blossom green; anthers round, two-lobed, capsule two-celled, having one seed in

each cell; leaves rough; stem perfectly simple; root creeping.

Not uncommon in woods and shady places.

The ninth, tenth, eleventh, and twelfth orders contain no very common plants.

Thirteenth Order.

In this order are placed the plants whose male flowers have the filaments of their stamens united into a tube.

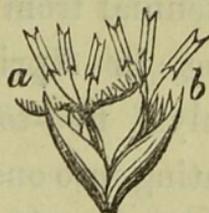
The more common field and garden plants placed here are knee-holly, juniper and savin, and yew-tree. We shall describe the following only.

Juniper (*Juniperus communis*). A native evergreen shrub, from three to fifteen high, blowing from May till June, without petals; the male flowers at first yellow, and afterwards brownish; the female flowers yellowish green; the berry dark bluish purple when ripe; leaves in threes, spreading, sharp pointed, larger than the berry.

Not uncommon on heaths, and propagated by seeds or layers.

Yew Tree (*Taxus baccata*). A native, ornamental, evergreen tree, twenty feet high, blowing from February till April, without petals; flower-scale single at the base; stamens numerous; fruit scarlet, fleshy, perforated at the extremity; leaves thickly set, line-like, in two rows, and flat.

It is propagated by seeds.



TWENTY-THIRD CLASS.

a, flower, containing stamens and pistils; *b*, flower, containing stamens only.

In this class are placed the plants whose flowers, either on the same plant or on two or more distinct plants, have both stamens and pistils, and also flowers with stamens and no pistils, and pistils and no stamens.

There are two orders founded on distinctions similar to the twenty-first and twenty-second classes.

First Order.

In this order are placed the plants which on the same individual have some flowers with both

stamens and pistils, and other flowers with stamens only, or pistils only.

The more common field and garden plants placed here are mimosa, soft grass, crosswort, pellitory, orache, and maple. We shall describe the following only.

Sensitive Plant (*Mimosa sensitiva*). A tender biennial from Brazil, a foot and a half high, blowing in April and September; blossom pink; calyx five-toothed; stamens eight; pod separating into one-seeded joints; leaves winged; leaflets egg-oblong, pointed, hairy beneath, smooth above, falling down when touched; stem and foot-stalks prickly.

Propagated by seeds and cuttings in sandy peat soil.

Sycamore, or Maple, or Plane Tree (*Acer Pseudo-Platanus*). A forest tree, fifty feet high, blowing in April and May; blossom green; bunches hanging; corolla with five petals; calyx with five divisions; stamens eight; leaves heart-shaped, five-lobed, sea-green, and smooth beneath, dark-green above; lobes unequally toothed; fruit smooth.

It is propagated by seeds. It is common in the Levant and the South of Europe, and not probably a native of Britain, as has been said.

Second Order.

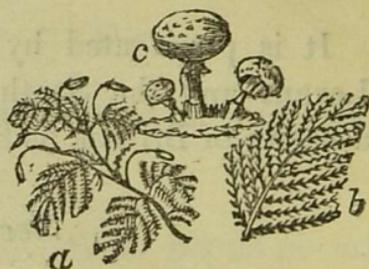
In this order are placed the plants which, on separate individuals, have some flowers with both stamens and pistils, and other flowers with stamens only, or pistils only.

The more common field and garden plants placed here are the fan palm, the ash tree, and the fig-tree. We shall only describe the following.

Common Ash (*Fraxinus excelsior*). A native forest tree, eighty feet high, blowing from April till May; blossom green; stamens two; leaves winged; the leaflets somewhat stalked, spear-shaped, pointed, saw-toothed, smooth, wedge-shaped at the base; branches flat and smooth; buds black.

There are several varieties, as the weeping ash and yellow barked ash, propagated by grafting.

TWENTY-FOURTH CLASS.



a, moss; *b*, fern; *c*, mushroom.

In this class are placed the plants which have no apparent flowers.

There are nine orders, founded on the reproductive organs and general structure of the plants.

First Order.

In this order are placed the plants which are fern-like (*b*), having the reproductive organs on the back, on the base, or on the summit of the leaf.

The more common plants placed here are polypody, ladyfern, spleenwort, hart's-tongue, brake, maiden-hair, shield fern, flowering fern, moonwort, and adder's tongue. We shall describe the following only.

Common Polypody (*Polypodium vulgare*). A perennial evergreen, one foot high, fruiting from May till October; fruit brown, scattered in little round convex spots; leaves deeply many divided; divisions spear-shaped, blunt, the upper becoming gradually smaller.

Common on shady banks and at the roots of trees.

Eagle Brake (*Pteris aquilina*). A common perennial, three feet high, fruiting in July and August; fruit brown, line-like, continuous on the under edges of the leaves. Leaf thrice divided; branches twice divided; divisions oblong and blunt.

The name is taken from the figure of a spread eagle appearing when the stem near the root is cut across.

Second Order.

In this order are placed the plants whose reproductive organs are at the top of the plant.

It only contains one genus, of which we shall describe the following species only.

Marsh Horsetail or Paddock Pipe, (*Equisetum limosum*). A native perennial, two feet high, fruiting in June and July; fruit brown; stems branching upwards, with branches about twelve in a whirl, simple, having five angles: fruit-spike at the top of the stem.

Common in marshes, or the shallows of ponds and lakes.

Third Order.

In this order are placed the plants whose reproductive organs are in a close spike.

The only common genus placed here is club-moss, of which we shall describe the following species only.

Common Club Moss (*Lycopodium clavatum*).
A native creeping perennial evergreen, six inches high, fruiting in July and August; one-celled, two-valved seed vessels very minute and powdery; spikes double, cylindrical on foot-stalks; the fruit scales oblong and pointed; the leaves scattered, bent inwards, and hair pointed; the stem creeping, and the branches rising up from it.

Not uncommon on heaths and mountainous tracks.

Fourth Order.

In this order are placed the plants whose reproductive organs are very near the root.

The only more common field plants placed here are quill-wort and pill-wort.

Marsh Quill-wort (*Isoetes lacustris*). A native perennial, six inches high, fruiting from May till October; fruit brown; head membranous, not opening, hid in the base of the leaf; seed vessels placed upon many thread-formed-like receptacles; leaves half cylindrical; buds roundish and two-celled.

On the borders of lakes, but rather local.

Fifth Order.

In this order are placed the mosses (*a*).

We shall describe the following only.

Wall Screw Moss (*Tortula muralis*.) A small evergreen, growing in tufts, one inch high, and fruiting in all seasons, particularly in spring; fruit dark green; leaves rather expanded, line-like, and oblong, their margins bent backwards, midrib projecting beyond the leaf into a white hair-like point; the capsule that contains the seeds, oblong; the lid of the capsule conical and pointed; stems very short.

One of the commonest of the small mosses on the tops of walls and on stones.

Hygrometer Moss (*Funaria hygrometrica*). A small evergreen moss, growing in tufts one inch and a half high, fruiting during the winter ; fruit pale, or rather whitish-green ; fringe of the capsule double and oblique, outer and inner ones, each of sixteen teeth, opposite to each other ; the leaves very hollow, oblong, having a little point entire ; midrib running beyond the edge ; fruit-stalk curved and wavy.

Very common by the sides of gravel walks, and sometimes on the tops of walls.

Sixth Order.

In this order are placed the liver-worts.

We shall describe the following only.

Green Ground Liver-wort (*Marchantia polymorpha*). A native evergreen, growing in different forms, and generally in broad patches, fruiting in winter ; fruit stem two inches high ; the sort of calyx enclosing the fruit deeply cut in

a starred manner into about ten narrow divisions ; leaves broad, green, and leathery.

Not uncommon in damp shady places.

Seventh Order.

In this order are placed the sea-weeds, and fresh-water and land plants, resembling these.

We shall describe the following only.

River Crow Silk, or Puddock-Roid (*Conferva rivularis*). A native evergreen, found floating in streams, in long tufts, fruiting in spring and summer. Leaves like green silk threads, uniform, simple, pointed, membranaceous, very straight and equal ; grains of the fruit scattered in the joints.

It is found both in fresh and in salt water.

Dulse or Tangle (*Halemenia edulis*). A native sea-weed, with the leaves flat and somewhat membranous, fleshy, wedge-shaped, tapering at the base into the foot stalk, rounded at the end ;

fruit in dot-like tubercles, half immersed in the plate of the leaf.

Commonly eaten in Scotland as well as two other species of sea weed.

Eighth Order.

In this order are placed the lichens which encrust trees and stones.

We shall describe the following only.

Cupped Horn-Lichen (*Cenomyce pyxidata*).
A native plant, growing in tufts from three to nine inches high. Base of the stem leafy and green; stem horn-like, ending in a cup, with small ones arising from its margin, warty, rough, greyish, or greenish; the fruit brown.

Not uncommon on banks and heaths. There are other species with scarlet fruit.

Ninth Order.

In this order are placed mushrooms and other fungi, among which are the various species of mould (c).

We shall describe the following only.

The Common Edible Mushroom (*Volvaria campestris* or *Agaricus campestris*). A native fungus, with a ringed veil not unlike a cobweb; the gills loose, and pale-pinky red, changing to liver-brown; cap white or brownish, fleshy, dry, somewhat silky and scaly; stalk solid and white.

It is found in old pastures, and is also raised in darkened pits.

NAMES

OF THE

LINNÆAN CLASSES AND ORDERS.

Class.

I. MONANDRIA.

1. Monogynia.
2. Digynia.

II. DIANDRIA.

1. Monogynia.
2. Digynia.
3. Trigynia.

III. TRIANDRIA.

1. Monogynia.
2. Digynia.
3. Trigynia.

IV. TETRANDRIA.

1. Monogynia.
2. Digynia.
3. Tetragynia.

V. PENTANDRIA.

1. Monogynia.
2. Digynia.
3. Trigynia.
4. Tetragynia.
5. Pentagynia.
6. Polygynia.

VI. HEXANDRIA.

1. Monogynia.
2. Digynia.
3. Trigynia.
4. Tetragynia.
5. Polygynia.

VII. HEPTANDRIA.

1. Monogynia.
2. Digynia.
3. Tetragynia.
4. Heptagynia.

Class.

VIII. OCTANDRIA.

1. Monogynia.
2. Digynia.
3. Trigynia.
4. Tetragynia.

IX. ENNEANDRIA.

1. Monogynia.
2. Trigynia.
3. Hexagynia.

X. DECANDRIA.

1. Monogynia.
2. Digynia.
3. Trigynia.
4. Tetragynia.
5. Pentagynia.
6. Decagynia.

XI. DODECANDRIA.

1. Monogynia.
2. Digynia.
3. Trigynia.
4. Pentagynia.
5. Dodecagynia.

XII. ICOSANDRIA.

1. Monogynia.
2. Digynia.
3. Trigynia.
4. Pentagynia.
5. Polygynia.

XIII. POLYANDRIA.

1. Monogynia.
2. Digynia.
3. Trigynia.
4. Tetragynia.

Class.

- XIII. POLYANDRIA.
 5. Pentagynia.
 6. Hexagynia.
 7. Polygynia.
- XIV. DIDYNAMIA.
 1. Gymnospermia.
 2. Angiospermia.
- XV. TETRADYNAMIA.
 1. Siliculosa.
 2. Siliquosa.
- XVI. MONADELPHIA.
 1. Triandria.
 2. Pentandria.
 3. Octandria.
 4. Decandria.
 5. Endecandria.
 6. Dodecandria.
 7. Polyandria.
- XVII. DIADELPHIA.
 1. Pentandria.
 2. Hexandria.
 3. Octandria.
 4. Decandria.
- XVIII. POLYADELPHIA.
 1. Pentandria.
 2. Dodecandria.
 3. Icosandria.
 4. Polyandria.
- XIX. SYNGENESIA.
 1. Polygamia Æqualis.
 2. Polygamia Superflua.
 3. Polygamia Frustranea.
 4. Polygamia Necessaria.
 5. Polygamia Segregata.
 6. Monogamia.
- XX. GYNANDRIA.
 1. Diandria.
 2. Triandria.
 3. Tetrandria.
 4. Pentandria.

Class.

5. Hexandria.
 6. Octandria.
 7. Decandria.
 8. Dodecandria.
 9. Polyandria.
- XXI. MONŒCIA.
 1. Monandria.
 2. Diandria.
 3. Triandria.
 4. Tetrandria.
 5. Pentandria.
 6. Hexandria.
 7. Octandria.
 8. Enneandria.
 9. Decandria.
 10. Dodecandria.
 11. Polyandria.
 12. Monadelphia.
 13. Syngenesia.
 14. Gynandria.
- XXII. DIŒCIA.
 1. Monandria.
 2. Diandria.
 3. Triandria.
 4. Tetrandria.
 5. Pentandria.
 6. Hexandria.
 7. Octandria.
 8. Enneandria.
 9. Decandria.
 10. Dodecandria.
- XXIII. POLYGAMIA.
 1. Monœcia.
 2. Diœcia.
 3. Triœcia.
- XXIV. CRYPTOGAMIA.
 1. Filices.
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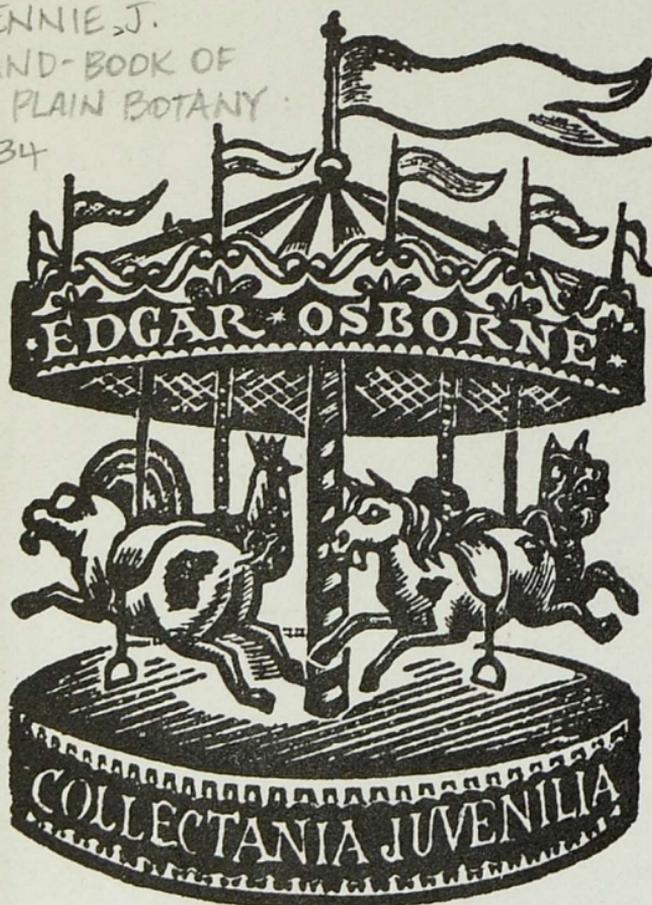
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