

PLANTÆ UTILIORES;

OR

ILLUSTRATIONS OF USEFUL PLANTS,

EMPLOYED IN

THE ARTS AND MEDICINE.

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Rosa muscosa

ROSA MUSCOSA.—THE MOSS ROSE.

CLASS XII. ICOSANDRIA.—ORDER III. POLYGAMIA.

NATURAL ORDER, ROSACEÆ.—THE ROSE TRIBE.

CALYX 4-or 5 lobed, with a disk either lining the tube or surrounding the orifice; the fifth lobe next the axis. *Stamens* indefinite, arising from the calyx, just within the petals, in æstivation curved inwards, *anthers* innate, 2 celled, bursting longitudinally. *Ovaries* superior, either solitary or several, 1 celled, sometimes cohering into a plurilocular pistillum; *ovula* 2, or more, suspended, very rarely erect; *styles* lateral; *stigmata* usually simple, and emarginate on one side. *Fruit* either 1 seeded nuts, or acini, or follicles containing several seeds. *Seeds* suspended, rarely ascending. Embryo straight, with a taper short radicle pointing to the hilum, and flat cotyledons. *Albumen* usually almost obliterated when the seeds are ripe; if present, fleshy.—*Herbaceous* plants or shrubs. *Leaves* simple or compound, alternate, with 2 stipula at their base. *Calyx* and peduncles mossy. The *Moss Rose* is either red or white and always very double.

"My Love" says a popular song, "is like the red, red rose;" and a very good simile it is. The rose has ever been the emblem of youth, beauty, and freshness; and if a poet would describe the enchanting glow upon the cheek of his mistress, he speaks of the rosy flush that seems transferred from the garden to her skin. The rose too, is the emblem of pleasure, and as in this world, enjoyment is too apt to leave a sting behind, so the rose, when it withers, leaves a thorn to increase our regret for its loss :—

See for a while its garden-bed
The fragrant rose adom;

Return—alas! the rose has fled,
Nor left aught but a thorn.—*From the Greek Anthologia.*

Nay, the thorns may be felt before the roses have withered; or, in the language of the most philosophic of Roman poets,

"*Medio de fonte leporum Surgit amari aliquid, quod in ipsis floribus angat.*"

"From the midst of the fountain of delights, there arises something bitter, to torment one amid the flowers themselves."

The transient splendour of the rose is also a fit emblem of beauty and virtue too soon called away from the world which they graced :—

Elle était de ce monde où les plus belles choses
Ont le pire destin;

Et rose elle a vécu ce que vivent les roses,
L'espace d'un matin.—MALHERBE.

She belonged to this world, where the sweetest and fairest
Are ill-fortune's surest prey;
Rose she was, and she lived like a rose of the rarest,
The space of one single day.

Here is another poem more generally known, in which the rose again figures as the image of unresisting sweetness and tenderness,

The rose had been washed, just washed in a shower,
Which Mary to Anna conveyed,
The plentiful moisture encherished the flower,
And weighed down its beautiful head.
The cups were all filled, and the leaves were all wet,
And it seemed to a faneiful view,
To weep for the buds it had left with regret
On the flourishing bush where it grew.

I hastily seized it, unfit as it was
For a nosegay so dripping and drowned,
And swung it rudely, too rudely alas!
I snapped it, it fell to the ground.
"And such,"—I exclaimed, "is the pitiless part,
Some act by the delicate mind,
Regardless of winking and breaking a heart,
Already to sorrow resigned.

This elegant rose, had I shaken it less,
Might have bloomed with its owner awhile,
And the tear that is wiped with a little address,
May be followed perhaps by a smile."—COWPER.

In the following legend by Körner, the rose seems to be the emblem of joyous and triumphant purity. Among the earlier Christian converts was St. Dorothy, a Greek maiden, who sedulously cultivated her garden, and while blessed with a pious and child-like sportiveness, faith increased in her heart, like pure gold. One night this dream was vouchsafed to her. A bright angel descended, with three blooming roses in his radiant hand, extended them to her with a friendly look, gave her the kiss of consecration, and then flew home to heaven. When the maiden awoke, and found the roses on her bosom, she saw that the dream was from above, and her heart glowed with a holy longing to attain the heavenly garden. Two days passed away, but when the third morning burst forth, the roses began to fade.

We will give the last stanza in the original :—

Und der Engel erscheint, als der vierte graut,
Im lichten Bräutigamskleide,
Und trägt die Rosen, und trägt die Braut,
Hinauf in den Garten der Freude.

And the angel appears, as the fourth morn grows gray,
In his radiant bridal vest,
And carries the bride and the roses away,
To the garden where dwell the blest.

The resemblance of a fine complexion to the glowing hues of the rose is sufficiently striking; but the poets are less happy in the comparisons by which they would illustrate the contrast between the ruddiest part of the cheek, and its paler boundary; for the latter by no means resembles the colourless surface of the lily. The flush of health is a very different tint from snow or milk; and Virgil, when he describes the appearance of Venus to Æneas, gives us among the first signs by which she betrayed her divinity the refulgence of her rosy neck.

However, we must take the poets as we find them; and if they are not strictly accurate, where perfect accuracy was perhaps impossible, it must be owned that their errors are very agreeable.

The effect of a blush on the cheek of Lavinia is thus described by Virgil:

Indum sanguineo veluti violaverit oestro
Si quis ebur; vcl mixta rubent ubi lilia multâ
Alba rosâ: tales virgo dabat ore colores.

Æneid XII. 67.

"As when the Indian ivory is stained with ruddy purple; or as white lilies grow red when mingled with the frequent rose: such were the colours suffused over the maiden's face."

When Anacreon gives a description of his absent mistress to a painter (whom, by-the-by, he calls "prince of the *rosy* art") he desires him to paint her complexion, "mingling roses with milk."

In the celebrated description of Alcina, whose smiles opened a Paradise on earth, Ariosto says

Spargeasi per la guancia delicata
Misto color di rose, e di ligustri.

"The mingled colour of roses and of privet spread itself over her cheek."

Sometimes again the freshness of the flower affords the chief point of comparison:—

— she looks as clear

As morning roses newly washed with dew.——*Taming of the Shrew*. Act ii. Scene 1.

And Thomson says of his Lavinia,

Her form was fresher than the morning rose,
When the dew wets its leaves.

The Germans, besides the ordinary names of the months borrowed from the Latin language, have other more expressive ones derived from their own. Thus October is called *Weinmonat* or Wine-month, and the name of *Rosenmonat*, or month of roses, has been given to May and June.

Spring and summer are, of course the chief seasons for the rose:—

No gradual bloom is wanting; from the bud
First-born of Spring, to Summer's musky tribes;
Nor hyacinths, of purest virgin white,
Low-bent and blushing inward; nor jonquils,

Of potent fragrance; nor narcissus fair,
As o'er the fabled fountain hanging still;
Nor broad carnations, nor gay-spotted pinks;
Nor showered from every bush, the damask rose.

THOMSON'S SEASONS.—*Spring*.

Half in a blush of clustering roses lost,
Dew-dropping Coolness to the shade retires;

There on the verdant turf, or flowery bed,
By gelid founts and careless rills to muse. *Summer*.

Yet thanks to culture, the duration of this delightful flower is prolonged for many months; and the hot-house has made roses and frost less irreconcilable than they were in Shakespeare's time:—

And thorough this distemperature we see
The seasons alter; hoary-headed frosts
Fall in the fresh lap of the crimson rose;

And on old Hyems' chin, and icy crown,
An odorous chaplet of sweet summer buds
Is, as in mockery, set.

Midsummer Night's Dream. Act ii. Scene 2.

At Christmas I no more desire a rose,
Than wish a snow in May's new-fangled shows; }
But like of each thing, that in season grows.
Love's Labour's Lost. Act i. Scene 1.

We may observe that although roses prefer a genial temperature, and abound most in the South, yet the coldest climates, even Lapland itself, are not entirely deprived of them:—

And fringed with roses Tengio rolls his stream.——*THOMSON'S SEASONS*. *Winter*.

As the rose is the most favourite illustration of female beauty, so it is used with great propriety to depict infant loveliness.

O thus, quoth Dighton, lay the gentle babes,
Thus, thus, quoth Forrest, girdling one another
Within their alabaster innocent arms:

Their lips were four red roses on a stalk,
Which, in their summer beauty, kissed each other.

King Richard III. Act iv. Scene 3.

Sometimes, but more rarely, the term is applied to men in the vigour of life; as, for instance to Richard II. who was murdered in the 34th year of his age:—

That men of your nobility and power,
Did 'gage them both in an unjust behalf,
As both of you, God pardon it! have done,

To put down Richard, that sweet lovely rose,
And plant this thorn, this canker, Bolingbroke?

First Part of Henry IV. Act i. Scene 3.

Ophelia, too, calls Hamlet

The expectancy and rose of the fair state.——*Hamlet*. Act iii. Scene 1.

The Moss Rose is the emblem of pleasure without alloy.



Quercus pedunculata

QUERCUS PEDUNCULATA.—THE OAK.

CLASS XXI. MONŒCIA.—ORDER VII. POLYANDRIA.

NATURAL ORDER, CUPULIFERÆ.—THE OAK TRIBE.

FIG. a. represents a sprig with the male catkins; b. the same, with the female flowers; c. a male flower, magnified.
d. a female flower, magnified.

Of this genus, so valuable for its economical uses, there are only fourteen species described by Linnæus. The discoveries of Thunberg, Humboldt, and other distinguished travellers, have so greatly enriched the subject, during the last fifty years, that Willdenow, who wrote in 1805, describes seventy-six, and Persoon, about the same period, enumerates eighty-two species. Twenty-six species were discovered in North America, by two indefatigable naturalists, father and son, named Michaux; and Humboldt and Bonpland have mentioned twenty-four others, which they found in the course of their travels in South America. Of the one hundred and forty species known at the present day, more than one half belong to America. The various species of oak are mostly large trees; some are evergreens, and others are deciduous, or lose their leaves during the winter. In this country we have two distinct species of oak, the *Quercus pedunculata* (or Robur) and the *Quercus sessiliflora*; the former of which affords the best timber, and is by far the most common in the woods and hedges of Britain; flowering in April.

The British Oak, it is well known, is a majestic forest tree, distinguished above all others for the slowness of its growth, its great size, longevity, and use. In woods, as Professor Martyn justly observes, it rises to a considerable height; but singly, it is rather a spreading tree, sending off horizontally immense branches, which are much divided, more or less wavy, and covered with a rough brown bark. The leaves are deciduous, alternate, nearly sessile, or on very short footstalks, obovate, oblong, smooth, irregularly sinuated, with obtuse, rounded, entire marginal lobes; their upper surface of a rich shining green, paler, and slightly glaucous underneath. The male or barren flowers are in numerous, pendulous, stalked, yellowish, downy catkins, two inches long, from scaly buds; the female on axillary, simple stalks, few, scattered, sessile, small, and greenish tinged with brown. The calyx of the male flower is a scale of one leaf, bell-shaped, and generally five-cleft; that of the female is double; the outer one coriaceous, entire, becoming subsequently enlarged, and constituting the hard, tubercled, woody cup of the nut or acorn; the inner of one leaf and divided into six pointed, downy segments, closely surrounding the base of the germen. The filaments are about ten, longer than the calyx, and supporting roundish 2-lobed anthers. The germen is ovate, crowned with a short conical style, and three obtuse recurved stigmas. The fruit is an oval, coriaceous, smooth nut, fixed to the inside of the outer calyx, as in a shallow cup, and dropping from it when the nut ripens in autumn.

With respect to age, the Oak exceeds any other tree, except perhaps the yew; even the timber is useless for purposes of art till it has grown from fifty to seventy years. The age to which it can continue to vegetate has commonly been estimated at three hundred years; but tradition carries some trees which have escaped the axe to a period much more remote. In the New Forest, Evelyn counted, in the sections of some trees, three or four hundred concentric rings or layers of wood, each of which is supposed to record a year's growth. Not many years ago, the oak in Torwood Forest, in Stirlingshire, supposed to be the largest tree in Scotland, under the shadow of which Sir William Wallace used to assemble his army to oppose the tyranny of Edward, is said to have been still standing. Mr. Gilpin, in his work on Forest Scenery, speaks of a "few venerable oaks in the New Forest, that chronicle upon their furrowed trunks ages before the Conquest."

The story of Erisichthon in Ovid is one of many proofs of the reverence entertained for oaks by the ancients.

As fame reports, his hand an axe sustained,
Which Ceres' consecrated grove profaned;
Which durst the venerable gloom invade,
And violate with light the awful shade.
An ancient oak in the dark centre stood,
The covert's glory, and itself a wood;
Garlands embraced its shaft, and from the boughs,
Hung tablets, monuments of prosperous vows.
In the cool dusk its unperied verdure spread,
The Dryads oft their hallowed dances led;
And oft, when round their gauging arms they cast,
Full fifteen ells it measured in the waist;

Its height all under standards did surpass,
As they aspired above the humbler grass.
These motives, which would gentler minds restrain,
Could not make Triope's bold son abstain;
He sternly charged his slaves with strict decree,
To fell with gashing steel the sacred tree.
But whilst they, lingering, his commands delayed,
He snatched an axe, and thus blaspheming said,
Was this no oak, nor Ceres' favourite care,
But Ceres' self, this arm, unawed, should dare
Its leafy honours in the dust to spread,
And level with the earth its airy head.

He spoke and as he poised a slanting stroke,
Sighs heaved, and tremblings shook the frightened oak ;
Its leaves looked sickly, pale its acorns grew,
And its long branches sweat a chilly dew.
But when his impious hand a wound bestowed,
Blood from the mangled bark in torrents flowed.
When a devoted bull of mighty size,
A sinning nation's grand atonement dies ;
With such a plenty from the spouting veins,
A crimson stream the turf alters stains.
The wonder all amazed ; yet one more bold,
The fact dissuading strove his axe to hold.
But the Thessalian, obstinately bent,
Too proud to change, too hardened to repent,
On his kind monitor, his eyes, which burned

With rage, and, with his eyes, his weapon turned ;
Take the reward, says he, of pious dread ;
Then with a blow lopped off his parted head.
No longer checked, the wretch his crime pursued,
Doubled his strokes, and sacrifice renewed ;
When from the groaning trunk a voice was heard,
" A Dryad I, by Ceres' love preferred,
With the circle of this clasping rind
Coeval grew, and now in ruin joined ;
But instant vengeance shall thy sin pursue,
And death is cheered with this prophetic view."
At last the oak with cords enforced to bow,
Strained from the top, and sapped with wounds below,
The humbler wood, partaker of its fate,
Crushed with its fall, and shivered with its weight.

" But a sad revenge follows it, as the poet will tell you ; and one might fill a just volume with the histories of groves that were violated by wicked men who came to fatal periods, especially those upon which the mistletoe grew, than which nothing was reputed more sacred ; for amongst such oaks the Druids usually dwelt,* and with whose leaves they adorned and celebrated their religious rites. 'The Druids' says Pliny, Lib. XVI. Cap. XLIV. 'for so they call their divines, esteem nothing more venerable than mistletoe, and the oak upon which it grows.' Indeed they did nothing of importance without some leaves or branches of this tree. The mistletoe was not to be gathered, but cut by the priest with a golden axe, praying for a blessing upon the divine gift ; after this two white bulls were offered up as a sacrifice."

Evelyn's Sylva.

The following is a just and noble description of an aged oak :

Æsculus imprimis, quæ quantum vertice ad auras
Æthereas, tantum radice in Tartara tendit.
Ergo non lyemes illam, non flabra, neque imbres
Convellunt ; immota manet, multosque per annos
Multa virum volvens durando sæcula vincit.
Tum fortes latè ramos et brachia tendens
Huc illuc, media ipsa ingentem sustinet umbram.

Virg. Georg. Lib. ii. 291.

Chief, æsculus, whose head as high aspires,
Low as his root to central night retires.
Vainly the wintry blast invades his brow,
Vainly the torrent floods his base below :
Unmoved he sees round ages ages rolled,
Secs nations perish, and the world wax old,
Wide spreads his vigorous branches o'er the plains,
And on his central trunk th'o'ershadowing mass sustains.

Sathey's Translation.

There are occasions when strength is injurious to its possessor ; and the monarch of the forest is often laid low by the storm which spares his subjects.

— Merciful Heaven,
Thou rather, with thy sharp and sulphurous bolt,
Split'st the unwedgedable and gnarled oak,
Than the soft myrtle.

Measure for Measure, Act ii. Scene 2.

The oracle which advised the Athenians to rely on wooden walls has long been thought applicable to this country ; and these elegant lines of Pope point out the use of the oak in commerce.

Let India boast her plants, nor envy we
The weeping amber, and the balmy tree,
While by our oaks the precious loads are borne,
And realms commanded, which those trees adorn.

Windsor Forest.

MEDICAL PROPERTIES AND USES. Oak bark is a powerful astringent, and united with bitters and aromatics has been recommended in intermittents. A decoction or infusion of oak bark is a very good gargle in relaxed sore throat.

OFF. PREP. Decoctum Quercûs, *L. E.*
Extractum Corticis Quercûs, *D.*

In the language of Flowers, the Oak is the emblem of hospitality, and the Oak Leaf of bravery and humanity.

* *Nemora alta remotis Incolitis lucis.* LUCAN.



Lilium candidum?

LILIUM CANDIDUM.—THE WHITE LILY.

CLASS VI. HEXANDRIA.—ORDER I. MONOGYNIA.

NATURAL ORDER, LILIACEÆ.—THE LILY TRIBE.

PROFESSOR LINDLEY describes this tribe as follows:—

ESSENTIAL CHARACTER.—*Calyx* and *corolla* confounded, coloured, regular, occasionally cohering in a tube. *Stamens* 6, inserted into the sepals and petals. *Ovary* superior, 3-celled, many-seeded; *style* 1; *stigma* simple, or 3-lobed. *Fruit* dry, capsular, 3-celled, many-seeded, with a loculicidal dehiscence. *Seeds* flat, packed one upon another in 1 or 2 rows, with a spongy, dilated, often winged integument; *embryo* with the same direction as the seed, in the axis of fleshy *albumen*.—*Bulbs* scaly, or *stems* arborescent. *Leaves* with parallel veins, either lanceolate or cordate. *Flowers* large.

AFFINITIES. Distinguishable from Asphodelæ by their higher degree of developement, and by the texture of the coat of their seeds. Various degrees of cohesion between their sepals and petals occur, so that we have tubular perianths and revolute ones even in the same genus (*Lilium*.) Hence Mr. Brown's Hemerocallidæ, which he states differ from Liliacæ in almost nothing but their tubular perianth, cannot be retained. Decandolle refers Erythronium to Asphodelæ in the *Botanicon Gallicum*; in the *Flore Française* he placed it in Melanthacæ; but it surely ought to be stationed here.

Lily (*Lilium*, *λειριον*, *κρινον*), probably derived from an Eastern word signifying a flower, or, as some affirm, from the Celtic *Li*, (whence the Gallic *Lis*), *whiteness* or *shining*, is a name that has been given to many very different plants; such as the water-lily (*Nymphæa*), the superb lilies, now commonly so called, and others; even to the *Lilach* (*Syringa*), the original Persian name for which has been anglicised without alteration.

The application of this term has been very variously extended and restrained; for the word *lily* has been used both as a general and an individual name. It was thus employed by the ancients, and also, among the moderns, both by Linnæus and Jussieu.

Solomon uses *lily* (Shushan) in a collective sense, and likewise distinguishes, among lilies, the Shushan of the valley; and "a Greater than Solomon," when he gave us the affectionate command to "consider the lilies of the field," seems, while adopting popular language, evidently to have had a similar comprehensive meaning, which may be shewn, both from the context and from modern phyto-geographical researches. Historical references, and a knowledge of local peculiarities, can alone fully develop the impressive beauty of this, as well as of many other passages in ancient records. Thus, for example, it is well known that fuel is so scarce in the Holy Land, and in many parts of the East, that the inhabitants regard large trees with especial reverence, and are obliged to use by turns every kind of combustible matter, such as the withered stalks of herbs and flowers, the tendrils of the vine, and small branches of rosemary, and other plants, to heat their baths and ovens. Allusion to this custom is easily recognized in this passage, and adds much natural force to Christ's concluding remark: "If God so clothe the grass of the field, which to-day is, and to-morrow is cast into the oven, shall he not much more clothe you, O ye of little faith?" The *grass* of the field here evidently includes the lilies, of which the Saviour had just been speaking, and by consequence such herbaceous plants in general; and in such an extensive sense both words are not unfrequently to be taken. This will appear still further evident from the observation of Sir James E. Smith, who, when endeavouring to identify these lilies, which he considers not to have been *lilies* but *amaryllides*, says, "It is natural to presume, the divine Teacher, according to his usual custom, called the attention of his hearers to some object at hand, and, as the fields of the Levant are over-run with the *Amaryllis lutea*, whose golden liliaceous flowers afford in autumn one of the most brilliant and gorgeous sights in nature, the expression of 'Solomon in all his glory not being arrayed like one of these,' is peculiarly appropriate. I consider the feeling," he continues, "with which this was expressed as the highest honour ever done to the study of plants; and, if my botanical conjecture be correct, we learn a chronological fact respecting the season of the

year when the sermon on the Mount was delivered." The white lily and the chalcedonian are, however, both Levantine plants; and many other lilies are natives of, and so abundant in, the East, that a Persian province was called Susiana, and its chief city Sushan, from these beautiful flowers growing there naturally in excess. Hence, although the Amaryllis can by no means be excluded, the other Liliaceæ should be included likewise.

For the following extract we are indebted to that delightful work the "Flora Domestica."

Although we usually associate the idea of extreme whiteness with the lily, so that it is common to express a pure white by comparison with this flower, as with snow, and as white as a lily is an old and common proverb, yet lilies are of almost every variety of colour; perhaps there is no other flower that varies so much in this respect.

"The Common White Lily," says Mr. Martyn, "has been cultivated in England time immemorial." The stem is usually about three feet high. The flowers are brilliantly white, and glossy on the inside. It is from the East; and in Japan the blossom is said to be nearly a span in length. This Lily flowers in June and July. The roots, which are mucilaginous, are sometimes boiled in milk and water, and employed in emollient poultices; but they have not much reputation. An oil for the same purpose was also prepared by infusing the roots in olive oil.

There are several varieties of the White Lily: as, that with the flowers striped or blotched with purple; that with the leaves striped or edged with yellow; one with double, and one with pendulous flowers. The double flowers are less fragrant than the single; and the common kind is generally held in higher estimation than any of the others.

This Lily may easily be increased by offsets, which the bulbs furnish in great plenty. They should be taken off every second year. The best time to remove it is about the end of August, soon after the stalks decay. It will thrive in almost any soil or situation, is very hardy, and not liable to injury by frost. Few plants are more easily increased or preserved than the Lily, so remarkable for the beauty and fragrance of its flowers.

The bulbs, when removed, may be treated as other bulbs; but the sooner these are re-planted the better, as they do not keep so well out of the ground as many others.

This Lily is considered as an emblem of purity and elegance; and

"The lady lily, looking gently down,"

is scarcely less a favourite with the poets than the rose itself.

Ben Jonson to express the extreme loveliness of a beautiful woman, asks—

"Have you seen but a bright lily grow
Before rude hands have touched it?"

"Thus passeth yere by yere, and day by day,
Till it felle ones in a morwe of May,
That Emelie, that fayrer was to seene
Than is the lillie upon his stalke greene,
And fresher than the May with floures newe,

"The lily, of all Children of the spring
The palest—fairest too where fair ones are."

BARRY CORNWALL'S FLOOD OF THESSALY.

For with the rose color strof hire hewe;
(I n'ot which was the finer of them two)
Er it was day, as she was wont to do,
She was arisen and all redy dight;
For May will have no slogardie a-night.

CHAUCER.

—"In virgin beauty blows
The tender lily languishingly sweet."

ARMSTRONG.

"Hevinlie lyllyis with lokkerand toppis quhyte,
Opynnit and schew thare istis redemyte."

GAWIN DOUGLAS.

"Queen of the field, in milk-white mantle drest,
The lovely lily waved her curling crest."

MODERNIZED BY FAWKES.

In the Language of Flowers the White Lily says, Purity and Modesty.



Pyrus communis

PYRUS COMMUNIS.—THE PEAR TREE.

CLASS XII. ICOSANDRIA.—ORDER II. PENTAGYNIA.

NATURAL ORDER, POMACEÆ.—THE APPLE TRIBE.

Calyx with an urceolate tube, and a 5-lobed limb. Petals roundish. Styles usually 5, rarely 2 or 3. Pome closed, 5-celled; putamen cartilaginous. Seeds 2 in each cell; testa cartilaginous.—Trees or shrubs, with simple or pinnate leaves, and terminal, many-flowered cymes. Bractæas subulate, deciduous.

The pear tree is called *poirier* in French, *Birnbaum* in Germany, and *pero* in Italian. In its wild state, the pear is a thorny tree, with upright branches, tending to a pyramidal form, in which it differs materially from the apple tree. The twigs or spray hang down; the flowers in terminal villous corymbs, produced from wood of the preceding year, or from buds gradually formed on that of several years' growth, on the extremities of very short protruding shoots, technically spurs. It is found in a wild state in Britain, and abundantly in France and Germany, as well as other parts of Europe, not excepting Russia, as far as latitude 51°. It grows in almost any soil. The cultivated tree differs from the apple, not only in having a tendency to the pyramidal form, but also in being more apt to send out tap roots, in being as a seedling plant much longer in coming into bearing, and when on its own root, or grafted on a wild pear stock, of being much longer lived. In a dry soil it will exist for centuries, and still keep its health, productiveness, and vigour. "The period at which the *Teinton squash pear* first sprang from seed," Mr. Knight observes, "probably now cannot at all be ascertained; but I suspect from its present diseased and worn-out state, that it existed at least as early as the beginning of the sixteenth century; for another kind, the *barland*, which was much cultivated in the early part of the seventeenth century, still retains a large share of health and vigour; and the identical trees which supplied the inhabitants of Herefordshire in the 17th century with liquor, are likely to do the same good to those of the 19th." The remarks on the history of the apple will apply, almost without exception, to the pear. The Romans in Pliny's time possessed 32 sorts, and the fruit is still more valued than the apple, both in Italy and France.

HISTORY. The Pear is mentioned by the earliest writers, as common in Syria, Egypt, and Greece; from which latter country it appears to have been brought into Italy. Theophrastus speaks of the productiveness of old pear trees; and Virgil mentions some Pears which he received from Cato. Pliny, in his 15th book, describes the varieties in cultivation in his time as being exceedingly numerous; and mentions a number which were named after the countries from which they were received. Of all pears, he says, the Crustumine is the most delicate and agreeable. The Falernian pear was esteemed for its juice; and the Tiberian pear, because it was preferred by the Emperor Tiberius. There were "proud pears," which were so called because they ripened early, and would not keep, and "winter pears" pears for baking, &c. as at the present day. "All Pears whatsoever" Pliny observes, "are but a heavy meat, unless they are well boiled or baked." When the cultivated pear was introduced into Britain is uncertain; but there can be little doubt that it was brought here by the Romans; and it is by no means improbable that all our wild pears have originated in the seeds of these cultivated sorts, accidentally disseminated by birds. The pear is mentioned by Chaucer; and, in the time of Henry VIII. it appears that the warden (so called from its property of keeping) was in cultivation; for, among certain charges in an old account book in the Exchequer, 3s. 4d., is mentioned for "medlars and warders," and 12d. for "pears," probably some commoner sort. In Gerard's time, the Katherine pear (a small red early fruit, still occasionally sent to market, No. 172, Hort. Soc. Cat. and called by Gerard, *Pyrus superba*, sive *Katherina*) was considered the best: but he enumerates seven sorts, all of which, he says, and many more sorts of "*tame peares*," and those "most rare and good, are growing in the ground of Master Richard Pointer, a most cunning and curious graffer and planter of all manner of rare fruits, dwelling in a small village neere London, called Twickenham; and also in the ground of an excellent graffer and painfull planter, Mr. Henry Banbury, of Touthill Street, neere Westminster; and likewise in the

ground of a diligent and most affectionate lover of plants, Mr. Warner, neere Horseydowne, by London and in divers other grounds about London."

PROPERTIES AND USES. The wood of the wild pear is heavy, strong, compact, of a fine grain, and slightly tinged with red. It weighs, green, 79lbs. 5oz. per cubic foot; and, when dry, from 49lb. to 53lb. This wood, in common with that of all the Rosaceæ, is liable to have its natural colour changed by steeping it in water; which ought, therefore, to be avoided when it is intended for particular purposes. It is readily stained black, and then so closely resembles ebony as to be scarcely distinguishable from it. According to Du Hamel, it is, next to the true service (*P. Sorbus domestica*), the best wood that can be employed by wood engravers; which use Gerard also seems to hint at when he says, it "likewise serveth to be cut into many kinds of moulds; not only such prints as these figures are made of, but also many sorts of pretty toies, for coifes, brest-plates, and such like, used among our English gentlewomen." (p. 1459.) For the wood engraver, however, it is far inferior to the box; though it is allowed to be very hard and homogeneous and yet easy to cut, and when perfectly dry, not liable either to crack or to warp. For coarse engravings on wood, such as large plans, &c., we have no doubt that it would succeed perfectly.—*Loudon's Arbor. and Fruticetum Britann.*

As a dessert fruit, the *pear* is much esteemed, and generally preferred to the apple. It is also used for baking, compôts, marmalade, &c. Dried in an oven, the fruit will keep upwards of a year, either with or without syrup. This mode of preparing the *pear* is about as common in France as the making of apple pies in this country. Bosc (*Nouveau Cours d'Agric. in loco*), describes two methods of drying *pears* for preservation, and adds that he has tried them after 3 years' keeping, and found them still very good. Perry, the *poiré* of the French, is made from the fermented juice, in the manner of cider, and the best sorts are said by Withering to be little inferior to wine. The wood of the *pear* tree is light, smooth, and compact, and is used by turners and to make joiners' tools, and picture frames to be dyed black. The leaves will produce a yellow dye, and may be used to give a green to blue cloths.

Criterion of a good pear.—Dessert *pears* are characterised by a sugary aromatic juice, with the pulp soft and sub-liquid, or melting, as in the *beurrés* or *butter pears*. Kitchen *pears* should be large of size, with the flesh firm, neither breaking nor melting, and rather austere than sweet, as the *wardens*. Perry *pears* may be either large or small, but the more austere the taste the better will be the liquor. Excellent perry was made from the wild *pear*.

When discussing the differences of trees, Virgil mentions three kinds of pears:—

—————*nec surculus idem*
Crustumii, Syriisque pyris, gravibusque volemis.

Georg. Lib. ii. 87.

They are reduced to two in Dryden's translation:—

Unlike are bergamots and pound-pears.

According to the Delphin commentator, however, the *volema* are not pound-pears, but *bon Chrétiens*; their Latin name is derived from their being large enough to fill the hollow of the hand, (*vola*.)



Myrsine pimenta?

MYRTUS PIMENTA.—THE JAMAICA PEPPER, (ALLSPICE.)

CLASS XII. ICOSANDRIA.—ORDER I. MONOGYNIA.

NATURAL ORDER, MYRTACEÆ.—THE MYRTLE TRIBE.

THE Pimento or All-spice tree is a native of South America and of the West Indies. It succeeds well in our stoves, if allowed a strong heat, flowering copiously in May and June. It grows abundantly on the hilly parts of the north side of Jamaica, flowering in July, and soon afterwards ripening its fruit. It was cultivated by Philip Miller in 1732, but the date of its introduction is uncertain.

In its native soil this handsome evergreen tree usually rises with a straight or upright trunk to the height of thirty feet, branched towards the top, and covered with a smooth grey bark. The leaves are opposite, on short foot-stalks, often two or three together, and vary in size and shape, but are commonly about four inches long, oblong-lanceolate, smooth, shining, pointed, and of a deep green colour. In their recent state, they have an agreeable aromatic taste, and abound in an essential oil, which appears in minute pellucid dots. The flowers are very numerous but small, and are produced in bunches or trichotomous panicles at the extremity of the branches. The calyx is divided into four roundish segments. The petals are four, reflected, and of a greenish-white colour. The filaments are numerous, longer than the corolla, spreading, of the same colour as the petals, supporting roundish white anthers. The style is simple, erect, with an obtuse stigma. The fruit is a smooth, shining, succulent berry, crowned with the persistent calyx, of a black or dark purple colour when ripe, and containing two kidney-shaped, flattish seeds.

The pimento tree begins to bear fruit in three years after it is planted, and arrives at maturity at seven, when it abundantly repays the patience of the planter. It is particularly fond of a white marly or chalky soil, having a shallow surface of mould, and therefore grows well on those rocky lands which are fit for little else. The berries are picked from the branches in their green state, and are then laid on cloths spread on terraced floors. During the first and second days they are often turned, to be fully exposed to the sun. When they begin to dry they are frequently winnowed, and laid in cloths to preserve them from rain and dews, still being exposed to the sun every day, and removed under cover every evening, till sufficiently dry; which usually happens in twelve days, and is known by the darkness of their complexion and the rattling of the seeds. At this time they appear wrinkled, and are of a very dark brown colour, in which state they are stowed in bags or casks for market. Some planters kiln-dry them, and it seems the most eligible method, as dispatch and security against rain are so very essential, and especially when the crops are more than usually abundant.

The more odoriferous and smaller the berries are, the better are they reckoned. The leaves and bark of the tree are full of aromatic inflammable particles, on account of which the growers are extremely cautious not to suffer any fire to be made near the walks, for if it once catch the trees, they consume with great rapidity. Nothing, it is said, can be more delicious than the odour of the walks in which the trees are planted, particularly when they are in blossom. The friction of the leaves and smaller branches, even in a gentle breeze, diffuse a most grateful fragrance through the air, which is thought to render it very salubrious.

QUALITIES AND CHEMICAL PROPERTIES. The berries of the pimento have a resemblance in smell and taste to cloves, juniper-berries, cinnamon, and pepper, or rather a peculiar mixture, somewhat akin to them all; hence their name of *All-spice*. The aromatic odour and warm pungent taste reside chiefly in the rind, or cortical part of the berry. Its virtues are extracted by water, alcohol, and ether. The watery infusion is of a brown colour, and reddens infusion of litmus. With sulphate of iron it strikes a black colour, and lets fall a precipitate. Nitrate of mercury precipitates it of a yellowish brown; superacetate of lead, of a dirty green; and nitrate of silver, of a deep reddish brown colour. It forms a precipitate with the infusion of yellow bark. The sulphuric and muriatic acids redden it, and throw down a rose-coloured precipitate. The nitric acid forms no precipitate, but gives a yellow hue. The alcoholic tincture is rendered milky, and after a time precipitates by water; the ethereal, when evaporated in water, deposits drops of a greenish yellow volatile oil, a pellicle of pungent nauseous tasted resin, and some extractive. Hence pimento appears to contain a volatile oil, resin, extractive, tannin, and gallic acid. The essential oil is very grateful, and so ponderous as to sink in water.

The following passage is extracted from that charming work, the *Flora Domestica*:—

In Tripoli, on the celebration of a wedding, the baskets of sweetmeats, &c. sent as wedding presents, are covered with flowers; and although it is well known that they frequently communicate the plague, the inhabitants will even prefer running the risk, when that dreadful disease is abroad, rather than lose the enjoyment they have in their love of flowers. When a woman in Tripoli dies, a large bouquet of fresh flowers, if they can be procured, if not, of artificial, is fastened at the head of her coffin. Upon the death of a Moorish lady of quality, every place is filled with fresh flowers and burning perfumes; at the head of the body is placed a large bouquet, of part artificial, and part natural, and richly ornamented with silver; and additions are continually made to it. The author who describes these customs also mentions a lady of high rank, who regularly attended the tomb of her daughter, who had been three years dead: she always kept it in repair, and, with the exception of the great mosque, it was one of the grandest in Tripoli. From the time of the young lady's death, the tomb had always been supplied with the most expensive flowers, placed in beautiful vases; and, in addition to these, a great quantity of fresh Arabian Jessamines, threaded on thin slips of the Palm-leaf, were hung in festoons and tassels about this revered sepulchre. The mausoleum of the royal family, which is called the *Turbar*, is of the purest white marble, and is filled with an immense quantity of fresh flowers; most of the tombs being dressed with festoons of Arabian Jessamine and large bunches of variegated flowers, consisting of Orange, Myrtle, Red and White Roses, &c. They afford a perfume which those who are not habituated to such choice flowers can scarcely conceive. The tombs are mostly of white, a few inlaid with coloured marble. A manuscript Bible, which was presented by a Jew to the Synagogue, was adorned with flowers; and silver vases filled with flowers were placed upon the ark which contained the sacred MS.^a

The ancients used wreaths of flowers in their entertainments, not only for pleasure, but also from a notion that their odour prevented the wine from intoxicating them: they used other perfumes on the same account. Beds of flowers are not merely fictitious.^b The Highlanders of Scotland commonly sleep on heath, which is said to make a delicious bed; and beds are, in Italy, often filled with the leaves of trees, instead of down or feathers. It is an old joke against the effeminate Sybarites, that one of them complaining he had not slept all night, and being asked the reason why, said that a rose-leaf had got folded under him.

In Naples, and in the Vale of Cachemere (I have been told also that it sometimes occurs in Chester,) gardens are formed on the roofs of houses: "On a standing roof of wood is laid a covering of fine earth, which shelters the building from the great quantity of snow that falls in the winter season. This fence communicates an equal warmth in winter, as a refreshing coolness in summer, when the tops of the houses, which are planted with a variety of flowers, exhibit at a distance the spacious view of a beautifully chequered parterre." (FORSTER.) The famous hangings of Babylon were on the enormous walls of that city.

A garden usually makes a part of every Paradise, even of Mahomet's. In Milton's Paradise, the occupation of Adam and Eve was to tend the flowers, to prune the luxuriant branches, and support the roses, heavy with beauty.

MEDICAL PROPERTIES AND USES.—As a condiment, pimento is very generally employed; and in medicine is much used as an adjunct to bitters in dyspepsia when attended with much flatulence; also in arthritic and hysterical affections. The watery infusion, sweetened with sugar and added to a little milk, is readily taken by children, and is an excellent cordial in malignant measles, scarlatina, small-pox, and other fevers of a typhoid description. But it is principally employed to cover the taste of other medicines, and to impart warmth.

OFF. PREP.—Aqua pimentæ.	L. E. D.
Oleum pimentæ.	L. E. D.
Pilulæ opiatæ.	E.
Spiritus pimentæ.	L. E. D.
Syrupus rhamni.	L.

^a See Tully's Narrative of a Residence in Tripoli.

^b Moore in his notes to Lalla Rookh, says, "the roses of the Sinan Nile, or garden of the Nile, attached to the Emperor of Morocco's palace, are unequalled; and mattresses are made of their leaves, for men of rank to recline upon."





Zizyphus Lotus

ZIZYPHUS LOTUS, OR RHAMNUS LOTUS.—THE LOTUS TREE.

CLASS V. PENTANDRIA.—ORDER III. TRIGYNIA.

NATURAL ORDER, RHAMNÆ.—THE BUCK-THORN TRIBE.

THE LOTUS is a tree of no great height, rough and thorny, with leaves ovate, retuse, toothletted, and are as well as the branchlets, smooth, prickles wanting or in twin, one of them recurved; drupe ovate, oblong. Native of Syria, from whence it has been introduced into Europe. Flowers of a greenish yellow, 2 or 3 together. Fruit saffron coloured, having a sweet granular pulp. This tree is cultivated for its fruits in many parts of the south of Europe, where it is called Jujube. In Italy and Spain the fruit is served at the table in desserts, during the winter season as a dry sweetmeat. It is sold in the markets in the towns of Italy and Spain. The tree is said to have been first introduced into Italy from Syria by Sextus Pampinius, in the time of Augustus Cæsar. The fruit is also sold in abundance in the markets of Constantinople under the name of *Hunnab-agaghi*, and which has for a long time been imported into the west of Europe under the name of *Jujube*. The Turks plant the trees before their coffee-houses with other trees, to enjoy the shade and fruit in their season. It grows wild in Africa, especially in the kingdom of Tunis, in a tract called *Jereed*, which was formerly the country of the Lotophagi. The Lotophagi as the Greeks call them, possessed a considerable part of the sea coast, between the two Syrtes, the island of Meninx (now Jerba) and the coast beyond it as far as the lake and river Tritonis to the Machlies. Scylax extends the name to the tribes between the two Syrtes. Ptolemy limits them to the neighbourhood of the river Cinyps, while Herodotus appears to confine them to the west of that river. Strabo places them in the neighbourhood of Jerba, although he calls the adjoining Syrtes that of the Lotophagi. Pliny assigns them, in addition to the island, the environs of the Syrtes also. But the allotment of this confined space to the eaters of lotos was owing to the want of a more extended knowledge of the countries that border on the desert, for it appears that the tribes who inhabit them eat universally of this fruit, in a greater or less degree, and most of them apparently as much as they can obtain of it. The Arabs know the plant by the name of *Seedra*. A kind of wine is made from the fruit by expression, and diluted with water, but this will not keep more than a few days.

Mungo Park, in his travels in the interior of Africa, observed two negroes sitting among some thorny bushes, who had been gathering *tomberongs*, of which he gives this account:—"These are small farinaceous berries, of a yellow colour and delicious taste, which were no other than the fruit of the *Rhamnus Lotus* of Linnæus. They had gathered two large baskets full in the course of the day. These berries are much esteemed by the natives, who convert them into a sort of bread, by exposing them for some days to the sun, and afterwards pounding them gently in a wooden mortar, until the farinaceous part of the berry is separated from the stone. This meal is then mixed with a little water, and formed into cakes, which when dried in the sun, resemble in colour and flavour the sweetest gingerbread. The stones are afterwards put into a vessel of water, and shaken about, so as to separate the meal, which may still adhere to them, this communicates a sweet and agreeable taste to the water, and with the addition of a little pounded millet makes a pleasant gruel called *fondi* which is the common breakfast in many parts of Ludamar, during the months of February and March. The fruit is collected by spreading a cloth upon the ground, and beating the branches with a stick. The Lotus is very common in all the kingdoms which I visited, but is found in greatest plenty on the sandy soil of Kaarta, Ludamas, and the northern parts of Bambarra; where it is one of the most common shrubs of the country. "As this shrub is found in Tunis, and also in the Negro kingdoms, and as it furnishes the natives of the latter with a food resembling bread, and also with a sweet liquor which is much relished by them, there can be little doubt of its being the Lotus mentioned by Pliny as the food of the Libyan Lotophagi."

Among the adventures of Ulysses on his return to his native country after the siege of Troy, by adverse winds and unmanageable currents, he arrived at an island inhabited by a people called Lotophagi, where he landed to take in water and refresh his crew, after they were refreshed, he sent three men into the country to learn some particulars concerning the natives, and they found them a friendly people, who offered them to taste of the Lotus of which he who had once tasted, Homer says, had no desire to return, but rather wished to live with them, and renounce all thoughts of home. It would seem, however, that they returned to Ulysses, most probably drunk, for they were refractory, and he was obliged to use force to get them on board, and then he confined them, bound underneath the benches on which the rowers sat, and fearing lest any more of his men should be induced to try the fascinating effects of the Lotus, he immediately departed.

Pope has thus translated this account.

Three men were sent deputed from the crew,
(An Herald, one,) the dubious coast to view,
And learn what habitants possess'd the place,
They went, and found an hospitable race:
Not prone to ill, nor strange to foreign guest,
They eat, they drink, and nature gives the feast;
The trees around them all their food produce,
Lotus the name, divine nectareous juice!

(Thence call'd *Lotophagi*) which whoso tastes,
Insatiate riots in the sweet repasts,
Nor other home, nor other care intends,
But quits his house, his country, and his friends:
The three we sent from off th'enchancing ground
We dragg'd reluctant, and by force we bound:
The rest in haste forsook the pleasing shore,
Or, the charm tasted, had returned no more.

Odyssey Book ix.

Of July, Dr. Aikin says; the animal creation seem oppressed with languor during this hot season, and either seek the recesses of woods, or resort to pools and streams to cool their bodies, and quench their thirst.

On the grassy bank
Some ruminating lie; while others stand
Half in the flood, and often bending sip
The circling surface. In the middle droops

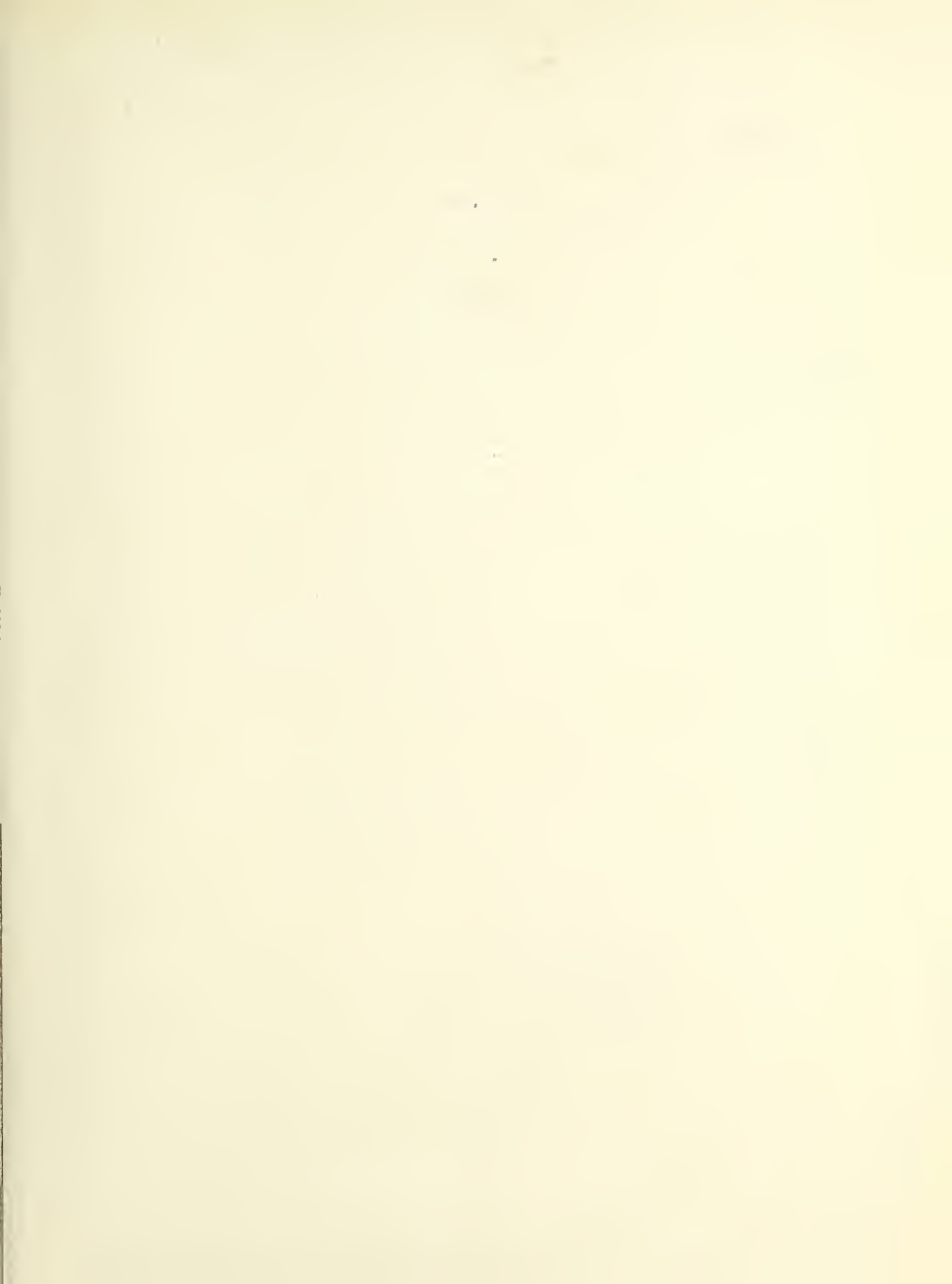
The strong laborious ox, of honest front,
Which incompas'd he shakes; and from his sides
The troublous insects lashes with his tail,
Returning still.

Thomson.

William Howitt thus describes some of the characteristics of this month.

Spring-flowers have given place to a very different class. Climbing plants mantle and festoon every hedge. The wild hop—the bryony—the clematis, or traveller's joy—the large white convolvulus, whose bold yet delicate flowers will display themselves to a very late period of the year—vetches, and white and yellow ladies' bed-straw, invest every bush with their varied beauty, and breathe on the passers by their faint summer sweetness. The *Campanula rotundifolia*, the hare-bell of poets and the blue-bell of botanists, arrests the eye on every dry bank, rock, and way side, with its hairy stems and beautiful cerulean bells. There too we behold wild scabiouses, mallows, the woody-nightshade, wood-betony, and centaury: the red and white striped convolvulus also throws its flowers under your feet; corn-fields glow with whole armies of scarlet poppies, cockle, and the rich azure plumes of the viper's bugloss; even thistles, the curse of Adam, diffuse a glow of beauty over waste and barren places. Some species, particularly the musk-thistle, are really noble plants, wearing their formidable arms, their silken vests, and their gorgeous crimson tufts of fragrant flowers issuing from a coronal of interwoven down and spines, with a grace which casts far into the shade many a favourite of the garden.

But whoever would taste all the sweetness of July, let him go, in pleasant company, if possible, into heaths and woods: it is there, in her uncultured haunts, that Summer now holds her court. The stern castle, the lowly convent, the deer, and the forester, have vanished thence many ages; yet nature still casts round the forest-lodge, the gnarled oak, and lonely mere, the same charms as ever. The most hot and sandy tracks, which we might naturally imagine, would now be parched up, are in full glory. The *Erica Tetralix*, or bell-heath, the most beautiful of our indigenous species, is now in bloom, and has converted the brown bosom of the waste into one wide sea of crimson; the air is charged with its honeyed odour: the dry elastic turf glows, not only with its flowers, but with those of the wild thyme, the clear blue milk-wort, the yellow asphodel, and that curious plant the sun-dew, with its drops of inexhaustible liquor parking in the fiercest sun like diamonds.





Roseda odorata.

RESEDA ODORATA.—THE MIGNIONETTE.

CLASS XI. DODECANDRIA.—ORDER III. TRIGYNIA.

NATURAL ORDER, RESEDACEÆ.—THE MIGNIONETTE TRIBE.

LEAVES lanceolate, bluntish, entire or trifid, calyx 6-parted, equal in length to the petals, which are finely cleft into many club-shaped divisions; the lowest two simple; capsules 3-toothed. Native of the North of Africa, Egypt, &c. Plant diffuse, with a few hairs on the stems. Flowers with yellowish-white petals and saffron anthers, disposed in loose racemes. The two upper petals and the two lateral ones are finely fringed, the two lower ones are very narrow. "The *Mignonette*," observes Mr. DOX, "is a well-known and universal favourite. The flowers are highly odoriferous, and there are very few to whom this odour is offensive. The plant in pots is in great demand in London for rooms and placing in balconies, and forms for these purposes, an extensive article of culture among florists and market gardeners. The seeds are either sown in pots, or transplanted into pots, 4 or 6 plants to a pot 4 inches in diameter. To obtain plants for flowering from December to February, a sowing should be made in July, in the open ground, and the plants potted in September. The crop for March, April, and May, should be sown in pots not later than the 25th of August; the plants from this sowing will not suffer from exposure to rain whilst they are young; they may however, be protected from early frosts, like the winter crops; they are to be thinned in November, leaving not more than 8 or 10 plants in a pot, and at the same time the pots should be sunk 3 or 4 inches in some old tan or coal-ashes, and should be covered with a frame, which it is best to place fronting the west, for then the lights may be left open in the evening, to catch the sun whenever it sets clear. The third, or spring crop, should be sown in pots, not later than the 25th of February. These must be placed in a frame, on a gentle heat; and as the heat declines, the pots must be let down three or four inches into the dung-bed, which will keep the roots moist, and prevent their leaves turning brown from the heat of the sun in April and May. The plants thus obtained, will be in perfection by the end of May, and be ready to succeed those raised by the autumnal sowing."

The Tree Mignonette should be propagated from seeds sown in spring; it may also be increased by cuttings, which strike root readily. The young plants should be potted singly into small pots, and brought forward by heat on a gentle hot-bed, but they will grow well without artificial heat. As they advance, they should be tied to a stick, taking care to prevent the growth of smaller side shoots, by pinching them off, but allowing the leaves of the main stem to remain on for a time. When they have attained the height of ten inches or more, according to the fancy of the cultivator, the shoots must be suffered to extend themselves from the top, but must be occasionally stopped at the ends, to force them to form a bushy head, which by the autumn will be eight or nine inches in diameter, and covered with bloom. Whilst the plants are attaining the proper size, they should be shifted progressively into larger pots, and may be ultimately left in those of about six inches in diameter at the top.

"The *Resedas*," says my brother in his outlines of Botany, "were used by the Romans as poultices to allay irritation, and, from their supposed influence in assuaging pain, their common generic designation has been derived. *R. luteola* is the dyer's weld, which was formerly in great esteem for imparting a beautiful yellow colour to cotton, linen, silk, and woollen goods. Blue cloths dipped in this dye-stuff become green; and it is from the weld that the yellow pigment called Dutch pink is made. This is one of the first plants which grows on the heaps of rubbish that are thrown out of coal-pits. Linnæus observed that the nodding spikes of *R. luteola* follow the course of the sun in their nutation, even when the day is cloudy, pointing eastward in the morning, south at noon, towards the west at sunset, and due north at night.

Reseda odorata is the mignonette, one of our most cherished and deservedly favorite domestic plants. It has not been introduced into this country more than three quarters of a century, but it quickly established itself in universal favor, and has been for some years cultivated most extensively in the environs of the metropolis; and, from the abundance in which it is supplied to the inhabitants of London, the streets are often rendered redolent with its fragrance. *R. arborescens*, the tree mignonette, is a variety which has been rendered suffruticose by preventing the early development of its blossoms. In France this variety is more encouraged than here, and instances are known in which the stems have become woody, and exceeded an inch in circumference."

We are indebted for the following passage, to the *Flora Domestica*:—

This plant is supposed to be an Egyptian, and to have been brought hither from the South of France, where it is called *reséda d'Egypte*, and *herbe d'amour* [love-flower.] A French appellation, derived from the Spanish, *minoneta*, prevails here over its classical one. It is a favourite plant, very fragrant, and has well justified this affectionate name, Mignonette, or Little-darling: its sweetness wins all hearts.

"The luxury of the pleasure-garden," says Mr. Curtis, "is greatly heightened by the delightful odour which this little plant diffuses; and as it grows more readily in pots, its fragrance may be conveyed into the house. Its perfume, though not so refreshing perhaps as that of the Sweet-briar, is not apt to offend the most delicate olfactories. It flowers from May to the commencement of winter."

People have not been satisfied, however, with growing this little darling in pots; it is more frequently seen cradled in the sunshine, in boxes the whole length of the window it is placed in.

— "the sashes fronted with a range
Of orange, myrtle, or the fragrant weed,
The Frenchman's darling."

Cooper.

The seeds may be sown in April, and will grow very well in the open air, although it will not flower so early as when raised in a hot-bed; they will, however, be much stronger. If sheltered in the winter, it will continue flowering most part of the year, but will not be so strong the second year as the first. It is generally an annual. The earth should be kept moderately moist.

During this month* Nature seems to experience a second spring. Several trees, particularly the oak and elm, put forth shoots and new leaves, enlivening the sombre woods. The hedges assume a lighter green; and if their leaves have been devoured in the spring by caterpillars, as is sometimes the case, they are now completely re clothed in the most delicate foliage. The ground already experiences the effect of the shortening days. The drought occasioned by the intense heat and long days of July has abated; cool nights, dews, and occasional showers restore the mown fields and sunburnt pastures to a degree of verdure, and reanimate the remaining flowers. The small blue campanula, wild scabious, blue chicory, the large white convolvulus, hawkweeds, and the *Calluna vulgaris*, or common heath, still adorn wastes, fields, and waysides. The pink-and-white convolvulus has been one of the chief ornaments of summer, flowering in the driest spots, where all around is brown from extreme drought, with cheerful beauty. A few clusters of honeysuckles may yet be seen, here and there, on the hedges. And the antirrhinum linaria, or common toad-flax, is in full flower in the thickets.

Linnaeus compares the perfumes of mignonette to those of ambrosia: and it is sweeter and more penetrating at the rising and setting of the sun than at noon.

The mignonette has found its way into the armorial bearings of an ancient Saxon family; and the following romantic story is said to have introduced this fragrant little flower to the Pursuivant at Arms;—

"The Count of Waltheim was the favoured aspirant for the hand of Amelia de Nordbourg, a young lady possessing all the charms requisite for the heroine of a modern novel, excepting that she delighted in exciting jealousy in the breast of her intended lord. As she was the only child of a widowed mother, a female cousin, possessing but little personal beauty, and still less fortune, had been brought up with her from infancy as a companion, and as a stimulus to her education. The humble and amiable Charlotte was too insignificant to attract much attention in the circles in which her gay cousin shone with so much splendour, which gave her frequent opportunities of imparting a portion of that instruction she had received to the more humble class of her own sex. Returning from one of these charitable visits, and entering the gay saloon of her aunt, where her exit or entrance was scarcely noticed, she found the party amusing themselves in selecting flowers, whilst the Count and the other beaux were to make verses on the choice of each of the ladies. Charlotte was requested to make her selection of a flower; the sprightly Amelia had taken a rose, others a carnation, a lily, or the flowers most likely to call forth a compliment; and the delicate idea of Charlotte, in selecting the most humble flower, by placing a sprig of mignonette in her bosom, would probably have passed unnoticed, had not the flirtation of her cousin with a dashing colonel, who was more celebrated for his conquests in the drawing-room than the battle-field, attracted the notice of the Count, so as to make his uneasiness visible, which the amiable Charlotte, ever studious of Amelia's real happiness, wished to amuse, and to call back the mind of her cousin, demanded the verse for the rose. The Count saw this affectionate trait in Charlotte's conduct, took out his pencil and wrote for the rose,

Elle ne vit qu'un jour, et ne plut qu'un moment,

which he gave to the gay daughter, at the same time presenting the humble cousin with this line on the mignonette:

Ses qualités surpassent ses charmes.

Amelia's pride was roused, and she retaliated by her attention to the colonel, which she carried so far as to throw herself into the power of a profligate, who brought her to ruin. The Count transferred his affections from beauty to amiability; and rejoicing in the exchange, and to commemorate the event which had brought about his happiness, and delivered him from a coquette, he added a branch of the sweet reseda to the ancient arms of his family, with the motto,

Your qualities surpass your charms."

* William Howitt's Book of the Seasons, (August,) p. 228.





Artocarpus incisa

ARTOCARPUS COMMUNIS OR INCISA.—THE BREAD FRUIT.

CLASS XXI. MONECIA.—ORDER XIX. MONIMIEÆ.

NATURAL ORDER, ARTOCARPEÆ.—THE BREAD-FRUIT TRIBE.

THE bread-fruit, originally found in the south-eastern parts of Asia and the islands of the Pacific, though now introduced into the tropical parts of the western continent, and the West India islands, is one of the most interesting, as well as singular productions of the vegetable kingdom. There are two species of it; the bread-fruit, properly so called (*Artocarpus incisa*,) with the leaves deeply gashed or divided at the sides, which grows chiefly in the islands; and the Jack fruit, or Jaca tree (*Artocarpus integrifolia*), with the leaves entire, which grows chiefly on the main land of Asia. The latter has been already noticed.

The bread-fruit is a beautiful as well as a useful tree: the trunk rises to the height of about forty feet, and, in a full grown tree, is from a foot to fifteen inches in diameter; the bark is ash-coloured, full of little chinks, and covered by small knobs; the inner bark is fibrous, and used in the manufacture of a sort of cloth; and the wood is smooth, soft, and of a yellow colour. The branches come out in a horizontal manner, the lowest ones about ten or twelve feet from the ground; and they become shorter and shorter as they are nearer the top: the leaves are divided into seven or nine lobes, about eighteen inches or two feet long, and are of a lively green. The tree bears male and female flowers, the males among the upper leaves, and the females at the extremities of the twigs. When full grown, the fruit is about nine inches long, heart-shaped, of a greenish colour, and marked with hexagonal warts, formed into facets. The pulp is white, partly farinaceous and partly fibrous; but, when quite ripe, it becomes yellow and juicy. The whole tree, when in a green state, abounds with a viscid milky juice, of so tenacious a nature as to be drawn out in threads.

In the island of Otaheite and other places, where the bread-fruit forms the chief support of the people, there are, as is the case with cultivated vegetables in all countries, many varieties; only two, however, are very different from each other—that which contains seeds in the fruit, and that which contains none. The variety with seeds is much inferior to the other, being more fibrous, containing less farina, and not so pleasant to the taste; it is therefore, not cultivated, though in cases of need, it is roasted and eaten. Whether the seedless sort has been produced wholly by cultivation it is not easy, and would not be of much importance, to ascertain; it is the one cultivated in the South Sea islands; it was originally found only there; and the tree was not in much repute till these islands were discovered.

The bread-fruit continues productive for about eight months of the year: such is its abundance, that two or three trees will suffice for a man's yearly supply, a store being made in a sour paste, called *mahe* in the islands, which is eaten during the unproductive season. The planting of the seedless variety is now saved, as the creeping roots send up suckers which soon grow to trees. When the fruit is roasted till the outside is charred, the pulp has a consistency not very unlike that of wheaten bread; and the taste is intermediate between that of bread and roasted chesnuts. It is said to be very nourishing, and is prepared in various ways.

The timber of the bread-fruit, though soft, is found useful in the construction of houses and boats; the male flowers, dried, serve for tinder; the juice answers for bird lime and glue; the leaves for packing and for towels; and the inner bark, beaten together, makes one species of the South Sea cloth.

The earliest account of the bread-fruit is by Captain Dampier, in 1688. "The bread-fruit" says this navigator, "grows on a large tree, as big and high as our largest apple trees; it hath a spreading head, full of branches, and dark leaves. The fruit grows on the boughs like apples; it is as big as a penny loaf, when

wheat is at five shillings the bushel; it is of a round shape, and hath a thick tough rind. When the fruit is ripe, it is yellow and soft, and the taste is sweet and pleasant. The natives of Guam use it for bread. They gather it when full grown, while it is green and hard; then they bake it in an oven which scorctheth the rind, and maketh it black; but they scrape off the outside black crust, and there remains a tender thin crust; and the inside is soft, tender, and white, like the crumb of a penny loaf. There is *neither seed nor stone* in the inside, but all of a pure substance, like bread. It must be eaten new, for, if it be kept above twenty-four hours, it grows harsh and choky, but it is very pleasant before it is too stale. This fruit lasts in season *eight months* in the year, during which the natives eat no other sort of bread kind. I did never see of this fruit anywhere but here. The natives told us, that there is plenty of this fruit growing on the rest of the Ladrone Islands; and I did never hear of it anywhere else."

The scientific men who accompanied Captain Cook in his voyages, came home with the most enthusiastic ideas of the bread-fruit. Dr. Solander calls it "the most useful vegetable in the world," and urges that no expense should be spared in its cultivation. The mere idea of bread, the most valuable food of man, growing spontaneously, was doubtless calculated to excite attention—almost, perhaps, as strongly as the subsequent description of the poet:—

"The bread-tree, which, without the ploughshare, yields
The unrep'd harvest of unfurrow'd fields,
And bakes its unadulterated loaves
Without a furnace, in unpurchased groves,
And flings off famine from its fertile breast,
A priceless market for the gathering guest."

The milk-like sap of these trees, affords a viscid substance resembling bird-lime or caoutchouc, which is used as a cement, and for stopping cracks in vessels designed for holding water. The broad leaves are employed to wrap up the fruit in, and also as plates, dishes, and napkins for the guests to wipe their hands on. The inner bark is beaten out into cloth, such as is common in the South Sea Islands, and more is made from this tree than from the paper mulberry. The timber which is light, is used for building boats and houses, and the stamineous catkins form a substitute for tinder.

"Towards the end of the month," says William Howitt in his account of August, "symptoms of the year's decline press upon our attention. The morning and evening air has an autumnal freshness; the hedge-fruit has acquired a tinge of ruddiness; the berries of the mountain-ash have assumed their beautiful orangy hue; and swallows twitter as they fly, or sit perched in a row upon a rail or the dead bough of a tree. The swift has taken its departure. That beautiful phenomenon, the white fog, is again beheld rolling its snowy billows along the valleys; the dark tops of trees emerging from it as from a flood."

As we gaze on the beauties of the lower world we may well say with the poet:—

"Oh good beyond compare!
If thus thy meaner works are fair,
If thus thy bounties gild the span
Of ruined earth and sinful man:
How glorious must that mansion be
Where thy redeemed shall dwell with thee!"



d

a

b

c

Ulmus campestris,

ULMUS CAMPESTRIS.—COMMON SMALL-LEAVED ELM.

CLASS V. PENTANDRIA.—ORDER II. DIGYNIA.

NATURAL ORDER, ULMACEÆ.—THE ELM TRIBE.

Fig. (a) represents a flower with its bractea magnified; (b) the styles; (c) the capsules; (d) *Scolytus destructor* of the natural size.

THE common small-leaved elm is generally understood to be indigenous to the south of England, though the fact has been doubted by Evelyn and others. Several superstitious customs were practised on this and other elm-trees by our Saxon ancestors. A canon of king Edgar, in the tenth century, may be thus literally translated. "We decree that every priest shall anxiously advance Christianity, entirely abolish all heathenism, and forbid tree-worship, divination with the dead, omens, charms with songs, man-worship, and many other illusions which are practised in asylums on elms, (hence perhaps the name Witch of Wych-Elm,) and on various other trees, by which many are perverted who ought not so to be." Dr. Hunter justly remarks, there can be no stronger proof of its being known at a very early period, than that many compound names of places, of which the word "elm" forms a part, are to be met with in "Doomsday Book," the drawing up of which was finished in 1086.

The small-leaved elm grows abundantly in the woods and hedges near London, flowering in April, long before the foliage expands. It is a lofty tree, sending off many round, spreading, crooked, leafy branches, and is covered with a rugged dark-brown bark. The leaves are elliptical, contracted toward each end, doubly serrated, and unequal at the base, they are very rough, wrinkled, and veined, stand alternately on footstalks, and are of a dark green colour. The flowers are small, and grow in numerous dense, round, dark-purple clusters, from the sides of the branches before the evolution of the leaves, each flower being nearly sessile, with an oblong fringed bractea at its base. The calyx is inferior, turbinate, wrinkled, permanent, and divided at the limb into four oblong obtuse segments of a pale brownish red colour. There is no corolla. The filaments are four or five, twice as long as the calyx, and bearing dark-purple anthers. The germen is oblong, compressed, and supports two styles, which bend outwards, and are terminated by the stigmas, which consist of a downy line along the upper surface of each style. The flowers are succeeded each by an oblong, wedge-shaped flat pale brown capsule, which has a deep sinus at the extremity, and incloses a single seed.

The elm attains a large size, and lives to a great age. Mention is made of one planted by Henry IV. of France, which was standing at the Luxemburg Gardens in Paris at the commencement of the French revolution. One at the upper end of Church-lane, Chelsea, (said to have been planted by Queen Elizabeth,) was felled in 1783. It was thirteen feet in circumference at the bottom, and one hundred and ten feet high. Mr. Coxe mentions an ancient elm at Raglan Castle, in Monmouthshire, which was twenty-eight feet five inches in circumference near the root. Piffes' elm, near the Boddington Oak, in the vale of Gloucester, was, in 1783, about eighty feet high, and the smallest girth of the principal trunk was sixteen feet. From the planting of Sir Francis Bacon's elms, in Gray's Inn Walk, in 1600, and their decay about 1720, one would be disposed to assign the healthy period of the elm to be about one hundred and twenty years. The health of these must have been, however, affected in some degree by the smoke of London. The superb avenue called the "Long Walk," at Windsor, was planted at the beginning of the last century. Most of the trees have evidently passed their prime. The most profitable age of elms, both for quantity and quality of timber, is supposed to be about fifty or sixty years. The predominance of resin insoluble in water, and not liable to be acted on by the atmospheric air, has been assigned as the cause why the pine and the larch are more durable than the silver fir and the spruce. "It is possible," says Miller, "that the elm is injured by too much humidity in the soil upon which it grows; and the Dutch elm, which is usually classed as a different species from the common elm, may be merely the common one debased in the humid soil of Holland."

The elm has been always considered as one of the trees which can be most safely transplanted after attaining a considerable size. Evelyn gives several accounts of this species being thus removed into other soils. In the year 1816, a much improved mode of transplanting this and other forest trees was introduced by Sir Henry Stewart, of Allanton, for an account of which we must refer our readers to his valuable work, "the Planter's Guide."

The *culture* of the elm is effected in different ways; as by seed, suckers, layers, and grafts. All the sorts and varieties are of hardy growth, and will succeed perfectly well in any common soil and exposure, but delight most in a deep rich earth of a stiffish loamy nature, which is rather inclined to moisture, the English sorts having the best situations and soil, and the Wych and Dutch kinds those which are inferior in these respects. The common small-leaved elm is of slower growth than our other wild species, with a harder, more durable, and consequently more valuable wood, which is preferred for most kinds of wheel-work, pipes for conducting water under the ground, pumps, coffins, and various other useful purposes.

The elm-tree is liable to be injured, and is sometimes entirely destroyed by a minute beetle, (*Scolytus destructor*), which, in its preparatory state of metamorphosis, feeds upon the soft inner bark. This insect, which inhabits the elms of France and Germany, as well as England, was particularly prevalent, and caused incalculable mischief in St. James's and Hyde Parks a few years ago. The leaves of the trees infested by the *scolytus* first became yellow, the trees themselves then die at the top, and ultimately altogether perish. "From March to September," says Mr. Curtis, "the female may be found upon the trunks of elm-trees, making her way through the bark; after which she proceeds between the bark and the wood; forming a passage, and depositing her eggs on each side in her course till she is exhausted, when she dies, and may generally be found at the extremity of the channel; when the eggs which are deposited being close to each other, hatch, larvæ beginning to feed, working nearly at right angles from the path of the parent, and proceeding almost parallel to each other."

In order to check the ravages occasioned by these formidable little animals, Mr. Macleay recommends the infected trees to be brushed over in March, with a mixture of tar and train oil, a certain height above ground, which will destroy the larvæ. An insect, similar in its economy, but belonging to a different genus, the *Bostrichus typographus* of Fabricius, and known in Germany under the name *Wurm trockeniss*, (decay caused by worms,) occasioned terrible devastation among the pines in the Hartz forest, about the year 1783.

QUALITIES AND CHEMICAL PROPERTIES.—The inner bark, which is the part used in medicine, has a yellowish colour, and a mucilaginous bitter astringent taste, without smell. The bark in the spring is most advantageously stripped from the small, but not from the smallest branches; and in autumn from the branching roots. The decoction, when evaporated, leaves a little semi-transparent substance, soluble in water, but insoluble in alcohol and ether, which Dr. Thomson, in his Dispensatory, regards as *ulmin*: or rather, as a peculiar modification of mucus, combined with extractive, gallic acid, and super-tartrate of potass. *Ulmin* is the name given to a peculiar substance which was discovered by the celebrated Klaproth, in the bark of the elm. It exists in the bark of almost all trees, but is generally obtained by spontaneous exudation from the elm. It may be prepared by acting on elm-bark by hot alcohol and cold water, and then digesting the residue in water which contains an alkaline carbonate in solution. In the solid state it has the appearance of gum. It has no taste, and is soluble, though sparingly, in water and alcohol. The alkaline carbonates dissolve it more abundantly, and it is precipitated from its solution in them by acids and metallic salts. Doberainer states, that gallic acid is converted into ulmin, by dissolving it in ammonia, and exposing the solution to oxygen gas. Ulmin has not hitherto been applied to any particular use.

MEDICAL PROPERTIES AND USES.—The decoction of elm-bark has been recommended in various cutaneous diseases; particularly of the herpetic and leprous kind. Banau recommends its use in chronic rheumatism, scrofulous affections, tinea capitis, scurvy, and in old inveterate ulcers. In Vol. II. of the Medical Transactions, five cases of inveterate eruptions are narrated by Dr. Lysons, as having been cured by this remedy, but it is doubtful whether adjuncts are not the chief causes of relief. Dr. Lettsom also cured what he supposed to be the *lepra ichthyosis* of Sauvages by it; but it is now fallen into disuse as a remedy of very little power. Probably, however, it deserves more extensive trials before being discarded from our materia medica. The Decoction (*Decoctio Ulmi* of the pharmacopeias) is made by boiling four ounces of the inner bark in four pints of water down to two pints. *Dose* from four to six or eight ounces twice a day.



Dianthus caryophyllus

DIANTHUS CARYOPHYLLUS.—THE CARNATION, OR CLOVE PINK.

CLASS X. DECANDRIA.—ORDER II. DIGYNIA.

NATURAL ORDER, CARYOPHYLLÆ.—THE CHICK-WEED TRIBE.

We are indebted to Mr. Don for the following account of the *Carnation*:—Stem branched; flowers solitary; calycine scales 4, very short, ovate, rather mucronate; petals very broad, beardless; leaves linear-awl-shaped, channelled, glaucous. *Æ. H.* Native of the south of France; in England on old ruinous walls, particularly on Rochester, Deal, Sandown, and other old castles, plentifully on walls in Norwich, and other old towns. Flowers from single to double, white, yellow, purple, and variegated, indeed of all colours, blue excepted.

Var. β, flore pleno; flowers double, called *Carnation*, Sims' Bot. Mag. t. 89.

The flowers of the *Clove* are very variable in size and colour, the double varieties of which are called *Carnations*, and the smaller flower of the latter are called *Picotees*.

D. caryophyllus is considered the source whence have sprung the numerous varieties of the *Carnation* and the *Picotee*. The *Carnation* seems to have been unknown to the ancients, at least in its cultivated state, not being mentioned by Pliny, or sung by any of the Roman poets. It has, however, been cultivated from time immemorial in Europe, and is in the highest favour for its beauty and rich spicy odour. It is the principal florist's flower in Germany and Italy, from which countries the British florists procure their best *Carnation* seed, and also some esteemed varieties. The varieties amounted nearly to 400 named sorts in the beginning of the eighteenth century, and the number has not since diminished. They are arranged in three classes, *flakes*, *bizarres* and *picotees*. *Flakes* have two colours only, and their stripes large, going quite through the leaves of the flower. *Bizarres*, (Fr. odd, irregular,) are variegated in irregular spots and stripes, and with no less than three colours. Scarlet, Purple, and Pink, are the three colours most predominant in *Carnation*, the two first are seldom to be met with in the same flower, but the two last are very frequently. New varieties are procured from seeds, and thousands of seedlings are annually blown by florists and amateurs, sometimes without one being found worth keeping. Established or approved varieties are continued by layering or cuttings, or as they are commonly called pipings. The soil in which the *Carnation* thrives best is a rich loam rather sandy than otherwise; the climate should be free from extremes of every kind, for which reason they are commonly grown in pots, and protected by a frame during winter, and covered by an awning while in bloom. *Carnations* grow exceedingly well in beds of properly prepared soil, over which frames are placed in winter, and an awning of canvas or bunting when the plants are in blossom.

I remember a naturalist says, "The principal flower in a bouquet was a carnation, the fragrance of which led me to enjoy it frequently and near, while the ear was constantly assailed by an extremely soft but agreeable murmuring sound. I instantly distended the lower part of the flower, and, placing it in a full light, could discover, by a glass, troops of little insects frisking and capering with wild jollity among the narrow pedestals that supported its leaves, and the little threads that occupied its centre. What a fragrant world for their habitation! What a perfect security from all annoyance in the deep husk that surrounded their scene of action!

The microscope, on this occasion, had given what nature seemed to have denied to the objects contemplated. The base of the flower extended itself to a vast plain, the slender stems of the leaves became trunks of so many stately cedars, the threads in the middle seemed columns of massy structure, supporting at the top their several ornaments; and the narrow spaces between were enlarged into walks, parterres, and terraces.

On the polished bottom of these, brighter than Parian marble, walked alone, in pairs, or in large companies, the winged inhabitants, stained with living purple, and with a glossy gold that would have made all the labours of the loom contemptible in the comparison. There were the perfumed groves, the more than myrtle shades of the poet's fancy; here the happy creatures spent their days in sportive gaiety; or, in the triumph of their little hearts, skipped after one another from stem to stem among the trees, or winged their flight to the close shadow of some broader leaf, to revel undisturbed in the heights of felicity.

The *Carnations*, *Maiden-pinks*, &c. have been celebrated both for their beauty and fragrance; in the latter they are equalled by few plants, exceeded perhaps by none. As the rose for her beauty, the nightingale for his song, so is the pink noted for its sweetness.

"And the pink of smell divinest,"

is seldom or never forgotten when the poets would celebrate the charms of Flora;

"The brave carnation then, with sweet and sovereign power,
(So of his colour called, although a July-flower.)
With th' other of his kind, the speckled and the pale;
Then th' odoriferous pink, that sends forth such a gale
Of sweetness: yet in scents is various as in sorts,
The purple violet then the pansie there supports;

Spenser's works are continually sprinkled with them: both Milton and Shakespear have done them honour:

"PER. Sir, the year growing ancient,—
Nor yet on summer's death, nor on the birth
Of trembling winter,—the fairest flowers o' the season
Are our carnations, and streaked gillyflowers,
Which some call nature's bastards: of that kind
Our rustic garden's barren; and I care not
To get slips of them.

POL. Wherefore gentle maiden,
Do you neglect them?

Spenser continually speaks of this flower by the name of Sops-in-wine. Drayton also uses this name for them;

"Sweet-Williams, champions, sops-in-wine,
And Ben Jonson:

"Bring corn-flag, tulip, and Adonis-flower;
Fair ox-eye, goldy-locks and columbine;
Pinks, goulds, king-cups, and sweet sops-in-wine;
Blue hare-bells, paigles, pansies, calaminth,

This term seems to have been confined to a particular variety, since Drayton distinctly mentions the Carnation, the Pink, Sweet-William, and Sops-in-wine.

It has been observed that the word *Dianthus* signifies Jove's flower; but in English the name is generally confined to the Pink, commonly so called; which gives occasion to Cowley to make a facetious remark upon the distinction.

"Sweet-William small has form and aspect bright,
Like that sweet flower that yields great Jove delight;
Had he majestic bulk, he'd now be styled
Jove's flower: and if my skill is not beguiled,
He was Jove's flower when Jove was but a child.

The mary-gold above t' adorn the arched bar:
The doubled daisy thrift, the button bachelor,
Sweet-William, sops in wine, the campion, and to these,
Some lavender they put, with rosemary and bays."

PER. For I have heard it said,
There is an art, which, in their piedness, shares
With great creating nature.
POL. Say there be,
Yet nature is made better by no mean,
But nature makes that mean."

Winter's Tale, Act iv, Scene iii.

One by another neatly."

Flower-gentle, and the fair-haired hyacinth:
Bring rich carnations, flower-de-luces, lilies,
Bright crown imperial," &c.

Take him with many flowers in one conferr'd,
He's worthy Jove e'en now he has a beard."

Cowley on Plants, Book iv.

Criterion of a fine double Carnation.—The stem should be strong, tall, and straight; not less than 30 inches or more than 45 inches high; the footstalks supporting the flowers should be strong elastic, and of a proportionate length. The flower should be at least 3 inches in diameter, consisting of a great number of large, well-formed petals, but neither so many as to give it too full and crowded an appearance, nor so few as to make it appear thin and empty. The petals should be long, broad, and substantial, particularly those of the lower or outer circle, commonly called the guard leaves, these should rise perpendicular about half an inch above the calyx, and then turn off gracefully in an horizontal direction, supporting the interior petals, and altogether forming a convex and nearly hemispherical corolla. The interior petals should rather decrease in size as they approach the centre of the flower, which should be well filled with them. The petals should be regularly disposed alike on every side, imbricating each other in such a manner as that both their respective and united beauties may captivate the eye at the same instant; they should be nearly flat, however, a small degree of concavity or inflection at the broad end is allowable, but their edges should be perfectly entire, that is to say, free from fringe or indenture. The calyx should be at least one inch in length, terminating in broad points sufficiently strong to hold the narrow bases of the petals, in a close and circular body. Whatever colours the flowers may be possessed of, they should be perfectly distinct, and disposed in long, regular stripes, broadest at the edge of the lamina, and gradually becoming narrower as they approach the unguis or base of the petal, there terminating in a fine point. Each petal should have a due proportion of white; *i. e.* one half or nearly so, which should be perfectly clear and free from spots.



FUCHSIA FULGENS.—THE SHINING FUCHSIA.

CLASS VIII. OCTANDRIA.—ORDER I. MONOGYNIA.

NATURAL ORDER, ONAGRARIÆ.—THE EVENING PRIMROSE TRIBE.

FUCHSIA FULGENS. Branches glabrous; leaves opposite, petiolate, ovate, cordate, acute, denticulated, glabrous; pedicels axillary, shorter than the flowers, upper ones racemose; lobes of calyx ovate lanceolate, acute, exceeding the petals, which are acutish. Native of Mexico. Branches and pedicels red. Flowers reddish scarlet, 2 inches long. Racemes drooping at the apex.

This most beautiful plant was named *Fuchsia* in honour of Leonard Fuchs, a celebrated German botanist, author of *Historia Stirpium* in 1542. It now flowers in the open air, and should always be kept moist. The *fuchsia* is an elegant plant for the drawing-room or study.

Although it is true, (says the author of the *Flora Domestica*), that in and near London plants will not thrive so well as in a purer air, yet persons who are condemned to a town life, will do well to obtain whatever substitute for a garden as may be in their power, for there is confessedly no greater folly than that of refusing all pleasure, because we cannot have all we desire.

A lover of flowers, who cannot have a garden or a greenhouse, will gladly cherish anything that has the aspect of a green leaf.

—“These serve him with a hint
That nature lives; that sight-refreshing green
Is still the livery she delights to wear,
Though sickly samples of th'exuberant whole.
What are the casements lined with creeping herbs,
The prouder sashes fronted with a range
Of orange, myrtle, or the fragrant weed
The Frenchman's darling? Arc they not all proofs,
That man immersed in cities, still retains
His inborn, inextinguishable thirst
Of rural scenes, compensating his loss
By supplemental shifts, the best he may?”—COWPER.

The glory of October, however, (says Mr. Howitt,) is the gorgeous splendour of wood-scenery. Woods have in all ages vividly impressed the human mind; they possess a majesty and sublimity which strike and charm the eye. Their silence and obscurity affect the imagination with a meditative awe. They soothe the spirit by their grateful seclusion, and delight it by glimpses of their wild inhabitants, by their novel cries, and by odours and beautiful phenomena peculiar to themselves. This may be more particularly applied to our own woods, woods comparatively reclaimed; but in less populous and cultivated countries they possess a far more wild and gloomy character. The abodes of banditti, of wild beasts and deadly reptiles, they truly merit the epithet of “salvage woods,” which Spenser has bestowed upon them. In remote ages their fearful solitudes and ever-brooding shadows fostered superstition and peopled them with satyrs, fauns, dryads, hamadryads, and innumerable spirits of dubious natures. The same cause consecrated them to religious rites; it was from the mighty and ancient oak of Dodona that the earliest oracles of Greece were pronounced. The Syrians had their groves dedicated to Baal, and Ashtaroth the queen of Heaven, and infected the Israelites with their idolatrous customs. In the heart of woods the Druid cut down the bough of mistletoe, and performed the horrible ceremonies of his religion. The philosophers of Greece resorted to groves, as schools the most august and benefiting the delivery of their sublime precepts. In the depths of woods did anchorites seek to forget the world, and to prepare their hearts for the purity of heaven. To lovers and poets they have ever been favourite haunts; and the poets, by making them the scenes and subjects of their most beautiful fictions and descriptions, have added to their native charms a thousand delightful associations.

Ariosto, Tasso, Spenser, Shakspeare, and Milton, have sanctified them to the hearts of all generations. What a world of magnificent creations comes swarming upon the memory as we wander in woods! The gallant knights and beautiful dames, the magical castles and hippogriffs of the Orlando; the enchanted forest, the Armida and Erminia of the Jerusalem Liberata; "Fair Una with her milk white lamb," and all the satyrs, Archimages, the fair Florimels and false Ducssas of the Faery Queene; Ariel and Caliban, Jaques and his motley fool in Arden, the fairies of the Midsummer-Nights' Dream, Oberon, Titania, and that pleasantest of all mischief-makers, ineffable Puck, the noble spirit of the immortal Comus. With such company, woods are to us anything but solitudes—they are populous and inexhaustible worlds, were creatures that mock the grasp but not the mind, a matchless phantasmagoria, flit before us; alternately make us merry with their pleasant follies, delight us with their romantic grandeur and beauty, and elevate our hearts with their sublime sentiments. What wisdom do we learn in the world that they do not teach us better! What music do we hear like that which bursts from the pipes of the universal Pan, or comes from some viewless source with the Æolian melodies of Faery-land? Whatever woods have been to all ages, to all descriptions of superior mind, to all the sages and poets of the past world, they are to us. We have the varied whole of their sentiments, feelings, and fancies, bequeathed as an immortal legacy, and combined and concentrated for our gratification and advantage; besides the innumerable pleasures which modern art has thrown to the accumulated wealth of all antiquity. Botany has introduced us to a more intimate acquaintance with the names and characters, and with something also of the physical economy, of both "the trees of the wood" and of the smallest plants which flourish at their feet; so that wherever we cast our eyes, we behold matter for both admiration and research.

What can be more beautiful than trees? their lofty trunks august in their simplicity, asserting to the most inexperienced eye their infinite superiority over the imitative pillars of man's pride! their graceful play of wide-spreading branches! and all the delicate and glorious machinery of buds, leaves, flowers and fruit, that with more than magical effect burst forth, from naked and rigid twigs, with all the rich and brilliant, and unimaginably varied colours under heaven; breathing delectable odours, pure, and fresh, and animating; pouring out spices and medicinal essences; and making music, from the softest and the most melancholy under tones to the full organ-peal of the tempest. I wonder not that trees have commanded the admiration of men in all nations and periods of the world. What is the richest country without trees? What barren and monotonous spot can they not convert into a paradise? Xerxes, in the midst of his ambitious enterprise, stopped his vast army to contemplate the beauty of a tree. Cicero, from the throng, and exertion, and anxiety of the Forum, was accustomed, Pliny tells us, to steal forth to a grove of palm-trees, to refresh and invigorate his spirit. In the Scaplan Groves, the same author adds, Thucydides was supposed to have composed his noble histories. The Greek and Roman classics, indeed, abound with expressions of admiration of trees and woods, and with customs which have originated in that admiration; but above all, as the Bible surpasses, in the splendour and majesty of its poetry, all books in the world, so is its silver and arborescent imagery the most bold and beautiful. Beneath some spreading tree are the ancient patriarchs revealed to us sitting in contemplation, or receiving the visits of angels; and what a calm and dignified picture of primeval life is presented to our imagination, at the mention of Deborah, the wife of Lapidoth, judging the twelve tribes of Israel, between Ramah and Bethel, in Mount Ephraim, beneath the palm-tree of Deborah! The oaks of Bashan, and the cedars of Lebanon, are but other and better names for glory and power. The vine, the olive, and the fig-tree are made imperishable symbols of peace, plenty, and festivity. David in his psalms, Solomon in his songs and proverbs, the Prophets in the sublime outpourings of their awful inspiration, and Christ in his parables—those most beautiful and perfect of all allegories—luxuriate in signs and similes drawn from the fair trees of the East.

Who has walked in woods, that has not felt them become to him as superb temples, filling him with a desire:—

To contemplate and worship Him whose mind
 Stirs in the stilly night-like solitude,
 Or breathes in whispers, on the gentle wind,
 Through vast cathedral groves, and leaves a calm behind.——MILLHOUSE.



Mitreia Cardamomum?

ALPINIA VEL MATONIA CARDAMOMUM.

THE LESSER OR MALABAR CARDAMOM.

CLASS I. MONANDRIA.—ORDER I. MONOGYNIA.

NATURAL ORDER, SCITAMINEÆ.—THE GINGER TRIBE.

Fig. (a) the partial panicle with its germ and flower viewed in front; Fig. (b) the cardamom pod.

THE Lesser or Malabar Cardamom has a whitish perennial, annulated, tuberous root, sending off many long slender fibres. The cultivated plant does not flower till it is four years old. The stems which emerge from the root, are tuberous, clubbed, and jointed at the base for two or three inches; the lower part giving out viviparous shoots, the upper part panicles. They are erect, and tapering as the continued sheaths send off the leaves; when in bearing, they are from six to ten feet high, and from eight and twelve to thirty in number, smooth, with varying shades of glossy green, and pale at the base; which distinguishes this species from a congener frequent on the same site, but with a red or fuscous base. The leaves are alternate and sheathing, elliptic-lanceolate, pointed, from nine inches to two feet and a half long, and from one to five inches broad, spreading, dark green, smooth, entire, pale sea-green beneath, and glossy above, with a silky softness. The midrib of the leaf on the upper surface is channelled, on the under keeled. The flowers are in panicles, which issue laterally from the tuberous jointed base of each stem near the root. The panicles are much branched, jointed, a span long, smooth, many-flowered, and spread horizontally on the ground. The bracteas are alternate, ovate, oblong, acute, at the base of each partial stalk, withering; the partial ones solitary, tubular, closely embracing the germen and calyx, almost as long as the latter, and resembling it in shape, but deciduous. The calyx is monophyllous, double, tubular, cylindrical, and 2 or 3-cleft at the margin. The corolla is monopetalous, and funnel-shaped; tube longer than the calyx, cylindrical, slender, curved; outer limb in three equal, oblong, recurved segments, inner a somewhat obovate, large, notched crenate, undivided lip, with a short claw. The filament is stout, erect, with a lanceolate, acute, horizontal lobe, simply notched at the summit, without any crest or extension beyond the anther, which consists of two oblong, distant lobes, about half the length of the filament. The germen is inferior, nearly globular, having a slender thread-shaped style lying close to the filament between the lobes of the anther, and bearing a funnel-shaped, obtusely triangular stigma. The capsule is 3-celled, with three carious valves; when fresh it is fleshy, smooth, elliptic-oblong, or somewhat ovate, but becoming bluntly triangular, coriaceous and pale brown, when dried. The seeds are numerous, roundish, somewhat angular, rough, each enveloped in a fine membranous evanescent tunic. The receptacle is central, shorter than the capsule, when dry, and originally connected with the central ridge of the valve.

The Cardamom Farms.—“The spots chosen for these,” says Mr. White, “called in the Malabar language *Ela-Kandy*, literally signifying Cardamom plots, are either level or gentle sloping surfaces on the highest range of the Ghâts, after passing the first declivity from their base. The extent of climate hitherto known in Malabar to produce them, lies between 11° and 12° 30' north latitude, or thereabouts.

“The months of February and March, are, on account of the prevailing dry weather, selected by the cultivators as the most proper for commencing their labours, the first part of which consists in cutting down the large and small trees pronisuously, leaving of the former, standing at nearly equal distances, certain tall and stately individuals, adapted to afford that degree of perpendicular shade which experience teaches them to be most favourable for the future crops. The grass and weeds are then cleared away, and the ground disencumbered from the roots of the brushwood; the large trees lie where they fall; the shrubs, roots, and grass are piled up in different small heaps, and their spontaneous and gradual decomposition fertilizes the space they cover.

“The size of the *Ela-Kandy* is various. The largest Mr. White saw among fifty did not exceed sixty yards in diameter. Their form varies likewise, very commonly oblong or oval, but sometimes irregularly rounded. The variety in these respects is chiefly owing to the convenience of the standard or permanent trees for shade. Those with lofty, straight stems, extensive heads, and those that are in an adolescent state, and known to be long-lived, are preferred for this purpose, and left standing at fifteen or twenty yards from each other. Much more diminutive plots are also cultivated by a race of Hill people called *Kovvchara* and *Cadara*, who are not exactly slaves, but locally attached, and acknowledging certain obligations of a feudal, and perhaps reciprocal kind, to the Nairs in the neighbourhood.

“After the operations now described, no further labour is bestowed for four years. At the revolution of the fourth rainy season, and towards its close, they look for a crop, and their hopes are rarely disappointed;

this first effort of nature is generally scanty: for instance, only one half of what is reaped the following year, and only one-fourth of what is yielded after the sixth rains, at which period the plant has reached its acme of prolific vigour. Now and then, however, this routine is interrupted, and its progress protracted, by causes of which they are not very solicitous to investigate the nature; they remark, however, excessive and interrupted rains to be one source of failure."

Mr. White, to whom we are indebted for the preceding account of the natural history of this plant and its cultivation, under the name of *Anomum Cardamomum*, in Trans. of Lin. Soc. vol. x. speaks of the seed as amongst the most important articles in modern luxury, and as "a grateful and salubrious necessary of diet." Its general use in Asia, indeed, renders the plant a very important and profitable object of culture, though the harvest, occurring at the most unhealthy season, is not unattended by serious dangers. Fevers, fluxes, the bite of innumerable minute leeches, (*Hirudo geometra*), and the instantly fatal sting of the whipsnake, are mentioned as not uncommon mischiefs; to which is added the caustic quality of a shrubby plant, called by the native *Mouricha*, whose botanical characters have not been ascertained, but whose leaves produce dangerous and sometimes fatal ulcers of the skin. The profit of the Cardamom farms, however, is so considerable as to overcome all difficulties in their cultivation, and Mr. White thinks they might easily be greatly extended.

What the cardamom of the ancients was, it is now scarcely possible to determine. It is extremely probable, however, as Dr. Maton justly observes, that the article bearing that name in their materia medica, was not the common cardamom of our shops. The plant producing it was not satisfactorily made known, until the publication of the *Hortus Malabaricus*, in which the delineation of it is sufficiently striking. From the mistake made by Burmann, in referring to Bontius's Java (p. 126) for the true cardamom, appears to have originated the erroneous description and discordant references, on the subject of the cardamom in the works of Linnæus; the latter illustrious author having confounded the Javanese cardamom, *Anomum compactum* of Solander, with that of Malabar. In Java the plant grows wild in the woods, and is there called *kápaliyá*, but its produce is much inferior to that of the Malabar cardamom. The plant is a native of Sumatra and other islands to the eastward of the bay of Bengal, and was sent, according to Dr. Roxburgh, (*Flora Indica*, p. 37,) to the botanical garden at Calcutta, where it blossoms in April. Dr. Francis Hamilton, in his Account of the Kingdom of Nepal, mentions a large fruited species of cardamom (*Anomum*?) which he found growing there, hitherto undescribed by botanists. The plant producing the greater cardamom seeds of commerce or Grains of Paradise, is the *Anomum Grana Paradisi* of Linnæus.

The official cardamoms are brought to this country from Bengal in cases, each containing about 120lbs weight. The seeds are dried and imported in their capsules, by which their flavour is better preserved.

QUALITIES.—These seeds have an extremely grateful aromatic odour, and a warm pungent taste. They communicate all their virtues to alcohol and ether, and nearly so to water. In distillation they afford an essential oil, which is pungent to the taste, and in this seems to reside all the active qualities. The watery infusion has a turbid appearance, and lets fall a flocculent precipitate, on the addition of alcohol, the acids, solutions of sulphate of iron, muriate of mercury, and acetate of lead; but the sulphate of iron does not alter its colour. The alcoholic tincture is rendered milky by water. The ethereal has a yellowish green hue, and, when evaporated on the surface of water, leaves neither resin nor extractive, but a considerable portion of essential oil, which has the flavour and taste of the seeds in perfection. Cardamoms, therefore, seem to be entirely composed of fecula, mucus, and essential oil.

MEDICAL PROPERTIES AND USES.—Cardamom seeds have been long employed in medicine as a valuable cordial, carminative, and stomachic. They afford a grateful warm aromatic, less heating and stimulant than many of the other species, and are, perhaps, on this account better adapted for general use. They enter into several of the official preparations, and are frequently combined with bitters in dyspeptic cases, or with purgatives, to obviate flatulence and griping. In India these seeds are highly prized as an agreeable condiment, and their use as such is so universal, that they are now regarded as a necessary of life by most of the natives of Asia.

There are two tinctures of cardamoms in the British pharmacopœia, viz. a simple and a compound tincture; the first named, *Tinctura Cardamomi*, prepared by digesting for eight days three ounces of the bruised seeds in two pints of proof spirit. It possesses all the virtues of the seeds, and may be given in doses of one drachm to three. The other, named *Tinctura Cardamomi composita*, (formerly called *Tinctura stomachica*), prepared by digesting for fourteen days two drachms of the cardamom seeds, two drachms of caraway seeds, two drams of cochineal, half an ounce of cinnamon, and four ounces of stoned raisins, in two pints of proof spirit. It would be an improvement in this preparation, as Dr. R. Pearson justly observes, if the proportion of cardamom seeds were increased, and if, instead of four ounces of raisins, one ounce of pulverized sugar-candy were to be added, after the digestion is over. Both these tinctures are often ordered in stomachic infusions, and joined with ether, opium, and other antispasmodics, and in gouty and spasmodic affections of the stomach. Among all the aromatics," says Dr. Parr, "there are none that answer so well, in general, as this simple tincture, for rendering mineral waters and other saline solutions easy and agreeable to the stomach."

DOSE.—The dose in powder is from grs. v. to ℥i.



Dahlia

DAHLIA.—THE DAHLIA.

CLASS XXII. DICECIA.—ORDER I. MONANDRIA.

NATURAL ORDER, HAMELIDEÆ.—THE WITCH-HAZEL TRIBE.

THE Dahlia* is a small genus of Composite flowers, of which three species only are known, all natives of Mexico. *D. variabilis* itself is, in its wild state, a bushy herbaceous plant, seven or eight feet high, with single purple or lilac flowers, and is by no means remarkable for its beauty. In cultivation, however, it is so readily improved in size and form, and sports into such endless varieties in stature, leaves and flowers, that it has become the most extensively cultivated florist's plant of the present day. Its innumerable sorts are the glory of our gardens in the autumn, and are quite unrivalled at that season of the year: they are, however, destroyed by the earliest frosts. Each season produces its favourite varieties, and these are in their turn eclipsed by others of a newer or a choicer form. For those that are most in vogue the nursery-men's lists must be consulted, for their's is but a fleeting reputation. The Dahlia was named in honour of Dahl, a Swedish botanist, and the following account of its introduction is to be found in the Transactions of the Horticultural Society, by R. A. Salisbury, Esq., April 8th, 1808. "No flowers which have been lately introduced into the gardens of this island are more showy than the Dahlias; and they possess the additional merit of being produced at a season when most others are decaying; and by a little management these plants may be made to blossom early. The first account I am able to trace of these plants which are natives of Mexico, is in *Hernandez'* History of that country, published in 1661. The first species, *Dahlia Sambucifolia* was introduced into this country by the Right Honourable Lady Holland, who sent seeds from MADRID in MAY, 1804, which have produced all the varieties. Though the seeds arrived so late in this country several of them flowered the succeeding autumn at HOLLAND HOUSE, by the constant attention of Mr. Buonanti in pressing out the moisture, which is collected among the florets after the calyx closes; a number of seeds were ripened in 1805, and some of these were liberally communicated to me in April, 1806. I had no opportunity of sowing them till May, when they were put into pots of light rich earth, plunged to their rims in a bed of dung, which had nearly lost its heat, having been made two months. A dozen plants soon came up, and on the first of June, being about 5 inches high as well as stiff, from throwing down the glasses in the day-time, were transplanted into separate pots of 2½ inches diameter. The two strongest were then removed without breaking any of their fibres into larger pots of very rich mould, and five into pots a size larger, of poor sandy mould; all of those plants were twice more transplanted into somewhat larger pots before the tenth of August, by which time the two largest were four feet high, and the others not much shorter, though less branched; they were all removed from the hot-bed frame, having been exposed to the open air both night and day, the last month. They all grew rapidly in August and September, but I despaired of seeing any flowers till the middle of the latter month, when almost every branch terminated in a flower; the first of which opened on the 7th of October. All the plants ripened seeds more or less, and were suffered to remain in the ground with their decaying stems uncut till a frost, which was severe enough to freeze the borders, an inch deep. M. Thierry Menonville, in the interesting detail of his journey to Guazaca, published in 1778, is the next author, who to the best of my knowledge has noticed any species of Dahlia. It is well known that this botanist was employed by the French Minister, to steal the *Cochineal Insect* from the Spaniards. In this dangerous mission, he tells us, that having entered one of the gardens in the suburbs of that city, adjoining to a plantation of *Nopals* upon which the insect feeds, he was struck with the beauty "d'une Astere violette et double, aussi grande que celles de France, mais produite par un arbuste très semblable pour les feuilles pinnées à notre sureau." From the violet colour of the flower, I am inclined to think that this is the species which I have called "*Dahlia Sphondyliifolia*."—"The roots (says my brother in his outlines of botany) of the Dahlia, although fleshy, and abounding in farina, have so disagreeable a flavour as not to be esculent; but their splendid

* The species which we have represented is termed *rouge et noir*.

blossoms make amends for their unsavory roots." A mixture of loam and sand is a good soil for this shrub ; young cuttings will root readily in sand under a hand glass.

In the language of flowers, Dahlia stands for *Instability*. And flowers do speak a language, a clear and intelligible language: ask Mr. Wordsworth, for to him they have spoken, until they excited "thoughts that lie too deep for tears;" ask Chaucer, for he held companionship with them in the meadows ; ask any of the poets, ancient or modern. Observe them reader, love them ; linger over them ; and ask your own heart if they do not speak affection, benevolence, and piety. The eloquence of flowers is not perhaps so generally understood in this country as it might be, but Mr. Bowring scarcely does us justice in the following observations :—

"In the Peninsula the wildest flowers are the sweetest. There are hedges of myrtles, geraniums and pomegranates, and towering aloes. The sun-flower and the bloody warrior (*Aleli grosero*) occupy the parterre : they are no favourites of mine. Flowers ! what a hundred associations the word brings to my mind ! Of what countless songs, sweet and sacred, delicate and divine, are they the subject ! A flower in England is something to the botanist,—but only if it be rare ; to the florist,—but only if it be beautiful: even the poet and the moralizer seldom bend down to its eloquent silence. The peasant never utters to it an ejaculation—the ploughman (all but one) carelessly tears it up with his share—no maiden thinks of wreathing it—no youth aspires to wear it: But in Spain, ten to one but it becomes a minister to love, that it hears the voice of poetry, that it crowns the brow of beauty. Thus how sweetly an anonymous cancionero sings :—

"Put on your brightest richest dress,
Wear all your gems, blest vale of ours !
My fair one comes in her loveliness,
She comes to gather flowers.

"Garland me wreaths, thou fertile vale ;
Woods of green your coronets bring ;
Pinks of red, and lilies pale,
Come with your fragrant offering.
Mingle your charms of hue and smell,
Which Flora wakes in her spring tide hours !
My fair one comes across the dell,
She comes to gather flowers.

"Twilight of morn ! from thy misty tower
Scatter the trembling pearls around,
Hang up thy gems on fruit and flower,
Bespangle the dewy ground !
Phœbus, rest on thy ruby wheels—
Look, and envy this world of ours ;
For my fair one now descends the hills
She comes to gather flowers.

"List ! for the breeze on wings serene
Through the light foliage sails ;
Hidden amidst the forest green
Warble the nightingales !
Hailing the glorious birth of day
With music's best, divinest powers,
Hither my fair one bends her way,
She comes to gather flowers."

London Magazine, Spanish Romances.

For the most part of our countrymen, I fear they do not allow themselves leisure to admire or enjoy the beauties of nature ; yet it cannot be said that they are utterly insensible to them ; for with regard to flowers at least, we may observe, that on Sundays every village beau, nay, every straggling townsman who comes on that day within reach of a flower, has one in his button hole.



Onus europea?

FRAXINUS ORNUS, VEL ORNUS EUROPÆA.—MANNA, OR FLOWERING ASH.

CLASS XXIII. POLYGAMIA.—ORDER II. DICECIA.

NATURAL ORDER, OLEACEÆ.—THE OLIVE TRIBE.

FIG. (a) A flower separate, to shew its four discrete petals and two stamens. FIG. (b) The samaroid fruit.

THIS tree, which greatly resembles our common ash, is a native of the warmest parts of Europe. It grows abundantly in Calabria, Sicily, and on the highest and most rocky mountains of Greece, and is one of the most elegant trees that adorn our lawns and pleasure-grounds; flowering in May and June.

The *Ornus Europæa* is a low tree, very much branched, and covered with a smooth grey bark. The leaves, which are smaller than those of the common ash, stand upon longish, channelled footstalks; are opposite, pinnate, and composed of several pairs of leaflets, with a terminal one; the leaflets are opposite, about an inch and a half long, and three-fourths broad, of an oblong shape, pointed at each end, unequally serrated, smooth, and of a bright green colour. The flowers are produced in loose panicles at the extremities of the branches, flowerstalks are suprade-compound, and scarcely the length of the leaves. The segments of the calyx are ovate; the corolla consists of four oblong, linear, pointed petals; the filaments are two, spreading, and supporting large yellow incumbent anthers; the germen is oval, with a very short style, and a notched stigma. The capsules are pendulous and compressed, and usually contain a single lanceolate cylindrical dark brown seed.

Manna is yielded by trees of different families, for although we are principally indebted to four species of ash, *F. ornus*; *F. rotundifolia*; *F. excelsior*; and *F. parviflora*; the larch, fir, orange, walnut, willow, mulberry, and the oak, also produce it. At Briançon, in France, manna is said to be collected from all sorts of shrubs; and the inhabitants observe that such summers as produce it in the greatest quantities, are very fatal to the plants. Their walnut-trees produce annually a considerable quantity; but if they happen to yield more than ordinary, they usually perish the following winter. From this it appears evident that manna is the extravasated juice of trees, and that they cannot afford to lose it; and what confirms this idea, is their secreting so much more when the summers are hot. The ancients were accustomed to find it on different species of trees; and therefore inferred that it was something wholly foreign to the tree: an error very easily embraced by those who were not aware that the nutritive juices of trees are nearly, if not wholly, the same.

"The Manna tree, (*Ornus Europæa*, vel *Fraxinus Ornus*)," says Prof. Cirillo,* "is common not only in Calabria and Sicily, but also on the famous mountain Garganus, situated near the old town of Sypontum, upon the Adriatic; and is mentioned even by Horace as an inhabitant of that mountain:—

Aut aquilonibus
Quercetæ Gargani laborant,
Et foliis viduantur Ornî.

"In all the woods near Naples the manna tree is to be found very often; but for want of cultivation it never produces any manna, and is rather a shrub than a tree. The method by which the manna is obtained from the *Ornus*, though very simple, has been yet very much misunderstood by all those who have travelled in the kingdom of Naples; and among other things they seem to agree that the best and purest manna is obtained from the leaves of the tree; but this, I believe, is an opinion taken from the ancients, and received as an incontestable observation, without consulting nature. I never saw such a kind, and all those who are employed in the gathering of the manna know of none that comes from the leaves. The manna is generally of two kinds; not on account of the intrinsic quality of them being different, but only because they are got in a different manner. In order to obtain the manna, those who have the management of the woods of the Orni, in the months of July and August, when the weather is very dry and warm, make an oblong incision, and take a piece off from the bark of the tree about three inches in length, and two in breadth: they leave the wound open, and by degrees the manna runs out, and is almost suddenly thickened to its proper consistence, and is found adhering to the bark of the trees. This manna,

which is collected in baskets, and goes under the name of *manna grassa*, is put in a dry place, because moisture and a damp atmosphere will soon dissolve it again.

"This first kind is often in large irregular pieces of a brownish colour, and frequently is full of dust and other impurities. But when the people want to have a very fine manna, they apply to the incision of the bark thin straw, or bits of shrubs, so that the manna, in coming out, runs upon those bodies, and is collected in a sort of regular tubes, which give it the name of *manna in cannoli*, that is, manna in tubes; this second kind is more esteemed, and always preferred to the other, because it is free and clear. There is, indeed, a third kind of manna, which is not commonly to be met with, and which I saw after I left Calabria; it is very white, like sugar; but it is rather for curiosity than for use. The two sorts of manna already mentioned undergo no kind of preparation whatever before they are exported; sometimes they are finer, particularly the *manna grassa*, and sometimes very dirty and full of impurities; but the Neapolitans have no interest in adulterating manna, because they always have a great deal more than they export; and if manna is kept in magazines, it receives often very great hurt by the southern winds, so common in our part of the world. When the summer is rainy, the manna is always scarce and bad."

Manna likewise exudes spontaneously and concretes into granules; it is known in the markets by the name of manna in tear.

The manna referred to by the ancient Greek writers is asserted, by Dr. Fothergill, to be portions of olibanum, broken off in the carriage of larger pieces, which by some is still called "manna of frankincense." The Arabians are supposed to be the first who brought manna into medicinal use.

QUALITIES AND CHEMICAL PROPERTIES.—Pure manna is very light, and appears to consist of a congeries of fine capillary crystals. Its taste is sweet, and it leaves a nauseous impression on the tongue. When dissolved in water, it may be obtained again unaltered by a gentle evaporation. Alcohol dissolves it when assisted by heat; and the solution, when set aside, gradually deposits about $\frac{1}{3}$ ths of the manna, in a state of a fine white light spongy crystalline mass, bearing some resemblance to camphor. This deposit has an agreeable sweet taste, and instantly melts upon the tongue like snow in warm water. This may be considered as pure manna. It differs from sugar in the nature of its crystals, and in its more rapid solubility. By evaporating the solution, and setting it aside repeatedly, about $\frac{2}{3}$ ths more of the manna is deposited, but not so fine in colour, or taste, as the first precipitate. By evaporation to dryness, the remaining $\frac{1}{3}$ th is obtained in the state of a thick extract, which cannot be easily reduced to dryness. This may be considered as consisting chiefly of foreign bodies, to which manna owes its nauseous taste. Manna differs from common sugar in several remarkable particulars. It dissolves very readily and abundantly in alcohol, and crystallizes on cooling. When digested in nitric acid it yields both oxalic and sacclactic acids; whereas sugar only yields oxalic acid. It does not ferment like sugar, and of course does not seem capable of furnishing alcohol.

The common manna of the shops, according to the experiments of Fourcroy and Vauquelin, consists of four different ingredients; 1. Pure manna, which constitutes at least $\frac{1}{4}$ ths of the whole. 2. A little common sugar, which makes it fermentable to a small extent. 3. A yellow matter, with a nauseous odour, to which the purgative quality of manna seems owing. 4. A little mucilage convertible into sacclactic acid. This last ingredient, however, seems to be hypothetical.

Several substances seem to be convertible into manna. The juice of the common onion yields it, and it has been discovered in the juice of the melon, but not till it has fermented.

Manna appears also to be formed and deposited by insects.

MEDICAL PROPERTIES AND USES.—The medicinal properties of manna are those of a mild cathartic, for which purpose it was formerly much used in practice. As, however, from one to two ounces of this medicine scarcely produce any effect on adults, it is now seldom employed alone; but combined with senna, neutral salts, and other aperients, is often used to cover their taste. It is an innocent remedy in the hands of mothers, who frequently give it to their children in doses from one drachm to half an ounce dissolved in water; but, though mild in its operation, it is apt to produce flatulence and griping.

OFF. PREP.—Confectio sennæ. *L. E. D.*

Syrupus sennæ. *D.*



Fagus sylvatica.

FAGUS SYLVATICA.—THE COMMON BEECH.

CLASS XXI. MONECIA.—ORDER XIII. POLYANDRIA.

NATURAL ORDER, CUPULIFERÆ.—THE OAK TRIBE.

THE beech is a handsome umbrageous tree, combining magnificence with beauty; and is as Mathews observes, at once the Hercules and Adonis of our sylvæ. It has a smooth thin bark, which is white when fully exposed to the air. The leaves are shining, thin, changing to a brown or russet colour in autumn; and on soil somewhat-moist, or in wet autumns, remaining on the trees throughout the winter. On young trees, and on trees planted in hedgerows and pruned, the leaves are more certain of remaining on during the winter, than on large, old or detached trees. The head of the beech is, in general so dense, that plants do not readily grow under it, which is also partly owing to the leaves requiring a longer time to decay after they fall. The branches of the beech, whether in old or young trees, generally take an upright direction, and form acute angles with the stem; though in old trees, the lower branches are often horizontal, and sometimes bent down in the middle; and curving upwards at the extremity. The branches are very numerous, and the smaller shoots much divided; but the direction both of the branches and spray is always more or less straight, as compared with that of the branches or spray of the oak, the ash and some other trees. The roots do not descend deeply into the soil, but extend to a considerable distance close under the surface. The rootlets and fibres are not nearly so numerous as in the ash and elm. The barren flowers are in round, stalked drooping heads, or catkins of a light brown colour, and 3 or 4 in each head. The fertile ones are placed above them on the branch and are solitary, and on stouter stalks than the male catkins. The calyx of the fruit is 4-cleft, clothed with simple pliant prickles. The stigmas are 9 in each flower; spreading, acute, and downy. Nuts 2, with 3 equal very sharp angles crowned with the inner calyx. The flowers appear in May, and the fruit ripens in October. The fruit when ripe opens at the upper extremity, in four divisions, and, after a short time, the nuts frequently drop out, leaving the calyx or cup which contained them attached to the tree. The nut contains a white oleaginous substance, agreeable to eat. The seedlings of this tree, Sir J. E. Smith observes, when newly sprung up, with their pale cotyledons, look not unlike some kinds of fungus. Under favourable circumstances, they will attain a height of 10 feet in five years, and 20 feet or 25 feet in 10 years. The height of the tree, when full grown, and in a situation where it is allowed to spread, may be considered as from 60 feet to 80 feet. The life of the beech tree in its native habitat in Germany according to Willdenow, extends to 200 years and upwards. The oldest beech tree in England is probably that in Windsor Forest, which is supposed to have been in existence before the Norman Conquest. In general the tree attains its full growth in England in 60 or 80 years, when it is fit to be cut down for timber purposes; and on good soils, it is more than doubtful whether it will live much longer than 100 or 150 years. When the tree is cut, the wound heals quickly over, so as to leave but very slight seams, and when the branches are cut off close to the trunk, it is not liable to throw out fresh shoots.

The finest beech trees in Britain are said to grow in Hampshire, and there is a curious legend respecting those in the Forest of St. Leonard, in that county. This forest, which was the abode of St. Leonard, abounds in noble beech trees; and the saint was particularly fond of reposing under their shade; but when he did so, he was annoyed during the day by vipers, and at night by the singing of nightingales. Accordingly he prayed that they might be removed; and such was the efficacy of his prayers, that, since his time, in that forest,

“The viper has ne'er been known to sting
Or the nightingale e'er to sing.”

Virgil frequently mentions the beech, as in the well known lines:—

“Tityre, tu, patulæ recubans sub tegmine fagi,
Sylvestrem tenui musam meditaris avena.”
“Beneath the shade which beechen boughs diffuse,
You Tityrus, entertain your sylvan muse.”—Dryden.

And the following:—

“ Or shall I rather the sad verse repeat,
Which on the beechen bark I lately writ ”

In the third Eclogue, Virgil makes his shepherds boast of their beechen bowls : Tibullus says,—

—“ No wars did men molest,
When only beechen bowls were in request.”

The branches of the beech, particularly in woods, being much covered, and having a smooth bark, are liable to cross and grow into each other, and, as it were, inosculate ; and hence, according to some, it was this tree that gave the first idea of grafting.

The beech was known to both the Greeks and Romans. The ancients seem to have set considerable value on the beech mast as an article of food. Pliny speaks of the mast (*glandes*) of the beech as being the sweetest of all (*dulcissima omnium*) and states that at the siege of Chios, the besieged lived for some time entirely on beech mast. Vessels made of beech wood were used in the Roman sacrifices, and the nut was in repute as a medicine.

The beech is chiefly valued for its wood, but it is not considered by foresters in general as a timber tree, for it is neither strong nor durable: it is chiefly employed, from the closeness of its grain, for tool handles, and in machinery. Beech-nuts abound in oil, and a patent some years ago was taken out for its extraction, but it was found more profitable to fatten swine upon them, than to sell them to the patentee. Gerard says, “*Pliny* also makes mention of this tree, but under the name of *Ostrya*, (if so be instead of *Ostrya* we must not read *Oxya*.) It brings forth (saith he, meaning Greece,) the tree *Ostrya*, growing alone among watery stones, like to the ash tree in barke and boughes, with leaues like those of the Peare tree, but somewhat longer and thicker, and with wrinkled cuts which run quite through, with a seed like in colour to a chestnut, and not to barley: the wood is hard and firme, which being brought into the house, there follows miserable deaths, as it is reported, and therefore it is to be forborn, and not used as fire wood, if *Pliny's* copies be not corrupted.

The leaves of the beech are very profitably applied to hot swellings, blisters, and excoriations: and being chewed, they are good for chapped lips, and paine of the gums.”

In the language of Flowers, Beech says Prosperity.

The changes which take place in the face of nature during this month, says Dr. Aikin of December, are little more than so many advances in the progress towards universal gloom and desolation.

No mark of vegetable life is seen,
No bird to bird repeats his tuneful call,
Save the dark leaves of some rude evergreen,
Save the lone red-breast on the moss-grown wall.——*Scott*.

The day now rapidly decreases ; the weather becomes foul and cold ; and, as Shakespeare expresses it,
The rain and wind beat dark December.

In this climate, however, no great and continued severity of cold usually takes place before the close of the month.

The festival of Christmas occurs very seasonably to cheer this comfortless period of the year. Great preparations are made for it in the country, and plenty of rustic dainties are provided for its celebration according to the rites of ancient hospitality. Thus the old year steals away scarcely marked, and unlamented; and a new one begins with lengthening days and brighter skies, inspiring fresh hopes and pleasing expectations.

Mysterious round! what skill, what force divine,
Deep felt, in these appear! a simple train,
Yet so delightful mix'd, with such kind art,
Such beauty and beneficence combin'd;

Shade, unperceiv'd, so softening into shade;
And all so forming an harmonious whole;
That, as they still succeed, they ravish still.

Thomson.



Veratrum album

VERATRUM ALBUM.—THE WHITE HELLEBORE.

CLASS XXIII. POLYGAMIA.—ORDER I. MONECIA.

NATURAL ORDER, MELANTHACEÆ.—THE COLCHICUM TRIBE.

WHITE HELLEBORE is a native of the mountainous districts in most parts of Europe, from Norway to Greece, but not of Great Britain. This stately plant, accompanied by the *Gentiana lutea*, makes a magnificent appearance in rich pastures on the Alps of Switzerland, where they both grow in the greatest abundance. It is a hardy perennial, in our gardens, where it has been cultivated from time immemorial, flowering from June to August.

The root is tuberous, fleshy, brownish externally, and furnished at the base with long, simple, white, cylindrical fibres. The stem is from two to four feet high, stout, erect, simple, hairy, and terminating in a large branching downy panicle, with alternate spikelets, of innumerable greenish white flowers, having little or no scent. The leaves are large, elliptical and entire, surrounding the stem at the base, plaited longitudinally, smooth, of a fine green colour, the uppermost becoming oblong lanceolate bractæas. The perianth consists of six sub-petaloid pieces, of a pale green colour, which are oblong, lanceolate, veined, spreading, of a coriaceous texture, and accompanied by an elliptical, lanceolate, downy bractea. The filaments are six, closely surrounding the germen, shorter than the corolla, diverging, and terminated by quadrangular anthers; the germen is three in each hermaphrodite flower, oblong, with spreading styles, which are terminated with bifid stigmas. The capsules are three, oblong, compressed, 2-celled, bursting at the inner edge, and containing many oblong, compressed, imbricated seeds, winged at each end.

The Green Veratrum (*V. viride*) a North American species, greatly resembles in its foliage and habit the White Hellebore, but the panicle is larger and greener, its branches longer and more cylindrical, spiked, not racemose, each flower being nearly or quite sessile. The sepals are also broader; their margins being thickened and mealy about the base. The Veratrum *nigrum*, or Black Hellebore, agrees with the Veratrum *album* in habit and leaves, but is somewhat taller, and is remarkable for the very dark purplish-brown, almost black hue of its flowers, which exhale a faint cadaverous odour. It is a native of dry mountainous situations in Siberia, Hungary, Austria and Greece; flowering in July.

QUALITIES AND CHEMICAL PROPERTIES.—When recent, this root has a disagreeable odour: as met with in the shops, scarcely any. To the taste it is acrid, nauseous, and bitter, excoriating the mouth and fauces; while the powder, if applied to wounds, produces effects on the animal economy of a highly deleterious nature; as may be seen by referring to its poisonous effects. If applied to the membrane lining the nose, it proves a violent sternutatory.

On analysis, the root of the Veratrum *album* yielded to M.M. Pelletier and Caventou, 1. A fatty matter composed of oil, adipocire, and an acid similar to the sebacic, but uncrystallizable; 2. Yellow extractive colouring matter; 3. Acid gallate of *veratrine*; 4. Gum; 5. Fecula; 6. Woody fibre; the ashes containing carbonates of potass and lime, sulphate of lime and silica.

It is on the *Veratrine* that its poisonous effects depend; and these successful chemists, amongst many other brilliant discoveries, have remarked that almost all the individuals of this family of plants exert a common action over animals, owing to this principle pervading them. They first analysed the seeds of the Veratrum *Sabadilla*; isolating the *veratrine*, in which they recognised all the alkaline characters. They ultimately discovered it in the root of *Colchicum autumnale*, and in that of our plant.

Etmuller, in the preface to his work on Surgery, states that this root, when applied to the abdomen, produces violent vomiting. Van Helmont also says, that a royal prince died in three hours after taking a scruple of this poison, which induced convulsions.

MEDICAL PROPERTIES AND USES.—Like most other violent remedies from the vegetable kingdom, white hellebore was often employed by the ancients in formidable and obstinate diseases, as mania, melancholia, dropsies, epilepsy, canine madness, elephantiasis, chronic eruptions, &c. They considered it safer when it excited vomiting; Hippocrates wishing this to be its first effect: and experiments on animals prove that they were perfectly correct: as may be seen by referring to Ex. No. 1 and 2 in Orfila's Toxicology. Women and children, the aged and debilitated, and those affected with diseases of the chest, were considered as unfit objects for its administration; and as it is asserted to be capable of affording relief, when no sensible evacuation was produced, its violence was generally moderated by other combinations.

At one time, and that very lately, it was believed by many that the *V. album* was the active ingredient of that celebrated medicine for gout, the *Eau Médicinale*. Although this opinion appears fallacious, it led to its employment in that disease conjoined with opium, and we recollect many years ago to have seen it

administered with considerable success; which will not appear so very remarkable to those who are aware that its active principle, veratrine, is, as already observed, a constituent of the meadow saffron. White hellebore, as an internal medicine, is again fallen into disuse. It is however still employed externally as a local stimulant; and veratrine has been much lauded in the treatment of *tic douloureux* and various other anomalous painful affections of a chronic kind.

For internal administration the dose must not exceed two grains; and when used as a snuff, one pinch may be used every night, composed of four grains to about half a drachm of starch.

OFF. PREP.—Decoctum Veratri. *L.*
Tinctura Veratri albi. *E.*
Unguentum Veratri. *L.*
Unguentum Sulphuris comp. *L.*

Poets have taken pleasure in painting gardens in all the brilliancy of imagination. See the garden of Alcionus, in Homer's *Odyssey*; those of Morgana, Alcina, and Armida, in the Italian poets: the gardens fair

“Of Hesperus and his daughters three
Who sing about the golden tree:”

and Proserpina's garden, and the Bower of Bliss in Spenser's *Fairie Queene*. The very mention of their names seems to embower one in leaves and blossoms.

It is a matter of some taste to arrange a bouquet of flowers judiciously; even in language, we have a finer idea of colours, when such are placed together as look well together in substance. Do we read of white, purple, red, and yellow flowers, they do not present to us so exquisite a picture, as if we read of yellow and purple, white and red. Their arrangement has been happily touched upon by some of our poets:

—“Th' Azores send
Their jessamine; her jessamine, remote
Caffraria: foreigners from many lands,
They form one social shade, as if convened
By magic summons of th' Orphean lyre.
Yet just arrangement, rarely brought to pass
But by a master's hand, disposing well

The gay diversities of leaf and flower,
Must lend its aid t' illustrate all their charms,
And dress the regular, yet various scene.
Plant behind plant aspiring, in the van
The dwarfish; in the rear retired, but still
Sublime above the rest, the statelier stand.

Cowper.

Drayton runs riot on the subject: a nymph in his *Muse's Elysium* says,

“Here damask-roses, white and red,
Out of my lap first take I,
Which still shall run along the thread;
My chiefest flower this make I.
Amongst these roses in a row,
Next place I pinks in plenty,
These double-daisies then for show,
And will not this be dainty?
The pretty pansy then I'll tye
Like stones some chain incensing;
And next to them, their near ally,
The purple violet placing.
The curious choice clove July-flower,
Whose kinds, hight the carnation,
For sweetness of most sovereign power
Shall help my wreath to fashion;
Whose suddy colours of one kind,
First from one root derived,
Them in their several suits I'll bind,
My garland so contrived:
A course of cowslips then I'll stick,
And here and there (though sparsely)
The pleasant primrose down I'll prick,

Like pearls which will show rarely;
Then with these marygolds I'll make
My garland somewhat swelling,
These honeysuckles then I'll take,
Whose sweets shall help their smelling.
The lily and the fleur-de-lis,
For colour much contending,
For that I them do only prize,
They are but poor in scenting;
The daffodil most dainty is
To match with these in meetness;
The columbine compared to this,
All much alike for sweetness:
These in their natures only are
Fit to emboss the border,
Therefore I'll take especial care
To place them in their order:
Sweet-williams, campions, sops-in-wine,
One by another neatly;
Thus have I made this wreath of mine,
And finished it featly.”

Drayton.

“So did the maidens with their various flowers
Deck up their windows and make neat their bowers:
Using such cunning as they did dispose
The ruddy peony with the lighter rose,

The monkshood with the bugloss, and entwine
The white, the blue, the flesh-like columbine
With pinks, sweet-williams; that far off the eye
Could not the manner of their mixtures spy.”

W. BROWNE.*

* *Flora Domestica*.



Spigelia Marylandica.

SPIGELIA MARILANDICA.—MARYLAND WORM-GRASS, OR CAROLINA PINK.

CLASS V. PENTANDRIA.—ORDER I. MONOGYNIA.

NATURAL ORDER, SPIGELIACEÆ.—THE WORM-SEED TRIBE.

OF this genus, which derives its name from Adrian Spigelius, a distinguished botanist, and Professor of Anatomy and Surgery at Padua, there are besides the *marilandica* but four species; three natives of Brazil and Cayenne, the other of Jamaica. The present species is indigenous in all the southern states of America from Pennsylvania to Georgia and Louisiana; but it will not bear the severity of a northern winter. It grows in rich dry soils, on the borders of woods, and flowers from May to July. It was introduced into this country in 1694.

Spigelia marilandica is a low perennial plant, seldom more than eight or nine inches high in this country, but in its native soil sometimes attaining a height of nearly two feet. The root is horizontal, and consists of a great number of slender fibres, forming together a large bunch. When recent they are of a yellow colour, but become black on keeping. From the root proceed several erect, herbaceous, annual, smooth stems, four-sided, and of a reddish-purple colour. The leaves are opposite, sessile, ovato-acuminate, entire, and smooth. The stem is terminated by a spike of flowers, ranged on one side of the foot-stalk, and supported on short peduncles. Calyx short, cut into five acute segments; corolla funnel-shaped, of a deep crimson externally, and pink within; having the five segments of the border of a yellow colour, tinged with green; the stamens are five, shorter than the corolla, supporting oblong sagittate anthers; germen superior, ovate; style the length of the corolla, terminated by a long fringed stigma. The capsule is double, two-celled, and contains many seeds.

QUALITIES AND CHEMICAL PROPERTIES.—*Spigelia* is a mucilaginous plant, with a mild and not very disagreeable taste. The infusion and decoction of the root and leaves afford a flocculent precipitate with alcohol. They are discoloured, but not precipitated by silicated potash. They have little sensibility to gelatin, although the tincture is made turbid by it. After the decoction was filtrated from the mucus, which had been coagulated by alcohol, it gave a precipitate with nitrate of mercury, but none with muriate of tin. Sulphate of iron caused a dark green precipitate from the decoction, and but little change in the tincture. No distinct evidence of resin presented itself. A substance, which may perhaps be considered a variety of extractive matter, appears to exist in this plant, as the tincture was affected in nearly the same manner by the salts of tin and mercury above mentioned, as the filtrated decoction. Water may be considered an adequate solvent for the chief proximate principles of this plant.

M. Feneuille has analyzed the leaves and roots of the *Spigelia*: he finds that

The leaves yield,
Chlorophylle, mixed with a fatty oil,
Albumen,
Nauseous bitter substance,
Mucus,
Gallic acid,
Woody fibre,
Malate of potass, of lime, &c.
Woody fibre,
Malate of potass and of lime,
Silex,
Oxide of iron.

The roots yield,
Fatty oil,
Volatile oil,
Resin, in small quantity,
Bitter substance,
Saccharine mucus (*mucoso-sucré*),
Albumen,
Gallic acid,

The bitter substance is said to be the active part, and to exist in greater abundance in the leaves, than in the root. It is of a brown colour, and taken internally produces vertigo, and a kind of intoxication.

MEDICAL PROPERTIES AND USES.—This plant was first used by the Cherokee Indians, as an anthelmintic. Drs. Lining, Garden, and Chambers, first introduced it to notice, and their subsequent experience tended to confirm its utility. The root possesses the greatest activity, and is given in doses of from grs. x. to ʒj. two or three times a day. If it prove purgative it is said to be most effective; and should it not, it must be conjoined with cathartics, which prevent the narcotic symptoms, such as stupor, headache, dilated pupils, flushings of the face, and stiffness of the eyelids, that so frequently follow its administration. It is said to be most useful in *lumbrici*; and it is to its acrid narcotic principle, that Dr. Good attributes the vermifuge powers which it possesses, in common with *S. anthelmia*, a native of Jamaica. Notwithstanding what has been advanced in its favour, we consider it an unnecessary appendage to our materia medica; for independently of its deleterious properties, its real anthelmintic ones are somewhat equivocal. As our

pharmacopœia gives no direction for its administration, for the benefit of those who wish to make trials of it, we subjoin the following form :—

R Spigeliæ radici concisæ ʒ ʒ
Sennæ Foliorum ʒij.
Aurantii corticis concisi.
Santonici seminum contus.
Fœniculi seminum contus. aā ʒj.
Aquæ ferventi ʒ xij.

Macula per horas duas in vase leviter clauso, et cola.—Dose, a wine glassful three times a day on an empty stomach.

This month, says William Howitt, more than all others shows us,

THE CONTINUED FROST—a frost that, day after day, and week after week, makes a steady abode with us, till the beaten roads become dusty as in summer. It every day penetrates deeper into the earth, and farther into our houses; almost verifying the common saying, “January will freeze the pot upon the fire.” Our windows in the morning are covered with a fine opaque frost-work, resembling the leaves and branches of forest-trees, and the water is frozen in the ewer. The fish in ponds, reservoirs, and shallow waters, now suffer from their being frozen over, and great numbers perish. In many places you may see them moving under the ice, seeking some access to air or food; in others, firmly embedded in the ice, their bright and silvery sides shining through it. In dikes and small streams, or pools, boys have great sport in breaking the ice and drawing out these poor frozen creatures. I have seen, on such occasions, eels and other fish of a considerable size taken out; and I have seen, too, fishes frozen up in a solid ice, and apparently dead, on being gradually thawed, recover their animation. The small birds are hopping, with half-erected feathers, upon our door-sills, driven to seek relief from creation’s tyrants by the still more pressing tyranny of cold and famine. The destruction of birds, and of all the smaller animals, in a continued frost, is immense, particularly if it be accompanied by snow. Snow is a general informer, betraying the footsteps of every creature, great and small. The poacher and the gamekeeper are equally on the alert while it lies freshly upon the ground, the one to track game, the other vermin; and thousands of pole-cats, weasels, stoats, rats, otters, badgers, and similar little nightly predators, are traced to their hiding-places in old buildings, banks, and hollow trees, and marked for certain destruction. The poacher, particularly on moonlight nights, makes havoc with game. Partridges, nestled down in a heap on the stubble, are conspicuous objects; and hares, driven for food to gardens and turnip-fields, are destroyed by hundreds. Wood-pigeons are killed in great numbers on cabbage and turnip-fields by day; in the neighbourhood of large woods, where they abound, the farmers’ boys set steel-traps for them in the snow, laying a cabbage-leaf on each trap, to which they fly eagerly, and are abundantly captured; and by moonlight they are shot in the trees where they roost. Larks frequent stubbles in vast flocks, and are destroyed by gun or net. Immense numbers of these delightful songsters are sent, during the winter months, from the neighbourhood of Dunstable to London, and may be seen by basketsfull at the poulterers’. When they have congregated in flocks on the approach of winter, they arrive in that neighbourhood lean and feeble; but they soon become strong and in good condition, being supposed to pick up fine particles of chalk with their food. They are in season from Michaelmas to February; and are not only served up at the inns in that town, by a secret process of cookery, in such a manner as to be regarded by travellers as a peculiar luxury, but are thence sent, by a particular contrivance of packages, ready dressed to all parts of England.

There is an account, illustrated by an engraving, in the second volume of Hone’s “Every-Day Book,” of a singular mode of killing larks, at this season, in some parts of France and England.

In France they use what is called a *miroir*, or twirler. This is a piece of mahogany highly polished, or a piece of common wood with bits of looking-glass fixed in it. It is fixed on an upright spindle, and twirled by pulling a string; and the larks, as they fly over, seeing the glitter of it, are irresistibly attracted by it, hover over it, and are shot in abundance. However frequently shot at, the survivors still are attracted by the twirler. Hone’s correspondent says that a friend of his shot six dozen before breakfast, without a boy, as is the common plan, to pull the twirler for him; and that it is not only the great amusement of the gentlemen in France in winter, but that ladies on fine, dry, frosty mornings, go out in numbers to watch this sport; and as many as ten or a dozen parties are, at one time, firing about five hundred yards apart, and yet the larks continue coming.

In England the Dunstable people have a similar invention, which is called a larking-glass, which is fixed on a pole and twirled, and the larks come darting down to it in great numbers, and a net is drawn over them. Besides great quantities being thus taken, and also morning and evening with trammelling nets, others in severe weather are taken by laying a train of corn and chaff in the snow, and placing along it a line to which is fastened, at certain intervals, nooses of horse-hair, in which their feet are entangled.

As if the feathered race did not suffer enough from famine and the severity of the weather, everybody seems now up in arms against them. The law, with a spirit of humanity honourable to the nation, is opposed to *tracking game in a snow*, yet this is a time of peculiar enjoyment to the sportsman. Water-fowl are driven from their secluded haunts in meres and marshes to open streams; snipes and woodcocks to springs and small runnels; where they become accessible, and easily found. In towns and villages, every mechanic and raw lad is seen marching forth with his gun, to slay his quota of red-wings, field-fares, &c. which now become passive from cold and hunger.



Myosotis palustris.

MYOSOTIS PALUSTRIS.—THE FORGET-ME-NOT.

CLASS V. PENTANDRIA.—ORDER I. MONOGYNIA.

NATURAL ORDER, BORAGINÆÆ.—THE BORAGE TRIBE.

HAIRS of the stem adpressed: leaves obovate-lanceolate, obtuse, rather scabrous from strigæ: racemes bractless: pedicels diverging while bearing the fruit, nearly twice the length of the calyx, which is 5-parted, obtuse, and spreading, and equalling the tube of the corolla; limb of corolla flat, longer than the tube. Native throughout Europe, Asia, and North America, in humid meadows, bogs, banks of rivers, rivulets, and ditches; plentiful in Britain, in like situations. Plants pale green, roughish stems creeping at the base. Racemes simple or conjugate. Corolla blue, throat yellow, tube length of calyx, segments of the limb obovate, emarginate, or obcordate. There is also a variety of this with white flowers. This, the Forget-me-not, is the emblem of affection among the Germans. It is now a general favourite, and deservedly so; its beauty is so striking as to have acquired for it a kind of proverbial name. Few who have observed the flower are likely to forget it. But no where are these beautiful flowers found in such great abundance, as on the banks of a brook near the Luxembourg. The peasants call that brook the "Fairy Bath," or the "Cascade of the enchanted Oak;" these two names are given to it on account of the beauty of its source, whence it issues murmuring at the foot of a very old oak. The waters of the brook at first roll on from cascade to cascade, under a long vault of verdure, and afterward flow gently through an extensive meadow: then they appear to the enchanted eye as a long silver thread. The southern bank alone is covered with a thick tapestry of the Forget-me-not; its pretty flowers spangle in July, clad in as bright a blue as that of the cerulean sky. Then they incline as if they took delight in admiring themselves in the crystal waters, whose purity is unequalled. On this spot the young girls frequently assemble to celebrate their birth-days, by dancing on the borders of the brook. When covered with these lovely flowers we might suppose them to be nymphs celebrating games in honour of the naiad of the enchanted oak.

It is related that a young couple, who were on the eve of being united, whilst walking along the delightful banks of the Danube, saw one of these lovely flowers floating on the waves which seemed ready to carry it away. The affianced bride admired the beauty of the flower, and regretted its fatal destiny. The lover was induced to precipitate himself into the water, where he had no sooner seized the flower than he sank into the flood, but making a last effort, he threw the flower upon the shore, and at the moment of disappearing for ever, he exclaimed, "*Vergiss mein nicht*," since which time this flower has been made emblematical, and taken the name of "Forget-me-not."

The Myosotides are mucilaginous and slightly astringent, and have been used in decoctions as *Collyria*; and the leaves are bruised and made into emollient poultices, which are said to be serviceable in inflammation of the eyes. They are, however, very seldom employed in medicine.

Fond memory's flower of azure dye!
Permit thy Bard one boon to crave
When in death's narrow bed I lie,
Oh! bloom around my narrow grave:
And if some tender, faithful friend
Should, led by love, approach the spot
And o'er thy flowers admiring bend,
Then say for me. "Forget me not."

Mrs. Opie.

The following extract is from the *Flora Domestica* :—

The fashion, so long prevalent in this country, of adorning the hair with artificial flowers, is in some countries improved upon by the use of the natural. Thunberg describes it as a common custom in Batavia; and Southey, speaking of the women of Paulista, in Brazil, says, “Flowers were an indispensable part of the female head-dress, a natural fashion in a land where the sweetest flowers blossom in all seasons; but the beauty of the costume was destroyed by the odious custom of wearing powder, with which the Paulista women of all ages loaded their heads.” Again, he says, “When a stranger is introduced to a Brazilian lady, it is an act of courtesy in her to take a flower from her head and present it to him, and he is expected to return the compliment in the course of his visit.”

In some parts of Germany the ladies wear natural flowers, particularly the beautiful blue corn-flower (*Centaurea Cyanus*.)

A friend has obliged me with the following lines, paraphrased from the Greek of Meleager. “This delicious little Greek poem,” says he, “is one of those which I always seem to scent the very odour of, as if I held a bunch of flowers to my face.”

“A flowery crown will I compose—
I’ll weave the crocus, weave the rose;
I’ll weave narcissus, newly wet,
The hyacinth, and violet;
And myrtle shall supply me green,
And lilies laugh in light between:
That the rich tendrils of my beauty’s hair
May burst into their crowning flowers, and light the painted air.”

Sometimes it happens, says Dr. Aikin, that a sudden shower of rain falls during a frost, and immediately turns to ice. A remarkable scene is then produced, which the following lines most beautifully describe.

Ere yet the clouds let fall the treasur’d snow,
Or winds begun thro’ hazy skies to blow,
At ev’ning a keen eastern breeze arose,
And the descending rain unsull’d froze.
Soon as the silent shades of night withdrew,
The ruddy morn disclosed at once to view
The face of nature in a rich disguise,
And brighten’d every object to my eyes:
For every shrub, and every blade of grass,
And every pointed thorn seem’d wrought in glass;
In pearls and rubies rich the hawthorns show,
While thro’ the ice the crimson berries glow.
The thick-sprung reeds the wat’ry marshes yield,
Seem polish’d lances in a hostile field.
The stag, in limpid currents, with surprise,
Sees crystal branches on his forehead rise.
The spreading oak, the beech, and tow’ring pine,
Glaz’d over, in the freezing ether shine.
The frighted birds the rattling branches shun,
That wave and glitter in the distant sun.
When, if a sudden gust of wind arise,
The brittle forest into atoms flies:
The crackling wood beneath the tempest bends,
And in a spangled show’r the prospect ends.

Philips, Lett. from Copenhagen.



Agaricus campestris.

AGARICUS CAMPESTRIS.—THE COMMON MUSHROOM.

CLASS XXIV. CRYPTOGRAMIA.—ORDER IV. FUNGI.

NATURAL ORDER, FUNGI.—THE MUSHROOM TRIBE.

STEM solid, white, cylindrical, two or three inches high, half an inch in diameter; curtain white; pileus white, changing to brown when whole, and becoming scurfy, convex fleshy, two or four inches in diameter liquefying in decay; gills loose, pinky red, changing to liver colour, in contact with the stem, but not united to it, numerous, irregular, some of the gills forked near the stem; others next the edge of the pileus. When the mushroom first makes its appearance, it is smooth and almost globular, and in this state it is called a button. This species is the best and most savoury of the genus. It occurs in parks and pastures in September. The true eatable mushroom is distinguished from the poisonous and unpleasant kinds by these marks; when young, it appears of a roundish form like a button, being white, and the fleshy part very white, when broken, the gills within being livid. As they grow larger, they expand their heads by degrees into a flat form, and the gills underneath are at first of a pale flesh colour; but as they stand long, become blackish.

The genus *Agaricus* is believed to contain upwards of a thousand different species. Sprengel enumerates only six hundred and forty-six; but this is much below the real number, as referred to by other authors.

The *A. semiglobatus*, (Fig. A.) is one of the most common, and, if Messrs. Brande and Sowerby's account be correct, the most deleterious of the tribe. It occurs in most parts of the kingdom, in exposed and elevated pastures, moist meadows and woods, from May to September. Dr. Greville says, it is extremely common in Scotland; and Mr. Curtis found it in great abundance about Peckham, Hornsey, and other places near London.

It generally grows singly, but sometimes springs up in clusters, especially on dunghills, or on those spots where dung has been thrown. The stipes, or stem, is from three to six inches in height, and two or three lines in diameter, pale yellowish, hollow, the tube being very small, and sometimes partly filled with a white pith; more or less crooked, somewhat incrassated towards the base, glutinous, furnished with a ring, and mostly dotted with black immediately beneath the pileus. The pileus is from half an inch to an inch and a half in breadth, of a pale reddish-orange, or straw-colour, in the full grown ones exactly hemispherical, rarely becoming in large specimens plano-convex, very glutinous, and smooth, hence the name *glutinosus* given to it by Curtis. The usual colour of the cap is reddish-orange, but when wet with rain it becomes browner and transparent, so that it sometimes appears as if striated. The flesh is thin and white. The lamellæ are numerous, fixed, horizontal, extending in a right line, or nearly so, from the margin of the pileus to the stipes, and beautifully mottled with the purplish black sporidia. With regard to this species, it may not be improper to remark, that the poisonous qualities usually ascribed to it, are still somewhat problematical.

In vol. iii. of the "London Medical and Physical Journal," cases are detailed by Mr. E. Brande, in which the species was partaken of by several individuals of one family, all of whom were saved by energetic and well-directed treatment. In vol. xx. of the same work, is the subjoined account, by Mr. Parrott, of Mitcham, in which it will be seen that death occurred from eating this fungus in three instances, and very alarming symptoms were produced in others.

"The family, which partook of this poison, consisted of William Attwood, aged 45 years; Eliza, his wife, 38; their daughters, viz. Mary, 14, Hannah 11, Sarah, 7, Eliza, 5.

"On Monday, the 10th inst. 1808, all ate stewed champignons, at one o'clock, which stew was made in an iron vessel, and consisted of the articles already specified, with the addition of butter, flour, pepper, salt, and water. Each of these parties, Hannah excepted, was supposed to have eaten more than half a pint. Within ten minutes after they had eaten their meal, they felt their spirits exhilarated, and the eldest daughter said to her mother, 'How funny you look!' All the parties continued cheerful till about six o'clock, when, having taken their tea, they were attacked with stupor, which was not of long continuance; this was soon succeeded by severe pains in the bowels, accompanied with violent vomiting, and copious purging, which continued till the following afternoon, when the patients were alarmed, and requested my attendance. Under these symptoms, it appeared that the first step to be taken, was to get rid of the poison; for which purpose, oily opening medicines were administered, and plentiful dilution with warm broth was recommended. This method of treatment appeared to promise success in the case of Mary, who had so far recovered on the following day, Wednesday, that she walked about a quarter of a mile from home; in the evening, however, the symptoms returned. On Thursday evening she became convulsed, and died on Friday morning at two o'clock.

"Eliza did not complain much of her sufferings, but became convulsed at the same time her sister Mary did, and died half an hour after her.

"Hannah only ate two spoonfuls of the stew, as she did not like its flavour; this girl recovered after a severe vomiting and purging.

"Sarah never complained of pain in the head, but was continually suffering under extreme pain in the bowels, which was increased on pressure, but no tension existed. She died on Saturday morning in the same convulsed state as her sisters. Permission having been obtained to open one of the bodies, that of Sarah was examined, as she had suffered under the most excruciating pain in the bowels, but no appearance of disease was manifest in any of the abdominal viscera; the stomach was empty, and also the whole of the alimentary canal. On Friday, the 14th, the vomiting still continuing in the father and mother, it was thought proper to administer small doses of opium, but without effect; the effervescing draught was then given, which succeeded, but the pain in the bowels was thereby so much increased, that both regretted having taken it. During the progress of this unfortunate occurrence, the pulse in each of the patients was quickened, and varied from 100 to 120 in a minute, but was not sufficiently full to justify the use of the lancet; the tongue was parched and slightly streaked with white; the tunica conjunctiva were not inflamed, and the parties were all perfectly sensible.

"A dog which had partaken of the stew died on Wednesday night, apparently in great agonies."

Agaricus bulbosus, (Fig. B.) One of the common poisonous native Agarics, abounding in woods in the autumnal months. It has a pungent odour, resembling that of horse-radish. The pileus is two or three inches broad, bright brown, or chestnut coloured, obtusely umbonate, thin at the margin, testaceous when dry, and brittle. The lamellae are cinnamon-coloured, or tawny, three or four in a set, distant, and three or four lines broad, with rose-coloured sporidia. The stem is about four inches in height, solid, very thick, dullish red, bulbous, ovate, and in old specimens ferruginous at the base. The veil is annular, whitish, and fugacious. Withering's *A. bulbosus*. (*Bot. Arr.* v. 4. p. 271.) is a different plant.

On the continent a great many kinds of Fungi are used for culinary purposes.

"The *A. caesarea* is a fungus possessed of some classic fame; it has been celebrated both by Juvenal and Martial; not so much, however, for its beauty, as for the traditional belief that it was in a dish of these mushrooms, which by the ancient Romans were considered the greatest luxury of the table, that Agrippina administered poison to her husband, Claudius Caesar, to hasten her son's accession to the throne. Hence, probably, it derived its specific name *Cæsarea*; but Nero, for whose sake Claudius had been poisoned, called it the *food for gods*, because, after his death, Claudius was numbered amongst the Roman deities.

"It appears from Pliny, that, after the murder of Claudius, mushrooms fell into unmerited disrepute. He says, 'Among all those things which are eaten with danger, I take it that mushrooms may be justly ranged in the first and principal place; true it is that they have a most pleasant and delicate taste; but discredited much they are, and brought into an ill name, by occasion of the poison which Agrippina, the empress, conveyed unto her husband the emperor by their means: a dangerous precedent given for the like practice afterwards.' (*Holland's Trans.*) The *A. caesarea* has, however, through the lapse of time, again recovered its reputation, for now it is commonly seen in the Italian markets: in Italy it is abundant, but in these kingdoms rare. It is liable to be mistaken for a poisonous species belonging to the same subgenus, but may easily be distinguished by its yellow gills from the *A. imperialis*, in which they are always white."—*Vide Buratt's Outlines of Botany*, vol. i. p. 260.

Accidents arising from the deadly Fungi being mistaken for eatable mushrooms, are common on the continent, and especially in France. They are by no means unfrequent too, in Britain; but they are much less frequent than abroad; because the epicure's catalogue of mushrooms in this country contains only three species, whose characters are too distinct to be mistaken by a person of ordinary skill; while abroad a great variety of them have found their way to the table; many of which are not only liable to be confounded with poisonous species, but are even also themselves of doubtful quality. The present subject cannot be thoroughly studied without a knowledge of the appearance and characters of all the fungi which have been ascertained to be esculent, as well as those which are known to be esculent, as well as of those which are known to be deleterious. This information, however, I cannot pretend to communicate, as it would lead to great details. In what follows, therefore, a simple list will be given of the two classes, with reference to the proper sources for minute descriptions of them, and some general observations on the effects of the poisonous species.

The only good account yet published of the innocent or eatable fungi of Great Britain is contained in an elaborate essay on the subject by *Dr. Greville*. He enumerates no fewer than twenty-six different species, which grow abundantly in our woods and fields, and which, although most of them utterly neglected in this country, are all considered eatable, and many of them delicate abroad.

(*Christison on Poisons.*)



Gentiana lutea

GENTIANA LUTEA, OR ASTERIA LUTEA.—YELLOW GENTIAN.

CLASS V. PENTANDRIA.—ORDER II. DIGYNIA.

NATURAL ORDER, GENTIANÆ.—THE GENTIAN TRIBE.

OF this fine genus more than sixty species have been described by botanists, and six of these, viz. *Gentiana Pneumonanthe*, *acaulis*, *verna*, *Amarella*, *campestris*, and *nivalis*, are natives of Britain. They are elegant herbaceous plants, mostly inhabiting alpine regions of the northern hemisphere, and extremely various in size, with flowers generally of a vivid blue. Most of them are perennial; some few are annual; but they are all intensely bitter, especially the roots of the larger perennial kinds. Few of the species are cultivated in our gardens, except the *Gentiana acaulis*, or Dwarf Gentian, distinguished by its humble growth, its large, solitary bell-shaped, exquisitely beautiful, azure flowers, and the *G. lutea*, or Yellow Gentian, neither of which is observed to thrive well in the vicinity of large towns. The latter, which is the official species, grows abundantly on the Alps of Switzerland and Austria, the Apennines, the Pyrenees, in the mountainous forests of many parts of Germany, and in North America. It thrives well in this country, in a deep, rich, loamy soil, flowering about the end of June or beginning of July, and few plants are more stately and ornamental.

The root is perennial, long, roundish, with numerous thick contorted branches, brown externally, and yellowish within. The stem is simple, erect, hollow, roundish, and somewhat annulated and square at the base near the root, cylindrical and smooth towards the top, and rises three or four feet in height. The lower leaves are petiolate, large, spear-shaped, entire, five or six-ribbed and plaited; those of the stem are concave, ovate, smooth, sessile, almost embracing the stem, and of a yellowish green colour. The flowers are large and handsome, yellow, produced in whorls at the upper joints, and stand upon long peduncles. The calyx, which is a membranous, deciduous spathe, bursts on the side when the flower opens; the corolla is rotate, and divided into five or more long, narrow, spreading, elliptical segments. The filaments vary from five to eight, according to the number of segments, and are alternate therewith; they are shorter than the corolla, and furnished with long erect anthers. The germen is conical, crowned with two sessile reflected stigmas; and becomes a conical capsule, divided into two valves, and contains numerous small, compressed, winged seeds.

The scientific name *Gentiana*, was conferred on this genus in commemoration of Gentius, a king of Illyria, who, according to Pliny, first discovered, or at least experienced the virtue of the principal species, the *Gentiana lutea* of Linnæus, in the cure of the plague, which infected his army. The vulgar name *Fell-wort* or *Gall-wort*, is strictly applicable to the whole genus, on account of the extreme bitterness of the plants which compose it.

CULTURE.—Yellow Gentian delights in a deep loamy soil and a shady situation, where it will thrive much better than in a light soil, or an open exposed site. It is propagated by seed, which should be sown in pots soon after it is ripe, for if it is kept till the spring it will not germinate; these pots should be placed in a shady situation, and kept clean from weeds. In the spring the plants will appear, when they must be duly watered in dry weather, and kept free from weeds till the following autumn; they should then be carefully shaken out of the pots, so as not to break or injure the roots; and a shady border of loamy earth should be well dug and prepared to receive them, into which the plants should be put, at about six inches distance each way, observing to let the tops of the roots be a little below the surface of the ground, then press the earth close to the roots; after this they will require no farther care, but to keep them constantly clean from weeds; and if the following spring should prove dry, they should be regularly watered, which will greatly forward their growth. In this border the plants may stand two years, by which time they will be fit to transplant where they are designed to remain; therefore in autumn, so soon as the leaves decay, they may be removed; but as the roots of these plants run deep into the ground, like carrots, there must be great care taken in digging them up not to cut or break their roots, for that will much weaken, if it does not kill them. After the plants are well fixed in their places, they require no particular care, but to dig the ground about them early in the spring before they begin to shoot, and in the summer to keep them clear from weeds. The roots of these plants will continue for many years, but the stalks decay every autumn; the same roots do not flower two years together, and rarely oftener than every third year; but when they flower strong, says Professor Martyn, to whose edition of Miller's Dictionary we owe the preceding remarks, they make a fine appearance; and as they delight in moist shady ground, where but few ornamental plants will thrive, they should not be wanting in good gardens. The dried roots are imported into this country chiefly from Germany; but we know no reason why the plant should not be cultivated in our physic gardens.

QUALITIES AND CHEMICAL PROPERTIES.—Gentian roots are long, and contain so large a proportion of water, that when dried, they are much wrinkled. Externally they are brown, internally spongy, and of a deep yellow colour. The best roots are of a middling size, of a lively yellow colour, tough, and almost free from fibres. The older and larger roots are more porous; the younger and tender more compact. Neuman obtained from $\frac{3}{4}$ xvj. of the root, by means of rectified spirit, $\frac{3}{4}$ viiss. of resinous extract; and from water $\frac{3}{4}$ ix. of a gummy one. Sometimes the *Thora valdensis* of Ray, or the *Aconitum pardalianches* of Bauhin, is sold for the Gentian. It is known from the true Gentian by its paler colour externally, having longitudinal wrinkles; its texture is closer than that of Gentian, whitish within, and not bitter; but when chewed, only mucilaginous. It is the *Ranunculus Thora*, Lin. Sp. Pl. 775. Gentian yields its virtues to ether, alcohol, and water. A singular circumstance is connected with the analysis of this root: M. Henry and M. Caventou being employed at the same time in this pursuit, without being aware of each other's proceedings, both discovered the substance termed *gentianine*, the principle on which the bitter and medicinal properties of the Gentian seem to depend; and so little did they differ in the results of their investigations, that they resolved to publish their labours together.

Preparation of Gentianine.—The powder of gentian is to be exposed to cold ether, which at the end of forty-eight hours furnishes a greenish tincture; this being filtered, poured into an open vessel, and exposed to heat, if the liquor be sufficiently concentrated upon cooling, settles into a yellowish crystalline mass, possessing a decided smell and taste of gentian. This mass is then to be treated with alcohol until it ceases to yield a citron colour. The washings are to be mixed, and exposed to a strong heat, and the yellow crystalline substance begins to re-appear, assuming at the close of the evaporating process a solid form, and being extremely bitter. Taken up again by weak alcohol, it is partially dissolved, a certain portion of oily matter remaining separate. This last spirituous solution, besides the bitter principle of the gentian, contains an acid substance, and the odorous principle also.

Upon evaporating this liquid to dryness, washing the residue in water, adding a little calcined and well washed magnesia, boiling and evaporating in a water bath, the greater part of the odorous matter of the gentian is driven off; the acidity is removed by the magnesia, and the bitter principle remains, partly free, and partly in a state of combination with magnesia, to which it imparts a beautiful yellow colour. Then upon boiling this magnesia with ether, the greater part of the bitter principle is obtained pure, and is insulated by evaporation. If it be wished to separate the bitter principle which remains in the magnesia, in a fixed state, and which could not be taken up by the ether, we may treat it with oxalic acid, in a quantity sufficient to produce slight acidity. This acid unites with the magnesia, and sets the bitter principle at liberty, which may be obtained in the manner already pointed out.

Properties of Gentianine.—This substance is yellow, and inodorous, possessing very strongly the aromatic bitter taste of the gentian, which is much increased by solution in an acid. It is highly soluble in ether and in alcohol, and separates by spontaneous evaporation in the form of very small yellow crystalline needles. It is much less soluble in cold water, which nevertheless it renders exceedingly bitter: in boiling water it is more readily dissolved. Diluted alkalis deepen its colour very much and dissolve rather more of it than water will alone.

Action of Gentianine on the Animal and Human System.—M. Magendie has ascertained by experiment that this substance is not possessed of any poisonous qualities; several grains injected into the veins produced no effect. He himself swallowed two grains dissolved in alcohol, and was merely sensible of the extreme bitter taste, and a slight sensation of heat in the stomach.

Medicinal Employment.—The tincture seems to be the preferable form for administration; and it may be made in the following manner:—

Take of Alcohol at 24° . . . 1 ounce. Gentianine . . . 5 grains. Mix.
This may be substituted for the tincture of gentian, and employed in the same circumstances.

Syrup of Gentianine.—Take of Simple syrup . . 1 pound. Gentianine . . . 16 grains.
Make a syrup.

This is one of the best bitters that can be employed in scrofulous affections.

MEDICAL PROPERTIES AND USES.—The root of this plant has been used from time immemorial as a valuable tonic, and occupied the first place as a febrifuge before the discovery of the Cinchonas. In large doses it is somewhat aperient; but in smaller ones is found highly beneficial in dyspepsia, gout, hysteria, and jaundice; and in all those cases of debility in which tonics are administered. The infusion, as ordered by the London College, is the most elegant and proper mode of administering it, and forms an excellent medium for the exhibition of chalybeates, mineral acids, and neutral salts, with which it is often necessary to combine it. The following is the form:—

Take of, Gentian root, sliced, orange peel bruised, coriander seeds bruised, of each a *drachm*.
Fresh lemon peel two *drachms*, boiling water twelve *fluid ounces*.



Nymphaea nelumbo -

NYPHÆA NELUMBO.—THE LOTUS OF INDIA.

CLASS XIII. POLYANDRIA.—ORDER VI. POLYGYNIA.

NATURAL ORDER, NYPHÆACEÆ.—THE WATER-LILY TRIBE.*

CARPELS many, distinct, and half immersed in the profoundly honey-combed obconical, elevated torus, each bearing a style with a solitary seed in each carpel which is exarillate, and destitute of albumen. Flowers large showy, white, red, or yellow. Both leaves and flowers rising above the surface of the water.

The Trunk of the root horizontal, fleshy, white, sending out many fibres from the under surface. Petioles long, rising beyond the surface of the water, scabrous with acute tubercles. Leaves large, 1 or 2 feet in diameter, exactly peltate in the centre, orbicular entire, glabrous, under surface palest, margins somewhat waved. Peduncles longer than the petioles, erect, scabrous. Flowers large, emulating *Pœonia* and *Papaver*, white or red. Fruit resembling an instrument once used in play by the French, by the very antique name *Lotos* (D. C.) It was known to the Greeks, and is said by Herodotus, Theophrastus, and others, to be a native of Egypt, but no modern traveller has observed it in that country. There can, however, be no doubt of its having actually existed there, either naturally or cultivated, since the terms in which it is described by those authors are too clear and decisive to be mistaken, and their accounts are confirmed by ancient Egyptian sculptures and mosaics, which are still preserved, and testify that from the earliest times it, as well as the proper *Lotos*, has obtained a religious reverence. It is remarkable that neither Herodotus nor Theophrastus, the most ancient writers by which it is described, have attributed any sacred character to it, but speak of it as only used as food by the Egyptians. Both root and seeds are esculent, sapid and wholesome. They are accounted cooling and strengthening, and to be of service in extreme thirst, diarrhœa, tenesmus, vomiting, and too great internal heat. In China it is called *Lienwha*, and the seeds, and slices of the hairy root, with the kernels of apricots and walnuts, and alternate layers of ice were frequently presented to the British Ambassador and his suite at breakfasts given by some of the principal Mandarins. The roots are laid up by the Chinese in salt and vinegar for the winter. Sir George Staunton remarks that the leaf besides its common uses, has, from its structure, growing entirely round the stalk, the advantage of defending the flower and fruit arising from its centre from contact with the water, which might injure them. He also remarks that the stem never fails to ascend in the water from whatever depth, unless in a case of sudden inundation, until it attains the surface, when its leaf expands, rests upon it, and often rises above it. Many varieties of the plant are distinguished by the Chinese; one of them with pure-white flowers, and another having about an hundred petals white or rose-coloured. From the root of the *Nelumbo* Sir George Staunton says the Egyptians are supposed to have prepared their *Colocasias*, but the plant is no longer to be found wild in that country, from which circumstance some naturalists infer that it never was indigenous there, but cultivated by the inhabitants with extreme care. The ancient Romans made repeated efforts to raise it among them from seeds brought out of Egypt. Dr. Patrick Browne is of opinion that the ancients confounded two plants under the name of *Lotos* or *Egyptian-bean*, and that under these titles they described the upper parts of the *Nelumbium* and the roots of *Cladium Colocasia* now commonly called *Coccos* in Jamaica. Thunberg says that it is considered as a sacred plant in Japan, and pleasing to their deities, and that the images of their idols were often drawn sitting on its large leaves. Loureiro relates that it abounds in muddy marshes in India and China, and is cultivated in large handsome pots in the gardens and houses of the Mandarins. The Chinese have always held this plant in such high value, that at length they regarded it as sacred. The seeds are somewhat of the size and form of an acorn, and of a taste more delicate than that of almonds. The ponds in India and China are literally covered with the plant, and exhibit a very showy appearance when it is in flower, and the flowers are no less fragrant than handsome. The leaves grow out of the water, and do not float upon it, as is usual with the rest of the tribe. It is the *Pythagorean bean* of the ancients, and has been regarded from the most remote periods as an emblem of fertility. Perhaps many species are confused under *N. speciosum*.

The flowers of the Lotus are often blue, and in speaking of the Spirit of Love, a great authority says:—

His floating eyes—Oh! they resemble,
Blue water-lilies when the breeze,
Is making the stream around them tremble.†

* We are indebted for the annexed figure to Mr. James Smith's "Exotic Botany."

† Lalla Rookh.

The love of flowers, says the author of the *Flora Domestica*, is a sentiment common alike to the great and to the little; to the old and to the young; to the learned and the ignorant, the illustrious and the obscure. While the simplest child may take delight in them, they may also prove a recreation to the most profound philosopher. Lord Bacon himself did not disdain to bend his mighty intellect to the subject of their culture.

Lord Burleigh also found recreation from the cares of state in his flower-garden. Ariosto, although utterly ignorant of botanical science, took even an infantine pleasure in his little garden; and we are informed by his son, that after sowing a variety of seeds, he would watch eagerly for the springing of the plants, would cherish the first peep of vegetation, and having for many days watered and tended the young plant, discover at last that he had bestowed all this tenderness upon a weed; a weed, perhaps, which had choked the plant for which he had mistaken it.

"He treated his garden as he did his verses, never leaving any thing three months in the same place. Whenever he planted or sowed any thing, he went so often to see if it sprouted, that at last he broke the shoot: and having little knowledge of plants, he took any leaves that appeared near the place where he had sown his seed for the plants sown, and tended them with the greatest diligence, till his mistake was clear beyond doubt. I remember once when he had sown some capers, he went every day to look at them, and was delighted to see them thrive so well. At last he found these thriving plants were young elders, and that none of the capers had appeared."—NOTES BY VIRGINIO ARIOSTO, FOR A LIFE OF HIS FATHER.

Who can read this anecdote of so great a man, and not feel an additional interest in him! In how amiable a light it represents him! Was a cruel, unfeeling, or selfish man ever known to take pleasure in working in his own garden? Surely not. This love of nature in detail (if the expression may be allowed) is a union of affection, good taste, and natural piety.

How amiable a man was Cowper!—and Evelyn too, and Evelyn's friend, Cowley, who addressed to him a poem entitled *The Garden*. Gessner also is represented as of a kindred sweetness of nature. They all worked in their own gardens, and with enthusiastic pleasure.

Barclay, the author of the *Argenis*, rented a house near the Vatican, in Rome, with a garden in which he planted the choicest flowers, principally such as grow from bulbs, which had never been seen in Rome before. He was extremely fond of flowers, particularly of the bulbous kind, which are prized chiefly for their colours, and purchased the bulbs at a high price.

Pope had the same taste, and was assisted in his horticultural amusements by Lord Peterborough. One of the most interesting descriptions of him represents him as being seen before dinner in a small suit of black, very neat and gentlemanly, with a basket in his hand containing flowers for the Miss Blounts. Rousseau, who has written some interesting Letters on Botany, of which among his other accomplishments he was master, found friends in the flowers, when he thought he had no others.

The great operations of nature during this month, says Dr. Aikin, seem to be, to dry up the superabundant moisture of February, thereby preventing the roots and seeds from rotting in the earth; and gradually to bring forward the process of evolution in the swelling buds, whilst, at the same time, by the wholesome severity of chilling blasts, they are kept from a premature disclosure, which would expose their tender contents to injury from the yet unsettled season. This effect is beautifully touched upon in a simile of SHAKESPEAR'S:—

And like the tyrannous breathings of the north,
Checks all our buds from blowing.

This seeming tyranny, however, is to be regarded as the most useful discipline; and those years generally prove most fruitful, in which the pleasing appearances of Spring are the latest.

The sun has now acquired so much power, that on a clear day we often feel all the genial influence of Spring, though the naked shrubs and trees still give the landscape the comfortless appearance of Winter. But soft pleasant weather in March is seldom of long duration.

As yet the trembling year is unconfin'd,
And Winter oft at eve resumes the breeze,
Chills the pale morn, and bids his driving sleets
Deform the day delightless.

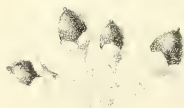
As soon as a few dry days have made the land fit for working, the farmer goes to the plough; and if the fair weather continues, proceeds to sowing oats and barley, though this business is seldom finished till the next month. The importance of a dry season for getting the seed early and favourably into the ground, is expressed in the old proverb:—

A bushel of March dust is worth a king's ransom.



a

Canella alba



b

c

CANELLA ALBA.—WHITE, OR LAUREL-LEAVED CANELLA.

CLASS XI. MONADELPHIA.—ORDER I. DODECANDRIA.

NATURAL ORDER, MELIACEÆ.—THE BREAD-TREE TRIBE.

Fig. (a.) a flower, with its petals forcibly expanded; (b.) the fruit; (c.) the pistil standing on the 3-lobed calyx magnified, with the two stigmas.

THE *Canella* is a common tree in most of the West India islands, and on the continent of South America, growing in the inland woods, where it attains a considerable size.

The stem rises from ten to fifteen feet in height, very straight and upright, and divided only at the top. The branches are erect, and not spreading; furnished with petiolated leaves, irregularly alternate, oblong, obtuse, entire, of a dark green colour, thick like those of the laurel, and shining. The bark is whitish, by which it is commonly known at first sight in the woods. The flowers, which grow at the extremities of the branches in clusters upon divided foot-stalks, are small, of a violet colour, and seldom open. The calyx is 5-leaved, and persistent; the sepals are roundish, concave, smooth, and membranous. The petals are five times as long as the calyx, oblong, sessile, concave, erect, two a little narrower than the others. The stamens are monadelphous, the filaments forming an urceolate tube, sometimes called a nectary, to the outer side of which the anthers adhere. The germen is superior, within the nectary-like tube, ovate, and 3-celled; the style is cylindrical, with three rough, convex, blunt stigmas. The fruit is an oblong, fleshy, 3, or by abortion 1-celled, smooth, black 1-2 seeded berry. The seeds are exalbuminous, the embryo curved, and the cotyledons linear. The annexed plate represents a branch of the tree in flower, and the berries of their natural size.

About the year 1579, as Captain Winter, who commanded the Elizabeth, which formed part of the squadron under the command of Sir Francis Drake, was sailing through the straits of Magellan, he discovered the *Wintera aromatica*, which yields a bark, first mentioned, described, and named by Clusius, as *Cortex Winteranus*, in compliment to the discoverer. Clusius was the first, also, to record the introduction of *Canella alba*, about the beginning of the seventeenth century; which Parkinson says, was in his time often mistaken for Winter's bark: it was John Bauhin, however, who first confounded the names, by styling *Cortex Winteranus*, *Canella alba*: and although Sir Hans Sloane gave separate descriptions of each in the Transactions of the Royal Society, the botanical distinctions were paid so little attention to by Lemery, Pomet and other writers on the materia medica, that Linnæus himself was led into error, and combined two different genera under the name of *Laurus Winterana*. He afterwards separated the *Canella alba* from *Laurus*, and established it as a distinct genus, by the name *Winterania*; under which title it has been universally, but very improperly known; for while the tree we have figured comes, as we have already stated, from the West Indies, the *Wintera aromatica*, whose existence remained in oblivion nearly a century, during which time the bark of the former was substituted for it, is found in the neighbourhood of the Antarctic regions, and belongs to a different class. An excellent plate of it is given in Vol. V. of Medical Observations and Inquiries, and to that work we are indebted for the subjoined botanical account by Dr. Solander; which it will be well to compare with the one already given of *Canella alba*.

"The *Winter's Bark-tree*, *Winterana aromatica*, is one of the largest forest trees upon Terra del Fuego; it often rises to the height of fifty feet. Its outward bark is, on the trunk, grey, and very little wrinkled, on the branches quite smooth and green.

"The branches do not spread horizontally, but bent upwards, and form an elegant head of an oval shape.

"The leaves come out, without order, of an oval elliptic shape, quite entire, obtuse, flat, smooth, shining, of a thick, leathery substance, evergreen, on the upper side of a lively deep green colour, and of a pale bluish colour underneath, without any nerves, and their veins scarcely visible; they are somewhat narrower near the footstalks, and there their margins are bent downwards.

"In general, the leaves are from three to four inches long, and between one and two broad; they have very short footstalks, seldom half an inch long, which are smooth, concave on the upper side, and convex underneath. From the scars of the old footstalks the branches are often tuberculated.

"The peduncles, or footstalks for the flowers, come out of the *axille foliorum*, near the extremity of the branches; they are flat, of a pale colour, twice or three times shorter than the leaves; now and then they support only one flower, but are oftener near the top divided into three short branches, each with one flower.

"The bractæ are oblong, pointed, concave, entire, thick, whitish, and situated one at the basis of each peduncle.

"*Calyx*, or *flower-cup*, it has none; but in its place the flower is surrounded with a *spatheous* gem, of a thick, leathery substance, green, but reddish on the side which has faced the sun: before this gem bursts, it is of a round form, and its size is that of a small pea. It bursts commonly so that one side is higher than the other, and the segments are pointed.

"The *corolla* consists always of seven petals, which are oval, obtuse, concave, erect, white, have small veins, and are of an unequal size, the largest scarcely four lines long; they very soon fade, and drop off almost as soon as the gem bursts.

"The filaments are from fifteen to thirty, and are placed on the flattened side of the receptacle; they are much shorter than the petals, and gradually decrease in length towards the sides.

"The *antheræ* are large, oval, longitudinally divided into two, or as if each were made up of two oblong *anthers*.

"The *germina* are from three to six, placed above the receptacle, turbinate, or of the shape of an inverted fig, flat on the inside, and somewhat higher than the stamina; they have no styles, but terminate in a stigma, which is divided into two or three small lobes.

"The fruit I have never seen in its perfect ripe state, but can conclude from the unripe ones, which I saw in abundance, that each germin becomes a separate seed-vessel, of a thick, fleshy substance, and unilocular: in each I could plainly discern the rudiments of three, four, or five seeds."

"The bark," (says Dr. Fothergill,) "of the *Winterania*, or *Winter's cinnamon*, brought over by the Dolphin, in respect to figure, exactly resembles that which was delineated by Clusius. The pieces are about three or four inches square, of different degrees of thickness, from a quarter to three-quarters of an inch. It is of a dark brown cinnamon colour, an aromatic smell if rubbed, and of a pungent, hot, spicy taste, which is lasting on the palate, though imparted slowly. It has the name of *Winter's cinnamon*, from a faint resemblance in colour and flavour to that grateful aromatic, though differing from it greatly in every other respect. This bark is only brought to us from the Straits of Magellan, and is the produce of the tree above described. Much celebrated as an antiscorbutic by the first discoverers, but unknown in the practice of physic, no quantity, except as a curiosity, having been brought to Europe till the return of the ships sent out on the expeditions to the South Seas."

QUALITIES AND CHEMICAL PROPERTIES.—Every part of the tree exhales a powerful aromatic odour, and when in blossom, perfumes the whole neighbourhood. The flowers, dried, and softened again in warm water, are said to diffuse an odour nearly approaching to that of musk. The leaves have a strong smell of laurel. The berries, after having been some time green, turn blue, and become at last of a glossy black colour, and have a faint aromatic taste and smell. They are, when ripe, as well as the fruits of several kinds of laurel, very agreeable to the white-bellied and bald-pate pigeons, (*Columba Jamaicensis* and *leucocephala*,) which feeding upon them, acquire that peculiar flavour so much admired in the places where they are found.

Canella alba is brought to England in casks and cases; the principal part is in quills, which are of a whitish yellow; while the flat pieces, which are somewhat thicker, are of a rather darker colour. The odour is strongly aromatic; the taste aromatic also, more like the clove than the cinnamon, warm, pungent, and somewhat bitter. It gives out all its virtues to alcohol, but the infusion, though bitter, possesses little of its aromatic properties. The infusion is not altered by galls; sulphate of iron, or zinc; muriate of mercury, or tartarized antimony; but nitrate of silver, and acetate of lead, render it milky, and throw down precipitates. The essential oil is often scented with the oil of cloves, and sold for it.

The results of analysis are, that it affords resin, volatile oil, extractive and colouring matters, gum, amidon, albumen, the acetates of potash and lime, hydrochlorate of potash, and hydrochlorate of magnesia. —*Journ. de Pharm.* vii. 197.

MEDICAL PROPERTIES AND USES.—On account of its aromatic flavour, *Canella alba* is employed to cover the taste of several articles of the materia medica. Combined with aloes, it forms a popular remedy, well known by the name of *hiera piera*, and added to the tincture and infusion of senna, it covers its nauseous taste, renders it much more grateful to the palate, prevents it from griping, and might be advantageously substituted for the cardamom seeds, which enter into the composition of the former. It appears to be more useful as a condiment than as a medicine, for the bark, together with the fruit of the capsicum, were formerly common ingredients in the food and drink of the Caribs, the ancient natives of the Antilles; and even at present it makes a necessary addition to the meagre pot of the negroes. In Martinique the berries are made into a much esteemed liquor.

DOSE.—From ten grains to thirty, or more.

OFF PREP.—Tinctura Gentiane composita. E.

Vinum Aloes. L. E.

Pulvis Aloes cum Canella. D.



Hyoscyamus niger

HYOSCYAMUS NIGER.—COMMON HENBANE.

CLASS V. PENTANDRIA.—ORDER I. MONOGYNIA.

NATURAL ORDER, SOLANÆÆ.—THE NIGHT-SHADE TRIBE.

COMMON HENBANE is an annual plant, growing naturally in many parts of our island, on waste grounds, and particularly on dry calcareous soils, on the sea coast of Essex and Kent; flowering in July. The figure was drawn from a specimen found on Barnes Common, the only locality in the immediate vicinity of the metropolis with which we are now acquainted: we have seen it at Hampstead, but it has been for several years extirpated, the London herb-shops being chiefly supplied with it from Birch, near Colchester, and the Isle of Thanet, where it grows in great abundance. Mr. Greville, in his "Flora Edinensis," on the authority of Mr. Neill, mentions it as occurring at Lochend, and on the south-east end of the debris of Salisbury Craigs.

The root is fusiform, long, thick, wrinkled, brown externally, and white within. The stem rises to the height of two feet; is erect, branched, woody, cylindrical, somewhat viscid, and covered with a hairy down. The leaves surrounding the stalk at their base, stand irregularly, or in alternate order; are large, clammy like the stalks, soft, woolly, pointed at the ends, very deeply sinuated at the edges, and of a glaucous green colour. The flowers are numerous, mostly sessile, of a straw-yellow colour, reticulated with dark purple veins; and either emerge singly from the axillæ of the leaves, or form long drooping, unilateral spikes, at the extremity of the stem and branches. A variety without these veins is mentioned by Sir J. E. Smith, as having been found by the Rev. J. Forby at Fincham, in Norfolk. The corolla is gamopetalous, funnel-shaped, and divided into five obtuse segments. The calyx is tubular, 5-cleft, and remains till the fruit is ripe. The filaments are inserted into the tube of the corolla, downy at the base, subulated, inclined inwards, and supporting heart-shaped anthers of a deep purple colour. The germen is roundish; style filiform, the length of the stamens, with a blunt round stigma. The capsule is ovate, filling the body of the calyx; bilocular, and opening transversely by a convex lid. It contains numerous, small, obovate, unequal brown seeds. The whole plant is covered with soft, unctuous hairs.

The systematic name, *Hyoscyamus*, is of Greek origin, and is derived from *ἵος, ὄος, ἡος*, and *κνῆμος*, a bean, HOGS-BEAN: because the exterior of the capsule has some resemblance to the shape of a bean, and the herb may be eaten by swine with impunity: whereas to most other animals it proves poisonous. Ælian, however, relates that if this plant be devoured by pigs, its effects are extremely prejudicial, occasioning convulsions, and even death. The trivial name *niger* (black) is expressive of the colour of the seeds, and serves to distinguish the present species from another kind of European Henbane with white seeds, and which for that reason is termed *Hyoscyamus albus*. The English name Henbane, seems to be derived from the effects of the seeds on fowls; *Bana*, being the Saxon word for murdering, slaying, &c.; thus the plant is the destroyer, or *bane*, of hens. Matthioli, in his Commentaries on Dioscorides, asserts that he was a witness to the effects of the seeds on children, and that birds, especially of the gallinaceous tribe, and fishes, die soon after eating them.

QUALITIES AND CHEMICAL PROPERTIES.—The whole plant has a strong fetid narcotic smell, and abounds in a clammy juice of a similar odour. The root has a sweetish taste, which has caused it to be sometimes mistaken for that of the parsnip. Exsiccation is said to destroy these sensible qualities. Its virtues are completely extracted by diluted alcohol. The watery infusion is of a very pale yellow colour, and insipid; and has the narcotic odour of the plant. It is not altered by the acids; the alkalies change the colour to a deep greenish yellow, which, on the addition of an acid, disappears, and a brownish flocculent precipitate is produced. Copious white precipitates are produced by the solution of subacetate of lead; and black ones by nitrate of silver. Sulphate of iron strikes with it a pale olive colour, and a dark precipitate is slowly formed. Nitrate of mercury also produces a large precipitate; the watery and alcoholic solutions do not disturb each other. Brandes has succeeded in extracting from the seeds an alkaline principle, termed *hyoscyamine*, on which its active properties depend; its vapour is exceedingly prejudicial.

POISONOUS EFFECTS AND MORBID APPEARANCES.—Henbane, when administered in too large a dose, becomes a very dangerous poison. The effects produced by this plant, besides madness, are symptoms of intoxication, stupor, remarkable dilatation of the pupil, apoplexy, and convulsions; terminating in death. On dissection, the internal surface of the stomach is often found inflamed, and covered with gangrenous spots; the brain also exhibits appearances denoting great vascular excitement.

“Wepfer relates, that several monks made a repast on the roots of wild endive, among which were mixed by mistake two roots of henbane. In a few hours some experienced vertigo; others a burning of the tongue, lips, and throat. Severe pains were also felt in the iliac region, and in all the joints. The intellectual faculties and organs of vision were perverted, and they gave themselves up to actions that were mad and ridiculous. They however recovered. In other cases a haggard countenance, dilatation of the pupils,

difficulty of breathing, small and intermittent pulse, loss of speech, trismus, and temporary loss of intellect, have been the principal symptoms; while the extremities have been observed to be cold, and nearly paralyzed. An enema, prepared from a decoction of henbane, caused a numbness and loss of motion of the upper and lower extremities, propensity to sleep, and difficulty of hearing."—*Orfila*, vol. II. p. 135 to 139. *Foderé*, vol. IV. p. 25.

"Its effects in large doses have been well described by M. Cloquet, as they occurred in two soldiers who ate the young shoots dressed with olive oil. They presently became giddy and stupid, lost their speech and had a dull haggard look. The pupils were excessively dilated, and the eyes so insensible that the eye-lids did not wink when the cornea was touched. The pulse was small and intermittent, the breathing difficult, the jaw locked, and the mouth distorted by *risus sardonius*. Sensibility was extinct, the limbs were cold and palsied, the arms convulsed, and there was that singular union of delirium and coma which is usually termed *typhomania*. One of the men soon vomited freely under the influence of emetics, and in a short time got quite well. The other vomited little. As the palsy and somnolency abated, the delirium became extravagant, and the patient quite unmanageable till the evening of the subsequent day, when the operation of brisk purgatives restored him to his senses. In two days both were fit for duty." *Christison from Corvisart*.

"Wilmer gives an interesting account of six persons poisoned by eating the roots of henbane in mistake for parsnips. Several were delirious and danced about like maniacs; one appeared as if he had got drunk, and a woman became profoundly and irrecoverably comatose. Emetics could not be introduced into the stomach, external stimuli of every kind failed to rouse her, and she expired next morning at six." *Ib.*

"Dr. Patouillat, of Toucy, in France, saw nine persons who were poisoned with this root. Some were speechless and convulsive; others occasionally howled. In all there was a protrusion of the eyes, contortion of the mouth, and delirium. Emetics relieved them, but their sight was for some days affected, and all objects appeared red, like scarlet."—*Phil. Transact.* vol. XL. p. 446.

Hyoscyamus aureus, *physaloides*, and *Scopolia*, are all deemed to be poisonous: and the following account is illustrative of the effects of *H. albus*.

"In April 1792, a large quantity was carried by mistake on board the French corvette *La Sardine*, which the sailors had gathered in one of the isles of Sapienzi, in the Morea. A part of it was put into the ship's copper, and the remainder into those of some of the subaltern officers. At four o'clock they all dined. In a short time, vertigo, vomiting, convulsions, &c. were generally experienced: and when Dr. Picard, the surgeon, came on board, he observed the gunner making a thousand grimaces and contortions. By keeping up the evacuations, most of them recovered; but those in whom there were none, remained for some time in a sickly condition."—*Foderé*, vol. IV. p. 23.

TREATMENT.—When henbane is taken in an over dose, the effects are decidedly *narcotic*; and the same treatment is required that is recommended for *Atropa Belladonna*.

MEDICAL PROPERTIES AND USES.—Henbane is one of our most valuable narcotics. The principal use which is made of it, is as a substitute for opium, when the latter disagrees, or is contra-indicated by particular symptoms. In moderate doses it acts as a powerful sedative, diminishing excess of irritability; induces sleep, relieves chronic and anomalous pains of the abdominal viscera, and is often employed, with singular advantage. Conjoined with purgatives, it does not impede their operation; and is therefore frequently prescribed with colocynt and other drastic purgatives, where the bowels are irritable, and where it is necessary to increase their secretions. Colica pictorum, hysteria, rheumatism, gout, and palpitation of the heart, are complaints for which henbane is often recommended: while the bruised leaves have been advantageously used as an external application, in the form of cataplasm, to scrofulous and cancerous ulcers, and other painful diseases. But as in some cases it produces unpleasant symptoms, and sleep, which is laborious and unrefreshing, it is generally resorted to more as a secondary medicine than one which we may confidently apply at first, with reliance on its anodyne effects.

The properties of the seeds would appear to differ from those of the leaves and root; adding some of the symptoms of irritant to those of narcotic poisons; for in several cases persons who have taken the seeds have suffered from convulsions, heat, and dryness in the throat, burning in the stomach, great thirst and delirium; this may probably account for the occasional unpleasant effects that follow the exhibition of an extract, in which perhaps the seeds have been carelessly mixed with the leaves.

DOSE. The dose of the extract may be from grs. v. to ʒj; of the tincture from gtt. xx. to ʒj.

OFF. PREP. Extractum Hyoscyami, *L. E. D.* Tinctura Hyoscyami, *L. E. D.*

Henbane appears to be the poison whose effects are so poetically described by Shakespeare under the name of *hebenon*.

— Sleeping within mine orchard,
My custom always of the afternoon,
Upon my secure hour thy uncle stole,
With juice of cursed hebenon in a vial,
And in the pores of mine ear did pour
The lecherous distillment; whose effect

Holds such an enmity with blood of man,
That, swift as quicksilver, it courses through
The natural gates and alleys of the body;
And, with a sudden vigour, it doth posset
And curd, like eager droppings into milk,
The thin and wholesome blood: so did it mine, &c.
Hamlet, Act I. Scene 5.



Cucumis melo.

CUCUMIS MELO.—THE MELON.

CLASS XXII. DICEIA.—ORDER VII. POLYADELPHIA.

NATURAL ORDER, CUCURBITACEÆ.—THE GOURD TRIBE.

CUCUMIS MELO (Lin. spec. 1436.) stem trailing, scabrous, cirriferous; leaves roundish, angular, petiolate; male flowers having the tube of the calyx rather ventricose at the base, and rather dilated at the apex; stamens inclosed; anthers shorter than their connectives: the hermaphrodite flowers with the anthers as in the males; stigmas 3-4, shortly 2-lobed; fruit ovate or sub-globose, 8-12-furrowed; flesh sugary, yellow, red, or white.

Native of Asia. Called *rhetimou* by the Hindoos; *Melon*, Engl. and Fr.; *Melone*, Germ.; *Mellone*, Ital.

The *melon* is a tender annual, producing one of the richest fruits brought to the dessert, and has been cultivated in England since 1570, but the precise time of its introduction is unknown. It was originally brought to this country from Jamaica, and was, till within the last fifty years, called the *muskmelon*. The fruit, to be grown to perfection, requires the aid of artificial heat and glass throughout every stage of its culture. Its minimum temperature may be estimated at 65°, in which it will germinate and grow; but it requires a heat of from 75° to 80° to ripen its fruit, which, in ordinary cases, it does in 4 months from the time of sowing the seed.

Varieties.—There are numerous varieties, many of which, especially those raised from seeds brought from Italy and Spain, are not worth cultivating. The best sorts are included under the name of *Cantaloups*, an appellation bestowed on them from a seat of the Pope near Rome, where this variety is supposed to have been originally produced. The general character of the *Cantaloups* is a roundish form, rough, warty, or netted outer rind; neither very large in fruit or leaves. The *Romanas*, an Italian sort, are next in esteem, are generally oval-shaped, regularly netted; the fruit and leaves middle-sized, and the plants great bearers. Many varieties of both these sorts, however, that were formerly in esteem, are now lost, degenerated, or supplanted by others of Spanish or Persian origin.

Culture under hand-glasses.—A successive or late crop, to fruit in August and September, may be raised on hot-bed ridges under hand-glasses. Sow in a hot-bed from the middle of March to the middle of April. When the plants have been up a few days, while in the seed-leaves, prick some into small pots, two plants in each; water and plunge them into a hot-bed, managing as directed for the young frame plants, till the rough leaves are from 2-4 inches long, and the plants ready to shoot into runners. From the middle of March to the third week of May, when the plants are a month or five weeks old, they will be fit to ridge out under hand-glasses. With well-prepared stable-dung, or, with a mixture of fermented tree-leaves, build the hot-bed four feet wide and 2½ feet thick, the length according to the number of glasses intended, allotting the space of 4 feet to each. In a week or ten days, or when the dung and leaves are brought to a sweet or well-tempered heat, mould the bed 10 or 12 inches thick, then place the glasses along the middle, and keep them close till the bed has warmed the earth. The same or next day, insert the plants; turn them out from the pots with the ball of earth entire, and allotting plants for each glass, insert the ball into the earth, clean down over the top, closing the mould about the stems. Give a little water and place the glasses over close. From about nine in the morning till three in the afternoon, of the first two or three days, shade the plants till they have taken root, when admit the sun more freely, yet only by degrees from day to day, till they can bear it fully without flagging much. Give air daily, in temperate weather, by tilting the edge of the glasses on the south side, an inch or two; but in the present stage of the plants shut close at night. Cover with mats till morning, constantly keeping the glasses over. Give occasional moderate waterings with aired water. Cover in the day time with mats in bad weather, or heavy or cold rains; and continue the night covering until confirmed summer in July. Meanwhile attend to the heat of the bed; if this be declined, so that the minimum temperature be not 65° at night, with the aid of matting, line the sides with hot dung, covered with a layer of mould. The revived heat from the linings will forward the plants in fruiting, while the earth at top will enlarge the surface for the runners, and the bed for the roots. When the runners have extended considerably and filled the glasses, they must be trained out. Accordingly, at the beginning of June, in favourable settled warm weather, train out the runners, cutting away dwindling and useless crowding shoots; then the glasses must be raised all round, 2 or 3 inches, upon props to remain day and night. Cover with mats in cold nights and bad weather, but first arch the bed

over with rods or hoop-bands to support the mats. Apply moderate waterings as necessary in the morning or afternoon. Oiled paper frames, formed either archwise, or with 2 sloping sides, about 2 feet or 2½ feet high, and of the width of the bed, are very serviceable in this stage. Some persons use them from the first, under a deficiency of hand-glasses. But the proper time for having recourse to them, is when the plants have been forwarded in hand-glasses till the runners require training out beyond the limits of the glasses, some time in June; then removing the glasses, substitute the oiled frames, as these paper screens will entirely afford protection from heavy rains or tempests, as well as from nocturnal cold, and also screen the plants from the excessive heat of the sun, while, being pellucid, they admit its influence, of light and warmth effectually. Give proper admission of free air below, and occasionally watering.

A melon, says Mr. C. Williams, is the richest and most highly-flavoured of all the fleshy fruits. It was freely used in early times, and has been long raised in our own country. Here and in France it is grown as a luxury, but in some parts of the East it is the chief necessary of life. Niebuhr, the celebrated traveller, says, "Of pumpkins and melons, several sorts grow naturally in the woods, and serve for feeding camels; but the proper melons are planted in the fields, where a great variety of them is to be found, and in such abundance that the Arabians of all ranks use them, for some part of the year, as their principal article of food. They afford, also, a very agreeable liquor. When the fruit is nearly ripe, a hole is pierced into the pulp, then stopped with wax, and the melon is left upon the stalk. Within a few days after, the pulp is, in consequence of this process, converted into a delicious liquor." To this Mr. Southey alludes when he says:—

"Whither is gone the boy?
He had pierced the melon's pulp,
And clothed with wax the wound;
And he had duly gone at morn,
And watched its ripening rind;
And now all joyfully he brings
The treasure now matured."

Of melons there is a great variety, and the number is constantly increasing. In Persia twenty sorts are known; the finest grow in Khorasan. The fruit there is so large that two or three melons are a full load for a man.

The following lines are from a "Hymn to Spring" by Wilson, author of the "Isle of Palms.—

————— Ye fair Trees,
How are ye changed, and changing while I gaze!
It seems as if some gleam of verdant light
Fell on you from a rainbow; but it lives
Amid your tendrils, brightening every hour
Into a deeper radiance. Ye sweet Birds,
Were you asleep through all the wintry hours,
Beneath the waters, or in mossy caves?
There are, 'tis said, birds that pursue the spring,
Where'er she flies, or else in death-like sleep
Abide her annual reign, when forth they come
With fresher'd plumage and enraptured song,
As ye do now, unwearied choristers,
'Till the land ring with joy. Yet are ye not,
Sporting in tree and air, more beautiful
Than the young lambs, that from the valley-side
Send a soft bleating like an infant's voice,
Half happy, half afraid! O blessed beings!
At sight of this your perfect innocence,
The sterner thoughts of manhood melt away
Into a mood as mild as woman's dreams.
The strife of working intellect, the stir
Of hopes ambitious; the disturbing sound
Of fame, and all that worshipp'd pageantry
That ardent spirits burn for in their pride,

Fly like departing clouds, and leave the soul
Pure and serene as the blue depths of heaven.
Now is the time in some meek solitude
To hold communion with those innocent thoughts
That bless'd our earlier days; to list the voice
Of conscience murmuring from her inmost shrine
And learn if still she sing the quiet tune
That fill'd the ear of youth. If then we feel,
That 'mid the powers, the passions, and desires
Of riper age, we still have kept our hearts
Free from pollution, and 'mid tempting scenes
Walk'd on with pure and unrepented steps,
Fearless of guilt, as if we knew it not;
Ah me! with what a new sublimity
Will the green hills lift up their sunny heads,
Ourselves as stately: smiling will we gaze,
On the clouds whose happy home is in the heavens;
Nor envy the clear streamlet that pursues
His course 'mid flowers and music to the sea.
But dread the beauty of a vernal day,
Thou trembler before memory! To the saint
What sight so lovely as the angel form
That smiles upon his sleep! The sinner veils
His face ashamed,—unable to endure
The upbraiding silence of the seraph's eyes!



Datura Stramonium.

DATURA STRAMONIUM.—OFFICINAL THORN-APPLE.

CLASS V. PENTANDRIA.—ORDER I. MONOGYNIA.

NATURAL ORDER, SOLANÆÆ.—THE NIGHT-SHADE TRIBE.

This is an annual plant originally imported from America, where it is known under the name of *Apple of Peru*, *Devil's Apple*, and *Jamestown weed*; but was first cultivated in this country from seeds that were brought from Constantinople by Lord Edward Zouch, about the year 1597, and by the old writers of that period it is called the "Thorny Apple of Peru." A variety is also native to America, which is generally a larger plant, bearing purple flowers, striped with deep purple inside, and having a reddish stem, minutely dotted with green. It is supposed to be the *D. tatula* of Linnæus, which possesses the same sensible and medicinal properties as the plant under consideration. The common Thorn-apple is an annual plant, frequently observed naturalized on dunghills, in waste places, and near gardens, in the south of England, particularly in the environs of London, whence it has been admitted into our Flora, by Sir J. E. Smith, and figured in "English Botany," t. 1288.

The thorn-apple rises from a white, branched, woody, and fibrous root, to the height of about two feet. The stem is herbaceous, erect, round, smooth, of a yellowish green colour, undivided below, dichotomous above, and clothed with leaves, springing from the divisions of the stem and branches; which are of a dark green colour on the upper surface, and paler beneath; ovate, pointed, smooth, alternate, sinuated, and toothed, on long cylindrical footstalks. The flowers are large, erect, of a snow-white colour, and proceed singly, on short footstalks from the axillæ of the stem and branches. The calyx is monosepalous, oblong, tubular, and five-toothed: the corolla is funnel-shaped, with the tube cylindrical, longer than the calyx; the limb, spreading, five-angled, acuminate, with five teeth. The filaments are five, awl-shaped, and support oblong flat heart-shaped anthers. The style is erect, filiform, the length of the stamens, with an obtuse bi-lobed stigma. Germen ovate. The fruit is a roundish, ovate capsule, beset with sharp awl-shaped spines, two-celled at the top, four-celled at the bottom, as two of the valves do not extend all through the capsule; four valved, and seated on the base of the calyx. The seeds are numerous, and kidney-shaped.

The generic name *Datura* is derived by Forskal. from the Arabic appellation *Tâtorah*. The specific name, *stramonium*, is supposed to be a corruption of *στυγερμανικον*, in reference to its effects in causing madness.

QUALITIES.—Every part of *Stramonium* when recent, has a strong, heavy, disagreeable odour: in America said to be sometimes so powerful, that intermittent fever has been ascribed to it, which Beck remarks, "is evidently laying too much stress on the plant; but its effluvia are certainly noxious." It possesses a bitter taste, and imparts to the saliva a green tinge, when chewed. Cows, horses, sheep, and goats refuse this plant.

CHEMICAL PROPERTIES.—The virtues of *Stramonium*, which appear to be extractive, are imparted to water and alcohol; but most readily to the former. This extractive principle is copiously precipitated from the infusion, by muriate of tin. With *sulphate of iron* it gives a deep green, and sometimes an olive colour; and with *gelatin* undergoes no change. The watery infusion is transparent, with a very pale yellow hue, which is dissipated by acids, but very much deepened by the alkalis. According to Wedenberg, (*Dissertatio Medica de Stramonii usu*), it contains gum or mucus, resin and a volatile principle, which Dr. A. Todd Thomson pronounces to be carbonate of ammonia. Dr. S. Cooper, of America, by evaporating infusion of *Stramonium*, observed a large number of minute crystals, resembling particles of nitre; and Professor Bigelow, thinking that they might be analogous to the crystals obtained by *Derosne* from opium, instituted a series of experiments to ascertain the fact, but was unsuccessful. Brandes has succeeded in extracting from the seeds of *Stramonium*, an alkaline principle similar to *Atropine* in its relations, to which he has given the name *Daturine*. It contains the whole of the poisonous matter of *Stramonium*, and its vapour is likewise exceedingly prejudicial.

POISONOUS EFFECTS.—*Stramonium*, when administered in too large doses, produces intoxication, nausea, delirium, loss of sense, drowsiness, a sort of madness and fury: loss of memory, sometimes permanent; convulsions, sense of suffocation, paralysis of the limbs, cold sweats, excessive thirst, dilatation of the pupil, tremblings, and death.

The Royal Society gravely inquired of Sir Philbert Vernatti, "Whether the Indians can so prepare the stupefying herb *Datura*, that they make it lie several days, months, or years, according as they will have it, in a man's body; and at the end kill him without missing half an hour's time?"

In *Beverly's History of Virginia*, p. 121, we find the following curious passage;—"The *Jamestown weed*, which resembles the thorny apples of Peru, (and I take it to be the plant so called,) is supposed to be one of the greatest coolers in the world. This being an early plant, was gathered very young for a boiled salad, by some of the soldiers sent thither to quell the rebellion of Bacon; and some of them ate plentifully of it: the effect of which was a very pleasant comedy, for they turned natural fools upon it for several days. One would blow up a feather in the air, another would dart straws at it with much fury;

another was sitting up in a corner like a monkey, grinning and making mows at them; a fourth would fondly kiss and paw his companions, and sneer in their faces with a countenance more antic than any in a Dutch droll. In this frantic condition they were confined, lest, in their folly, they should destroy themselves. A thousand simple tricks they played, and after eleven days returned to themselves again, not remembering anything that had passed."

Dr. Rush saw a child between three and four years old, who had swallowed some of the seeds. A violent fever, delirium, tremors in the limbs, and a general eruption on the skin were present, accompanied with considerable swelling, itching and inflammation. Repeated emetics and purgatives alleviated the disease and brought away some of the seeds. Dilatation of the pupils still remained, but was obviated by a continuance of the previous remedies, and she recovered.

In the transactions of the College of Physicians of Philadelphia, Dr. Bartram relates, that he was called to a child suddenly seized with idiocy without fever. The pulse was natural, tongue clean, and no internal function disturbed, excepting that of the brain. The child appeared very happy; talking, laughing, and in constant motion, yet so weak it could not stand or walk, without tottering. He exhibited an emetic, and the seeds of the *thorn-apple* were rejected, after which the child recovered.

MORBID APPEARANCES.—The stomachs of animals poisoned with the watery extract of Stramonium, were found by Orfila, inflamed: and blood was extravasated between the mucous coat, and the one subjacent to it. The lungs were of a deep red, and distended with black and fluid blood. Haller opened a woman who was poisoned by Stramonium: the cortical part of the brain was full of blood, and there were some coagula in the cavities of the cranium.

MEDICAL PROPERTIES AND USES.—Stramonium, like Belladonna, is so powerful in its effects, that it is not very generally employed in this country; and like many other valuable agents, its real utility is depreciated, through the hyperbolic and laudatory strains that have been lavished on it by its ardent admirers. Baron Störck was the first to recommend it in mania and epilepsy; and like other medicines of the narcotic tribe, it has been found to succeed in some instances, and to fail in many others. Dr. Davy, however, has found it useful in the former, by its allaying irritation, and procuring quiet sleep. And Bergius remarks, "*Sæpius ipse*," (that is, Wedenbergs) "*vidit maniacos in integrum restitutos absque relapsu, ex propinato Extracto Daturæ, per tempus quoddam continuato. Delirium post puerperium sæpe curavi cum Datura, ubi alia fefellerunt.*"

Dr. Fisher, President of the Massachusetts Medical Society, divides the cases of epilepsy into three kinds; those in which the fits return daily; in which they revive at regular periods, as monthly, or give warning of their approach by previous symptoms; lastly, those in which they do not observe any regular period, and do not give any warning of their approach. In the first two kinds he asserts, that all the cases which came under his care, and which were not very few, had been cured by Stramonium. In those of the third kind, he found it of no benefit whatever. Dr. Arch, of Maryland, confirms his statement, by observing the same distinction in his practice.

Taken in large doses, and the system kept for some time under its influence, it has afforded decided relief in Tic Douloureux; and in the most severe, and best marked case of spasmodic asthma we ever witnessed, the inspissated juice of Stramonium, brought to its proper consistence by the spontaneous action of the atmosphere, was given in doses of a quarter of a grain every four hours, and speedily produced relief. It is also said to have been successfully administered in large doses for rabies, by the practitioners of India.

Dr. Marcet published the result of his experience with Stramonium, and states that many painful diseases were more relieved by it, when taken internally, than by any other narcotic substance; and although it frequently excites nervous sensations that are disagreeable, and somewhat alarming to the patient, yet they did not always occur; and its effects on the bowels are rather relaxing, than astringent. Sometimes it rendered the pulse slower.

DOSE.—Of the inspissated juice, from half a grain to a grain.

OFF. PREP.—Extract. Stramonii. *L.*

Leigh Hunt in his usual sparkling style gives a charming list of references to writers on the month of May.

"We cannot quote Brady; we cannot quote Brand; we cannot quote Aikin; nor Hone, nor Howitt, nor ourselves, (which is hard), nor the venerable Stowe, nor Foster, nor Patmore; nor again, in poetry, may we repeat the quotation from Chaucer about May and the Daisy; nor Milton's Ode to May-morning; nor Spencer's joyous *dance* on the subject (in his Eclogues); nor his divine personification of the month in the *Færie Queene*, Book VI.; nor Shakspeare's passage in Henry the Eighth, about the impossibility of keeping people in their beds on May-morning; nor Moore's "*Young May-moon*," ("*young*" moon for "*new*," so prettily turning Lena into a girl of fifteen); nor Thomson's rich landscape in the Castle of Indolence "*between June and May*;" nor Mr. Loviband's "*Tears of Old May Day*;" nor Gay on the May-pole, nor Wordsworth's bit about the month, (all whose bits are precious,) nor Dr. Darwin's ode, (which luckily is not worth quoting,) nor twenty other poets, great and small; nor Keats (one of the first) who has described a May-bush "*with the bees about it.*" And so with this we conclude our list of negations; for even out of things negative, we would show how a positive pleasure may be extracted.



Bellis perennis.

BELLIS PERENNIS.—THE COMMON DAISY.

CLASS XIX. SYNGENESIA.—ORDER VII. POLYGAMIA SUPERFLUA.

NATURAL ORDER, COMPOSITÆ.—COMPOUND FLOWERS.

Root creeping; flower-stalk leafless.—Leaves numerous, lying flat on the ground; inversely egg-shaped, crenate, slightly hairy, tapering at the base; stalks from two to four inches long, round, hairy, each bearing a single flower, having a yellow conical disk, and a white ray tinged with purple. A variety, called the Hen and Chicken Daisy, sometimes occurs, in which several small stalks, bearing diminutive flowers, spring from the flower. Perennial: flowers from March to November, but individuals may be seen in flower at all seasons; grows in pastures and meadows, abundantly.

The following agreeable passages are from Leigh Hunt's Indicator:—

We owe a long debt of gratitude to the daisy; and we take this opportunity of discharging a millionth part of it. If we undertook to pay it all, we should have had to write such a book, as is never very likely to be written,—a journal of numberless happy hours in childhood, kept with the feelings of an infant and the pen of a man. For it would take, we suspect, a depth of delight and a subtlety of words, to express even the vague joy of infancy, such as our learned departures from natural wisdom would find it more difficult to put together, than criticism and comfort, or an old palate and a young relish.—But knowledge is the widening and the brightening road that must conduct us back to the joys from which it led us; and which it is destined perhaps to secure and extend. We must not quarrel with it's asperities, when we can help.

We do not know the Greek name of the daisy, nor do the dictionaries inform us; and we are not at present in the way of consulting books that might. We always like to see what the Greeks say to these things, because they had a sentiment in their enjoyments. The Latins called it *Bellis* or *Bellus*, as much as to say, Nice One. With the French and Italians it has the same name as a Pearl,—*Marguerite*, *Margarita*, or generally, by way of endearment, *Margheretina*. The same word was the name of a woman, and occasioned infinite intermixtures of compliment about pearls, daisies, and fair mistresses. Chaucer, in his beautiful poem of the Flower and the Leaf, which is evidently imitated from some French poetess says,—

And at the laste there began anon
A lady for to sing right womanly
A bargaret in praising the daisie,
For as me thought among her notes sweet,
She said "Si douset est la Margarete."

"The Margaret is so sweet." Our Margaret however, in this allegorical poem, is undervalued in comparison with the laurel; yet Chaucer perhaps was partly induced to translate it on account of its making the figure that it does; for he has informed us more than once, in a very particular manner, that it was his favourite flower. There is a very interesting passage to this effect in his Legend of Good Women; where he says, that nothing but the daisied fields in spring could take him from his books.

Mr. Wordsworth undertakes to patronize the Celandine, because no body else will notice it; which is a good reason. But though he tells us, in a startling piece of information, that

Poets, vain men in their mood!
Travel with the multitude,

yet he falls in with his old brethren of England and Normandy, and becomes loyal to the daisy.

Be violets in their secret mews
The flowers the wanton Zephyrs chuse;
Proud be the rose, with rains and dews
Her head impearing;
Thou liv'st with less ambitious aim,
Yet hast not gone without thy fame;
Thou art indeed, by many a claim,
The poet's darling.

* * * * *

A nun demure, of lowly port;
 Or sprightly maiden of Love's court,
 In thy simplicity the sport
 Of all temptations;
 A queen in crown of rubies drest;
 A starveling in a scanty vest;
 Are all, as seem to suit thee best,
 Thy appellations.

A little Cyclops, with one eye
 Staring to threaten or defy,
 That thought comes next, and instantly
 The freak is over;
 The freak will vanish, and behold!
 A silver shield with boss of gold,
 That spreads itself, some fairy bold
 In fight to cover.

Mr. Wordsworth calls the daisy "an unassuming common-place of Nature," which it is; and he praises it very becomingly for discharging its duties so cheerfully, in that universal character. But we cannot agree with him in thinking that it has "a homely face." Not that we should care, if it really had; for homeliness does not make ugliness; but we appeal to every body, whether it is proper to say this of la belle Marguerite. In the first place, it's shape is very pretty and slender, but not too much so. Then it has a boss of gold, set round and irradiated with silver points.

The daisy, being chiefly white, makes such a beautiful shew in company with the butter cup. But this is not all; for look at the back, and you find its fair petals blushing with a most delightful red. And how compactly and delicately is the neck set in green!

Montgomery, the Bard of Sheffield, has not forgotten the daisy:

There is a flower, a little flower,
 With silver crest and golden eye,
 That welcomes every changing hour,
 And weathers every sky.

The prouder beauties of the field
 In gay but quick succession shine,
 Race after race their honours yield—
 They flourish and decline.

But this small flower, to nature dear,
 While moons and stars their courses run,
 Wreathes the whole circle of the year,
 Companion of the sun.

We will conclude with the charming lines of Burns:

To a Mountain Daisy. On turning one down with the Plough, in April, 1786.

Wee, modest, crimson-tipped flow'r,
 Thou's met me in an evil hour;
 For I maun crush among the stoure
 Thy slender stem;
 To spare thee now is past my pow'r,
 Thou bonnie gien.

Alas! it's no thy neebor sweet,
 The bonnie Lark, companion meet!
 Bending thee 'mang the dewy weat!
 W' speckled brest,
 When upward springing, blythe, to greet
 The purpling east.

Could blew the bitter biting north
 Upon thy early, humble birth;
 Yet cheerfully thou glinted forth

I see thee glittering from afar;
 And then thou art a pretty star,
 Not quite so fair as many are
 In heaven above thee;
 Yet like a star, with glittering crest,
 Self-poised in air, thou seem'st to rest;—
 May peace come never to his nest,
 Who shall reprove thee.

Sweet flower; for by that name at last,
 When all my reveries are past,
 I call thee and to that cleave fast;
 Sweet silent creature;
 That breath'st with me in sun and air,
 Do thou, as thou art wont, repair
 My heart with gladness, and a share
 Of thy meek nature.

The lambkin crops its crimson gem,
 The wild-bee murmurs on its breast,
 The blue-fly bends its pensile stem,
 Light o'er the sky-lark's nest.

'Tis Flora's page: in every place,
 In every season, fresh and fair,
 It opens with perennial grace,
 And blossoms every where.

On waste and woodland, rock and plain,
 Its humble buds unheeded rise:
 The rose has but a summer reign,
 The Daisy never dies.

Amid the storm,
 Scarce rear'd above the parent earth
 Thy tender form.

The flaunting flow'rs our gardens yield,
 High shelt'ring woods and wa's maun shield,
 But thou beneath the random field
 O' clod or stane,
 Adorns the histie stubble field,
 Unseen, alane.

There, in thy scanty mantle clad,
 Thy snawy bosom sunward spread,
 Thou lifts thy unassuming head
 In humble guise;
 But now the share uptears thy bed,
 And low thou lies.

Stoure, dust. Glint, to peep. Bield, shelter. Histie, dry.
 The Daisy is the emblem of innocence.



Camellia Japonica.

CAMELLIA JAPONICA.—THE CAMELLIA JAPONICA.

CLASS XVI. MONADELPHIA.—ORDER VI. POLYANDRIA.

NATURAL ORDER.—TERNSTROMIACEÆ.

CALYX imbricate, surrounded by accessory bracteas or sepals. Stamens monadelphous. Anthers elliptical 2-celled, bursting lengthwise. Capsule furrowed, with a dissepiment in the middle of each valve, separating from the free triquetrous axis when ripe. Leaves ovate, acuminate, acutely serrated; flowers axillary, sessile, usually solitary; ovary smooth. This plant, in its native country, grows to a large tree. It is in high esteem among the Japanese and Chinese for the elegance of its large flowers, which exhibit a great variety of colours, but have no scent, and for its evergreen leaves. It is very common everywhere in the groves and gardens, flowering from October to April. It varies with white, red, yellowish, purple flowers, and variegated and blotched with the same colours, from single to semidouble and double. It is the greatest ornament of the greenhouses of Europe in spring, and is now cultivated by nurserymen to a vast extent. The plant was cultivated in England before 1742, by Robert James, Lord Petre.

Cult. All the species of *Camellia* are universally admired by every collector of plants, on account of their beautiful rose-like flowers, and elegant, dark-green, shining, laurel-like leaves. They are very hardy green-house plants, and are easy of culture, requiring only to be sheltered from severe frost. The best soil for them is an equal quantity of good sandy loam and peat. Messrs. Loddiges find that light loam alone answers as well or better, and in the Comte de Vandes gardens at Bayswater rotten dung is mixed with loam and peat. The pots should be well drained with pieces of potsherds, that they may not get soddened with too much wet, as nothing injures them more than over-watering, particularly when they are not in a growing state. When growing freely, they can scarcely have too much, and they should be watered all over the leaves with a fine rose pot. They are readily increased by cuttings or inarching on the commoner kinds. The cuttings should be taken off at a joint as soon as they are ripened, and planted in sand under a hand-glass, where they will soon strike root; when this is the case, they should be planted singly into small pots, and set in a close frame, and they must afterwards be hardened to the air by degrees. (Sweet.)

The single red *Camellia Japonica* is propagated by cuttings or layers and seeds for stocks, and on these the other kinds are generally inarched or budded. Henderson, of Wood-hall near Hamilton, puts in cuttings at any time of the year, except when they are making young wood; lets them remain in a vinery for a month or more, and then puts them in a hot-bed, where there is a little bottom heat. A speedy mode of obtaining stocks is by planting stools in a pit devoted to that purpose, and laying them in autumn; the following autumn most of the layers will be rooted, when they may be taken off and potted, and used as stocks the succeeding spring. Inarching or grafting is performed early in the spring, when the plants begin to grow; the chief care requisite is so to place and fix the pot containing the stock, as that it may not be disturbed during the connection of the scion with the parent plant. The graft being clayed over is then covered with moss to prevent its cracking. When independent grafting is used, the mode called side grafting is generally used, and the operation of tonguing is generally omitted.

C. Sasanqua seeds most readily, and is often employed as the female parent for raising new varieties. The plants so raised from seed, if well treated, flower in 4 or 5 years, and if nothing new is produced they still make excellent stocks. Henderson of Wood-hall, who is one of the most successful growers of *Camellias* in Scotland, uses the following compost; equal parts of light-brown mould, river sand and peat earth, and a little rotten leaves, mixed well together; and when the camellias require shifting put some broken coal-char in the bottom of the pots, and some dry moss or *Hypnum* over it.

He gives the following account of his mode of treating *Camellias*; "The best time for a regular shifting of the *Camellia* is the month of February and beginning of March. After shifting all those that require it, put them into a peach-house, vinery or pinery, or in the warmest part of a green-

house. They will soon begin to make young wood. From the time they begin to make their young shoots till they have finished their growth give them plenty of water. They may be kept in the vinery or peach-house until they have formed their flower-buds, when a few of them may be removed to a colder place, such as behind the stage of a green-house, for the *Camellias* are fond of being shaded during strong sunshine. In three or four weeks after, a few more of the *Camellias* may be brought out of the peach-house, and put into a colder situation. This may be repeated three or four times, which will make as many different successions of flowering. Those that are wanted to come into flower early, may remain in the warm house until they are beginning to flower, when they should be taken to a cold place, as the coldest place in the green-house, then give them plenty of light only, and they will open their flowers well, and stand long. A *Camellia* cannot stand heat when in flower; indeed they seldom open their flowers well in heat, at all events the flowers soon fall off. Those that are kept all the summer in the vinery will come into flower by the 1st or middle of October, and a pretty large plant, having perhaps 50 or 100 flower-buds, will continue in flower till the month of January.

Had the *Camellia*, says the author of the "Flora Domestica," been a Greek, or Italian, or English plant, there would have been a great deal said of it by poets and lovers; and doubtless it makes a figure in the poetry of Japan. But, unfortunately for our quotations, though perhaps fortunately for their own comfort, the Japanese have hitherto had most of their good things to themselves. Their country would lay open a fine field for the botanist. See an interesting account of this apparently intelligent and amiable people in Golownin's Narrative of his Captivity among them.

There are two superb collections of the *Camellia Japonica* open to the public: one at Vauxhall, the other at Hackney.

In Japan an oil is expressed from the seeds of this plant which is constantly used in preparing food.

The species called the *Camellia Sasanqua* is a small shrub, so exactly like the tea-shrub, both in leaf and blossom, that they are not readily distinguished but by their size. The leaves have a pleasing scent, and, after being boiled, are used by the Japanese ladies to wash their hair. They are likewise sometimes mixed with the tea leaves to make their scent yet more agreeable.

SHEEP-SHEARING, says Mr. Howitt in his account of June, begun last month, is generally completed in this. It is one of the most picturesque operations of rural life, and, from the most ancient times, it has been regarded as a season of gladness and festivity. The simple and unvitiated sense of mankind taught them, in the earlier ages of society, that the bounty of Nature was to be gathered in with thankfulness, and in a spirit like that of the Great Giver, a spirit of blessing and benevolence. Therefore did they join with the brightness and beauty of the summer the sunshine of their grateful souls, and collect with mirth and feasting the harvests of the field, of the forest, and of the flock. The very spirits of the churlish, the hard and unkindly natures of the "sons of Belial," gave way before the united influence of the fair and plentiful time and of natural religion, so far as to feast their servants. The Bible, that treasury of the customs of antient nations, gives a most lively picture of their practice in this particular. Nabal, "a man in Maon, whose possessions were in Carmel, and who had three thousand sheep and a thousand goats, was shearing his sheep in Carmel," when David knowing it to be a time of abundance, sent some of his men out of the wilderness to solicit provisions. The men, when delivering their leader's message, used it as an argument, "for we are come in a good day."

The *Camellia Japonica* is the emblem of *unpretending excellence*.



Amigdalus Persica

AMYGDALUS PERSICA.—THE PEACH.

CLASS XII. ICOSANDRIA.—ORDER I. MONOGYNIA.

NATURAL ORDER, AMYGDALÆE.—THE ALMOND TRIBE.

The peach tree in its natural state is under the middle-size, with spreading branches, lanceolate, glabrous, serrated leaves. The flowers are sessile, with reddish calyxes, and pale or dark-red corollas: the fruit roundish, generally pointed, with a longitudinal groove; the pulp or sarcocarp large, fleshy, and succulent, white or yellowish, sometimes reddish, abounding in a grateful sweet acid juice; the stone hard, and irregularly furrowed; and the kernel bitter. The tree of quick growth, and not of long duration, blossoms in April, and ripens its fruit in August and September. Dr. Siekler considers Persia as the original country of the peach, which in Media is deemed unwholesome, but when planted in Egypt becomes pulpy, delicious, and salubrious. The peach also, according to Columella, when first brought from Persia into the Roman empire possessed deleterious qualities, which T. A. Knight concludes to have arisen from these peaches being only swollen almonds (the *tuberes* of Pliny,) or imperfect peaches, and which are known to contain the prussic acid, which operates unfavourably on many constitutions. The tree has been cultivated time immemorial in most parts of Asia; when it was introduced into Greece is uncertain; the Romans seem to have brought it direct from Persia during the reign of the Emperor Claudius. It is first mentioned by Columella, and afterwards described by Pliny. The best peaches in Europe are at present grown in Italy on standards, and next may be cited those of Montreuil near Paris, trained on lime-white walls. (Mozard sur l'Éducation du Pêcher, &c. 1014.) In England there are but few sorts of peaches that come to tolerable perfection in the open air in ordinary seasons. The best adapted for this purpose are the *free-stones*, but all the sorts ripen well by the aid of hot-walls or glass, and may be forced so as to ripen in May and June. The tree is generally an abundant bearer; one of the *noblesse* kind is at Yokefield in Suffolk, which covers about 600 square feet of trellis under a glass case without flues, and ripens annually from 60 to 70 dozen of peaches. (Hort. trans. 3. p. 17.)

Use. The peach is a dessert fruit of the first order, and makes a delicious preserve. In Maryland and Virginia a brandy is made from the fruit. "The manufacture of this liquor, and the feeding of pigs, being (as Braddick observes, Hort. trans. 2. p. 205,) the principal uses to which the peach is applied in those countries." The leaves steeped in gin or whisky communicate a flavor resembling that of noyau.

Criterion of a good peach. A good peach, Miller observes, possesses these qualities; the flesh is firm, the skin is thin, of a deep or bright-red colour next the sun, and yellowish green next the wall; the pulp is of a yellowish colour, full of high flavoured juice, the fleshy part thick, and the stone small.

Varieties. Linnæus divides his *Amygdalus Persica* into two varieties; that with downy fruit, or the peach, and that with smooth fruit, or the nectarine, but in the present work the peach and nectarine have been established into a genus called *Persica*, and the peach and nectarine made distinct species. There are, however, various instances on record (Hort. trans. 1. p. 103,) of both fruits growing on the same tree, and even on the same branch; and one case has occurred of a single fruit partaking of the nature of both. The French consider them as one fruit, arranging them in four divisions, the *pêches* or *free stone peaches*, the flesh of whose fruit separates readily from the stone and the skin; the *pêches lisses* or *free-stone nectarines*; the *paries* or *cling-stone peaches*, whose flesh is firm, and adheres both to the stone and the skin; and the *Brugnons* or *cling-stone nectarines*. Knight (Hort. trans. 3. p. 1.), Robertson (Hort. trans. 3. p. 382.), and many other horticulturists, consider the peach and almond as one species. We have, however, in this work followed the established nomenclature, and treated them as distinct fruits. There are many fine varieties of the peach. Tusser, in 1573, mentions peaches white and red; Parkinson, in 1629, enumerates 21 sorts; and Miller, in 1750, 31 varieties. In the garden of Luxembourg at Paris are 70 varieties, and above double that number of names are to be found in the catalogues of our nurseries. Several attempts have been made to class the varieties of peaches and nectarines by the leaf and flower, as well as the fruit; the first is by M. Poiteau in the Bon Jardinier; the next by Count Lelieur in his Pomone Française; the next by John Robertson, Nurseryman of Kilkenny, whose arrangement is founded on the glands of the leaves; and the fourth by George Lindley (Hort. trans. vol. 5.), also founded on the glands of the leaves; but none of these arrangements have been found sufficiently perfect for the purpose of this work.

All the varieties of peaches and nectarines, Abercrombie remarks, "are extremely well suited for forcing in large pots. Small plants intended to come in before or after those in the borders may be excited in the

first stage in a distinct house, so as the temperature of that in which they are brought to finish fruiting be suited to their progress. The pots or tubs should be such as not to contain less than a cubic foot of earth, the soil should be lighter and richer than that recommended for the borders, and liquid manure should be plentifully supplied to make up in some degree for the confinement of the roots. They are best forced in a peach-house, but succeed in a vinery or succession stove; best of all, however, in a pit or Dutch frame, where the temperature can be regulated at pleasure, and where they are near the glass. Great care must be taken to supply them regularly with water, for which purpose some place saucers under the pots, others cover their surface with moss, or what is better, fresh cow or rotten horse dung. Casing the pots with ropes made of moss is also a very good method, as it not only preserves an uniform degree of moisture, but also of temperature. Of course the moss must be kept watered. *Peach* trees in pots are sometimes trained to small fan-trellises attached to the pot, but in general they are pruned as dwarf standards, in which form they bear rather better than when trained. When the fruit is nearly ripe, the pots should be removed from the hot-house, or vine-house, to a cooler and more airy situation, or if in the pits the sashes may be taken off a part of every fine day. In other respects the treatment of *peach* trees in pots is similar to that of the trees in the borders."

Whether or not the blushing peach
Was Eden's once forbidden fare,
I cannot tell —————

says an agreeable correspondent; but we certainly think it has fairer claims to such an eminence than the huge cousin of the orange family, which takes the title of forbidden fruit in our shops.

There is great beauty, says Leigh Hunt, as well as other agreeableness, in a well-disposed fruiterer's window. Here are the round piled-up oranges, deepening almost into red, and heavy with juice; the apple with its brown red cheek, as if it had slept in the sun; the pear, swelling downwards, and provocative of a huge bite in the side; thronging grapes, like so many tight little bags of wine; the peach, whose handsome leathern coat strips off so finely; the pearly or ruby-like currants, heaped in light long baskets; the red little mouthfuls of strawberries, ditto; the larger purple ones of plums; cherries, whose old comparison with lips is better than any thing new; mulberries, dark and rich with juice, fit to grow over what Homer calls the deep black-watered fountains; the swelling pomp of melons; the rough inexorable-looking cocoa-nut, milky at heart; the elaborate elegance of walnuts; the quaint cashoo-nut; almonds, figs, raisins, tamarinds, green leaves,—in short,

Whatever Earth, all-bearing mother, yields
In India East or West, or middle shore
In Pontus or the Punick coast, or where
Alcinous reigned, fruit of all kinds, in coat
Rough, or smooth rind, or bearded husk, or shell.

MILTON.

There is something of more refined service in waiting upon a lady in a fruit-shop, than in a pastry-cook's. The eating of tarts, as Sir Walter Scott handsomely saith in his *Life of Dryden* (who used to enjoy them, it seems, in company with "Madam Reeves") is "no inelegant pleasure;" but there is something still more graceful and suitable in the choosing of the natural fruit, with its rosy lips and red cheeks. A white hand looks better on a basket of plums, than in the doubtful touching of syrupy and sophisticated pastry. There is less of the kitchen about the fair visitor. She is more Pomona-like, native, and to the purpose. We help her, as we would a local deity.

Here be grapes whose lusty blood
Is the learned poet's good;
Sweeter yet did never crown
The head of Bacchus;—Nuts more brown
Than the squirrels teeth that crack them;
Deign, O fairest fair, to take them.
For these black ey'd Drope
Hath often times commanded me,
With my clasped knee to cline;
See how well the lusty time
Hath deckt their rising cheeks in red,
Such as on your lips is spread.

Here be berries for a Queen,
Some be red, some be green,
These are of that luscious meat,
The great God Pan himself doth eat.
All these, and what the woods can yield,
The hanging mountain or the field,
I freely offer, and ere long
Will bring you more, more sweet and strong,
Till when humbly leave I take,
Lest the great Pan do awake,
That sleeping lies in a deep glade,
Under a broad beech's shade.

Fletcher's Faithful Shepherdess.

How the poets double every delight for us, with their imagination and their music!
The peach blossom signifies, *I am your captive!*



Viola tricolor.

VIOLA TRICOLOR.—THE HEART'S EASE.

CLASS V. PENTANDRIA.—ORDER I. MONOGYNIA.

NATURAL ORDER, VIOLACEÆ.—THE VIOLET TRIBE.

ROOT somewhat fusi-form; stems branched, diffuse; lower leaves ovate-cordate, deeply crenate; stipules runcinately-pinnatifid, with the middle lobe crenate; petals incumbent, with short claws; spur thick, obtuse, not stretched out; nectaries short; seeds oblong-ovate. Native in cultivated fields and gardens throughout Europe, Siberia, and North America; plentiful in Britain. Bractæas very small, scarcely evident. Petals very variable in colour and size. This is a very variable species, or more probably a heterogeneous mass of species collected.

The *Heart's ease*, *Viola tricolor*, was once esteemed efficacious in the cure of cutaneous disorders. This plant, when bruised, smells like peach-kernels; and hence, probably, it contains prussic acid: the same odour is also communicated to water in which it has been distilled.

We transcribe a very agreeable passage on the Heart's-ease, from the "Flora Domestica." This beautiful flower is a native of Siberia, Japan, and many parts of Europe. Mr. Brooke, speaking of the forests in Sweden, says, "innumerable flowers of the liveliest colours peeped out between the masses of brown rock, enamelled with various kinds of lichens; and huge fragments were variegated with beds of the Pansy, or Heart's-ease, displaying its different hues, relieved by the dark-green of the sweeping pines." It is a general favourite, as might be supposed from the infinity of provincial names which have been bestowed upon it from its beautiful colours:—Love in Idleness; Live in Idleness; Call me to you; Three faces under a Hood; Herb Trinity; Pink of my John; Flower of Jove; and Flamy, because its colours are seen in the flame of wood.

It is a species of violet, and is frequently called the Pansy-violet, or Pansy, a corruption of the French name *pensées*.

The smaller varieties are scentless, but the larger ones have an agreeable odour. Drayton celebrates its perfume by the flowers with which he compares it in this respect; but then, to be sure, his is an Elysian Heart's-ease:

"The Pansy and the violet, here,
As seeming to descend
Both from one root, a very pair,
For sweetness do contend.

"And pointing to a pink to tell
Which bears it, it is loth
To judge it; but replies, for smell
That it excels them both.

"Wherewith displeased they hang their heads,
So angry soon they grow,
And from their odoriferous beds
Their sweets at it they throw."

The Heart's-ease has been lauded by many of our poets; it has been immortalized even by Shakspeare himself; but no one has been so warm and constant in its praise as Mr. Hunt, who has mentioned it in many of his works. In the Feast of the Poets, he entwines it with the Vine and the Bay, for the wreath bestowed by Apollo upon Mr. T. Moore. In the notes to that little volume, he again speaks of this flower, and I do not know that I can do better than steal a few of its pages to adorn this.

"It is pleasant to light upon a universal favourite, whose merits answer one's expectation. We know little or nothing of the common flowers among the ancients; but as violets in general have their due mention among the poets that have come down to us, it is to be concluded that the Heart's-ease could not miss its particular admiration,—if indeed it existed among them in its perfection. The modern Latin name for it is *flos Jovis*, or Jove's flower,—an appellation rather too worshipful for its little sparkling delicacy, and more suitable to the greatness of an hydrangea or to the diadems of a rhododendron.

'Quæque per irriguæ quærenda Sisymbria valles
Crescunt, nectendis cum myrto nata coronis;
Flosque Jovis varius, foliâ tricoloris, et ipsi
Par violæ, nulloque tamen spectatus odore.'

'With all the beauties in the vallies bred,
Wild mint, that's born with myrtle crowns to wed,
And Jove's own flower, that shares the violet's pride,
Its want of scent with triple charm supplied.'

RAPINI HORTORUM, lib. i.

"The name given it by the Italians is *flammola*, the little flame ;—at least, this is an appellation with which I have met, and it is quite in the taste of that ardent people. The French are perfectly *aimable* with theirs :—they call it *pensée*, a thought, from which comes our word Pansy.

"There's rosemary," says poor Ophelia ; "that's for remembrance ;—pray you, love, remember,—and there is pansies,—that's for thoughts." Drayton, in his world of luxuries, the Muse's Elysium, where he fairly stifles you with sweets, has given, under this name of it, a very brilliant image of its effect in a wreath of flowers ;—the nymph says,

' Here damask roses, white and red,
Out of my lap first take I,
Which still shall run along the thread ;
My chiefest flow'r this make I.

Amongst these roses in a row,
Next place I pinks in plenty,
These double-daisies then for show ;
And will not this be dainty ?

The pretty pansy then I'll tye,
Like stones some chain enchaining ;
The next to them, their near ally,
The purple violet placing."——NYPHAL, 5th.

"Milton, in his fine way, gives us a picture in a word,

———"the pansy freak'd with jet."

"Another of its names is Love-in-idleness, under which it has been again celebrated by Shakspear, to whom we must always return, for any thing and for every thing ;—his fairies make potent use of it in the Midsummer-Night's Dream. The whole passage is full of such exquisite fancies, mixed with such noble expressions and fine suggestions of sentiment, that I will indulge myself, and lay it before the reader at once, that he may not interrupt himself in his chair :—

OBERON. My gentle Puck, come hither :—thou rememberest,
Since once I sat upon a promontory,
And heard a mermaid, on a dolphin's back,
Uttering such dulcet and harmonious breath,
That the rude sea grew civil at her song,
And certain stars shot madly from their spheres
To hear the sea maid's music ?

PUCK. I remember.

OBERON. That very time I saw (but thou couldst not),
Flying betwixt the cold earth and the moon,
Cupid all arm'd :—a certain aim he took
At a fair vestal, throned by the west,
And loosed his love-shaft smartly from his bow,
As it should pierce a hundred thousand hearts :
But I might see young Cupid's fiery shaft

Quench'd in the chaste beams of the watery moon ;
And the imperial votaress pass'd on,
In maiden meditation, fancy free.
Yet mark'd I where the bolt of Cupid fell :
It fell upon a little western flower,
Before, milk-white,—now purple with love's wound,—
And maidens call it Love-in-idleness.
Fetch me that flower,—the herb I show'd thee once :
The juice of it, on sleeping eyelids laid,
Will make or man or woman madly dote
Upon the next live creature that it sees.
Fetch me that herb ; and be thou here again
Ere the leviathan can swim a league.

PUCK. I'll put a girdle round about the earth
In forty minutes.

Act II. Sc. 2."

It has already been observed, that only the larger kinds have any scent ; thus many persons judging from the smaller, have thought them all scentless. The difference of opinion on this point may be seen in several of the above quotations.

Dryden, in his translation of a passage in Virgil's Pastorals where the poet speaks of sweet herbs in general, introduces the Pansy ; but expressly to distinguish it from a fragrant plant :

"Pansies to please the sight, and cæcia sweet to smell."

There is a species of Heart's-ease called the Great Flowering—a native of Switzerland, Dauphiny, Silesia, and the Pyrenees—which is very similar to the common kind, but that it has more yellow in it ; and another, called the Yellow Mountain Heart's-ease, of British growth, which, notwithstanding the name it bears, is as often purple and yellow, or even purple alone, as all yellow.

It would be an impertinence to attempt to describe the Heart's-ease ; therefore let us proceed at once to the treatment of this little favourite. The roots may be purchased so cheaply, and the flowers of these will be so much finer than any that are sown at home, that this will be much the best way of procuring them. At a nursery, or at Covent-Garden flower-market, six or more may be had for a shilling, all of them covered with flowers and buds. They love the sun, but must be liberally watered every evening to replenish the moisture, which they will consume.

Phillips observes that the most brilliant purples of the artist appear dull when compared to that of the pansy ; our richest satins and velvets coarse and unsightly by a comparison of texture ; and, as to delicacy of shading, it is scarcely surpassed by the bow of Iris itself.

Pansies are among the flowery gifts of the simple shepherds to the metamorphosed nymph Sabrina.

The shepherds at their festivals
Carol her good, deeds loud in rustic lays,
And throw sweet garland wreaths into her stream,
Of pansies, pinks, and gaudy daffodils.——COMUS.

In the language of flowers the heart's-ease signifies *think of me*.



Fraxinus excelsior.

FRAXINUS EXCELSIOR.—THE ASH.

CLASS XXIII. POLYGAMIA.—ORDER I. DICECIA.

NATURAL ORDER, OLEACEÆ.—THE OLIVE TRIBE.

FRAXINUS EXCELSIOR. Leaflets almost sessile, lanceolate-oblong, acuminate, serrated, cuneated at the base; flowers naked; samara obliquely emarginate at the apex. Native of Europe. The leaves have generally 5 pairs of leaflets, from 4 to 6. The flowers are produced in loose spikes from the sides of the branches. There are not only female flowers, the hermaphrodite ones, but also male ones.

The Ash, in German and Dutch, is called *Esche* or *Asche*; in Danish and Swedish, *Ask*; in French, *Le Frêne*; in Italian, *Frasino*; in Spanish, *Fresno*; in Portuguese, *Freixo*; in Russian, *Jas*, *Jasen*, or *Jassen*. The English name is from the Saxon *Æsa*. Ray says it has its name from the colour of the bark. Its usual time of flowering is March and April; of leafing, from April 22nd to May 15th. The timber of the ash is next in value to the oak, and in some places equal to it: it is hard and tough, and of excellent use to the coachmaker, wheelwright, and cartwright, for ploughs, axle-trees, fellies, harrows, and many other implements of husbandry; for ladders, oars, blocks for pulleys, &c. Anciently it was in great request for spears. Being not apt to split and scale, it is excellent for tenons and mortises; also for the cooper, turner, and thatcher. Nothing is like it for palisade-hedges, hop-yards, poles and spars, handles and stocks for tools, &c. When curiously veined, the cabinet-makers use it, and call it green Ebony. Of all timber it is the sweetest fuel. If a wood of ash-trees be managed well, it will turn greatly to the advantage of its owner; the underwood will be fit to cut every seven or eight years for hoops, or every 14 years for hop-poles, &c. and still there will be a stock preserved for timber. The best season for felling the ash is from November to February; but for lopping pollards, the spring is preferable for all soft woods. The ashes of the wood afford a very good potash. The bark is used for tanning cat-skin and nets. In the north of Lancashire they lop the ash, to feed the cattle, in autumn, when the grass is upon the decline. The leaves have been gathered to mix with tea. An infusion of them is an aperient; and a decoction of 2 drachms of the bark, or 6 of the leaves, has been used in the cure of agues. If cows eat the leaves or shoots, the butter from their milk is said to be rank; but this is doubtful, for there is no taste in ash-leaves to countenance the assertion, and this is the next tree, after the elm, which the Romans recommended for fodder. The ash is, however, a very improper tree for hedge rows, and the borders of arable land; the drip of it is very unfavourable to all other vegetable productions; it exhausts the soil much, and the roots spread widely near the surface, so that it injures the hedge, and impoverishes the crop sown near it.

Though the ash be a handsome tree, it should not by any means be planted for protection or ornament, because the leaves come out late, and fall early. The fertile trees also generally exhaust themselves so much in bearing keys or fruit, that their foliage is scanty, and their appearance unsightly. The trees, however, which bear male flowers only, have a full and verdant foliage, and make a handsome figure, though late in the season. It is well calculated for standards and clumps, in large parks and plantations, and for groves and woods. It will grow in very barren soils, and in the bleakest and most exposed situations. It is so hardy as to endure the sea winds, and may therefore be planted on the coast, where few trees will prosper. If planted by ditch sides, or in low, boggy meadows, the roots act as under-drains, and render the ground about them firm and hard; the timber, however, is in this case of little value. It was natural that our remote ancestors, when the island was overrun with wood, should value trees rather for their fruit than their timber; it is no wonder, then, that by the laws of Howel Dda, the price of an oak or a beech should be 120 pence, while the ash, because it furnished no food for swine, was valued only at fourpence. The Edda or Woden, however, holds the ash in the highest veneration; and man is described as being formed from it. Hesiod, in like manner, deduces his brazen race of men from the ash; and in his Theogony has nymphs of the name of *Μελαιζα*. It is probably owing to the remains of Gothic veneration for this tree, that the country people, in the south-east part of the kingdom, split young ashes, and pass their distempered children through the chasm, in hopes of a cure. They have also a superstitious custom of boring a hole in an ash, and fastening in a shrew mouse; a few strokes with a branch of this tree are then accounted a sovereign remedy against cramps and lameness in cattle, which are ignorantly supposed to proceed from

this harmless animal. In many parts of the highlands of Scotland, at the birth of a child, the nurse puts one end of a green stick of this tree into the fire, and, while it is burning, receives into a spoon the sap or juice, which oozes out at the other end, and administers this as the first spoonful of liquor to the new born babe.

The facility with which the ash is propagated, and adapts itself to any soil or situation, even the worst; the quickness of its growth; and the general demand for the timber, in every part of the country, for a variety of rural and economical purposes; recommend this tree very much to the planter.

The Ash, says a writer in the Library of Entertaining Knowledge, is by way of eminence, called "The Husbandman's Tree," nothing being equal to it for agricultural implements, and for all sorts of poles, ladders, long handles, and other purposes which require strength and elasticity, combined with comparative lightness. At all ages the growth of the ash is of value; the thinnings of your plantations, and the suckers that spring up from the roots of grown trees, or from the stools of trees that have been cut down, are excellent for hoops, hop-poles, and every other purpose where clean, light, and strong rods are wanted at small expense. The leaves, and even the twigs, are eaten by cattle with great avidity; the bark is useful in tanning; and the wood yields, when burnt a considerable quantity of potash.

Gilpin, in his work on Forest Scenery, calls the Oak the Hercules of the Forest; and the Ash the Venus. The chief characteristic of the one, is strength; of the other, elegance. The Ash carries its principal stem higher than the Oak; its whole appearance is that of lightness, and the looseness of the leaves corresponds with the lightness of the spray. Its bloom is one of the most beautiful appearances of vegetation. The Ash, however, drops its leaves very early; and instead of contributing its tint to the many coloured foliage of the autumnal woods, it presents wide blanks of desolated boughs. In old age, too, it loses that grandeur and beauty which the Oak preserves.

"If the oak," says Professor Burnett, "is the noblest, the ash is the most elegant of our native trees; if the one is the king, the other is the queen of our forests. Its graceful port and the light airiness of its foliage are proverbial; and well was it termed by Virgil "*Pulcherrima sylvis*." The ash is not only beautiful but useful; it yields a valuable timber, much in request by wheelwrights, and for the manufacture of instruments for husbandry. Its bark is bitter, and has been used as a febrifuge; and its leaves, which have a similar flavor, have been frequently employed to adulterate tea. Willich, indeed, says that, as a tonic, they are superior to the China drug. They are also said to be decidedly cathartic, but less so than those of senna. Pliny tells us, that the ash is obnoxious to serpents; and branches are often hung about children's beds to keep off the gnats."

For the following quotation we are indebted to that ingenious little work "The Sentiment of Flowers:"

There is a singular allegory in the Edda, which states that the gods hold their court under the shade of a miraculous ash, whose extensive branches shadow the whole surface of the earth; the top of the tree touches the heavens, and its roots descend to the regions of Pluto. An eagle constantly reposes on the tree, to observe every thing, and a squirrel continually ascends and descends to make report. Beneath its roots flow two fountains. In the one wisdom is concealed, and in the other is found the knowledge of things to come. Three virgins are entrusted with the charge of this sacred tree, who ever remain under its branches to refresh the tree with these salutary waters, which, on falling back on the earth, form a dew that produces honey. This effect has been ingeniously compared to the results of inventive science.

The Ash is the emblem of *grandeur*.

Leigh Hunt says of the Ash, in his "Indicator:" Infinite are the spears with which it has supplied the warlike, the sticks it has put into the hands of a less sanguinary courage, the poles it has furnished for hops, vines, &c., and the arbours which it has run up over lovers. The Greek name for it was Melia, or the Honied; from a juice or manna which it drops, and which has been much used in medicine and dyeing. There are, or were about forty years back, when Count Ginanni wrote his History of the Ravenna Pine Forest, large ash woods in Tuscany, which used to be tapped for those purposes. Virgil calls it the handsomest tree in the forest; Chaucer "the hardie ashe; and Spenser, with an eulogy exclusively perfect, "the ash for nothing ill."



Rosa lutea.

ROSA LUTEA.—THE YELLOW ROSE.

CLASS XXII. ICOSANDRIA.—ORDER I. MONOGYNIA.

NATURAL ORDER, ROSACEÆ.—THE ROSE TRIBE.

PRICKLES of branches crowded, unequal, slender, reflexed, of the branchlets small and nearly equal; leaflets flat, glabrous, simply serrated. H. Native of North America and Siberia. Flowers pale yellow. Fruit large, ovate, black.

The Plant of Roses, though it be a shrub full of prickles, yet it had bin more fit and conuenient to haue placed it with the most glorious floures of the world, than to insert the same here among base and thorny shrubs, for the rose doth deserue the chief and prime place among all floures whatsoever; beeing not onely esteemed for his beauty, vertues and his fragrant and odoriferous smell; but also, because it is the honor and ornament of our English Scepter, as by the conjunction appeareth; in the uniting of those two most Royall Houses of Lancaster and Yorke.—*Gerarde's Herbal*.

"It would be as foolish," says Professor Burnett, "to attempt to *praise* as to *paint* the rose. The rose requires no commendation here. Perhaps from such a notion it might be, that this flower was considered the symbol of silence; for we are told that the goddess *Isis*, and her son *Harpocrates*, were crowned with chaplets of roses."

We borrow the following passages from that ingenious and agreeable work, "The Sentiment of Flowers."

Rose! thou art the sweetest flower,
That ever drank the amber shower;
Rose! thou art the fondest child
Of dimpled spring, the wood nymph wild!

MOORE'S ANACREON.

This beautiful flower, and universal favourite of nature, has never been described in language adequate to convey an idea of its charms, although each poet in turn has made it the theme of song, or introduced eulogiums on its beauty to heighten the attraction of his poesy.

Not one of all the train has, however, been able to do justice to its merits, though they have denominated it the daughter of heaven, the ornament of the earth, and the glory of spring.

When it opens its delicate buds, the eye surveys its harmonious outlines with delight. But how shall we describe the delicate tints of its enchanting colours, or the sweet perfume which it exhales? Behold in the spring it raises itself softly in the midst of its elegant foliage, surrounded by its numerous buds. This, the queen of flowers, and the pride of Flora, seems to sport with the air that fans her, to deck herself with the dew-drops that impearl her, and to smile upon the rays of the sun which cause the expansion of her beautiful form.

Proud be the rose, with rains and dews
Her head impearling.—WORDSWORTH.

In producing this flower, nature appears to have exhausted herself by her prodigality, in attempting to produce so fine a specimen of freshness, of beauty in form, of exquisite perfume, of brilliancy of colour, and of grace. The rose adorns the whole earth, as it is the commonest of flowers. The same day that its beauty is perfected it dies; but each spring restores it to us with renewed freshness. Poets have had fair opportunities for singing its praises, yet they have not rendered its eulogy common-place, but its name alone redeems *their* names from forgetfulness. Emblem of all ages,—interpreter of all our sentiments,—the rose mingles in the gaiety of our feasts, in our happiness, and in our sorrows. It is also the ornament of beauty, and lends its soft carnation hues to the blush of modesty. It is given as the prize of virtue; it is the image of youth, of innocence, and of pleasure. Venus is said to feel that she has a rival in the rose, as it possesses, like her, a grace which is more lovely than beauty itself.

Anacreon, the poet of love, has celebrated the rose; and, perhaps, he has sung its praise more worthily than any of his successors. Moore has thus translated the Ode:—

While we invoke the wreathed spring,
Rependent rose! to thee we'll sing;
Rependent rose, the flower of flowers,
Whose breath perfumes Olympus' bowers;

Whose virgin blush, of chasten'd dye,
Enchants so much our mortal eye.
When pleasure's bloomy season glows,
The Graces love to twine the rose;

Oft has the poet's magic tongue
 The rose's fair luxuriance sung;
 And long the Muses, heavenly maids,
 Have rear'd it in their tuneful shades.
 When, at the early glance of morn,
 It sleeps upon the glittering thorn,
 'Tis sweet to dare the tangled fence,
 To cull the timid flow'ret thence,
 And wipe with tender hand away
 The tear that on its blushes lay!
 'Tis sweet to hold the infant stems,
 Yet dropping with Aurora's gems,
 And fresh inhale the spicy sighs
 That from the weeping buds arise.
 When revel reigns, when mirth is high,
 And Bacchus beams in every eye,
 Our rosy fillets scent exhale,
 And fill with balm the fainting gale!
 Oh! there is nought in nature bright,
 Where roses do not shed their light!
 When morning paints the orient skies,
 Her fingers burn with roseate dyes;
 The nymphs display the rose's charms,
 It mantles o'er their graceful arms;
 Through Cytherea's form it glows,
 And mingles with the living snows.
 The rose distils a healing balm,
 The beating pulse of pain to calm;

Jami, an eastern poet says, "You may plant a hundred handfuls of fragrant herbs and flowers before the nightingale; yet he wishes not, in his constant heart, for more than the sweet breath of his beloved rose."

Oh sooner shall the rose of May
 Mistake her own sweet nightingale;
 And to some meaner minstrel's lay
 Open her bosom's glowing veil,
 Than love shall ever doubt alone
 A breath of his beloved one.—T. MOORE.

And James Montgomery says, in that sweet collection, the Poet's Portfolio:

Where the true love nightingale
 Wooes the rose in every vale.

Moore, in his *Irish Melodies*, gives us a poetical reason for the beauty and delicious perfume of the rose. Others have stated that Love, in a feast of Olympus, in the midst of a light and lively dance, overthrew, with a stroke of his wing, a cup of nectar; which precious liquor, falling on the rose, embalmed it with that delightful fragrance which it still retains.

They tell us that love in his fairy bower
 Had two blush roses of birth divine;
 He sprinkled the one with a rainbow's shower,
 But bathed the other with mantling wine.
 Soon did the buds,

That drank of the floods
 Distill'd by the rainbow, decline and fade;
 While those which the tide
 Of ruby had dyed
 All blush'd into beauty, like thee, sweet maid!—MOORE.

The rose is said to have been originally white. Catullus has accounted for its change of colour in the following beautiful lines:—

While the enamoured queen of joy
 Flies to protect her lovely boy,
 On whom the jealous war-god rushes;

She treads upon a thorned rose,
 And while the wound with crimson flows,
 The snowy floweret feels her blood, and blushes.

We will conclude this article with a charming copy of verses from the German, for which we had not room in our account of the Moss Rose.

"The angel of the flowers one day
 Beneath a rose-tree sleeping lay;
 That spirit, to whose charge is given
 To bathe young buds in dew from heaven;
 Awaking from his light repose,
 The angel whispered to the rose:
 'O fondest object of my care,
 Still fairest found where thou art fair,
 For the sweet shade thou'st given to me,

Ask what thou wilt, 'tis granted thee.'
 'Then,' said the rose, with deepened glow,
 'On me another grace bestow.'
 The spirit paused, in silent thought,
 What grace was there that flower had not!
 'Twas but a moment:—o'er the rose
 A veil of moss the angel throws,
 And robed in Nature's simplest weed,
 Could there a flower that rose exceed?"

The Yellow Rose is the emblem of *Infidelity*.



Mimosa pudica.

MIMOSA PUDICA.—THE SENSITIVE PLANT.

CLASS XXIII. POLYGAMIA.—ORDER I. MONOGYNIA.

NATURAL ORDER, LEGUMINOSÆ.—THE PEA TRIBE.

STEM herbaceous, prickly, with the petioles and peduncles more or less beset with stiff hairs or bristles; leaves somewhat digitately pinnate, with 4 pinnæ, each pinna bearing many pairs of linear leaflets. Native of Brazil. Flowers red. Legumes glabrous in the middle, but with the margins beset with stiff bristles. Superior leaves sometimes the same as the inferior ones. This plant is commonly grown in gardens, under the name of the sensitive plant, the leaves falling on the slightest touch. Sensitive plants were not unknown to the ancients. Theophrastus speaks of the *Αισχυνομενη*, as growing about Memphis in Egypt, and Pliny of the *Æschynomene*, so called from its contracting the leaves at the approach of the hand. It is thus characterised in the flowery poetry of Darwin:—

“Weak with nice sense the chaste *Mimosa* stands,
From each rude touch withdraws her timid hands;
Oft as light clouds o’erpass the summer glade,
Alarm’d she trembles at the moving shade,
And feels alive through all her tender form
The whisper’d murmurs of the gathering storm;
Shuts her sweet eye-lids to approaching night,
And hails with freshen’d chariots the rising light.”

The cause of the well-known motion of the leaves of the sensitive and humble plants has been the subject of many ingenious explanations; but it has not been treated by any botanist with so much ingenuity as by Dr. Dutrochet, whose theory we give as explained in the Botanical Register.

M. Dutrochet states, that having ascertained hot nitric acid to possess the power of separating and reducing to its simplest form the whole mass of vegetable tissue, and that the same acid produced other effects equally advantageous for the examination of the most obscure parts of vegetable structure, he was induced to give his attention to that of *Mimosa pudica*, in the hope of gaining some evidence respecting the cause to which its sensibility is to be ascribed. Beginning with the pith he observed a considerable number of minute globules, of a greenish colour, intermingled among the cells, and adhering to them in an irregular manner. After attempting to show the probability of these globules having deceived Mirble in various points of his analysis of vegetation, and especially in regard to the pores, which that botanist supposes to exist in the cellular tissue of plants, Dr. Dutrochet proceeds to remark, that the application of hot nitric acid to these globules renders them perfectly opaque, whence he concludes that they are in fact minute cells, filled with a particular fluid which is subject to become concrete by the application of acids. Now it is known that such fluids as are thus altered by acids are usually dissolved and liquefied again by the application of alkalis. A few drops, therefore, of a solution of hydrate of potass were suffered to fall upon a portion of the pith on which nitric acid had been acting, and the mixture was exposed to the heat of a lamp. Being examined after a few minutes, the globules were found to have resumed their natural appearance. This curious fact indicated, in the opinion of Dutrochet, a strong and unexpected point of analogy between plants and animals. According to the microscopical researches of some modern observers, it has been ascertained that all the organs of animals are composed of a conglomeration of minute corpuscles, similar to those just described; the corpuscles which constitute the muscles are soluble in acids, but those which compose the nervous system are insoluble in the same acids, and only soluble in alkalis. Now, as the chemical properties and external appearance of the particles scattered among the cellular tissue of plants, and constituting the nervous system of animals, are the same, the author is induced to infer, that the spherical particles of plants are in fact the scattered elements of their nervous system. This hypothesis receives additional strength from the great similarity which exists between the medullary substance of the brain of *Molusca gasteropoda* and the cellular medullary tissue of plants. In pursuit of this idea, Dr. Dutrochet made a variety of experiments upon the sensitive plant, the results of which seem to be these:—The principal point of locomotion or of mobility exists in the little swelling which is situated at the base of the common and partial petioles of the leaves; this swelling is composed of a very delicate cellular tissue, in which is found an immense number of nervous corpuscles; the axis of the swelling is formed of a little fascicle of tubular vessels. It was ascertained by some delicate experiments, that the power of movement, or of contraction and expansion, exists in the parenchyma and cellular tissue of the swelling, and that the central fibres have no specific action connected with the motion. It also appeared that the energy of the nervous powers of the leaf depended wholly upon an abundance of sap, and that a diminution of that fluid occasioned an extreme diminution of the sensibility of the leaves. Prosecuting his remarks still further,

the author ascertained that in the motion of the sensitive plant two distinct motions take place, the one of locomotion, which is the consequence of direct violence offered to the leaves, and which occurs in the swellings already spoken of; the other is nervimotion, which depends upon some stimulus applied to the surface of the leaflets, unaccompanied by actual violence, such as the solar rays concentrated in the focus of a lens. As in all cases the bending or folding of the leaves evidently takes place from one leaf to another with perfect continuity, it may safely be inferred, that the invisible nervous action takes place in a direct line from the point of original irritation, and that the cause by which this action of nervimotion is produced must be some internal uninterrupted agency. This was, after much curious investigation, determined by the author to exist neither in the pith nor in the bark, nor even in the cellular tissue filled with nervous corpuscles, and on which he supposes the locomotion of the swelling at the base of the petioles to depend. It is in the ligneous part of the central system in certain tubes supplied with nervous corpuscles, and serving for the transmission of sap, that Dr. Dutrochet believes he has found the true seat of nervimotion, which he attributes to the agency of the sap alone, while he considers the power of locomotion to depend upon the nervous corpuscles alone.

Some few species of the Mimosa may be preserved in a warm inhabited room; but they are mostly kept in a stove, and few of them will bear the open air even in summer. Like human beings, they are more sensitive in proportion to the tenderness of the nursing: like them, by living hardily, they may be fitted to bear the common chances of life. In the plant, this nervous sensibility is encouraged for its singularity.

If the roots shoot through the pot at the bottom, the plant should be turned out, the roots be pared close, and then replaced in the same pot, or a larger, if necessary; but they do not thrive so well in large pots. Great caution must be observed in watering them; they must have little water at a time, but must not be suffered to remain quite dry.

Many persons have endeavoured to ascertain the cause of the sensibility of these plants, but it has never yet been clearly explained. The degree varies in the different kinds: some will only contract their leaves on being touched; others will bend and recede, as it were courteously to acknowledge your approach, as that which is termed the Humble-plant.

—"that courteous tree
Which bows to all who seek its canopy."
T. MOORE.

"Looke as the Feeling-plant, which learned swaines
Relate to growe on the East Indian plaines,
Shrinks up his dainty leaves if any sand
You throw thereon, or touch it with your hand."

W. BROWNE.

Miller, in one of the earlier editions of his Dictionary, speaks of a Calabrian philosopher who was driven mad by considering the mysterious nature of this plant: "Just," continues he, "as Aristotle is said to have flung himself headlong into the sea, because he could not comprehend the ebbing and flowing thereof."

When any of the upper leaves are touched, if in falling they touch those below them, these also will contract and fall; so that by touching one another, they will continue to fall for some time. Mimosas are very common in the woods of Brazil: of one of the species, of which the wood is very light, the Indians make their canoes.

The thorns of some of the Mimosas are very long, and are called, by the inhabitants of the Cape, Dornbush, or Thornbush. Latrobe speaks of one with which many parts of the country were nearly covered, with "thorns from four to six inches long, placed two and two, in an angle of ninety degrees; out of the inner centre of which proceeds, from a bud, a number of small pinnated leaves, resembling the acacia."

Elephants are often traced by means of these bushes, of which they eat both the leaves and roots; they tear them up, and place them on their crowns, and leave the bare shrubs in that position. The thorns are sometimes very troublesome to travellers, where they grow pretty closely together. There is a thorny shrub often found growing among the Thornbushes of the Cape, which catches the stockings, or some other part of the dress, and is not disentangled without some patience. The natives call it *wach en beetgen*, Stop a little. Some of the thorns, lying very low, tear away the shoe-strings; others, less innocent in their mischief, tear away the skin.

During the day-time the leaf-stalks of the mimosa are observed to form an acute angle with the upper part of the stem or branch to which they are attached, and the sub-leaflets spread out so as to lie nearly in one plane. At night the leaf-stalks become depressed, and the sub-leaflets folded; this change occurs about sunset, and the opposite one, when the leaflets diverge and throw open their sub-leaflets, takes place at day-break.

The Sensitive Plant signifies *Timidity*.



Nymphaea alba.

NYPHÆA ALBA.—WHITE WATER-LILY.

CLASS XIII. POLYANDRIA.—ORDER I. MONOGYNIA.

NATURAL ORDER, NYPHÆACEÆ.—THE WATER-LILY TRIBE.

LEAVES heart-shaped, entire; petals oblong; rays of the stigma sixteen, recurved.—Root tuberous, horizontal: leaves floating, nearly circular, heart-shaped, smooth: stalks of the leaves and flowers cylindrical: flowers about four inches in diameter, floating when expanded: calyx-leaves white above; petals white. This, in respect to beauty, is the queen of British flowers. Its large tuberous roots are collected by the Hebridiens, who from a decoction of them, mixed with copperas, obtain a black colour for dying wool and yarn. Perennial: flowers in July: grows in pools, lakes, and slow rivers.

The *Nymphæaceæ* are astringent, bitter, and innocuous plants. They are also reputed to possess sedative powers; their rhizomata contain much farinaceous matter; and, when the bitter principle has been removed by repeated washings, their creeping stems are esculent, such especially as those of *N. edulis* and *rubra*. The seeds of *N. rubra* and *N. Lotus* are also eatable. The stems of *N. odorata* contain a large proportion of tannin and gallic acid, and will strike a deep black with the salts of iron: and those of *N. alba* are also used to dye a dark chesnut brown; both have been occasionally employed medicinally as astringents, but their use is almost obsolete, being seldom resorted to as styptics, and only occasionally chewed by singers to relieve relaxation of the uvula and soft palate, give firmness to the vocal organs, and clear the voice. Swine will feed upon the water lilies, both *N. alba* and *Nuphar lutea*; and goats will also eat them; but they are not fed upon by kine, horses, or sheep. The root-stakes of the latter, which is the common yellow water-lily, are said to be destructive to beetles and cock-roaches, when bruised and infused in milk; they are also sometimes burned, to get rid of crickets, to which the smoke is said to be peculiarly obnoxious.

The *Nymphæaceæ* are highly ornamental aquatics, and the flowers of some are very fragrant. Others are scentless; and those of *Nuphar lutea* have an alcoholic odour resembling brandy. They are also physiologically interesting, from the varied elongations of their peduncles to suit the varied depths of the waters in which they grow, and their almost sensitive irritability, which causes their daily elevation above the surface of the water, and the expansion of their petals during the sunshine, and the nocturnal collapse of the flowers, with their drooping heads, which in some instances lie down on the shield-like leaves, and in others retire below the surface of the water during the night, but again emerge on the coming of day.

In some small gardens, says Miller, I have seen these plants cultivated in troughs of water, where they have flourished very well, and have annually produced great quantities of flowers; but as the expence of these troughs is pretty great, (their insides requiring to be lined with lead, to preserve them,) there are few people who care to be at that charge.

Towards the end of this month, says Dr. Aikin, of September, the chimney or common swallow entirely disappears. There are various opinions concerning the manner in which these birds dispose of themselves during the winter; some imagining that they all fly away to distant southern regions, where insect-food is at all times to be met with; others, that they retire to holes and caverns, or even sink to the bottom of ponds and rivers, where they pass the winter months in a torpid and apparently lifeless state. That many of them migrate to other countries, seems sufficiently proved. But some, probably, always stay behind, which are the younger broods, or smaller kinds, that are incapable of so long a flight. For some time before their departure, they begin to collect in flocks, settling on trees, basking on the roofs of buildings, or gathering round towers and steeples, from whence they take short excursions, as if to try their powers of flight.

When Autumn scatters his departing gleams,
Warn'd of approaching Winter, gathered, play
The swallow-people; and toss'd wide around,
O'er the calm sky, in convulsion swift,
The feathered eddy floats; rejoicing once,
Ere to their wintry slumbers they retire;
In clusters clung, beneath the mould'ring bank,

And where, unpierc'd by frost, the cavern sweats.
Or rather into warmer climes convey'd,
With other kindred birds of season, there
They twitter cheerful, till the vernal months
Invite them welcome back: for, thronging, now
Innumerable wings are in commotion all.

THOMSON.

Not only the swallow tribe, but many other small birds which feed on insects, disappear on the approach of cold weather, when the insects themselves are no longer to be met with.

On the other hand, some birds arrive at this season from still more northerly countries to spend the winter with us. The field-fare and redwing, whose departure was mentioned in March, return about the end of September. They feed chiefly on the berries with which our wood and hedges are plentifully stored all the winter.

Those sweet and mellow-toned songsters, the wood-lark, thrush and blackbird, now begin their autumnal music.

The most useful fruit this country affords, the apple, successfully ripens, according to its different kinds, from July to September or October; but the principal harvest of them is about the close of this month. They are now gathered for our English vintage, the *cider-making*, which in some counties is a busy and important employment.

Autumn paints

Ausonian hills with grapes, whilst English plains
Blush with pomaceous harvests, breathing sweets.
O let me now, when the kind early dew
Unlocks th' embosom'd odours, walk among
The well-rang'd files of trees, whose full-aged store

Diffuse ambrosial streams.

Now, now's the time; ere hasty suns forbid
To work, disburthen thou thy sapless wood
Of its rich progeny; the turgid fruit
Abounds with mellow liquor.

PHILLIPS.

The following extract is from the notes to Darwin's Botanic Garden.

Lapsana, *Nymphæa alba*, *Calendula*.—And many other flowers close and open their petals at certain hours of the day; and thus constitute what Linnæus calls the Horologe, or Watch of Flora. He enumerates 46 flowers, which possess this kind of sensibility. I shall mention a few of them with their respective hours of rising and setting, as Linnæus terms them. He divides them, 1st. into *meteoric* flowers, which less accurately observe the hour of unfolding, but are expanded sooner or later, according to the cloudiness, moisture, or pressure of the atmosphere. 2nd. *Tropical* flowers open in the morning and close before evening every day; but the hour of the expanding becomes earlier or later, as the length of the day increases or decreases. 3dly. *Æquinoctial* flowers, which open at a certain and exact hour of the day, and for the most part close at another determinate hour.

Hence the Horologe, or Watch of Flora, is formed from numerous plants, of which the following are those most common in this country. Leontodon taraxacum, Dandelion, opens at 5—6, closes at 8—9. Hieracium pilosella, mouse-ear hawk-weed, opens at 8, closes at 2. Sonchus lœvis, smooth Sow-thistle, at 5 and at 11—12. Lactuca sativa, cultivated Lettuce, at 7 and 10. Tragopogon luteum, yellow Goatsbeard, at 3—5 and at 9—10. Lapsana, nipplewort, at 5—6 and at 10—1. Nymphæa alba, white water lily, at 7 and 5. Papaver nudicaule, naked poppy, at 5 and at 7. Hemerocallis fulva, tawny Day-lily, at 5 and at 7—8. Convolvulus, at 5—6. Malva, Mallow, at 9—10 and at 1. Arenaria purpurea, purple Sand-wort, at 9—10 and at 2—3. Anagallis, pimpernel, at 7—8. Portulaca hortensis, garden Purslain, at 9—10, and at 11—12. Dianthus prolifer, proliferous Pink, at 8 and at 1. Cichoreum, Succory, at 4—5. Hypochaeris, at 6—7, and at 4—5. Crepis, at 4—5, and at 10—11. Picris, at 4—5, and at 12. Calendula field, at 9, and at 3. Calendula African, at 7, and at 3—4.

As these observations were probably made in the botanic gardens at Upsal, they must require farther attention to suit them to our climate.

Mrs. Hemans has some agreeable verses on this subject:

'Twas a lovely thought to mark the hours,
As they floated in light away,
By the opening and the folding flowers,
That laugh to the summer's day.

Thus had each moment its own rich hue
And its graceful cup or bell,
In whose coloured vase might sleep the dew,
Like a pearl in an ocean shell.

To such sweet sighs might the time have flow'd
In a golden current on,
Ere from the garden, man's first abode,
The glorious guests were gone.

Yet is not life in its rich flight,
Mark'd thus—even thus—on earth,
By the closing of one hope's delight,
And another's gentle birth?

Oh! let us live, so that flower by flower,
Shutting in turn, may have,
A lingerer still for the sunset hour,
A charm for the shaded eve.

The Water Lily is the emblem of *Eloquence*.



Clematis Florida.

CLEMATIS FLORIDA.—SIEBOLD'S CLEMATIS.

CLASS XIII. POLYANDRIA.—ORDER III. POLYGYNIA.

NATURAL ORDER, RANUNCULACEÆ.—THE CROW-FOOT TRIBE.

CHARACTER OF THE GENUS CLEMATIS. Calyx corolla-like, four-leaved, leaflets valvate, or somewhat induplicate, in aestivation. Stamens indefinite situate beneath the ovary. Ovary many, free, one-celled with one pendulous ovulum. Achenia many, sessile, caudate, with a naked or barbed style. Seed inverse.

Description of the species, *Clematis Florida*, var. Sieboldi. Stem round, angular, or grooved, covered with soft hairs; its habit is branched and twining, varying from six to twelve feet in height. Leaves petiole-ovate, lanceolate, more or less acuminate, smooth, with the exception of the veins which are more or less hairy; leaves are sometimes opposite, sometimes arranged in threes; entire or lacinate; sometimes the leaves are wholly wanting, and in their place are substituted tendrils. Peduncles pubescent, in length various, those nearest to the flower usually about two lines long: those further removed from the flower, from one to two inches long. Pedicels pubescent, from two to four lines long. Flowers solitary, showy, large. Calyx of six whitish ovate lanceolate leaflets, acute, or ending in a sharp point, and alternately arranged. On the exterior side of the leaflets is a dark brownish green linear lanceolate streak, which runs from the apex to the base. Stamens, anthers, style, and stigma abortive, being metamorphosed into linear lanceolate leaflets, of a dark colour, and forming by that means what is called a double flower.

We borrow the following passages from the agreeable work to which we have been so often indebted, the *Flora Domestica*.

CLEMATIS. Called frequently, virgin's bower or traveller's joy.—*French*, l'herbe au gueux [beggar's herb]; la viornie; viornie des pauvres [poor man's rest]; la consolation des voyageurs [traveller's consolation]; in the villages, vouabla, a corruption of the Latin name vitalba [white vine].—*Italian*, vitalba; clematite. Clematis is derived from the Greek, and signifies a clasper. It fastens itself for support to any tree or twig within its reach.

These are, for the most part, climbing plants, needing support, and should be placed where they may run up a wall or balcony. They will not flower so strongly in pots as in the open ground; but must not, on this account, be rejected. The Evergreen Clematis would require to be planted in a tub of some magnitude: it grows to the height of eight or ten feet, and becomes very thick and bushy. The flowers are of a greenish colour, and appear in December or January. It retains its leaves all the year.—Gerarde gives it the name of Traveller's Joy of Candia; Johnson, Spanish Traveller's Joy; and Parkinson, Spanish Wild Climber.

Purple Clematis grows naturally in the woods of Spain and Italy: there are several varieties, the Single Red-flowered, Blue-flowered, and Purple-flowered, and the Double Purple; which flower in June, July, and August: and another with white flowers, which appear in May.—Gerarde gives this species the name of Climbing Ladies' Bower, "from its aptness," he says, "to make bowers or arbours in gardens."

The Curled Clematis is a native of Carolina, Florida, and Japan; the stalks grow near four feet high, and fasten themselves by their clasps or tendrils to the neighbouring plants. The flowers are purple, and blow in July.

The Oriental Clematis is a native of the Levant; it has flowers of a greenish yellow colour, which are in blossom from July till October.

The Upright Virgin's Bower or *Clematis Flammula*, (in French, *la flammule*; *clematite odorante*: Italian, *flammula*;) grows naturally in many parts of Europe. The flowers are white, and continue in blossom from June till September. This is an acrid, corrosive plant, and inflames the skin, whence it has been named *Flammula*.

"If one leaf," says Miller, "be cropped in a hot day in the summer season, and bruised, and presently put to the nostrils, it will cause a smell and pain like a flame."

The Hungarian Clematis has blue flowers, which are in blossom from June to August. This and the last mentioned species have annual stems.

All the kinds here enumerated, which are the handsomest, will live in the open air all the year. They should, in general, be watered about three times in a week, but in very hot and dry weather every evening.

There are some few species of the Clematis which require artificial heat, but they are by far the least handsome. The two last mentioned kinds may be increased by parting the roots, which should be done either in October or February. The roots may be cut through their crowns with a sharp knife, taking care to preserve some good buds to every offset.

The Clematis is as great a rambler as the Honeysuckle itself:—

“ o’errun
By vines, and boundless clematis, (between
Whose wilderness of leaves white roses peep’d)
And honeysuckle, which, with trailing boughs,
Dropp’d o’er a sward, grateful as ever sprung
By sprinkling fountains.”

BARRY CORNWALL.

Mr. Keats makes mention of the Clematis in a passage of which, as it relates entirely to flowers, it may, perhaps, be allowable to quote the whole. He describes a youth sleeping in a bower walled with myrtle:—

“ Above his head
Four lily-stalks did their white honours wed,
To make a coronal, and round him grew
All tendrils green, of every bloom and hue;
Together intertwined, and trammel’d fresh :
The vine of glossy sprout ; the ivy-mesh,

Shading its Ethiop berries ; and woodbine
Of velvet leaves, and bugle blooms divine ;
Convulvulus in streaked vases flush ;
The creeper, mellowing for an autumn blush ;
And virgin’s bower, trailing airily,
With others of the sisterhood.”——ENDYMION, p. 72.

This poet appears to allude to the Clematis and the Honeysuckle in the following passage :—

“ The sweet-lipped ladies have already greeted
All the green leaves that round the window clamber

To show their purple stars, and bells of amber.”

KEATS’S POEMS, p. 26.

Wherever a lattice is mentioned, the Clematis is expected to run over it:—

“ In all the calmness of a cloudless eve,
How gently dies a long, long summer’s day,
O’er yon broad wood, as loth to take its leave,
It sheds at parting its most lovely ray,
And golden lights o’er all the landscape play,

And languid zephyrs waft their rich perfume,
Where the wide lattice gives them open way,
And breathe a freshness round the twilight room,
From jasmine, clematis, and yellow-blossomed broom.”

From an unpublished Collection by different Authors.

The following passages are from William Howitt’s account of September, in his Book of the Seasons. The wood-lark now having abandoned its summer music, may yet be heard uttering its fine wild autumnal note of *lu-lu, lu-lu, lu-lu*, on the distant uplands of our southern and western counties, particularly Devon and Cornwall, and amongst the hills of South Wales.

Finishing corn-harvest and thatching ricks ; laying in winter fuel, as coals, wood, etc.; ploughing and sowing wheat upon the fallows, also after-crops of tares, clover, early peas, etc.; gathering in orchard-fruit for sale, and for cider-making, and gathering the hop harvest, are the chief employments of this month. We have spoken of the picturesque beauty of hop-gathering in the last month ; but this month, in the hop counties, presents the most general scene of hop gathering. Throughout Kent and Sussex, long groups are everywhere to be seen pulling down the hop-poles covered with the bine in full flower, picking them into the bins, and conveying them away to the drying-kilns. In the hollows, and on slopes of the Kentish hills, the hop-grounds with their luxuriance of dark-green hop-vines hanging from the poles in masses of pale-green flowers, their picturesque knots of gatherers, men, women, and children,—all having turned out,—their homely cottages peeping here and there, and the drying-kilns sending up, at intervals, their wreaths of thin white smoke, altogether form a most cheering and true English sight. The whole country is odorous with the aroma of hop, as it is breathed forth from the drying-kilns, and from waggons piled with towering loads of hops already on their way to the metropolis. To those who meet for the first time the almost innumerable waggon-loads of hops at this season, thronging the roads from Sussex and Kent to London, and piled up in their huge pockets to an enormous height, it is a scene which excites astonishment ; and does not fail to impress them with a vivid idea of the immense growth of this vegetable, and of its vast use in the cordial old English beverage—ale, and its more modern congener—porter. At this season, too, not only is the atmosphere perfumed with hop, but the very atmosphere of the dining and drawing room too. Hops are the grand flavour of conversation, as well as of beer. Gentlemen, ladies, clergymen, noblemen, all are growers of hops, and deeply interested in the state of the crop, and the state of the market.

We may add by way of conclusion a few lines from the delightful Poet of the Seasons:—

But see the fading many-colour’d woods,
Shade deepening over shade, the country round
Imbrown’d ; a crowded umbrage, dusk, and dun,
Of every hue, from wan declining green
To sooty dark. These now the lonesome Muse,
Low-whispering, lead into their leaf-strown walks,
And give the Season in its latest view.

The Clematis, having been used by impostors to make sores, is the emblem of *artifice*.



Ficus religiosa

FICUS RELIGIOSA.—THE INDIAN FIG TREE.

CLASS XXIII. POLYGAMIA.—ORDER III. TRIECIA.

NATURAL ORDER, ARTOCARPEÆ.—THE BREAD-FRUIT TRIBE.

FICUS INDICA, the Banyan Tree, is a native of most parts of India, both on the islands and the main land. Roxburgh states, that it is found in its greatest perfection and beauty about the villages on the skirts of the Circar mountains. The leaves are ovate, heart-shaped, three-ribbed, and entire; when young, downy on both sides; when old, much smoother; they are from five to six inches long, and from three to four broad: at the top of the leafstalk, on the underside, is a broad, smooth, greasy-looking gland. The figs when ripe grow in pairs from the axils of the leaves, are downy, and about the size and colour of a middle-sized red cherry. The wood is light, white, porous, and of no value. Brahmins use the leaves as plates to eat off: birdlime is manufactured from the tenacious milky juice. If the seeds drop in the axils of the leaves of the Palmyra Tree (*Borassus flabelliformis*), the roots grow downwards, embracing the trunk in their descent; by degrees they envelop every part except the top, whence in very old specimens the leaves and head of the Palmyra are seen emerging from the trunk of the Banyan Tree, as if they grew from it. The Hindoos regard such cases with reverence, and call them a holy marriage instituted by Providence. The Banyan Tree, covering with its trunks a sufficient space to shelter a regiment of cavalry, and used as a natural canopy for great public meetings, has been so often described by writers on India as to have become familiar to the reader. The branches spread to a great extent, dropping their roots here and there, which as soon as they reach the ground, rapidly increase in size, till they become as large as and similar to the parent trunk, by which means the quantity of ground they cover is almost incredible. Roxburgh says that he has seen such trees full five hundred yards round the circumference of the branches, and a hundred feet high, the principal trunk being more than twenty-five feet to the branches, and eight or nine feet in diameter. An excellent account of such a tree will be found in the Oriental Annual for 1834; and a graphic description of the mode of growth in Rumpf's 'Herbarium Amboinense,' vol. iii. p. 126. See also 'Asiatic Researches,' vol. iv. p. 310. It is called Vuta in Sanscrit, Bur or But in Bengali, Bagha in Cingalese. (*Penny Cyclopædia*.)

The banian or pagod tree of the Hindoos, says Professor Burnett, is the *F. religiosa*, so called from its dedication to superstitious observances, and the reverence in which it is held. It is indeed a most wonderful and venerable tree, not only rising to a majestic height, and spreading its huge arms through a vast expanse, but at intervals sending down roots from its branches which, entering the ground, corroborate the parent trunk, and convey unlimited supplies of nourishment from the soil. Fifty, sixty, or even an hundred of these adventurous stems, are not uncommon to a single tree: one at Revel-gong, a friend lately returned from India tells me, covers more than half an acre, and others are known still larger; for the celebrated banian of Cubbeer-bur, when measured by Mr. Forbes, was 2000 feet in circumference, tracing only round the principal stems. The overhanging ones, not then struck down, covered (says Mr. Forbes) a much larger space. The chief trunks of this single tree, greatly exceeding in size our common oaks and elms, were 350 in number, and the smaller stems amounted to more than 3000, every one of which was casting out new branches and hanging roots, to form further trunks, and become the parents of a future progeny. Cubbeer-bur was for ages famed throughout Hindustan for its great extent and beauty; and it is said that 7000 persons have found ample room to repose beneath its shade. Another Banian is mentioned by an old writer, which is said to have covered five acres of ground. Strabo, Pliny, and other ancient authors, have attempted in their works minute and accurate accounts of this tree; but Milton has perhaps given a more graphic description in fewer words than any other writer:

"The fig-tree; not that kind for fruit renowned;
But such as at this day to Indians known
In Malabar or Deccan, spreads her arms,
Branching so broad and long, that in the ground
The bending twigs take root, and daughters grow
About the mother tree, a pillared shade
High overarched, with echoing walks between."

When speaking of the tree measured by Mr. Forbes, the author of "The Vegetable World" says, "according to the Hindoo superstition, the origin of the tree is ascribed to a saint, who, ages since, invoked a blessing from Brahma on a small sprig of a banian-tree, which he stuck into the ground on this spot, and

prayed that it might overshadow multitudes. It is, probably, some thousand years old, and the Hindoos regard it with great veneration. On sacred festivals they repair beneath its shade to worship their respective deities, and perform their ablutions in the surrounding stream. This magnificent pavilion was filled with a variety of feathered songsters, peacocks, and other birds; and crowded with whole families of monkeys, whose antics were very diverting; showing their parental affection by teaching the young ones to procure their food, and exert themselves with agility in jumping from bough to bough, and then taking more extensive leaps, from tree to tree, encouraging them by caresses when timorous and menacing them when refractory."

Gerarde, to whose description Milton appears to be indebted, calls it the Arched Indian Fig Tree, and says, "This rare and admirable tree is very great, straight, and covered with a yellow barke, tending to tawny: the boughes are many, very long, tough, and flexible, growing very long in short space, as doe the twigs of Oziars, and those so long and weake that the ends thereof hang downe and touch the ground, where they take root and grow in such sort, that those twigs become great trees: and these being growne up vnto the like greatnesse, doe cast their branches or twiggy tendrils vnto the earth, where they likewise take hold and root; by means whereof it cometh to passe, that of one tree is made a great wood or desert of trees, which the Indians doe vse for couerture against the extreme heat of the sun, wherewith they are grievously vexed: some likewise vse them for pleasure, cutting downe by a direct line a long walke, or as it were a vault, through the thickest part, from which also they cut certaine loope-holes or windowes in some places, to the end to receiue thereby the fresh coole aire that entreth thereat, as also for light, that they may see their cattell that feed thereby, to auoid any danger that might happen vnto them either by the enemy or wilde beasts; from which vault or close walke doth rebound such an admirable eccho or answering voice, if one of them speake vnto another aloud, that it doth resound or answer againe fovre or fife times, according to the height of the voice, to which it doth answer, and that so plainly, that it cannot be knowne from the voice itselfe: the firste or mother of this wood or desert of trees, is hard to bee knowne from the children, but by the greatnesse of the body, which three men can scarcely fathom about: vpon the branches whereof grow leaues hard and wrinkled in shape, like those of the Quince tree, greene aboue, and of a whitish hoary colour vnderneath, whereupon the Elephants delight to feed: among which leaues come forth the fruit, of the bignesse of a man's thumbe, in shape like a small fig, but of a sanguine or bloudy colour, and of a sweet taste, but not so pleasante as the figs of Spaine; notwithstanding, they are good to be eaten, and withall very wholesome."

The following passages are from the *Flora Domestica* :—

Ovid was, as might be expected, a lover of gardens, and by a passage in one of his poems appears to have been fond of writing in them. It is in his *Tristia*, where he is regretting, during his voyage to the place of his exile, the delight he used to feel in composing his verses under the genial sky, and among the domestic comforts of his native country:

"Non hæc in nostris, ut quondam, scribimus hortis,
Nec, consuete, meum, lectule, corpus habes:
Iactor in indomito brumali luce profundo,
Ipsaque cæreleis charta feritur aquis.
Improba pugnat hiems, indignanturque, quòd ausim
Scribere, se rigidas incutiente minas."

Lib. i. Eleg. 11.

"Not in my garden, as of old I write,
With thee, dear couch, to finish the delight:
I toss upon a ghastly wintry sea,
While the blue sprinkles dash my poetry.
Fell winter's at his war; and storms the more
To see me dare to write for all his threatening roar."

It was, perhaps, the general power of sympathy upon the subject of plants, which caused them to be connected with some of the earliest events that history records. The mythologies of all nations are full of them; and in all times they have been associated with the soldiery, the government, and the arts. Thus the patriot was crowned with oak; the hero and the poet with bay; and beauty with the myrtle. Peace had her olive; Bacchus his ivy; and whole groves of oak-trees were thought to send out oracular voices in the winds. One of the most pleasing parts of state-splendour has been associated with flowers, as Shakspeare seems to have had in his mind when he wrote that beautiful line respecting the accomplished prince, Hamlet:

"The expectancy and rose of the fair state."

We do not find the banian tree mentioned by the expounders of emblems; but we think it might well stand as the type of *Colonization*.



Brachycome Iberidifolia

BRACHYCOME IBERIDIFOLIA.—IBERIS-LEAVED BRACHYCOME.

CLASS XIX. SYNGENESIA.—ORDER I. SUPERFLUA.

NATURAL ORDER, COMPOSITÆ.

CAPITULE many flowered, heterogamous, florets of the ray in a single series, ligulate, pistilliferous, those of the disk tubulose, hermaphrodite. The scales of the campanulate, involute in few rows, and membranous at the margins. Receptacle conical, slightly pitted. The corollas of the ray ligulate, those of the disk tubulose, with the limb five-toothed. Anthers devoid of a tail. Achenia (seed vessels,) flattish, compressed, without a beak. Pappus very short, occurring in the form of a bristly crown.

A perennial herbaceous plant, smooth throughout; stem erect, branched, leaves pinnately cut, segments linear-subulate, distinct, entire. Peduncles naked, bearing a single capitule. Scales of the involucre oblong, somewhat pointed and membranous at the top. Florets of the ray tubulose, tube somewhat bulging, and hairy below, limb smooth, five toothed. Stamens five, anthers syngenesian, and devoid of an appendix. Style one, stigmata two, club-shaped and hairy. Achenia flattish, club-shaped, and crowned by a scanty, bristly pappus or seed down.

This is one of the plants discovered on the Swan River, on the west coast of New Holland, by Baron Hugel. It is called the Large Swan (River?) Daisy, from its resemblance, in its botanical characters, to the genus *Bellis*, from which, when the pappus is entirely wanting, as occasionally occurs with this species, it scarcely differs, save in the membranous tips of the scales of the involucre. Though we hail it as a pleasing accession to our already rich store of cultivated flowers, we much question whether the settlers on the Swan River will accept of it as a substitute for the daisy of their native land, with all its touching associations and poetical enchantments, and which has possessed a charm and an interest for the self-exiled missionary, scarcely to be understood, save by those long severed from their native strand. The devoted and accomplished missionary, Dr. Carey, while at Mysore,

“Where Flora's giant offspring tower
In gorgeous liveries all the year.”

cherished an English Daisy with an almost passionate regard. He thus wrote to a friend in Yorkshire:—“With great labour have I preserved the common field daisy, which came up in some English earth, for six or seven years, but my whole stock is now only one plant. I have never been able, even with sheltering them, to preserve an old root through the rains, but I get a few seedlings every year. The proportion of small plants in the country is very inconsiderable, the greater number of our vegetable productions being either large shrubs, immense climbers, or timber trees.”

This *Brachycome* was introduced by means of seeds sent to Mrs. Wray, of the Oaklands, near Cheltenham. It flowers abundantly in the open border, but is so intolerant of wet, that to ensure its preservation, it should be taken up, and transferred to the green-house, in autumn.*

James Montgomery, struck with the passionate regard of Dr. Carey for the daisy, has expressed as follows, the sentiments which he supposed the missionary might feel, at the sight of this flower:—

Thrice welcome, little English flower!
My mother-country's white and red,
In rose or lily, till this hour,
Never to me such beauty spread:
Transplanted from thine island-bed,
A treasure in a grain of earth,
Strange as a spirit from the dead,
Thine embryo sprang to birth.

Thrice welcome, little English flower!
Whose tribes, beneath our natal skies,
Shut close their leaves while vapours lower;
But, when the sun's gay beams arise,
With unabash'd but modest eyes,
Follow his motion to the west,
Nor cease to gaze till daylight dies,
Then fold themselves to rest.

* We have borrowed this description from Mr. Maund's agreeable work “The Botanist.”

Thrice welcome, little English flower!
To this resplendent hemisphere,
Where Flora's giant offspring tower
In gorgeous liveries all the year;
Thou, only thou, art little here,
Like worth unfriended and unknown,
Yet to my British heart more dear
Than all the torrid zone.

Thrice welcome, little English flower!
Of early scenes beloved by me,
While happy in my father's bower,
Thou shalt the blithe memorial be;
The fairy sports of infancy,
Youth's golden age, and manhood's prime,
Home, country, kindred, friends,—with thee,
I find in this far clime.

Thrice welcome, little English flower!
I'll rear thee with a trembling hand;
Oh, for the April sun and shower,
The sweet May dews of that fair land,
Where Daisies, thick as star-light, stand
In every walk!—that here may shoot
Thy scions, and thy buds expand,
A hundred from one root.

Thrice welcome, little English flower!
To me the pledge of hope unseen;
When sorrow would my soul o'erpower
For joys that were, or might have been,
I'll call to mind, how, fresh and green,
I saw thee waking from the dust;
Then turn to Heaven with brow serene,
And place in God my trust.

It is not poets alone, says an author quoted in "the Sentiment of Flowers," who half worship flowers. What an enthusiastic devotion is that which sends a man from the attractions of home, the ties of neighbourhood, the bonds of country, to range plains, valleys, hills, and mountains, for a new flower. What a spirit must have animated Hermann, Hasselquist, Tournefort, Linnaeus, Solander, Saussure, Humboldt, and hundreds of those who have sacrificed every personal convenience and selfish motive for the sake of illustrating the volume of nature, and opening almost a new existence upon those whose researches are necessarily limited. But the love of flowers is not shared exclusively by the poet and the naturalist. Oh! no, the little child loves the flower garden, and watches with intense interest the early opening buds, such fair types of itself. The young, the middle aged, and the hoary head, silvered with the snows of three-score years and ten; all, all hang with delight over the blooming parterre. The bud of infancy, the half-expanded flower of youth, the perfect blooms of the meridian of life, and the drooping leaves of closing existence, are here all seen and noted. No wonder that man, in the beautiful simplicity of earlier times, loved flowers, and hence formed an eloquent language, that spoke to the heart in a 'still small voice,' more touching than the tenderest accents. No wonder that the most lovely ornament for the young virgin was a chaplet of fair flowers; the most glorious distinction of the warrior a wreath of bays. No wonder that the bier of the early dead was strewn with these passing emblems of a passing existence.

The flowers that we behold each year,
In chequered meads their heads to rear,
Now rising from their tomb,
E'en these do cry,
That though men die,

New life from death may come.

HÆTHORPE.

October, says William Howitt, bears pretty much the same character in the fall of the year, as April does in the spring. The beginning of April is still wintry, the end may often lay strong claims to the name of summer; the commencement of October is frequently distinguished by the lingering of summer-warmth and summer-flowers, the end by frosts and snows. It is a month as various as April—clear skies and fogs, drought and rain, sunshine and storm, greenness and nakedness, it has them all, and often in a rapid succession. In the early part of the month the hardy yarrow and a few other flowers remain, and the meadow-saffron (*Colchicum autumnale*) and the autumnal crocus (*Crocus autumnalis*) spring up and give a last gleam of floral beauty to the year. The grass, if the weather be mild, is vividly green, and luxuriant as in spring. Fine clear days occasionally come out, affording in the perfect repose of the landscape, the blueness of the waters, and the strong shadows cast by the trees upon the sunny ground, the highest pictorial beauty; but they are speedily past, and rains and mists wrap the face of the earth in gloom. Yet the glooms and obscurity of autumnal fogs, however dreary to the common eye, are not unwelcome to the lover of Nature. They give an air of wildness to the most ordinary scenery; but to mountains, to forests, to solitary sea-coasts, they add a sombre sublimity that at once soothes and excites the imagination; and even when not pleasant themselves, they minister to our pleasures by turning the heart to our bright firesides, to the warmth and perpetual summer of home.

Orchards are now finally cleared of fruit, at least the trees, for in the cider counties they still lie in large heaps in the orchards in all their glory of gold and crimson, and many will lie there till frosty nights set in; the frost being supposed to improve their quality by increasing the quantity of saccharine matter in them, though they are apt to become decayed by too long lying, and to injure the flavour of the cider. Gardens have lost the chief of their attractions; farmers are busy ploughing, and getting in their wheat: swallows generally disappear this month.



Viscum album.

VISCUM ALBUM.—COMMON WHITE MISTLETOE.

CLASS XXII. DICEIA.—ORDER VI. TETRANDRIA.

NATURAL ORDER, LORANTHÆ.

STEM much branched, forked: with sessile, intermediate heads of about 5 flowers; branches terete; Leaves obovate lanceolate, obtuse, nerveless. Natives of Europe, parasitical on trees, especially on the apple tree and hawthorn, but it is said also to have been found growing on the lime tree, oak, American locust tree, elm, fir, pear tree service, almond, white willow, walnut, &c. *Viscum album* of Thunb. and Walt. are distinct from this. Root hard, incorporated deep with the wood of the tree on which it grows, without any radicles, as in all the other species of this genus as well as of *Loranthus* and the allied genera. Leaves permanent, stiff, with parallel ribs. Flowers yellowish. Berries white, pellucid, the size of a currant, sweet, very glutinous internally, serving to make the best bird-lime, when boiled with a small portion of vegetable oil. *Loranthus Europæus* seems to be the original and most common mistletoe; $\frac{6}{10}$ of the Greeks, which grows usually on some kind of fir tree. But our *Viscum album* is sometimes found in Greece, though rarely, growing on the oak; and this has been preferred from the most remote antiquity. Hence when the superstitions of the East travelled westward, our Druids adopted a notion of the mistletoe of the oak being more holy or efficacious in conjurations or medicine, than what any other tree afforded, the *Loranthus* or ordinary mistletoe not being known here. This superstition actually remains, and a plant of *Viscum Album* from an oak is preferred by those who rely on virtues, which perhaps never existed in any mistletoe whatever. The Druids sent round their attendant youths with branches of mistletoe to announce the entrance of the new year; and something like the same custom is still continued in France. In England branches of it are hung up in most houses at Christmas, along with other evergreens. The berries are devoured by several birds of the thrush kind, and especially by the mistletoe thrush. The common mistletoe is not difficult to propagate by sticking the berries on thorn or apple trees, after a little of the outer bark has been cut off, and tying a shred of mat over them, to protect them from the birds.

Professor Burnett says, "*Loranthus Europæus* is in the southern parts of Europe a very frequent parasite on the oak, and indeed inhabits no other tree, while the viscum is very seldom found thereon, being chiefly confined to the hawthorn and the apple. This circumstance has led some naturalists to suppose the *Loranthus* to have been the mistletoe of the Druids, and to believe, as it is not now indigenous to Britain, that when Druidism was suppressed, every vestige of that stupendous superstition was so completely swept away, that even the sacred plant was extirpated here. Such a speculation, however, seems so wild, that the following is offered in its stead:—

The mistletoe, although seldom found on the oak, is not exclusively a parasite of other trees, and its rarity on the former not improbably led to the preference which the old botanists, as well as the Druids, gave to the *Viscus quercus* over the *Viscus oxycanthi*, when these vegetables were held in much repute in medicine. Hence the very circumstance of a search being made for quercine mistletoe, in an age when these islands were covered with forests of oak, is opposed to the idea of the *Loranthus* being the plant in question: had it then been indigenous here, the oak would have been its common, if not exclusive habitat, and this confirms the belief that the *Viscum* was the branch which the Druids went with such solemnity to cull.

The common mistletoe is slightly astringent, and is occasionally resorted to in our provinces as a cure for epilepsy or the falling sickness; but trust in its sanative powers is at as low an ebb as credence in its moral efficacy. The all-health and the yule-log of the Druids are now only regarded as means of Christmas comfort for the old and pastime for the young.

The berries of these plants abound in a viscid matter, from which bird-lime is often made.

Old Gerarde declares that "the leaves and berries of Misselto are hot and dry, and of subtil parts: the bird-lime is hot and biting, and consists of an airy and watery substance, with some earthy quality: for according to the iudgement of *Galen* his acrimony overcommeth his bitterness; for if it be used in outward applications it draweth humors from the deepest or most secret parts of the body, spreading and dispersing them abroad, and digesting them.

With Frankincense it mollifieth malicious impostumes, being boiled with unslaked lime, or with *Gayate lapide* or *Asio*, and applied, it wasteth away the hardnesse of the spleen.

With Orpment or *Sandaracha* it taketh away foule ilfaured nailes, being mixed with vnslaked lime and wine lees it receieth greater force. It hath been most credibly reported vnto me, that a few of the

berries of Mistletoe bruised and strained into oile and drunken, hath presently and forthwith rid a grievous and sore stich."

In the history of Greece, says the author of "the Vegetable World," we meet in very early times with the famous oracle of Jupiter, that is, a place where it was said his voice was heard, at the oaks of Dodona. And, in Gaul and Britain, we find the highest regard paid to this tree and its mistletoe, under the direction of the Druids—the oak-prophets, or priests. They thought the mistletoe was sent from heaven, as a sign that God had chosen the tree on which it grew; and, though rarely found, it was treated, as soon as discovered, with great ceremony. They styled it, indeed, the curer of all ills, and, having prepared under the tree feasts and sacrifices, brought to it two white bulls, whose horns were then, for the first time, tied. After this, the priest, attired in a white robe, ascended the tree, and, with a golden pruning-hook, cut off the mistletoe, which was received in a white sheet. Victims were then sacrificed, with many prayers for the blessing of God on his own gift. And, says Parkhurst, "Is it possible for a Christian to read this account without thinking of Him who was the desire of all nations, of the man whose name was the branch, who had indeed no father on earth, but came down from heaven; was given to heal all our ills; and, after being cut off through the divine counsel, was wrapped in fine linen, and laid in the sepulchre for our sakes?"

The following extract is from "The Sentiment of Flowers,"

"All your temples strow
With laurel green, and sacred mistletoe."

GAY.

The mistletoe is a parasitical plant, growing chiefly on the summit of fruit trees, though the proud oak sometimes becomes its slave, and yields its own substance to support it. "The Druids sent round their attendant youths with branches of the mistletoe, to announce the entrance of the new year;" and something like this custom is said still to be continued in France; and our English friends, who maintain the Christmas customs and gambols of our ancestors, need not that we should remind them of the part it plays in those festivities. The Druids had a species of adoration for a weakness so superior to strength. The tyrant subjugator of the oak appeared to them alike formidable to men and gods; and they related the following story in support of their opinion:—"One day, Balder told his mother Friga, that he had dreamed he should die. Friga conjured the elements—earth, air, fire, and water; metals, maladies, animals, and serpents, that they should do no evil to her son; and her conjurations were so powerful that nought could resist them. Balder, therefore, went to the combat of the gods, and fought in the midst of showers of arrows without fear. Loake, his enemy, wished to know the reason; he took the form of an old woman, and sought out Friga. He addressed her thus: 'In the midst of our fight, the arrows and rocks fall on your son without hurting him.' 'I believe it,' replied Friga, 'all those substances are sworn to me; there is nothing in nature which can hurt him. I have obtained this favour from every thing which has power. There is only one little plant that I cared not to ask, because it appeared too feeble to injure; it was growing upon the bark of an oak, with scarcely any root; it lives without soil, and is called mistletoe. So spake Friga. Loake immediately ran and found the plant, and entering the assembly of the gods, while they were fighting against the invulnerable Balder (for their games are combats,) he approached the blind Heda. 'Why,' said he, 'do you not contend with the arrows of Balder?' 'I am blind,' he answered 'and have no arms.' Loake presented to him the mistletoe, and said 'Balder is before thee.' The blind Heda discharged the arrow, and Balder fell pierced and slain. Thus, the invulnerable offspring of a goddess was killed by an arrow of mistletoe, shot by a blind man." Such is the origin of the respect borne by the Gauls towards this shrub.

This plant being yellow, Virgil compares it to the golden bough of the sybil.

'Quale solet sylvis brumali tempore viscum
Fronde virere novâ, quod non sua seminat arbos,
Et croceo fœtu teretes circumdare truncos;
Talis erat species auri frondentis opacâ
Ilex.*'

As the mistletoe, which its own tree does not sow, grows green with new foliage amid the woods in winter, and surrounds the round trunks with its saffron fruit, such was the appearance of the budding gold on the dark ilex.

In the language of flowers, the Mistletoe signifies *I surmount all difficulties*.



Portulaca Thellusonii.

PORTULACA THELLUSONII.—THELLUSON'S PORTULACA.

CLASS XI. DODECANDRIA.—ORDER I. MONOGYNIA.

NATURAL ORDER, PORTULACÆ.

STEM annual, or at most biennial. round, branched, smooth, from about one foot to a foot and a half high, and more or less of a deep pink colour. Leaves alternate, fleshy, somewhat cylindrical, smooth, about an inch long, having in the axils tufts of long white filamentous hairs. Floral leaves numerous, arranged in the form of a whorl, and in length and form similar to those of the stem. Flowers one or more at the apex of the branches. Calyx leaves two, ovate, acute, skinny, about three lines long, externally of a pinky colour. Corolla about two inches and a half in diameter, of a most brilliant crimson colour, with a yellow star in the centre, with blotches about the star of a still darker crimson. Petals five, ovate, obtuse, concave, two-lobed, having the margins recurved. Stamens numerous, of a dark purple colour, smooth, shorter than the style. Anthers round. Pollen yellow, roundish. Style longer than the stamens, of a lightish purple colour, increasing in size from the base upwards, smooth. Stigma five-cleft, divisions more or less recurved, the under side smooth, the upper side strongly pubescent. Ovarium roundish, five or six angled, one-celled ovaria numerous, rather reniform, granulose, arranged round a central columella, on a placenta.

Popular and geographical notice. This is a truly brilliant plant, and when in perfection, its crimson flowers are dazzling to the eye; as an annual (or little more) it is an attractive addition to the stove. At first this plant was considered, by Dr. Lindley, as a hybrid between *Portulaca grandiflora*, and *Portulaca Gilliesii*, but subsequent observation has convinced Dr. Lindley that it is a true species, and distinct from its congeners by its two-lobed petals. Its native country is not stated by the above author, who first described it in the Botanical Register, for 1839, but most probably it is a native of tropical America, as that country contains most of the species of the genus, few being found in the temperate or warm parts of the old world.

Introduction; where grown; culture. This plant, according to Dr. Lindley, was sent from Florence to the London Horticultural Society, by Lord Rendlesham. The genus may be easily propagated by cuttings, and the species *Portulaca Gilliesii*, grandiflora, and the one now figured, may be rapidly increased by the leaves, which, if suffered to remain on the soil of the pot after they have fallen, will soon strike root, and, in a short time, produce vigorous plants. The soil should be peat, loam and sand.

For the following long, but agreeable quotation, we are indebted to William Howitt's *Work on the Seasons*.

"Autumn is dark on the mountains; grey mist rests on the hills. The whirlwind is heard on the heath. Dark rolls the river through the narrow plain. The leaves whirl round with the wind, and strew the grave of the dead." I commence this month with a quotation from a bard who, more than all others, abounds in that wild and sombre imagery congenial to the season. Ossian is a book to be read amid the gloomy silence, or the loud gusty winds of November. There is an ancient dwelling, in a sylvan and out-of-the-world part of the country, which I frequent about as often as there are months in the year. In the summer it is surrounded by out-of-doors delights—woods, green fields, sweet songs, and all the pleasantness of flowers, breezes, and sunshine, which tempt me to loiter among them; but in the autumnal and wintry months, I habitually cast my eyes upon a small recess, filled with books, and amongst them, upon Ossian; and if I remember any hours of peculiar enjoyment, I do those thus occupied. The days and feelings of my boyhood are at once brought back again. I connect the scenes and the heroes of the "Voice of Cona," in some mysterious manner with the memory of those with whom I was wont to admire them; and am snatched from a world of cold calculation and selfishness, in which we all too willingly participate, to one of glory and generosity. We are often asked wherein consists the peculiar charm of Ossian. It is in the graceful delicacy and refined affection of his female characters; the reckless bravery, lofty sentiment, and generous warmth of his warriors, and the wildness of the scenery in which they dwell. We are delighted to find his lovely and noble beings on their rude heaths, or in their rude halls, exhibiting a poetical refinement of mind far transcending the tone of modern society, with all the beautiful set-off of the simplicity of ancient manners. And then, what a pathos is in their sorrows! The harp of Ossian is truly a "harp of sorrow." It breathes perpetually of melancholy tenderness. It is the voice of age lamenting over departed glory—over beauty and strength cut down in their prime; and it comes to us from the dimness of antiquity, and from a land of hills and woods, of mists and meteors,—from the heath of mossy and grey stones, the roaring

of mountain-streams, the blasted tree, the withered leaves, and the thistle's beard, that flies on the wind of autumn. Am I told that it is merely a pleasant, modern fiction? What then? If so, it is one of the pleasantest fictions that ever were wrought; and the man who made it, one of the happiest geniuses. For years did he toil to acquire the art and the name of a poet; but in vain. His conceptions were meagre, his style monotonous and common-place; and through the multitude of verses which he has left, we look in vain for aught which might justify the manufacture of them: but, in a happy hour, he burst at once into a most original style of poetry—into a language which shows not *symptoms* of feeling, but melts and glows with it into poetic imagery; which is not scattered sparingly and painfully, but with a full, a free, and an unwearied hand. If this be true, it is wonderful; but I shall choose not to believe it true. I shall choose to think of Ossian as the ancient and veritable bard, and Macpherson as the fortunate fellow who found his scattered lays, and who perhaps added links and *amendments* (to use the word in a parliamentary sense) of his own. Whatever be the opinion of fickle fashion, it is a book pre-eminently fitted for the November fire-side; unrivalled in graphic touches which bring the character of the season before you, and serve to touch the heart with an unworldly tenderness,—a boon of no little consequence in these money-getting and artificial days. We have not the Alpine glooms and lonely majesty of Ossian's hilly land; but we are now surrounded by precisely the melancholy images in which he delights. We are in a month of darkness, storms, and mists; of the whirling away of the withered leaves, and the introduction to complete winter. Rain, hail, and wind chase each other over the fields and amongst the woods in rapid alterations. The flowers are gone; the long grass stands amongst the woodland thickets withered, bleached, and sere; the fern is red and shrivelled, amongst the green gorse and broom; the plants, which waved their broad white umbels to the summer breeze, like skeleton-trophies of death, rattle their dry and hollow kexes to the autumnal winds. The brooks are brimful; the rivers, turbid and covered with masses of foam, hurry on in angry strength, or pour their waters over the champaign. Our very gardens are sad, damp, and desolate. Their floral splendours are dead; naked stems and decaying leaves have taken the place of verdure. The walks are unkempt and uninviting: and as these summer friends of ours are no longer affluent and of flourishing estate, we, of course, desert them.

The country presents, in its silence and gloom, a ghastly scene to those accustomed to towns and dissipation. To them there is something frightful in its solitude; yet, to the reflective mind it is, and has been at all times grateful. In its sternest moods, it presents solemn thoughts, and awakens solemn feelings. Great and philosophic minds have in all ages borne but one testimony to the charms of its quietude. In its profound repose the mourner seeks to indulge the passion of grief; to it the projector of some great work in art or literature flies to mature his labour, and, while hidden from all eyes, to achieve that which shall make his name familiar to all ears; and to the poet, what is more affluent of imaginative stimulus and precious suggestions than strolls through wood-walks, mountain-glens, and along wild sea-coasts, at this season? The universal stillness is felt through the whole soul. Every object is exaggerated, and yet recommended to the eye through the media of gloom and mist; and while the eye, unseconded by mind, would discern nothing but dreariness, he finds something congenial to the loftiest moods of his spirit, and is often led into strains which, though solemn, are anything but sad.

Fieldfares and redwings will be generally seen this month. Sometimes they quit their northern regions as early as October, if the season be very severe; but more frequently they make their first appearance here in this month. If the weather be mild, they will be heard, as they sit in flocks upon the trees, warbling in concert very cheerfully in the same manner as before their departure in spring. Fine days will occasionally peep out so spring-like, that the sky-larks attempt their flights, and sing merrily; but, perhaps, the very next morning shows a landscape of frost and snow.

I saw the woods and fields at close of day
A variegated show; the meadows green,
Though faded, and the lands where lately waved
The golden harvest, of a mellow brown,
Upturned so lately by the peaceful share.
I saw, far off, the weedy fallow smile
With verdure not unprofitable, grazed
By flocks, fast feeding, and selecting each
His favourite herb; while all the leafless groves
That skirt the horizon wore a sable hue,
Scarcely noticed in the kindred dusk of eve.

To-morrow brings a change, a total change,
Which even now, though silently performed,
And slowly, and by most unthought, the face
Of universal nature undergoes.
Fast falls the fleecy shower; the downy flakes
Descending, and with never-ceasing lapse
Softly alighting upon all below,
Assimilate all objects. Earth receives
Gladly the thickening mantle, and the green
And tender blade, that feared the chilling blast,
Escapes unhurt beneath so warm a veil. COWPER.

The world, says Leigh Hunt, never feels so cheerless, as when it is undergoing mists and fogs. As long as there are objects to look at, it is hard if we cannot find something to entertain our thoughts; but when the world itself is shut out from our observation; when the same mists, that shut it out, come clinging round about us with cold; and when we think what the poor are likely to suffer from the approaching winter, we seem to feel, not only that we are dreary, but that we ought to be so.



Arum maculatum

ARUM MACULATUM.—THE COMMON ARUM.

CLASS XXI. MONŒCIA.—ORDER VII. POLYANDRIA.

NATURAL ORDER, AROIDEÆ.—THE ARUM TRIBE.

This is a well-known perennial plant, a native of many parts of Britain, generally growing under hedges, remarkable for its acrimony, and the singular structure of its fructification. "At the first approach of spring," says Sir James E. Smith, "the verdant shining leaves of *Arum* are seen shooting up abundantly wherever any brushwood protects them from the tread of men or cattle. In May, the very extraordinary flowers appear. In autumn, after both flowers and leaves have vanished, a spike of scarlet berries, on a simple stalk, is all that remains; and few persons are aware of the plant to which they owe their origin."

The root is pseudo-tuberous, about the size of a chesnut or larger, with numerous coronal capillary fibres, brown externally, and white and fleshy within. The leaves, which spring immediately from the corona are large, halberd-shaped, entire, smooth, of a dark green colour, frequently spotted, and supported on long-channelled footstalks. The flower-stem is a simple scape, obscurely channelled, and terminated by the spathe, inclosing the parts of fructification. The spathe is erect, pale green, sometimes spotted, very concave and pointed. The spadix is club-shaped, obtuse, of a deep purple colour; at its base are several roundish germens and a ring of sessile anthers; above each of these are placed rings of many roundish bodies, terminated by longish filaments; these Linnæus called the nectaries: the lowermost rings are believed to be abortive pistils, the upper abortive stamens. The fruit consists of several globular berries, of a bright scarlet colour when ripe, crowded on an oblong spike, each berry containing two or more seed.

The modern name *Arum* is a modification of the ancient appellation *Aron*, a word of Egyptian origin and supposed to have belonged to the species now called *A. Colocasia*, which present specific name is a corruption of the Arabic *golqas*.

QUALITIES.—The root is nearly white, and free from smell. When recent, it is very acrimonious; so much so, that on our tasting a small piece, an insupportable sensation of burning and pricking was produced, which lasted several hours. Applied to the skin, it produces blisters: but its acrimony is lost by drying, which leaves the root a farinaceous substance, that in some countries has been converted into bread; and being saponaceous, is used in France under the name of *Cypress Powder*, as a cosmetic. Water and spirit abstract the acid principle, but derive no virtue from it. It is entirely on the acid properties that its medical virtues depend, and therefore the old formula *Pulvis Ari compositus* finds no longer a place in our dispensatories. The expressed juice reddens vegetable blues, and has been found to contain malate of lime. Starch has been also prepared from it. Vauquelin found malic acid, in the state of supermalate of lime, in *Arum* and several other plants.

In some countries, the tuberous roots of many of the *Arums*, particularly those of *A. Colocasia*, a native of Syria and Egypt, are dried and eaten by the inhabitants, either roasted or raw. In the West Indies, the leaves of some of the sorts, particularly that of the *A. esculentum*, are boiled and eaten as greens; hence the names of Indian-kale and esculent *Arum*, which have been given to this species. The roots of *A. sagittifolium* are also edible; but they are less generally cultivated. Mr. Loudon, in his valuable *Encyclopedia of Gardening*, informs us, that in the Isle of Portland, where the plant is particularly abundant, the common people gather the roots of our spotted *Arum*, and esteem it as an article of food; and after steeping it in water, washing and drying, the farinaceous powder procured is sent to London, where it is sold as Portland sago.

For medical use, Dr. Lewis recommends the roots to be dug up just as the leaves are decaying; and by being put into sand, in a cellar, they may be preserved the greater part of the year.

POISONOUS EFFECTS.—Warzel, a German practitioner, has administered the fresh root of *Arum* to dogs: they died at the end of from twenty-four to thirty-six hours, without any other symptom than dejection, and the digestive canal was found somewhat inflamed.

Builland relates the following case: "Three woodman's children ate of the leaves of this plant; they were seized with horrible convulsions. Assistance was procured for them: too late; It was impossible to make the two youngest swallow any thing; they were bled without success; they died at the expiration of twelve days, another at the end of sixteen. The other child was still able to swallow, although with considerable pain, because its tongue was so swelled that it filled the whole cavity of the mouth; but deglutition became free after being bled. The child was made to drink milk, warm water, and especially an

abundance of olive oil. A diarrhœa came on, which saved the child; it was pretty well restored in a short space of time, but always preserved a very great degree of leanness."

TREATMENT.—Our first object should be, to evacuate the stomach by the syringe or by emetics of sulphate of zinc or of copper; after which the bowels should be relaxed by the sulphate of magnesia dissolved in almond emulsion, which may be copiously partaken of to allay thirst, and sheath the mucus membrane of the bowels from their acrid contents. It is very evident, however, from Bulliard's statement, that the principal mischief existed in the throat and tongue: and under such alarming circumstances, we should have applied leeches to the former, or scarified and compressed the latter. Ice might likewise be applied to the same parts. By adopting these active means, deglutition would most probably be restored, and time afforded for a judicious management of the case.

MEDICAL PROPERTIES AND USES.—*Arum* is a very powerful stimulant, and when taken internally, in its recent state, it warms the stomach, excites the activity of the digestive organs, promotes perspiration, and exerts an action on most of the secretory organs. It has, therefore, been given with success, in cachectic, chlorotic, and rheumatic complaints, and in various other affections of torpid and phlegmatic constitutions. Bergius, whose authority is not to be despised, speaks of its success in certain kinds of headache; and intermittents are said to have yielded to it. If the root be given in powder, great care should be taken that it be young, and newly dried, when it may be used in the dose of a scruple, or more, twice a-day; but in rheumatism, and other disorders requiring the full effect of the medicine, the root should be given in a recent state; and to cover the insupportable pungency it discovers on the tongue, Dr. Lewis advises us to administer it in the form of emulsion, with gum arabic and spermaceti, increasing the dose from ten grains to upwards of a scruple, three or four times a day. In this way it generally occasions a sensation of warmth about the stomach, and afterwards in the remoter parts; promotes perspiration, and frequently produces plentiful sweats. The root answers well as a cataplasm for the feet, in deliriums, as garlic does. The London Pharmacopœia of 1788 orders a conserve, in the proportion of half-a-pound of the fresh root to a pound-and-half of double-refined sugar, beat together in a mortar. The dose is a drachm for adults, and it is a good form for the exhibition of the medicine. But the difficulty of administering the *Arum* in a uniform manner, prevents it from being often used.

DOSE.—The fresh root may be given in doses of fifteen or twenty grains three times a-day.

"All these plants," says Professor Burnett of the Callacæ, a tribe which includes *Arum*, "contain an acrid principle, which renders many of them highly poisonous. It is, however, most powerful in its fresh state, and may be removed by drying or boiling. Hence the roots of the common *wake-robin*, which are grumous and full of farina, although acrid when fresh, are manufactured into a bland and very nutritious food, sold in this town under the name of Portland sago; being so called from the Island of Portland, where the plant grows in abundance, and the manufacture is principally carried on. The roots of several of the *Caladia* are similarly used, although their sap is in general acrid, and that of *Caladium seguinum* so venomous, that, when a small piece of the plant is chewed, it paralyzes the muscles of the mouth and fauces, causes the tongue to swell, and deprives the sufferer of the faculty of speech; the sap of *Caladium arborescens*, although less powerful, is still so caustic, that occasionally (says Merat) the lips of the negroes are wetted with it, as a punishment for slight misdemeanours."

Of the Calla *Æthiopica*, a species of *Arum*, the author of the *Flora Domestica* speaks as follows:—The *Æthiopian* species of this flower, commonly called the horn-flower, is the only one deserving of a place in the garden. Many *Arums* of the botanists are very useful as medicine, food, &c. The leaves of the esculent *Arum* serve the inhabitants of the South-Sea islands for plates and dishes, and in some parts of Brazil, this is cultivated for the sake of its edible roots, which are called *Mangaranitos*; but they are very little ornamental; and the few which are handsome have so powerful and disagreeable a scent as deservedly to banish them from most of our gardens.

This species, however, is exquisitely beautiful, and not only inoffensive in odour, but even agreeable. The leaves are large and glossy. It has a large white flower, folded with a careless elegance into the shape of a cup or bell, with a bright golden rod (called the spadix) in the centre. Placed by the side of the dark red peony, the effect is truly splendid: the contrast makes both doubly magnificent. A heathen might have supposed these fine flowers created on purpose to grace the bosom of the stately Juno. By the side of the rose, too, or the large double tulip, or some of the finer kinds of *marygold*, it has a noble appearance; and no flower is more deserving of care in the cultivation.

The *Arum maculatum*, popularly called Cuckoo Pint, or Wake Robin, is the emblem of *Ardour*.



Lophospermum erubescens scandens.

LOPHOSPERMUM ERUBESCENTE-SCANDENS, HYBRID CLIMBING LOPHOSPERMUM.

CLASS XIV. DIDYNAMIA.—ORDER II. ANGIOSPERMIA.

NATURAL ORDER, SCROPHULARIACEÆ.—THE FIG-WORT TRIBE.

CHARACTER of the Genus, *Lophospermum*. Calyx five-parted. Corolla campanulate; limb five-lobed, nearly equal. Capsule two-celled, dehiscing irregularly. Seeds imbricated with a membranous wing.

Description of the Hybrid, *Lophospermum Erubescens-scandens*. Stems or branches herbaceous, long, terete, slender, pale green, more or less tinged with red; and covered with fine, short, patent, glandular pubescence. Leaves alternate, petiolated, from cordate and sub-acute, to cordato-hastate and acuminate; broadly and unequally toothed, with the teeth shortly mucronate. The largest are about three inches long by three broad, of a dull yellowish green, and covered with the same pubescence as the stems. The petioles are about two inches, grooved above, and serve the purpose of tendrils, by twisting round objects. About seven primary sub-digitate nerves, prominent below, with corresponding depressions above; the secondaries few and little conspicuous. Peduncles about an inch long, axillary, solitary, flexuose, one-flowered. Calyx five-partite, with the segments above an inch in length, sub-cordato-lanceolate, connivent, and a little pinched in the middle at the base, so that their margins (which are slightly undulated) form prominent angles; the uppermost segment rather larger than the other four. Corolla twice as long as the calyx, labiately-funnel-shaped, of a purplish rose-colour, with the base dilated and white, slightly pubescent outside, except along the sides, flattish above, with two depressed lines below, which, on the inside of the tube, form two elevated ridges, covered with bright yellow, glandular, pubescence; the throat is mottled inside; the limb five-lobed, and sub-labiate; the two upper lobes somewhat larger, rounded, slightly reflected, and slightly pubescent within; the three lowermost lobes patent, the middle one rather the smallest. Stamens four, didynamous, two as long and two rather longer than the tube, to which they are attached immediately above the dilated base: filaments hairy below, glandular towards the top, and smooth in the middle. Anthers cream-coloured, incumbent, two-lobed, lobes free below, oblong, bursting longitudinally, the connective projecting backwards in the form of a small white gland. There is a minute tuft of hair between the two shorter stamens, which may be considered as a fifth rudimentary stamen. Pistil length of the shorter stamens. Ovarium conical, depressed, two-celled, hairy above, seated on a pale, smooth, fleshy disk; style subulately-filiform, and (together with the stamens) inclined to the upper side of the corolla, glabrous, but with a few glandular hairs near the base. Stigma small, forming a mere glandular apex, curved at right angles to the style, obscurely lobed, though one lobe is evidently longer than the other. Ovules in each cell numerous, attached to a central placenta.

POPULAR AND GEOGRAPHICAL NOTICE. This plant is a hybrid, raised in the year 1840, by Mr. Turner, of the Bury Botanic Garden, from seeds of the *Lophospermum scandens*, fertilized by pollen of the *Lophospermum erubescens*; and it may be considered a decided improvement (if we may use such an expression,) on the general appearance and beauty of either parent. We are entirely opposed in sentiment to those persons who *regret* the introduction of hybrid plants, merely because it is troublesome to assign to them a place in our systematic arrangements. We would request the systematist to remember that the botanist has a higher object than merely describing and arranging specific forms. Such a branch of our science must ever be looked upon as a means to an end. The ultimate aim of true science is to ascertain the laws by which nature is governed; and the more we multiply our experiments, and the more care we take in noting the results, the more likely are we to arrive at definite notions of those laws. At present no one knows with certainty what are the true limits to the variations in form which any one species may assume; and it is impossible to foresee whether multiplied observations on hybridizing may not lead us to some law of vegetation by which a botanist may be able to pre-determine the possible limits of every species, as accurately as a mineralogist can now define the limits within which all those forms of crystallization must necessarily lie, which belong to any particular simple mineral.

INTRODUCTION; WHERE GROWN; CULTURE. It has already been mentioned that this hybrid plant was raised in the Botanic Garden of Bury St. Edmund's, by Mr. Turner, the curator of that establishment. We are informed that for the more convenient and extensive disposal of it to all who desire to possess the plant, the stock of it has been disposed of to the Messrs. Henderson, Nurserymen, of Pine Apple Place, Edgeware Road, London. Under the care of these extensive and superior cultivators we doubt not but it will meet every attention which may tend to develop its superiority. They have called the plant *Lophospermum Hendersonii*. Diogenes would, we fancy, have almost smiled, had he witnessed our present system

of giving names ; the frequency of it, however, in the present day, renders the little trait of vanity which it displays quite excusable. In the present instance, we doubt not, its proper appellation will be adopted, now that it is figured and published. The system of compounding the specific names of parent plants, between which hybrids have arisen, was first proposed in Maund's Botanic Garden, and applied to a plant raised by the author himself. Under No. 385 of that work it is observed, "Authors have not agreed on the most convenient mode of naming hybrid or mule plants. Some have thought that names may be completely arbitrary; some name them after the person with whom they originated; whilst others would altogether excommunicate such productions from botanical nomenclature. Notwithstanding the opposite theoretical position taken by some botanists, we believe, doubtless, that hybrid plants become established, and hold a permanent place in the vegetable kingdom; it is, therefore, but reasonable to notice them; and it is far better that their origin be registered, whilst it is known, in lieu of remaining to become the subject of future conjecture and error."

In allusion to the *Lophospermum erubescens-scandens* Mr. Turner says, "It is remarkable for its strong growth, its bright green foliage, and above all, the extreme abundance of its flowers, which are of a very superior colour and size, compared with either of its parents. In fact, numbers of persons, who have seen the plant trained up against one of the old abbey walls, have pronounced it to be one of the finest ornaments for a wall or trellis that our gardens can boast."

It demands no peculiarity of management. If the root be left in the open ground during winter, it must be covered over as a protection against frost.

We are indebted for the following passages to William Howitt's agreeable work upon the Seasons.

Gawain Douglas, the celebrated Bishop of Dunkeld, has given the following most excellent sketch of Winter. "The fern withered on the miry fallows, the brown moors assumed a barren mossy hue; banks, sides of hills, and bottoms grew white and bare; the cattle looked hoary from the dank weather; the wind made the red reed waver on the dike. From the crags, and the foreheads of the yellow rocks, hung great icicles, in length like a spear. The soil was dusky and grey, bereft of flowers, herbs, and grass. In every hold and forest, the woods were stripped of their array. Boreas blew his bugle-horn so loud, that the solitary deer withdrew to the dales; the small birds flocked to the thick briars, shunning the tempestuous blast, and changing their loud notes to chirping; the cataracts roared, and every linden-tree whistled and brayed to the sounding of the wind. The poor labourers, wet and weary, dragged in the fen. The sheep and shepherds lurked under the hanging banks, or wild broom. Warm from the chimney-side, and refreshed with generous cheer, I stole to my bed, and lay down to sleep, when I saw the moon shed through the window her twinkling glances, and wintry light; I heard the horned bird, the night-owl, shrieking horribly with crooked bill from her cavern; I heard the wild geese with screaming cries fly over the city through the silent night. I was soon lulled to sleep, till the cock, clapping his wings, crowed thrice, and the day peeped. I waked and saw the moon disappear, and heard the jackdaws cackle on the roof of the house. The cranes, prognosticating tempests, in a firm phalanx, pierced the air with voices sounding like a trumpet. The kite, perched on an old tree, fast by my chamber, cried lamentably,—a sign of the dawning day. I rose, and half opening my window, perceived the morning, livid, wan, and hoary; the air overwhelmed with vapour and cloud; the ground stiff, grey, and rough; the branches rattling; the sides of the hill looking black and hard with the driving blasts; the dew-drops congealed on the stubble and rind of trees; the sharp hail-stones, deadly-cold, hopping on the thatch and the neighbouring causeway."

We are now placed in the midst of such wintry scenes as this. Nature is stripped of all her summer drapery. Her verdure, her foliage, her flowers have all vanished. The sky is filled with clouds and gloom, or sparkles only with a frosty radiance. The earth is spongy with wet, rigid with frost, or buried in snows. The winds that in summer breathed gently over nodding blooms and undulating grass, swaying the leafy boughs with a pleasant murmur, and wafting perfumes all over the world, now hiss like serpents, or howl like wild beasts of the desert; cold, piercing, and cruel. Everything has drawn as near as possible to the centre of warmth and comfort. The farmer has driven his flocks and cattle into sheltered home inclosures, where they may receive from his provident care that food which the earth now denies them; or into the farmyard itself, where some honest Giles piles their cratches plentifully with fodder. The labourer has fled from the field to the barn, and the measured strokes of his flail are heard daily from morn till eve. It amazes us, as we walk abroad, to conceive where can have concealed themselves the infinite variety of creatures that sported through the air, earth, and waters of summer. Birds, insects, reptiles, whither are they all gone? The birds that filled the air with their music, the rich blackbird, the loud and cheerful thrush, the linnet, lark, and goldfinch, whither have they crept? The squirrel that played his antics on the forest-tree, and all the showy and varied tribes of butterflies, moths, dragonflies, beetles, wasps and warrior-hornets, bees, and cockchafers, whither have they fled? Some, no doubt, have lived out their little term of being, and their bodies, lately so splendid, active, and alive to a thousand instincts, feelings, and propensities, are become part and parcel of the dull and wintry soil; but the greater portion have shrunk into the hollows of trees and rocks, and into the bosom of their mother earth itself, where, with millions of seeds and roots, and buds, they live in the great treasury of Nature, ready at the call of a more auspicious season to people the world once more with beauty and delight.



Phoenix dactylifera

PHŒNIX DACTYLIFERA.—THE DATE PALM.

CLASS XXI. MONŒCIA.—ORDER VII. POLYANDRIA.

NATURAL ORDER, PALMÆ.—THE PALM TRIBE.

PHŒNIX, a genus of palms, which has been so named from one of its species, the date-tree, having been called so by the Greeks; this name is thought by some to be derived from Phœnicia, because dates were procured from thence. The genus is common in India and in the north of Africa, and one of the species grows in Arabia, the lower parts of Persia, and along the Euphrates to Syria. The genus is characterized by having flowers dioecious, sessile, in a branched-spadix, supported by a simple spathe; calyx urceolate, 3-toothed; coral 3 petalled; stamens 6 or 3; filaments very short, almost wanting; anthers linear; (female) calyx urceolate, 3-toothed; coral 3-petalled, with the petals convolute; pistil with three ovaries distinct from each other, of which one only ripens; stigmas hooked; drupe one-seeded; seeds marked on one side with a longitudinal furrow; albumen reticulate; embryo in the back of the seed; palms with stems of a moderate height and ridged, or marked with the seams of the fallen leaves; fronds or leaves pinnate; pinnæ or leaflets linear, with the spadix bursting among the leaves, surrounded with an almost woody two-edged sheath; flowers yellowish-white; fruit soft, edible, of a reddish yellow colour.

Phœnix dactylifera, or the date-tree, is one of the best known and probably the earliest known of the palms, and though belonging to a family which abounds and flourishes most in tropical regions, itself attains perfection only in comparatively high-latitudes. It is no doubt the species to which the name Palma was originally applied, as we may infer from its being common in Syria, Arabia, the lower parts of Persia, as well as Egypt, and the north of Africa, whence it has been introduced into the south of Europe, and cultivated in a few places, not only as a curiosity, but on account of its leaves, which are sold twice in the year, in spring for Palm Sunday, and in September for the Jewish Passover; and also, from the name not being applicable to the other species known to the ancients, as it is considered that the bunches of dates were likened to the fingers of the hand, as appears from the present specific name, *dactylifera*, from the Greek *dactylus*, a finger. It is the palm-tree of Scripture, and was emblematic of Judæa, as we see in coins with the inscription of *Judæa capta*. It is found in oases in the desert, and round Palmyra, which is supposed to have been named from its presence. This appears indeed to be only a translation of the Oriental name, which is Tadmor, supposed to be a corruption of Tamar (from *tamr*, a date), a city built in the desert by Solomon. The date-tree is therefore a subject of classical as well as of scriptural interest, besides its fruit forming a large portion of the food of a great part of the Arab race, and also a considerable article of commerce.

The date-palm being dioecious, that is, the stamens and pistils being not only in different flowers, but even on different plants, the crops entirely fail, or the fruit is worthless and unfit for food, if fertilization is in any way prevented.

The extensive importance of the date-tree is, says Dr. Clarke, one of the most curious subjects to which a traveller can direct his attention. A considerable part of the inhabitants of Egypt, Arabia, and Persia subsist almost entirely on its fruit. They make a conserve of it with sugar, and even grind the hard stones in their hand-mills for their camels. In Barbary they form handsome beads for paternosters of these stones. From the leaves they make couches, baskets, bags, mats, brushes, and fly-traps; the trunk is split and used in small buildings, also for fences to gardens, and the stalks of the leaves for making cages for their poultry. The threads of the web-like integument at the bases of the leaves are twisted into ropes, which are employed in rigging small vessels. The sap is obtained by cutting off the head of the palm and scooping out a hollow in the top of the stem, where, in ascending, it lodges itself. Three or four quarts of sap may be obtained daily from a single palm, for ten days or a fortnight, after which the quantity

lessens, until, at the end of six weeks or two months, the stem is exhausted, becomes dry, and is used for firewood. This liquor is sweetish when first collected, and may be drunk as a mild beverage, but fermentation soon takes place, and a spirit is produced, which is distilled, and forms one of the kinds of aruk (arrack) or spirit of Eastern countries. Such being the importance and multiplied uses of the date-tree, it is not surprising that in an arid and barren country it should form so prominent a subject of allusion and description in the works of Arab authors, and that it should be said to have 300 names in their language. Many of these are however applied to different parts of the plant, as well as to these at different ages.—(*Penny Cyclopædia.*)

“A single date-palm” says Professor Burnett, “will bear upwards of a hundred weight, and sometimes between two and three hundred weight of dates in a season; they come into bearing at from six to ten years of age, and are fruitful for upwards of two hundred years. The amylaceous central part of the trunk is also good to eat, and the buds are esteemed a delicate vegetable. The young shoots are said to resemble asparagus.”

The palm-tree, says the author of “The Vegetable World,” is hailed by the wanderer in the desert with more pleasure than any other tree; for, in addition to its shade and its fruit, wherever a little clump of palms contrasts their bright green with the red wilderness around, he may almost be sure that he shall find a fountain ready to afford him its cooling and refreshing water. When Moses and the Israelites arrived at Elim, they found twelve wells of water, by the side of seventy palm-trees: and Sir Robert Wilson says, that when the English army landed in Egypt, in 1801, to expel the French from that country, Sir Sidney Smith assured the troops that, wherever date-trees grew, water must be near; and so they found it, on digging usually within such a distance that the roots of the tree could obtain moisture from the fluid.

The following lines occur in Mr. Wilson’s romantic Poem, “The Isle of Palms.” Two lovers have been wrecked on a desert island:

Like fire, strange flowers around them flame,
Sweet, harmless fire breathed from some magic urn,
The silky gossamer that may not burn,
Too wildly beautiful to bear a name.
And when the Ocean sends a breeze,
To wake the music sleeping in the trees,
Trees scarce they seemed to be; for many a flower,
Radiant as dew, or ruby polished bright,
Glances on every spray, that bending light
Around the stem, in variegated bows,
Appear like some awakened fountain-shower,
That with the colour of the evening glows.
And towering o’er these beauteous woods,
Gigantic rocks were ever dimly seen,
Breaking with solemn grey the tremulous green,
And frowning far in castellated pride;
While, hastening to the Ocean, hoary floods
Sent up a thin and radiant mist between,
Softening the beauty that it could not hide.
Lo! higher still the stately Palm trees rise,
Chequering the clouds with their unbending stems,
And o’er the clouds amid the dark-blue skies,
Lifting their rich unfading diadems.

How calm and placidly they rest
Upon the Heaven’s indulgent breast,
As if their branches never breeze had known!
Light bathes them aye in glancing showers,
And silence mid their lofty bowers
Sits on her moveless throne.
Entranced there the lovers gaze,
Till every human fear decays,
And bliss steals slowly through their quiet souls;
Though ever lost to human kind
And all they love, they are resign’d:
While with a scarce-heard murmur rolls.
Like the waves that break along the shore,
The sound of the world they must see no more.
List! Mary is the first to speak,
Her tender voice still tenderer in her bliss:
And breathing o’er her silent husband’s cheek,
As from an infant’s lip, a timid kiss,
Whose touch at once all lingering sorrow calms,
Says, God to us in love hath given
“A home on earth, most like to Heaven.
“Our own sweet ISLE OF PALMS.”



Liphocampylus revolutus

SIPHOCAMPYLUS REVOLUTUS.—REVOLUTE SIPHOCAMPYLUS.

CLASS V. PENTANDRIA.—ORDER I. MONOGYNIA.

NATURAL ORDER, LOBELIACEÆ.

THE name of this plant is derived from *σιφων* a tube, and *καμπυλος* curved, because the tube of the corolla is bent.

CHARACTER OF THE GENUS, SIPHOCAMPYLUS. Calyx with an obconical top-shaped or hemispherical tube, adhering to the ovary, the limb being free and quinquefid. Corolla inserted into the top of the calyx tube, tubular, with an entire incurved or rarely straight tube, the segments of the five-cleft bilabiate limb subequal, or the two upper slightly longer. Stamens five, inserted along with the corolla; filaments and anthers, of which the two lower, or the whole, are bearded or mucronate at the apex, connate. Ovary inferior, slightly superior at the apex, bilocular. Ovula numerous, upon somewhat fleshy placentæ attached to each side of the dissepiment, anatropous. Style included; stigma exserted, two-lobed, lobes divaricated, round. Capsule bilocular, free at the apex, loculicidal, bivalvular. Seeds very numerous, minute, scrobiculate. Embryo in the axis of fleshy albumen, orthotrophic, radicle towards the umbilicus.

Description of the species, *Siphocampylus Revolutus*. Stem erect, round, sparingly branched, branches zigzag, villous, green. Leaves alternate, on short stout channelled petioles, rigid, wrinkled, spreading wide, dark green and rough, with very short hairs above, lighter and villous below, cordato-ovate, acuminate, the apex of the upper ones revolute, the edges reflexed, simply dentate; middle rib and veins very prominent below, channelled above. Peduncles solitary, axillary, erect, half as long as the leaves, villous, without bracts. Calyx green, villous; tube turbinato-hemispherical, with 10 strong ribs, and as many round glands between the apices of these; limb 5-partite, segments twice as long as the tube, subulate, diverging at the apex. Corolla five times as long as the calyx, purplish red; tube entire, slightly deflexed, contracted at the throat, and for a space equal to the length of the calyx segments at the base, where it is deeply marked by five grooves, in the centre inflated and compressed laterally; limb five partite, segments subequal, linear-lanceolate, acute, slightly hairy within, the two upper straight and paler within, the lateral ones spreading or reflexed, slightly falcate downwards, the lowest revolute, and, as well as the lateral ones, nearly white. Stamens as long as the corolla; filaments inserted along with this into the top of the calyx, adhering to the tube as far up as the extent of the contracted portion at the base, above this uniting into a tube, red and glabrous; anthers lead-coloured, cohering into a curved tube, the two lower bearded and white hairs at the apex, the three upper having a very few similar hairs in their commissures. Style encased by the stamens, projecting beyond the anthers, glabrous, red. Stigma of two blunt, revolute lobes. Germen inferior, green, glabrous, and with a free conical apex, bilocular. Ovules very numerous, small, on large central placentæ.

Popular and geographical notice. This beautiful genus is entirely American, and scarcely passes without the tropics, but is found on both sides of the line. I do not know from what part the seeds of the present species were introduced. It is a true example of the genus, and altogether unlike the plants known in cultivation as *Siphocampylus bicolor* (t. 139) and *S. Cavanillesii* (t. 234), which are true *Lobelias*.

Introduction; where grown; culture. Seedling plants were received at the Garden of the Caledonian Horticultural Society, from Mr. Low, of Clapton, in September, 1839. They grew to the height of five feet in 1840, in the stove, without flowering; cuttings were formed, these rooted readily, and, when of a small size, flowered in February, 1841. We possess the plant at the Botanic Garden, also from Mr. Low. It is kept in the Greenhouse, and is very healthy, but has not yet come into flower. It requires no particular soil or treatment.

For the following passages we are indebted to the agreeable Essays, published by the late Charles Lamb, under the signature of "Elia." The reader must forgive one or two of the author's expressions; which probably he would scarcely have defended himself in his more serious moment.

New Year's Eve. Every man hath two birth-days: two days, at least, in every year, which sets him upon revolving the lapse of time, as it effects his mortal duration. The one is that which in an especial manner he termeth *his*. In the gradual desuetude of old observances, this custom of solemnizing our proper birth-day hath nearly passed away, or is left to children, who reflect nothing at all about the matter, nor understand any thing in it beyond cake and orange. But the birth of a new year is of an interest too wide to be pretermitted by king or cobbler. No one ever regarded the first of January with indifference. It is that from which all date their time, and count upon what is left. It is the nativity of our common Adam.

Of all sound of all bells (bells, the music highest bordering upon heaven,) most solemn and touching is the peal which rings out the old year. I never hear it without gathering up of my mind to a concentration of all the images that have been diffused over the past twelvemonth; all I have done or suffered, performed or neglected in that regretted time. I begin to know its worth, as when a person dies. It takes a personal colour; nor was it a poetical flight in a contemporary, when he exclaimed:—

I saw the skirts of the departing year.

It is no more than what in sober sadness every one of us seems to be conscious of, in that awful leaving-taking. I am sure I felt it, and all felt it with me last night; though some of my companions affected rather to manifest an exhilaration at the birth of the coming year, than any very tender regrets for the decease of its predecessor. But I am none of those who—

Welcome the coming, speed the parting guest.

I am naturally, before-hand, shy of novelties; new books new faces, new years,—from some mental twist which makes it difficult in me to face the prospective. I have almost ceased to hope; and am sanguine only in the prospects of other (former) years. I plunge into fore-gone visions and conclusions. I encounter pell-mell with past disappointments. I am armour proof against old discouragements. I forgive, or overcome in fancy, old adversaries. I play over again for *love*, as the gamesters phrase it, games for which I once paid so dear. I would scarce now have any of those untoward accidents and events of my life reversed. I would no more alter them than the incidents of some well-contrived novel. Methinks it is better that I should have pined away seven of my goldenest years, when I was thrall to the fair hair, and fairer eyes, of Alice W——n, than that so passionate a love-adventure should be lost. It was better that our family should have missed that legacy, which old Dorrell cheated us of, than that I should have at this moment two thousand pounds *in banco*, and be without the idea of that specious old rogue.

In a degree beneath manhood, it is my infirmity to look back upon those early days. Do I advance a paradox, when I say, that, skipping over the intervention of forty years a man may have leave to love *himself*, without the imputation of self love?

If I know ought of myself, no one whose mind is introspective—and mine is painfully so—can have a less respect for his present identity, than I have for the man Elia. I know him to be light, and vain, and humoursome; averse from counsel, neither taking it, nor offering it;—a stammering buffoon; what you will; lay it on, and spare not; I subscribe to it all, and much more than thou canst be willing to lay to his door—but for the child Elia—that “other me,” there, in the back ground—I must take leave to cherish the remembrance of that young master—with as little reference, I protest, to this stupid changeling of five and forty, as if it had been a child of some other house, and not of my parents. I can cry over its patient small-pox at five, and rougher medicaments. I can lay its poor fevered head upon the sick pillow at Christ’s, and wake with it in surprise at the gentle posture of maternal tenderness hanging over it, that unknown had watched its sleep. I know how it shrank from any the least colour of falsehood. God help thee Elia, how art thou changed! Thou art sophisticated. I know how honest, how courageous (for a weakling) it was—how religious, how imaginative, how hopeful! From what have I not fallen, if the child I remember was indeed myself, and not some dissembling guardian, presenting a false identity, to give rule to my unpractised steps, and regulate the tone of my moral being. The elders, with whom I was brought up, were of a character not likely to let slip the sacred observance of any old institution; and the ringing out of the old year was kept by them with circumstances of peculiar ceremony. In those days the sound of those midnight chimes, though it seemed to raise hilarity in all around me, never failed to bring a train of pensive imagery into my fancy. Yet I scarce conceived what it meant, or thought of it as a reckoning that concerned me. Not childhood alone, but the young man till thirty, never feels practically that he is mortal. He knows it indeed, and, if need were, he could preach a homily on the fragility of life; but he brings it not home to himself, any more than in a hot June we can appropriate to our imagination the freezing days of December. But now, shall I confess a truth? I feel these audits but too powerfully. I begin to count the probabilities of my duration and grudge at the expenditure of moments and shortest periods, like miser’s farthings. In proportion as the years both lessen and shorten, I set more count upon their periods, and would fain lay my ineffectual finger upon the spoke of the great wheel. I am not content to pass away “like a weaver’s shuttle.” Those metaphors solace me not, nor sweeten the unpalatable draught of mortality. I care not to be carried with the tide, that smoothly bears human life to eternity; and reluctant at the inevitable course of destiny. I am in love with the green earth; the face of town and country; the unspeakable rural solitudes, and the sweet security of streets. I would set up my tabernacle here. I am content to stand still at the age to which I am arrived; I and my friends: to be no younger, no richer, no handsomer.



Omalis acetosella.

OXALIS ACETOSELLA.—COMMON WOOD-SORREL.

CLASS X. DECANDRIA.—ORDER V. PENTAGYNIA.

NATURAL ORDER, OXALIDEÆ.—THE WOOD-SORREL TRIBE.

Fig. (a) shows the petals spread; (b) the styles; (c) the stamens.

THIS delicate creeping plant is very generally found throughout Europe. It is a perennial, growing in moist shady woods, and producing its flowers in April and May.

The rhizoma is horizontal, and consists of several fleshy reddish scales, connected by a thread. The leaves are ternate, on long, hairy, radical, purplish footstalks; with the leaflets obcordate and entire, drooping in the evening, of a yellowish-green colour, and purplish underneath. The scape, or flower-stalk, is about four inches high, slender, furnished with a pair of opposite bractæ, placed considerably below the flower, which is bell-shaped, drooping, of a delicate white or pale flesh-colour, and streaked with purplish veins. The calyx is cut into five, acute, ovate segments; petals five, obovate, spreading; filaments capillary, with oblong, furrowed, incumbent anthers; germen ovate, with five thread-shaped styles, and obtuse, downy stigmas. The capsule is 5-celled, membranous, and containing two seeds in each cell, and inclosed within an elastic arillus, by the bursting of which they are thrown out.

This plant is called by old Gerarde, wood sour, sour trefoil, stub-wort, and sorrel du bois; by herbalists, alleluya, and cuckoo's meat, "by reason when it springeth forth and flowereth, the cuckoo singeth most; at which time also alleluya was wont to be sung in churches." The names, Alleluya and Lujula, appear, however, to be corrupted from the Calabrian, *Juliola*.

QUALITIES AND CHEMICAL PROPERTIES.—Wood sorrel is inodorous, but possesses a very agreeable and refreshing acid taste. Twenty pounds of the fresh plant yielded to Neuman six pounds of juice, from which he got two ounces, two drams, and one scruple of the bin-oxalate of potash; and two ounces, six drams of an impure saline mass.

The bin-oxalate of potash is one of the three sub-species of oxalate of potash, and exists ready formed in *Oxalis Acetosella*, *Oxalis corniculata*, and different species of *Rumex*, from which it is extracted in some parts of Europe in large quantities. Hence it is known by the name of salt of wood-sorrel, and in this country is sold as essential salt of lemons, mixed with an equal quantity of cream of tartar. It is mentioned by Duclos in the Memoirs of the French Academy for 1668. Marcgraaf proved that it contained potash; and Scheele discovered its acid to be the oxalic. It may be formed, as Scheele has shown, by dropping potash very gradually into a saturated solution of oxalic acid in water: as soon as the proper quantity of alkali is added, the bin-oxalate is precipitated. But care must be taken not to add too much alkali, otherwise no precipitation will take place at all.

MEDICAL PROPERTIES AND USES.—The leaves of this plant are among the most grateful of the vegetable acids. The juice of sorrel is sometimes used as an agreeable refreshing drink in fevers, and the leaves boiled in milk form a pleasant whey: but the other vegetable acids are quite as useful and more available: beaten up with fine sugar, the leaves make a refreshing and wholesome conserve; "its flavour resembling green tea." The leaves in a recent state form a good salad for the scorbutic, and have been employed with advantage as an external application to scrofulous ulcers.

The *Oxalides*, says Professor Burnett, are acid and slightly astringent plants, especially *O. Acetosella*, which contains that peculiar and powerful acid, the Oxalic, to which it has given its name. This plant was formerly used in medicine, being made into a confection called *Conserva Luzule*. Twenty pounds of wood-sorrel leaves yield six pounds of juice, from which two ounces six drachms of impure salt may be obtained. Since, however, Scheele discovered that oxalic acid may be formed by acting on sugar with nitric acid, his process, being far the most economical, has entirely superseded its extraction from the plant. *Oxalic acid* mixed with cream of tartar is sold under the name of salt of lemons, to flavour sauces, and to remove ink-spots and iron-moulds.

The following passage is from the agreeable pen of Charles Lamb:—

Not many sounds in life, and I include all urban and all rural sounds, exceed in interest a *knock at the door*. It "gives a very echo to the throne where hope is seated." But its issues seldom answer to this oracle within. It is so seldom that just the person we want to see comes. But of all the clamorous visitations the welcome in expectation is the sound that ushers in, or seems to usher in, a Valentine. As the raven himself was hoarse, that announced the fatal entrance of Duncan, so the knock of the postman on this day is light, airy, and confident. It is less mechanical than on other days; you will say, "That is not the post, I am sure." Visions of love, of cupids, of hymens, and all those delightful eternal common-places, which "having been will always be;" which no school-boy nor school-man can write away; having their

irreversible throne in the fancy and affections; what are your transports, when the happy maiden, opening with careful finger, careful not to break the emblematic seal, bursts upon the sight of some well-designed allegory, some type, some youthful fancy, not without verses—

Lovers all,
A madrigal,

or some such device, not over abundant in sense—young love disclaims it,—and not quite silly—something between wind and water, a chorus where the sheep might almost join the shepherd, as they did, or as I apprehend they did, in Arcadia.

All Valentines are not foolish, and I shall not easily forget thine, my kind friend (if I may have leave to call you so) E. B.—E. B. lived opposite a young maiden, whom he had often seen, unseen, from his parlour window in C—e-street. She was all joyousness and innocence, and just of an age to enjoy receiving a valentine, and just of a temper to bear the disappointment of missing one with good humour. E. B. is an artist of no common powers; in the fancy parts of designing, perhaps inferior to none; his name is known at the bottom of many a well-executed vignette in the way of his profession, but no further; for E. B. is modest, and the world meets nobody half-way. E. B. meditated how he could repay this young maiden for many a favour which she had done him unknown; for, when a kindly face greets us, though but passing by, and never knows us again, nor we it, we should feel it as an obligation; and E. B. did. This good artist set himself at work to please the damsel. It was just before Valentine's day, three years since. He wrought unseen and unsuspected a wondrous work. We need not say it was on the finest gilt paper with borders—full, not of common hearts and heartless allegory, but all the prettiest stories of love from Ovid, and older poets than Ovid (for E. B. is a scholar.) There was Pyramus and Thisbe, and besure Dido was not forgot, nor Hero and Leander, and swans more than sang in Cayster, with mottoes and fanciful devices, such as beseeemed,—a work in short of magic. Iris dipt the woof. This on Valentine's eve he commended to the all-swallowing indiscriminate orifice—(O ignoble trust!)—of the common Post; but the humble medium did its duty, and from his watchful stand, the next morning, he saw the cheerful messenger knock, and by and by the precious charge delivered. He saw, unseen, the happy girl unfold the Valentine, dance about, clap her hands, as one after one, the pretty emblems unfolded themselves. She danced about, not with light love, or foolish expectations, for she had no lover; or, if she had, none she knew that could have created those bright images which delighted her. It was more like some fairy present; a God-send, as our familiarly pious ancestors termed a benefit received, where the benefactor was unknown. It would do her no harm. It would do her good for ever after. It is good to love the unknown. I only give this as a specimen of E. B. and his modest way of doing a concealed kindness.

In towns, says William Howitt, it is a cheering sight, even while all without is frosty and wintry, to see, as we pass, in cottage windows, tufts of crocuses and snowdrops flowering in pots; and in those of wealthier dwellings, hyacinths, narcissi, &c. in glasses, displaying their bulbs and long fibrous roots in the clear water below, and the verdure and flowery freshness of summer above. It is a sight truly English. It is in accordance with our ideas of home-comfort and elegance. If we are to believe travellers, in no country is the domestic culture of flowers so much attended to as in this. I trust this will always be a prevailing taste with us. There is something pure and refreshing in the appearance of plants in a room; and watched and waited on as they are generally, by the gentler sex, they are links in many pleasant associations. They are the cherished favourites of our mothers, wives, sisters, and friends not less dear; and connect themselves in our mind with their feminine delicacy, loveliness, and affectionate habits and sentiments.

The Wood-sorrel, says the author of "The Sentiment of Flowers," vulgarly called "cuckoo's bread," flowers very freely about Easter. This pretty little plant shuts its leaves, closes its corollas, and the flowers hang pendant and drooping from the stems. They seem to yield themselves to sleep; but at the first dawn of day we may say that they are filled with joy, for they throw back their leaves, and expand their flowers: and we doubt not it is on this account that peasants have said that they sing the praises of their Creator.

"The Sorrels," says Gerard, "are moderately cold and dry."

The Wood-sorrel is the emblem of *Joy*.





Thunbergia alata.

THUNBERGIA ALATA.—WINGED THUNBERGIA.

CLASS XIV. DIDYNAMIA.—ORDER II. ANGIOSPERMIA.

NATURAL ORDER, ACANTHACEÆ.—THE JUSTICIA TRIBE.

CHARACTER OF THE GENUS, THUNBERGIA. Calyx short, cupola-shaped, truncated or many toothed. Bractæ two, at the base of the calyx, larger than and including it. Corolla campanulato-funnel-shaped, throat inflated, limb five-cleft, spreading, subequal. Stamens four, didynamous, anthers erect, adnate, bilocular, the lobes parallel, coarsely ciliated, unequal at the base, the shorter having a bristle-like spur. Stigma funnel-shaped, sub-bilabiate; a thick nectariferous lobed ring embracing the base of the germen. Capsule globular at the base, bilocular, two-four seeded, attenuated into a beak. Dissepiment membranaceous, cohering in the centre, separable from the valves. Retinacula wanting, and the place supplied by a cartilaginous ring, embracing the base of the seed. Seeds globular, perforated at the base where the podosperm enters. Flowers axillary, pedunculate, solitary, or in racemes. Scandent plant, with handsome flowers, which are blue or yellow, the throat being generally darker.

DESCRIPTION OF THE VARIETY, THUNBERGIA ALATA-COLORANTHA. Stem twining, branched, hairy, compressed, hairs loosely reflexed. Leaves (two-and-half inches long, one-and-half broad) smaller upwards, petiolate, sagittato-deltoid, sinuated, pubescent on both sides, wrinkled, dark green above, paler below, midrib and veins channelled above, prominent below; petiole as long as the leaf, bordered with a narrow waved wing. Peduncles solitary, axillary, opposite, single flowered. Bracts coherent to about a quarter of their length on the lower side, rather more above, waved and pubescent. Calyx a small many-toothed cup, pale green, and pubescent. Corolla small, outside slightly glanduloso-pubescent; tube narrow, sub-cylindrical, and dark purple for about three times the length of the calyx, above this enlarged, compressed, paler and more leaden coloured, slightly falcate; limb orange-coloured, of five sub-linear emarginate lobes, concave, and tipped on the outer surface with green; faux deep purple, and, as well as the upper part of the inside of the tube, clothed with short purple hairs; two broad hairy lines extend from this along the inner side of the back of the tube, to the top of the narrow portion of the tube where the hairs are numerous, around the origin of the stamens; hairs jointed. Stamens subequal, filaments glabrous, green. Anthers yellow, cells unequal, the shorter cells in all the four stamens, spurred at the base, bursting along the front, and there ciliated. Stigma bilabiate, concave, the lower lip the shortest and broadest. Style straight, glabrous, much longer than the stamens. Germen bilocular, seated on a yellow disk, dark green, glabrous, compressed, sand-glass-shaped, the lower portion the largest, the upper nearly solid, each cell of the lower portion containing two ovules.

POPULAR AND GEOGRAPHICAL NOTICE. Nees von Esenbeck sub-divides this genus, and describes several species not before published. He doubts whether this should not, *Thunbergia angulata*, *Hooker*, and *Thunbergia tomentosa*, *Wall*, be removed from *Thunbergia*. The varieties of this species in point of colour, are now very numerous in our stoves. The one now figured, differs materially from any of them, but I doubt whether it will be permanent.

INTRODUCTION; WHERE GROWN; CULTURE. I have only seen this form in the nursery garden of Mr. Cunningham, Comely Bank, Edinburgh. It succeeds best in the stove, but I have seen it in flower in the open air, though of much smaller beauty.—*GRAH*.

DERIVATION OF THE NAME. *Thunbergia*, in commemoration of the Swedish Botanist and Traveller, *Thunberg*.

SYNONYME. *Thunbergia Alata*. *Hooker*; *Exotic Flora*, t. 177. *Spreng*.; *Syst. vegt. cær. post.* 237. *Nees*.; l. c. 3, 78.*

* For this description of the *Thunbergia*, as well as those of the *Portulaca*, *Lophospermum*, and *Siphocampylus*, in our preceding numbers, we are indebted to Mr. Maund's excellent publication, "The Botanist."

We will now indulge ourselves with a few extracts from "Harvey's Reflections on a Flower-Garden."

In a grove of tulips, or a knot of pinks, one perceives a difference in almost every individual. Scarce any two, are turned, and tintured, exactly alike. Each allows himself a little particularity in his dress, though all belong to one family: so that they are various, and yet the same.—A pretty emblem this, of the smaller differences between Protestant Christians. There are modes in religion, which admit of variation, without prejudice to sound faith, or real holiness. Just as the drapery, on these pictures of the spring, may be formed after a variety of patterns, without blemishing their beauty, or altering their nature. Be it so then, that in some points of inconsiderable consequence, several of our brethren dissent; yet let us all live amicably and sociably together; for we harmonize in principals, though we vary in punctilios. Let us join in conversation, and intermingle interests; discover no estrangement of behaviour, and cherish no alienation of affection. If any strife subsists, let it be to follow our Divine Master most closely, in humility of heart, and unblameableness of life: let it be to serve one another most readily, in all the kind offices of a cordial friendship. Thus shall we be united, though distinguished; united in the same grand fundamentals, though distinguished by some small circumstantialities; united in one important bond of brotherly love, though distinguished by some slighter peculiarities of sentiment.

Between Christians, whose judgments disagree only about a form of prayer, or manner of worship, I apprehend, there is no more essential difference, than between flowers which bloom from the same kind of seed, but happen to be somewhat diversified in the mixture of their colours.

And, shortly afterwards:

Another circumstance, recommending and endearing the flowery creation, is their regular succession. They make not their appearance all at once, but in an orderly rotation. While a proper number of these obliging retainers are in waiting, the others abscond; but hold themselves in a posture of service, ready to take their turn, and fill each his respective station, the instant it becomes vacant.—The Snowdrop, foremost of the lovely train, breaks her way through the frozen soil, in order to present her early compliments to her Lord. Dressed in the robe of innocency, she steps forth, fearless of danger; long before the trees have ventured to unfold their leaves, even while the icicles are pendant on our houses.—Next, peeps out the Crocus; but cautiously, and with an air of timidity. She hears the howling blasts, and skulks close to her low situation. Afraid she seems to make large excursions from her root; while so many ruffian winds are abroad, and scouring along the Æther.—Nor is the Violet last, in this shining embassy of the year. Which, with all the embellishments, that would grace a Royal Garden, condescends to line our hedges, and grow at the feet of briars. Freely, and without any solicitation, she distributes the bounty of her emissive sweets; while herself, with an exemplary humility, retires from sight; seeking rather to administer pleasure, than to win admiration. Emblem, expressive emblem, of those modest virtues, which delight to bloom in obscurity: which extend a cheering influence to multitudes, who are scarce acquainted with the source of their comforts! Motive, engaging motive, to that ever active beneficence, which stays not for the importunity of the distressed, but anticipates their suit, and prevents them with the blessings of its goodness.

The following verses are imitated from Theocritus, by Harvey:—

When snows descend, and robe the fields
In winter's bright array;
Touch'd by the sun, the lustre fades,
And weeps itself away.

When Spring appears; when violets blow,
And shed a rich perfume;
How soon the fragrance breathes its last!
How short-liv'd is the bloom!

Fresh in the morn, the Summer rose
Hangs withering ere 'tis noon;
We scarce enjoy the balmy gift,
But mourn the pleasure gone.

With gilding fire, an evening star
Streaks the autumnal skies;
Shook from the sphere, it darts away,
And in an instant, dies.

Such are the charms, that flush the cheek,
And sparkle in the eye:
So, from the lovely finish'd form
The transient graces fly.

To this the seasons, as they roll,
Their attestation bring:
They warn the fair; their ev'ry round
Confirms the truth I sing.





Golafusia isophylla.

GOLDFUSSIA ISOPHYLLA.—EQUAL LEAVED GOLDFUSSIA.

CLASS XIV. DIDYNAMIA.—ORDER II. ANGIOSPERMIA.

NATURAL ORDER, ACANTHACEÆ.—THE JUSTICIA TRIBE.

CHARACTER OF THE GENUS GOLDFUSSIA. Calyx five-parted, nearly equal. Corolla funnel-shaped; limb five-cleft, blunt, equal. Stamina included, didynamous, the smaller ones often very short and reflexed. Anthers nodding, the cells oblique, ovate, membranous, upon a glandular hooked connective. Stigma simple, subulate, crenate on one side. Capsule six-angled, bivalvular, the valves separable from the dissepiment, the cells having in the bottom two discoid seeds, subtended by retinacula.

Description of the Species, Goldfussia Isophylla. Stem erect, slender, much branched, angled, glabrous. Leaves opposite, equal, narrow, lanceolate, much attenuated at both extremities, distantly serrulate, entire towards the base, glabrous, dark green above, paler below. Flowers in terminal or axillary lax capitula, each subtended by a lanceolate glabrous bract. Calyx deeply but unequally four-five-cleft, segments unequal, lanceolate, blunt, whitish, but brown and pubescent on the sides and edges. Corolla lilac, veined, angled, funnel-shaped, curved towards the upper sides, undulate, sparingly glanduloso-pubescent, lower part of the tube white, hairy on its upper side within; limb four-lobed, lobes blunt, or marginate, the lower frequently bifid, the number of lobes of the calyx varying with those of the corolla. Stamens included, didynamous, without the rudiment of a fifth; filaments hairy; anthers suborbicular, attached by their backs, lobes bursting along the face. Pistil longer than the stamens, extending nearly to the division of the limb; stigma linear, narrow, extending a little way along the back of the style; style glabrous, swelling towards its extremity, and terminating in a cone; germen obovato-lanceolate, compressed, ciliated at its apex, opposite the edges of the dissepiment. Ovules few.

Popular and Geographical notice. The genus Goldfussia was established by Nees von Esenbeck, in his account of the East Indian Acanthaceæ, in Wallich's *Plantæ Asiaticæ Rariores*, and included fourteen species of *Ruellia*, in the Herbarium of the East India Company. In habit, this species exceedingly resembles that longer known one, *Goldfussia anisophylla*, but is at once distinguished by the uniformity of its opposite leaves: and it is a smaller plant. They are both natives of Sylhet.

Introduction; Where grown; Culture. I have only seen this species in cultivation in the nursery garden of Mr. Cunningham, Comely Bank, Edinburgh; where it thrives well, and flowers freely during a great part of the year, in the stove, without requiring any particular attention.

"Not long ago," says Harvey, in his reflections on a Flower Garden, "these curious productions of the spring, were coarse and mis-shapen roots. Had we opened the earth, and beheld them, in their seed, how uncouth and contemptible had their appearance been!—but now, they are the boast of nature; the delight of the sons of men; finished patterns for enamelling and embroidery; outshining even the happiest strokes of the pencil. They are taught to bloom, but with a very inferior lustre, in the richest tapestries, and most magnificent silks. Art never attempts to equal their incomparable elegancies; but places all her merit in copying after these delicate originals. Even those, who glitter in silver, or whose clothing is of wrought gold; are desirous to borrow additional ornaments, from a sprig of jessamine, or a little assemblage of pinks.

What a fine idea may we form, from hence, of the resurrection of the just, and the state of their re-animated bodies! As the roots even of our choicest flowers, when deposited in the ground, are rude and ungraceful; but, when they spring up into blooming life, are most elegant and splendid; so, the flesh of a saint, when committed to the dust, alas! what is it? A heap of corruption; a mass of putrefying clay. But, when it obeys the great archangel's call, and starts into a new existence; what an astonishing change ensues! What a most ennobling improvement takes place!—That which was sown in weakness, is raised in all the vivacity of power. That which was sown in deformity, is raised in the bloom of celestial beauty. Exalted, refined, and glorified it will shine, 'as the brightness of the firmament,' when it darts the inimitable blue, through the fleeces—the snowy fleeces of some cleaving cloud.

There is an inspiration, observes the author of the "*Flora Domestica*," in the works of nature which gives a more than usual power even to talents of a common order, when treating of them; and although we take greater delight in the rose, the violet, or the lily, we also love to pluck from the hedge-side the hawthorn and the ragged-robin. Wordsworth very naturally describes the inclination we have to gather wild flowers:—

—“We paused, one now,
And now the other, to point out, perchance
To pluck, some flower or water-weed, too fair

Either to be divided from the place
On which it grew, or to be left alone
To its own beauty.”

On some occasions it has been necessary not only to cast aside the hedge-flowers of poetry, but also to pass by the roses. Even Chaucer, so copious are his praises of some of his favourite flowers, we could not venture to quote so insatiably as inclination would lead us. Most of our best poets have touched upon the beauty of flowers, more or less:—Chaucer, Spenser, Milton, and Shakspeare, the great poetic luminaries of our island,

—————"the sages
Who have left streaks of light athwart their ages,"

have all dwelt largely on them. Ben Jonson, too, and Beaumont and Fletcher, Drayton, Dryden, Thomson, Cowper, &c. In our own times, Wordsworth, Byron, Moore, Hunt, Keats, Scott, Montgomery, Cornwall, and Clare, have revelled in them like bees. It has been remarked as a defect in Pope, that he says little or nothing, in his poems, of the works of nature; and it does appear an extraordinary thing in a poet, so tremblingly alive to beauty in every shape as poets naturally are, and necessarily must be. Pope was a poet for the drawing-room; but there are few even among ungifted individuals totally insensible to the soothing influence of flowers and trees:—

"The enamelled earth, that from her verdant breast
Lavished spontaneously ambrosial flowers,
The very sight of which can soothe to rest
A thousand cares, and charm our sweetest hours."

GARCILASSO.

"This lucid fount, whose murmurs fill the mind,
The verdant forests waving with the wind,
The odours wafted from the mead, the flowers
In which the wild bee sits and sings for hours;
These might the moodiest misanthrope employ,
Make sound the sick, and turn distress to joy."——Ibid.

If flowers have so much beauty in common eyes, what must they be in the eye of a poet, which gives new charms to every object on which it gazes! A poet sees in a flower not only its form and colour, and the shadowing of its verdant foliage—his eye rests upon the dew-drop that trembles on the leaf; a gleam of sunshine darts across, and gives it the sparkling brilliancy of a diamond. He sees the bee hovering around, buzzing its joyous anticipation of the honey he shall draw from its very heart; and the delicate butterfly suspended as it were by magic from its silken petals. His imagination, too, brings around it a world of associations, adding beauty and interest to the object actually before his eye. Thus flowers have been described in all their seasons, and in every variety of situation and circumstance, budding forth in timid beauty in the early spring, glowing in the maturity of summer, lingering in the chilling breath of autumn, and some few as daring even the frosts of winter. They have been represented as sinking with drought, weighed down with rain, and fading in the noon-day sun; as opening, fresh with dew, to the beauty of the morning, and closing with the day; as enlarged and improved by the hand of art; as dying, or growing rank and wild, under the influence of neglect.

How beautifully the poet says, in praying for the inspiration of poesy,

—————"t'will bring me to the fair
Visions of all places: a bowery nook
Will be elysium—an eternal book
Whence I may copy many a lovely saying
About the leaves and flowers; about the playing
Of nymphs in woods and fountains; and the shade
Keeping a silence round a sleeping maid;
And many a verse from so strange influence,
That we must ever wonder how and whence
It came!"——KEATS.

The spring is, in particular, a subject delightful to the poet. He loves to celebrate the cheerful season when

"The palms put forth her gems, and every tree
Now swaggers in her leafy gallantry."——HERRICK.

"As spring, attended by the laughing hours,
After long storm is wont to re-appear,
When the mild zephyr, breathing through the bowers,
Bring back its former beauty to the year,
And goes enamelling the banks with flowers,
Blue, white, and red, all eyes and hearts to cheer."——WIFFEN'S GARCILASSO.





Quassia amara.

QUASSIA AMARA.—BITTER QUASSIA.

CLASS X. DECANDRIA.—ORDER V. MONOGYNIA.

NATURAL ORDER, SIMARUBACEÆ.—THE QUASSIA TRIBE.

THIS beautiful shrub is a native of Surinam, and was introduced in 1790, by Mr. Alexander Anderson, to the royal garden at Kew, where it blossoms pretty freely, and continues flowering great part of the summer. It is the true official Quassia, but being very rare, and of small bulk, its place is usually supplied by the Quassia *excelsa*, which is imported in considerable quantities, not only for medical purposes, but as a substitute for hops. Willdenow, speaking of this plant, says, "*Quassia amara* est planta rarissima; lignum amaritie reliquis palmam præcipit. Lignum quassiæ venale non ex hoc frutice venit; colligitur a quassia excelsa, quæ minus amara."

The Bitter Quassia is a shrub rather than a tree, is branched, and covered with an ash-coloured bark. The leaves are alternate, consisting of two pairs of leaflets, with a terminal one; they are elliptic-lanceolate, entire, veiny, very smooth, sessile, two or three inches in length, and of a deep green colour; the common footstalk is linear, articulated at the insertion of each pair of leaflets, and winged, or edged, on each side, with a leafy membrane, which gradually expands towards the base of each pair. The flowers are all hermaphrodite, of a bright scarlet colour, and terminate the branches in long spikes, drooping one way; the bractæas, or floral leaves, are lanceolate, reflexed, coloured, and placed alternately upon the common peduncle. The calyx is small, persistent, and five-toothed. The corolla consists of five lanceolate, equal petals, and is never fully expanded; but the petals, as Mr. Curtis remarks, being twisted spirally, curl round one another, and open in an irregular manner. At the base of the corolla is placed the nectary, which consists of five roundish, coloured scales; the filaments are ten, slender, somewhat longer than the corolla, and crowned with simple anthers, placed transversely; the receptacle is fleshy, and orbicular; the germen is ovate, five-parted, supporting a slender style, longer than the stamens, and terminated by an awl shaped stigma.

The generic name of Quassia, was originally given by Linnæus to this species, in honour of Quassi, a negro at Surinam, who discovered the virtues of the wood, in curing the malignant fevers of that country. In consequence of a valuable consideration, this secret was disclosed to his patron, Governor Dalbergh, who sent specimens of the wood to Stockholm, in the year 1756; and since that time it became known in Europe, particularly by means of a Dissertation, printed in the *Amœnitates Academicæ*, first published in 1763.

QUALITIES.—The roots, bark, and wood of this tree, as its trivial name implies, are all intensely bitter; and it is observed, that the leaves, flowers, and other parts of the plant, possess similar qualities.

The medicinal virtues ascribed to *Quassia* are those of a tonic, stomachic, antiseptic, and febrifuge; it has been found very effectual in restoring the tone of the stomach, producing appetite for food, assisting digestion, and removing the inconveniences common to a sedentary life. Dr. Lettsom observes, that in hysterical atony, the *Quassia* affords more vigour and relief to the system than the Peruvian bark, especially when united with the *vitriolum album*, and still more with the aid of some absorbent. In dyspepsia, arising from hard drinking, and also in diarrhœas, he exhibited the *Quassia* with great success. Although he does not concur in opinion with Linnæus, who says, "*me quidem judice chinchinam longe superat*," yet he has met with several instances of low remittent and nervous fevers, the symptoms of which the bark uniformly aggravated, though administered in intermissions the most favourable to its success, in which *Quassia* or Snake-root was successfully substituted. Dr. Cullen says, (*Mat. med.* vol. 2. p. 174.) "I believe *Quassia* to be an excellent bitter, and that it will do all that any pure and simple bitter can do; but our experience of it in this country does not lead us to think that it will do more; and the extraordinary commendations given, are to be ascribed to the partiality so often shewn to new medicines." It is said to have been given, combined with nitric acid, with evident benefit in typhus. It may be given in infusion or decoction, which is the best form of administering it; or in pills, made from the watery extract. The infusion is prepared by macerating for two hours, in a lightly covered vessel, a scruple of quassia-wood, chipped, in half a pint of boiling water, and straining it. In hysteria this may be combined with purgatives and tincture of valerian; in atonic gout, with aromatics; and in dyspeptic affections with chalybeates, sulphate of zinc, or mineral acids. The dose is from f. ʒj. to f. ʒiij. given twice or thrice a-day. The tincture is prepared by digesting for seven days an ounce of chips of quassia-wood in two pints of proof spirit, and then straining. This may be used in the same cases as the infusion. It is asserted that the brewers have, of late years, used quassia-wood instead of hops.

Beer made with it certainly does not keep, says Thomson, but soon becomes muddy and flat, has a mawkish taste, and runs into the acetous fermentation. It is consequently less nutritious and wholesome than that which is properly hopped. (Woodv. mat. med. Thomson's Lond. disp.) It subjects those brewers who employ it to a heavy penalty. Quassia-wood evidently has a narcotic power, from its being used to poison flies.

Every month, says William Howitt, like a good servant, brings its own character with it. This is a circumstance which, the more I have studied the Seasons, the more I have been led to admire. Artificial as the division of the months may be deemed by some, it is so much founded in nature, that no sooner comes in a new one, than we generally have a new species of weather, and that instantaneously. This curious fact is more particularly conspicuous in the earlier months, there being greater contrast in them. In comes January,—and let the weather be what it might before, immediately sets in severe cold and frost; in February, wet—wet—wet; which, the moment March enters, ceases—and lo! instead—even on the very first of the month, there is a dry chill air, with breaks of sunshine stealing here and there over the landscape. The clouds above fly about with a brisker motion, and the paths under our feet, which yesterday were intolerably miry, become at once solid and dry. The change is surprising. Twelve hours of March air will dry the surface of the earth almost to dustiness, even though no sunshine should be seen; and “a peck of March dust is worth a king's ransom,” says the old proverb, which we may suppose means, that the drying property of March is invaluable, removing the superabundant humidity, and enabling the husbandman to get in his seeds—the hope of summer produce. So speedily does the mire of winter vanish in this month, that country people, who connect their adages, which though significant are not literally true, with something which makes them partially so, say, “The rooks have picked up all the dirt,” because the rooks are now busily employed in building their nests, and use mire to line them, as do magpies too at this period; who place their thorny hails on the tops of the yet leafless trees, objects conspicuous but secure.

March is a rude, and sometimes boisterous month, possessing many of the characteristics of winter; yet awakening sensations perhaps more delicious than the two following spring months, for it gives us the first announcement and taste of spring. What can equal the delight of our hearts at the very first glimpse of spring—the first springing of buds and green herbs! It is like a new life infused into our bosoms. A spirit of tenderness, a burst of freshness and luxury of feeling, possesses us: and let fifty springs have broken upon us, this joy, unlike many joys of time, is not an atom impaired. Are we not young? Are we not boys? Do we not break, by the power of awakened thoughts, into all the rapturous scenes of all our happier years? There is something in the freshness of the soil—in the mossy bank—the balmy air—the voices of birds—the early and delicious flowers, that we have seen and felt *only in childhood and spring*.

There are frequently mornings in March, when a lover of nature may enjoy, in a stroll, sensations not to be exceeded, or perhaps equalled, by any thing which the full glory of summer can awaken:—mornings which tempt us to cast the memory of winter, or the fear of its return, out of our thoughts. The air is mild and balmy, with, now and then, a cool gush by no means unpleasant, but, on the contrary, contributing towards that cheering and peculiar feeling which we experience only in spring. The sky is clear: the sun flings abroad not only a gladdening splendour, but an almost summer glow. The world seems suddenly aroused to hope and enjoyment.

In the fields, labourers are plashing and trimming the hedges, and in all directions are teams at plough. You smell the wholesome, and I may truly say, aromatic soil, as it is turned up to the sun, brown and rich, the whole country over. It is delightful, as you pass along deep hollow lanes, or are hidden in copses, to hear the tinkling gears of the horses, and the clear voices of the lads calling to them. It is not less pleasant to catch the busy caw of the rookery, and the first meek cry of the young lambs. The hares are hopping about the fields, the excitement of the season overcoming their habitual timidity. The bees are revelling in the yellow catkins of the swallow. The harmless English snake is seen again curled up, like a little coil of rope, with its head in the centre, on sunny green banks. The woods, though yet unadorned with their leafy garniture, are beautiful to look on;—they seem flushed with life. Their boughs are of a clear and glossy lead colour, and the tree-tops are rich with the vigorous hues of brown, red, and purple; and, if you plunge into their solitudes, there are symptoms of revivification under your feet—the springing mercury and green blades of the blue-bells—and perhaps above you the early nest of the missel-thrush, perched between the boughs of a young oak, to tinge your thoughts with the anticipation of summer. These are mornings not to be neglected by the lover of Nature, and if not neglected, then not forgotten; for they will stir the springs of memory, and make us live over again, times and seasons that we cannot, for the pleasure and purity of our spirits, live over too much.



Orobanchaceae

OSBECKIA CANESCENS.—HOARY OSBECKIA.

CLASS III. OCTANDRIA.—ORDER I. MONOGYNIA.

NATURAL ORDER, MELASTROMACEÆ.

*Character of the Genus, Osbeckia.**—Tube of the Calyx ovate or oblong, joined with the base of the ovary, frequently clothed with setæ palmate at the base, or a stellate pubescence, very rarely a simple pubescence, limb with four or five divisions, alternating with the appendices. Petals of the corolla four or five, inserted in the throat of the calyx, ovate or obovate, and alternate with the divisions of the calyx. Stamens eight or ten, inserted with the petals, somewhat equal. Anthers oblong, linear somewhat bowed, rostrate, one-pored, connective thickening to the base, with two short spurs, or ears projecting forward, of absent, four or five celled, many-ovuled. Style filiform, thickening beneath the apex. Stigma punctiform. Capsule dry, including the truncated tube of the calyx, four or five celled, loculicidal, four or five valved, Seeds many, cochleate.

Description of the Species, Osbeckia Canescens.—Stem somewhat shrubby, square, unbranched, about two feet and a half high, covered thickly with a stellate pubescence, giving it a roughness, which is very perceptible in the touch. Leaves heart-shaped at the base, opposite, decussate, shortly petiolate, and densely covered on each side with the same stellate pubescence which is found on the stem, prominently from five-seven nerved. Flowers shortly pedunculate, large, and showy, of a delicate and pleasing purple colour, arranged in a paniculate raceme. Bracts large, pinkish, half the length of the calyx, pubescent, concave, half enclosing the alabastum, very deciduous. Petals four, inversely heart-shaped, notched at the end, of short duration. Calyx covered with a stellate pubescence, divided into four parts, each part regular ovate, acuminate persistent, alternate with the divisions are found subulate appendages, which are pubescent, similar to the other parts of the calyx. Filaments yellow, deciduous, ten, attached to an elevated rim situate at the base of the divisions of the calyx. Connective longer than the filaments, curved, bifid at the base, of a bright purple colour, marked with yellow at the base. Anthers of a purplish blue, half the length of the connective. Pollen white, smooth, having a transparent line in the centre. Style twice as long as the stamens and anthers, curved, pinkish, smooth. Stigma situate at the extreme apex. Ovary five-sided, pubescent, five-celled, five-valved. Seeds numerous, attached to placentæ, arising from the centre of the ovary, and situate in the centre of each valve.

Popular and Geographical Notice.—The genus *Osbeckia* is composed of species which are exceedingly handsome and showy, as may be witnessed by the one now figured. They are all shrubs, or suffruticose plants, inhabiting the tropical parts of Asia, Africa, and America.

Introduction; Where grown; Culture.—This plant was introduced from the Royal Berlin Botanic Garden into the Birmingham Horticultural Gardens, in the year 1838, and from a plant in the latter establishment our drawing was taken. It was there treated as a stove plant, but possibly may even be suitable for ornamenting the open ground during the autumn months. It flowers in August and September. It should be planted in loam and peat, and may be increased by cuttings, and also by seeds.

Derivation of the Names.—The generic name is given in honour of Mr. P. Osbeck, a Swedish clergyman and naturalist; the specific, *canescens*, from its hoary appearance.

William Howitt has some picturesque remarks on the characteristic appearances of April, prefaced by an apposite quotation from the sweet singer of Israel.

Thou visitest the earth, and wastest it; thou greatly enrichest it with the river of God, which is full of water; thou preparest them corn, when thou hast so provided for it.

Thou wastest the ridges thereof abundantly; thou settlest the furrows thereof; thou makest it soft with showers; thou bleesest the springing thereof.

Thou crownest the year with thy goodness, and thy paths drop fatness.

They drop upon the pastures of the wilderness, and the little hills rejoice on every side.

The pastures are clothed with flocks, and the valleys also are covered over with corn; they shout for joy; they also sing.

PSALM LXX. 9—13.

The month of April is proverbial for its fickleness; for its intermingling showers, and fitting gleams of sunshine: for all species of weather in one day; for a wild mixture of clear and cloudy skies, greenness and nakedness, flying hail and abounding blossoms. But to the lover of nature, it is not the less characterized by the spirit of expectation with which it imbues the mind. We are irresistibly led to look forward, to anticipate, with a delightful enthusiasm, the progress of the season. It is one of the excellent laws of Providence, that our minds shall be insensibly moulded to a sympathy with that season which is passing, and become deprived, in a certain degree, of the power of recalling the images of those which are gone by;

* For the figure and and account of the *Osbeckia*, as well as of the *Goldfussia* in our last number, we are indebted to Mr. Maund's attractive work "The Botanist."

whence we reap the double advantage of not being disgusted with the deadness of the wintry landscape, from a comparison with the hilarity of spring: and when spring itself appears, it comes with a freshness of beauty which charms us at once with novelty, and a recognition of old delights. Symptoms of spring now crowd thickly upon us: however regular may be our walks, we are daily surprised at the rapid march of vegetation, at the sudden increase of freshness, greenness, and beauty; one old friend after another starts up before us in the shape of a flower. The violets which came out in March in little delicate groups, now spread in myriads along the hedge-rows, and fill secluded lanes with their fragrance. In some springs, however, though most abundant, yet, perhaps owing to the dryness of the weather, they are almost scentless. The pilewort, or lesser celandine, too, is now truly beautiful, opening thousands and tens of thousands of its splendidly gilt and starry flowers along banks, and at the feet of sheltered thickets; so that, whoever sees them in their perfection, will cease to wonder at the admiration which Wordsworth has poured out upon them in two or three separate pieces of poetry. Anemones blush and tremble in copses and pastures; the wild cherry enlivens the woods; and in the neighbourhood of Nottingham the vernal crocus presents a unique and most beautiful appearance, covering many acres of meadow with its bloom; rivalling whatever has been sung of the fields of Enna; gleaming at a distance like a perfect flood of lilac, and tempting very many little hearts, and many graver ones too, to go out and gather.

The blossom of fruit-trees presents a splendid scene in the early part of the month, gardens and orchards being covered with a snowy profusion of plum-bloom; and the blackthorn and wild plum wreath their sprays with such pure and clustering flowers, that they gleam in the shadowy depths of woods as if their boughs radiated with sunshine. In the latter part of the month, the sweet and blushing blossoms of apples and the wilding fill up the succession, harmonizing delightfully with the tender green of the expanding leaves, and continuing through part of May.

The catkins or pendulous flowers of many of the trees are now peculiarly beautiful; those of the birch hang like golden tassels, and especially where these elegant trees abound, as they do in the romantic defiles of the Trosachs; ranging themselves stem above the silvery stem up the rocky heights, they present a lovely aspect. Those of the Tacamahac hang large and abundant, and with the young unfolding leaves diffuse a fine aromatic odour. The ash-trees are quite black with their large conglomerated buds, which gradually unfold themselves into tufts of fibres, whence the keys afterwards depend. The alder too is covered as in the end of last month, with its dark bunches; and the elm is perfectly shrouded in its hop-like blossoms till the end of May. The flowering of this tree, so striking and beautiful, yet so little noticed by poets, has been introduced into some beautiful lines referring to this season:—

When daisies blush, and windflowers wet with dew;
When shady lanes with hyacinths are blue;
When the elm blossoms o'er the brooding bird,
And wild and wide the plover's wail is heard;
When melts the mist on mountains far away,
Till morn is kindled into brightest day.—AUTHOR OF "CORN LAW RHYMES."

But perhaps the most delightful of all the features of this month, are the return of migratory birds, and the commencement of building their nests. Not only the swallow tribe, the cuckoo, and the nightingale, whose arrival is noticed by almost everybody, but scores of other old acquaintances suddenly salute you in your walks with their well-remembered aspects and notes. White-throats, whinchants, reed-sparrows, &c. perched on their old haunts, and following their diversified habits, seem as little fatigued, or strange, as if they had worn invisible jackets all winter, and had never left the spot. The sweet voice of the turtle-dove is again heard in the woods of the southern counties. There is something truly delightful to the naturalist in the beauty of birds' nests, and the endless varieties of colours, spots, and hieroglyphic scrolls, on their eggs; the picturesque places in which they are fixed, from the lapwing's on the naked fallow, to that of the eagle in its lofty and inaccessible eyrie; in the different degrees of art displayed, from the rude raft of a few sticks, made by the wood-pigeon, to the exquisite little dome of the golden-crested wren, or the long-tailed titmouse (*parus caudatus*), a perfect oval stuck between the branches of a tree, having a small hole on one side for entrance; the interior lined with the most downy feathers, enriched with sixteen or seventeen eggs, like small oval pearls; and the exterior most tastefully decorated with a profusion of spangles of silvery lichen on dark-green moss.

The following lines, which describe the opening days of April, are from a poem by Warton:—

Mindful of disaster past,
And shrinking at the northern blast,
The fleet storm returning still,
The morning hoar, the evening chill;
Reluctant comes the timid spring.
Scarce a bee, with airy ring,
Murmurs the blossom'd boughs around
That clothe the garden's southern bound:
Scarce a sickly straggling flower

Decks the rough castle's rifted tower;
Scarce the hardy primrose peeps
From the dark dell's entangled steeps.

Fringing the forest's devious edge
Half rob'd appears the hawthorn hedge;
Or to the distant eye displays
Weakly green its budding sprays.



Cassia Senna.

CASSIA SENNA.—OR EGYPTIAN CASSIA.

CLASS X. DECANDRIA.—ORDER I. MONOGYNIA.

NATURAL ORDER, LEGUMINOSÆ.—THE PEA TRIBE.

THE plants which furnish the leaves known in commerce under the name of Senna, are low shrubs, growing spontaneously in Syria, Arabia, and Upper Egypt, whence the drug is imported into Europe, chiefly from Alexandria; and hence it has obtained the name of Alexandrian Senna. It is cultivated in Italy, the West Indies, and some other parts of the world. According to Burckhardt, the best grows in the valleys of Nubia, where it is called *Abreggia*; flowering in July and August. In our stoves the plants remain shrubby, but in the gardens become annuals.

The genus *Cassia*, of which *senna* is a section, includes a very large assemblage of species; the two which afford the official leaves are *C. obovata*, and *lanceolata*. The former is the acknowledged official species of the Italians, but the leaves of both are mingled in commerce. The colours of the leaves afforded by these two plants are somewhat different, "those of the *lanceolata* being a bright yellowish green; those of the *obovata* green without any yellowish cast. With the true senna are mixed the leaves of another plant, the *Cynanchum Arquel*. Rouillon says that at Cairo the traders mix these in the proportions of 500 of *C. lanceolata*, 300 of *C. obovata*, and 200 of *Cynanchum Arquel*."—(*Don*.)

The Sennas rise with a somewhat woody, erect, branching stem, to the height of about two feet. The leaves are alternate, smooth, flat, and pinnate; each leaf is composed of five or six pairs of oval, entire, pointed, sessile leaflets, about an inch long, and one fourth of an inch broad, of a firm texture, and bright yellowish green colour. The flowers are pale yellow, borne in loose axillary racemes, on the upper part of the stem. The calyx is monophyllous, five-toothed; the teeth are obtuse, concave, and deciduous. The corolla consists of five roundish, entire, concave petals, the three lower ones largest; the filaments are ten, the three inferior ones longer than the others, and furnished with large curved anthers: the germen is cylindrical, supporting a short incurved style, and an obtuse stigma. The fruit is described by Gærtner as an ovate kidney-shaped membranous legume, with foliaceous appendages, marked with capillary, transverse, parallel striae, bivalve, with six or nine cells, and divided by very thin transverse partitions, each containing one oblong heart-shaped seed.

According to Olaus Celsus, the Greek word *κασσία* which is used by Dioscorides, is derived from the Hebrew *Ketziath*, rendered in the Septuagint by *κασσιαν*; and this has been latinized by *Cassia*. *Senna* is but slightly varied from Senna, or Sienna, the Arabic name for the plant; and even this is said to own a Hebrew origin.

It has long been famed, even proverbially, for its cathartic powers: thus Shakspeare says in *Macbeth*,

"What rhubarb, *senna*, or what purgative drug
Would scour these English hence?"

The qualities of Senna were known to the Arabian physicians, Serapion and Mesue, who flourished about the beginning of the ninth century, and used it as a medicine. Actuarius, a Greek Physician, who lived in the thirteenth century, also notices it, but like Mesue, employed the pod, not the leaves.

Senna has been grown in England, but as it is an annual, its seeds must be sown in the early part of the spring on a hot-bed; "and when the plants are fit to remove, each must be placed in a separate pot, filled with light earth, and plunged into a moderate hot-bed, where they should be shaded till they have taken fresh root; after which; they should have fresh air admitted to them every day, in proportion to the warmth of the season, and should be frequently watered. When the plants have filled the pots with their roots, they should be shifted into larger; and if they be too tall to remain in the hot-bed, they must be placed either in the stove, or a glass case, where they may be defended from the cold, but in warm weather have plenty of air. It is very rare that seeds are perfected in England."

MEDICAL PROPERTIES AND USES.—Senna is frequently administered in the form of infusion, combined either with manna or tamarinds, soluble tartar, Epsom salts, &c. Dr. Cullen recommends coriander seeds, and Dr. Paris *Bohea tea*, to cover its nauseous taste; and guaiacum is said to increase its powers.

We have lately had our attention excited to a preparation, called a concentrated essence, made, we understand, without a high temperature being applied: and one drachm to an ounce of water will form a mix-

ture of Senna equal in strength to the infusion which is usually prescribed. When it is considered that the infusion will not keep many hours without precipitating an oxidized extract, and that it is often wanted at a minute's notice, we think that our readers will be thankful for our apprising them of so valuable a preparation, which after several trials we have ascertained to be worthy of reliance.

Among the preparations of Senna, we may mention the infusion, the tincture, and the confection, (lenitive electuary.)

The infusion is the basis of the well-known black draught. Dr. Hooper's receipt for this popular remedy is as follows:—

Take of Epsom Salts half an ounce,
Infusion of Senna an ounce and a half,
Tincture of Senna a drachm and a half,
Syrup of Ginger a drachm,
Compound Spirit of Ammonia twenty minims:—Mix for a draught.

We may here mention, that a new method of making tinctures has been introduced of late years. The following account of it, is from the *Edinburgh Pharmacopœia* of 1839.

Tinctures are usually made by reducing the solid ingredients to small fragments, coarse powder, or fine powder, macerating them for seven days or upwards in proof-spirit or rectified spirit, straining the solution through linen or calico, and finally expressing the residuum strongly, to obtain what fluid is still retained in the mass. A much superior method, however, has been lately introduced, which answers well for most tinctures, namely, the method of displacement by percolation [straining.] According to this process, the solid materials, usually in coarse or moderately fine powder, are moistened with a sufficiency of the solvent to form a thick pulp; in twelve hours, or frequently without any delay, the mass is put into a cylinder of glass, porcelain, or tinned iron, open at both ends, but obstructed at the lower end by a piece of calico or linen, tied tightly over it as a filter; and the pulp being packed by pressure, varying as to degree with various articles, the remainder of the solvent is poured into the upper part of the cylinder, and allowed gradually to percolate. In order to obtain the portion of the fluid which is kept in the residuum, an additional quantity of the solvent is poured into the cylinder until the tincture which has passed through equals in amount, the spirit originally prescribed; and the spirit employed for this purpose, is then recovered for the most part by pouring over the residuum as much water as there is of spirit retained in it, which may be easily known by an obvious calculation in each case. The method by percolation, where applicable, will be found much more convenient and expeditious, than the mode hitherto commonly followed, and it exhausts the solid materials, in general, much more completely. As considerable practice, however, is required for managing the details in different cases, more especially in regard to the degree of minuteness of division of the solids, and the degree of firmness with which they are to be packed in the cylinder, we have thought it right to direct that the method by maceration, may be followed as an alternative. But the method by percolation is now preferred by all who have made sufficient trial of it to apply it correctly.

"If Sene," says Gerard, "be infused in whey, and then boiled a little, it becommeth good physicke against melancholy, clenseth the braine and purgeth it, as also the heart, lieur, milt, and lungs, causeth a man to looke young, engendreth mirth, and taketh away sorrow: it cleareth the sight, strengthneth hearing, and is very good against old fevers and diseases arising of melancholy."

"April" says the author of the "*Flora Domestica*," is described by a French poet in the colours of an English May; the spring, of course, being somewhat earlier in the warmer climate of France:—

April—the hawthorn and the eglantine,
Purple woodbine,
Streaked pink, and lily-cap, and rose,
And thyme, and marjoram, are spreading
Where thou art treading;
And their sweet eyes for thee unclose.—REMY BELLEAU."

"A considerable number of plants," observes Dr. Aikin, "flower in this month; in particular, many of the fruit-bearing trees and shrubs, the flowers of which are peculiarly termed blossoms. These form a most agreeable spectacle, as well on account of their beauty, as of the promise they give of future benefits.

Hope waits upon the flowery prime.

It is, however, an anxious time for the possessor, as the fairest prospect of a plentiful increase is so often blighted. Shakespeare draws a pathetic comparison from this circumstance, to paint the delusive nature of human expectations.

This is the state of man; to-day he puts forth
The tender leaves of hope, to-morrow blossoms,
And bears his blushing honours thick upon him,
The third day comes a frost, a killing frost."



Dionaea Muscipula?

DIONÆA MUSCIPULA.—VENUS'S FLY-TRAP.

CLASS X. DECANDRIA.—ORDER I. MONOGYNIA.

NATURAL ORDER, DROSERACEÆ.—THE SUN-DEW TRIBE.

DIONÆA (one of the names of Venus.) Sepals and petals 5. Stamens 10-20; anthers bursting laterally. Style 1. Stigma fringed. Capsules 5-valved, 1-celled. Seeds numerous, half buried in the cellular substance at the base of the capsule.

Herb smooth. Leaves radical, on long footstalks, which are dilated at the top into a 2-lobed irritable limb, which is beset with one row of long hairs on the margin, which fold together when touched in the manner of the teeth of a trap. Flowers white, in terminal corymbs. This is a singular plant in respect of its leaves, which are of an anomalous form, and have a singular motion by which they catch insects, whence the specific name *muscipula*, a fly-trap. The root is scaly, almost like a bulb, and not prolific in fibres. The leaves have the petiole winged as in the orange; the extreme part or proper leaf is the part that operates as the trap. As soon as the insect enters, the lobes of the leaf fold together, and remain so as long as the insect continues to struggle, but as soon as it ceases and is quiet the leaf opens and permits it to escape. A straw or pin introduced between the lobes of the leaf will have the same effect. Mr. Ellis thinks it probable that a sweet liquor discharged by the red glands on the inner surface tempts insects to their destruction. "On the side of each lobe of the leaf stand about three erect, highly irritable bristles, which, when touched, cause the two lobes to fold together like a rat-trap, imprisoning insects; no doubt that their bodies may administer an air wholesome to the plant, which theory and recent observations on *Sarracenia*, *Drosera* and *Nepenthes* confirm." Smith, introd. bot.

Venus's Fly-trap. Fl. July, Aug. Clt. 1768. Pl. $\frac{1}{4}$ to $\frac{3}{4}$ ft.

Cult. This plant thrives best in small pots in peat earth, and some dwarf species of moss placed underneath in the pot; the pots should then be placed in a pan of water and set in a cool place near the glass in the stove. Seeds are sometimes produced, by which they may be increased as well as by dividing the plants at the root. Mr. Shepherd of Liverpool finds that the leaves will root, if placed on damp moss, and emit young plants from their edges.

A popular writer says, "on Monday next is May-morning;—a word, which used to awaken in the minds of our ancestors all the ideas of youth, and verdure, and blossoming, and love, and hilarity; in short the union of the two best things in the world, the love of nature, and the love of each other. It was the day, on which the arrival of the year at maturity was kept, like that of a blooming heiress. They caught her eye as she was coming, and sent up hundreds of songs of joy.

Now the bright morning-star, day's harbinger,
Comes dancing from the east, and leads with her
The flowery May, who from her green lap throws
The yellow cowslip, and the pale primrose.
Hail bounteous May, that dost inspire

Mirth, and youth, and warm desire;
Woods and groves are of thy dressing;
Hill, and dale, doth boast thy blessing.
Thus we salute thee with our early song,
And welcome thee, and wish thee long.

These songs were stopped by Milton's own friends, whom in his old age he again differed with, most likely on these very points among others. But till then, they appear to have been as old, all over Europe, as the existence of society. The Druids are said to have had festivals in honour of May. Our Teutonic ancestors had undoubtedly; and in the countries which had constituted the Western Roman Empire, Flora still saw thanks paid for her flowers, though her worship had gone away.*

The homage, which was paid to the month of love and flowers, may be divided into two sorts, the general and the individual. The first consisted in going with others to gather May, and in joining in sports and games afterwards. On the first of the month, "the juvenile part of both sexes," says Bourne, in his Popular Antiquities, "were wont to rise a little after midnight and walk to some neighbouring wood, where

* The great May holiday observed over the West of Europe was known for centuries, up to a late period, under the name of Beltein, or Beltane. Such a number of etymologies, all perplexingly probable, have been found for this word, that we have been surprised to miss among them that of *bel-temps*, the fine time or season. Thus printemps, the first time or prime season, is the spring.

they broke down branches from the trees, and adorned them with nosegays and crowns of flowers. When this was done, they returned with their booty about the rising of the sun, and made their doors and windows to triumph in the flowery spoil. The after part of the day was chiefly spent in dancing round a May-pole, which being placed in a convenient part of the village, stood there, as it were, consecrated to the goddess of flowers without the least violation offered to it; in the whole circle of the year." Spenser, in his *Shepherd's Calendar*, has detailed the circumstances, in a style like a rustic dance.

Young folke now flocken in—every where
To gather May-baskets—and smelling breere ;
And home they hasten—the postes to dight,
And all the kirk-pillours—eare day-light,
With hawthorne buds—and sweet eglantine,
And girlands of roses—and soppes in wine.
* * * * *
Sicker this morowe, no longer agoe,
I saw a shole of shepherds outgoe
With singing, and shouting, and jolly chere ;
Before them yode a lustie tabrere,
That to the many a hornpipe played,
Whereto they dauncen eche one with his mayd.

To see these folks make such jovisaunce,
Made my heart after the pipe to daunce.
Tho to the greene wood they speeden hem all,
To fetchen home May with their muscicall,
And home they bringen, in a royall throne,
Crowned as a king ; and his queen attone
Was Lady Flora, on whom did attend
A fayre flocke of faeries, and a fresh bend
Of lovely nymphs. O that I were there
To helpen the ladies their May-bush beare.

The day was past in sociality and manly sports;—in archery, and running, and pitching the bar,—in dancing, singing, playing music, acting Robin Hood and his company, and making a well-earned feast upon all the country-dainties in season. It closed with an award of prizes.

As I have seen the Lady of the May,
Set in an arbour, on a holiday,
Built by the Maypole, where the jocund swains
Dance with the maidens to the bag-pipe's strains,
When envious night commands them to be gone,
Call for the merry youngsters one by one,

And for their well performance soon disposes,
To this a garland interwove with roses,
To that a carved hook, or well-wrought scrip,
Gracing another with her cherry lip;
And none returneth empty, that hath spent
His pains to fill their rural merriment.

Among the gentry and at court the spirit of the same enjoyments took place, modified according to the taste or rank of the entertainers. The most universal amusement, agreeably to the general current in the veins, and the common participation of flesh and blood, was dancing. Contests of chivalry supplied the place of more rural gymnastics. But the most poetical and elaborate entertainment was the mask. A certain flowery grace was sprinkled over all; and the finest spirits of the time thought they shewed both their manliness and wisdom, in knowing how to raise the pleasures of the season to their height. Sir Philip Sydney, the idea of whom has come down to us as a personification of all the refinement of that age,—is fondly recollected by Spenser in this character.

His sports were faire, his joyance innocent,
Sweet without soure, and honey without gall ;
And he himself seemed made for merriment,
Merrily masking both in bowre and hall.
There was no pleasure nor delightful play,
When Astrophel soever was away.

For he could pipe, and dance, and caroll sweet,
Amongst the shepherds in their shearing feast ;
As somer's lark that with her song doth greet
The dawning day forth coming from the east.
And layes of love he also could compose :
Thrice happie she, whom he to praise did choose.

Astrophel St. 5.

Individual homage to the month of May, consisted in paying respect to it though alone, and in plucking flowers and flowering boughs to adorn apartments with.

This maiden, in a morn betime,
Went forth when May was in the prime
To get sweet setywall,
The honey-suckle, the harlock,
The lily, and the lady-smock,
To deck her summer-hall.

Drayton's Pastorals, Eclog. 4.

"The Catchfly," says the author of the "Sentiment of Flowers,"—"is a simple emblem of the gross squares which vice spreads for unwary and imprudent youth. Flies attracted by the evil odour of this plant become entangled in its leaves, and are not able to disengage themselves."



Cupressus fruticosa

CASSIA FISTULA.—LAXATIVE CASSIA.

CLASS X. DECANDRIA.—ORDER I. MONOGYNIA.

NATURAL ORDER, LEGUMINOSÆ.—THE PEA TRIBE.

Fig. (a) represents the pod or legume; (b) a longitudinal section of the same, showing the position of the seeds; (c) two views of a seed.

THIS species of Cassia is a native of Egypt and the warmer parts of the East Indies, and is naturalized in the West Indies, and South America. It is the *Cassia solutiva* of the Arab and Greek physicians of the middle ages, as appears from the writings of Avicenna and Myrepsus, and is supposed to have received the same generic appellation as that which from time immemorial has distinguished the oriental aromatic spice, from the circumstance of its agreeable odour; for we are told by Alpinus, when he was in Egypt, in the latter part of the 16th century, that the natives took great delight in walking early in the morning, in the spring season, near plantations of this kind of Cassia, regaling themselves with the fragrance of the flowers. The *Cassia fistula* was cultivated in England by Philip Miller, in 1731. Dr. Hasselquist, who observed it on the banks of the Nile, growing among the date trees, near Alexandria, says it flowers in May; and the Arabs call it *Hearsciambar*. Bruce asserts, that it is a native of Abyssinia.

It rises, when full grown, to the height of thirty or forty feet, and is branched towards the top. The bark, especially upon the trunk, is brownish, or ash-coloured, very much furrowed and cracked. The wood is white and soft. The leaves are alternate, pinnated, composed of five or six pairs of ovate-oblong, pointed, undulated leaflets, of a pale green colour, finely nerved with a prominent midrib underneath, and supported on short footstalks. The flowers are large, odorous, yellow-veined, and produced in long pendant axillary racemes. The calyx consists of five oblong, blunt, greenish, crenated leaves. The corolla is composed of five petals, which are concave, roundish, unequal, spreading, and waved. The germen is slender, cylindrical, and curved into a semicircle. The fruit is a long woody dark brown pod, about an inch in diameter, and nearly two feet in length, cylindrical, with two longitudinal furrows on one side, and one on the other, divided by thin plates or partitions into transverse cells, each containing one smooth, oval, compressed seed, of a dusky yellow colour, imbedded in a soft black pulp.

The pods are said to undergo a kind of fermentation, to prepare them for keeping. In Egypt, according to Hasselquist, they are collected before they are quite ripe, and carried into a very close room, in which has been prepared a bed of palm leaves and straw, six inches deep. On this they lay the pods in a heap: the door is then closely shut, and the next day they sprinkle water on the heap, which is repeated the day following. In this manner the pods lie heaped for forty days, till they become black. Others, says he, dig a hole in the ground to put them in; but this method is greatly inferior to the former. Cassia pods are brought to this country principally from the West Indies, packed in casks and cases. The pods of the East India Cassia are smaller, smoother, and afford a blacker, sweeter, and more grateful pulp, than those which are brought from the West Indies, South America, or Egypt.

QUALITIES.—The pulp, which is the part used, is separated from the woody part and seeds, by passing it through a sieve. It has a faint, somewhat nauseous odour, and a sweet mucilaginous taste.

QUALITIES AND CHEMICAL PROPERTIES.—The pods of Cassia which are heaviest, and in which the seeds do not rattle, are the best, as they contain the greatest quantity of pulp, which is the part used in medicine. The best pulp is of a bright, shining black colour, and of sweetish sub-acid taste. According to M. Henry, it contains sugar, gum, a substance resembling tannin, gluten, and colouring matter soluble in ether.—*Journ. Chim. Med.* ii. 376.

MEDICAL PROPERTIES AND USES.—Both the leaves and flowers are purgative, as well as the pulp. The latter is occasionally used as an agreeable laxative for children; but adults require so large a portion of it to produce any effect, that it is never employed for them, excepting when combined with more active remedies. Dr. Cullen conceived that it possessed no advantages over the pulp of prunes, in which opinion we readily coincide. It enters into the composition of the subjoined official preparations, to which it imparts a pleasant flavour.

Confectio Cassiæ, L. E. D.
Confectio Sennæ, L. E. D.

We are indebted for the following passages to William Howitt's interesting work on the Seasons.

If the contrast of grey and mossy branches, and of the delicate richness of young leaves gushing out of them in a thousand places be inexpressibly delightful to behold, that of one tree with another is not the less so. One is nearly full clothed,—another is mottled with grey and green, struggling as it were which should have the predominance, and another is still perfectly naked. The wild cherry stands like an apparition in the woods, white with its profusion of blossom, and the wilding begins to exhibit its rich and blushing countenance. The pines look dim and dusky amid the lively hues of spring. The aables are covered with their clusters of albescent and powdery leaves and withering catkins; and beneath them the pale spathes of the arum, fully expanded and displaying their crimson clubs, presenting a sylvan and unique air. And who does not love “the wood-notes wild?” We again recognise the speech of many a little creature who, since we last heard it, has traversed seas and sojourned in places we wot not of. The landscape derives a great portion of its vernal cheerfulness not merely from the *songs* of birds but from their cries. Each has a variety of cries indicative of its different moods of mind, so to speak, which are heard only in spring and summer, and are both familiar and dear to a lover of Nature. Who ever heard the *weet-weet* and *pink-pink* of the chaffinch, or the *winkle-winkle* of the black-bird as it flies out of the hedge, and skims along before you to a short distance, repeatedly on a summer evening about sunset,—at any other time? In spring mornings by three or four o'clock the fields are filled with a perfect clamour of bird-voices, but at noon the wood is their oratory. There the wood-pecker's laugh still rings from a distance—the solemn coo of the wood-pigeon is still deep and rich as ever—the little chill-chill sounds his two notes blithely on the top of the tallest trees; and the voice of the long-tailed titmouse, ever and anon, sounds like a sweet and clear-toned little bell. Nests are now woven to every bough and into every hollow stump.

As the month (May,) advances, our walks begin to be haunted with the richness of beauty. There are splendid evenings, clear, serene, and balmy, tempting us to continue our stroll till after sunset. We see around us fields golden with crow-foot, and cattle basking in plenty. We hear the sonorous streams chiming into the milk-pail in the nooks of crofts, and on the other side of hedges. Towards the close of the month, the mind, which has been continually led onward by the expansion of days, leaves, and flowers, seems to repose on the fulness of nature. Every thing is clothed. The *spring* actually seems past. We are surrounded by all that beauty, sunshine, and melody which mingle in our ideas of *summer*. The hawthorn is in full flower; the leafy hedges appear half-buried in the lofty grass. Butterflies take their wavering flight from flower to flower; and dragonflies on the banks of rivers. There is the cheerful hum of bees amongst the flowers; and the cockchafer, which has delighted us all in our boyhood, is hovering about the green leaves of the sycamore. Sheep-washing is begun in many places. The mowing-grass presents a mosaic of the most gorgeous and inimitable hues, or is white with waving umbels. A passing gale awakens a scene of lively animation. The massy foliage of trees swings heavily, the boughs of the hawthorn wave with all their loads of fragrant bloom, and snowy umbelliferous plants toss on the lea like foam on the stormy ocean.

Cottage gardens are now perfect paradises; and, after gazing on their sunny quietude, their lilachs, peonies, wall-flowers, tulips, anemones and corcoruses with their yellow tufts of flowers, now becoming as common at the doors of cottages as the rosemary and rue once were—one cannot help regretting that more of our labouring classes do not enjoy the freshness of earth, and the pure breeze of heaven, in these little rural retreats, instead of being buried in close and sombre alleys. A man who can, in addition to a tolerable remuneration for the labor of his hands, enjoy a clean cottage and a garden amidst the common but precious offerings of nature, the grateful shade of trees and the flow of waters, a pure atmosphere and a riant sky, can scarcely be called poor.

If Burns had been asked what was the greatest luxury of May, I suppose he would have quoted from his “Cotter's Saturday Night,”

If Heaven a draught of heavenly pleasure spare,
One cordial in this melancholy vale,
’Tis when a youthful, loving, modest pair
In other's arms breathe out the tender tale
Beneath the milk-white thorn that scents the evening gale.

At which Gilpin would quote, from his “Forest Scenery,” a passage proving the poets to be very foolish for their admiration of so insignificant and inelegant a bush. We, however, shall take part with Burns, only we would conjure a nightingale into his hawthorn, and the hawthorn into a forest; for of all May delights, listening to the nightingale is the greatest, and when heard at still midnight, the moon and stars above you, filling with lustre the clear blue sky; the trees lifting up their young and varied foliage to the silvery light; the deer quietly resting in their thickest shadows; and the night-breeze, ever and anon, wafting through the air “Sabeian odours;” then, if you feel neither love nor poetry, depend upon it you are neither lover nor poet.



Tropaeolum Montezumae

TROPEOLUM MORITZIANUM.—MORITZ'S INDIAN-CRESS.

CLASS VIII. OCTANDRIA.—ORDER I. MONOGYNIA.

NATURAL ORDER, TROPEOLACEÆ.—THE NASTURTIIUM TRIBE.

CHARACTER OF THE GENUS TROPEOLUM. CALYX five-partite, the upper lobe spurred. Petals five, unequal, the three lower smaller or undeveloped. Stamens eight, entirely free. Carpella three, corky, kidney-shaped, indehiscent, or furrowed and rounded. Seeds large, exalbuminous, each completely filling the loculament in which it is placed. Embryo large, with two straight thick cotyledons, at first free, afterwards firmly agglutinated to each other, and to the testa, sub-distinct at the base, the radical lying between the processes of the cotyledons, bearing four tubercles, from which rootlets presently arise.

Description of the Species, *Tropeolum Moritzianum*. Plant every where glabrous. Root tuberous, Stem long, slender, much branched. Leaves ($2-2\frac{1}{2}$ inches across) petiolate, alternate, reniform-suborbiculate, bright green above, glaucous below, nerves radiated, reticulated, conspicuous, seven-nine lobed, truncated at the base, with shallow rounded sinuities between the lobes; lobes rounded, emarginate, having in the centre a little yellow callous tooth at the extremity of the nerve; petioles ($2-2\frac{1}{2}$ inches long) acting as cirrhi to support the plant. Peduncles (three inches long) solitary, single-flowered, longer than the petioles. Flowers funnel-shaped. Calyx reddish on the outside, yellow and streaked with red within; segments ovate-lanceolate, callous at the apex, the upper the shortest and narrowest, the two lower the longest, the intermediate ones the broadest; spur straight, tapered, twice as long as the limb, more fleshy in the upper half than towards its apex, nectariferous. Corolla little longer than the calyx, red on the outside, orange-coloured within; petals unequal, the two upper subsessile, multifid at the apex, entire and wedge-shaped at the base, four-nerved, the three lower with long claws, subrotund, palmate, segments acuminate, the lowest the narrowest, and passing into long ciliæ upon the upper claws. Stamens rather distant, and nearly straight, rather shorter than the calyx; anthers round, dark, pollen green, granules small, spherical. Pistil nearly as long as the filaments; germen green, glabrous, three-lobed, the lobes keeled; style straight, stout; stigma of three acute segments, the upper being rather longer than the others.

Popular and Geographical Notice.—The right of the *Tropeolaceæ* to rank as a distinct order, has been doubted. It contains only three ascertained genera, and only an inconsiderable number of species, yet it does seem to me that we cannot unite these with any of the orders to which they have been thought to be most nearly related. The whole order belongs to Mexico, or South America, and the different species of the genus *Tropeolum* are scattered from the Northern limit of the order, as far to the Southward as Buenos Ayres. They are used as stimulating salads, and the tuberous roots of our species, when cooked, are used extensively as an article of food. As ornaments in the flower border they have long been deservedly favourites, and the present species will be considered by florists a very acceptable addition. If the tuber be protected in the winter, there seems little reason to doubt that it will, during summer, thrive well in the open air.

Introduction; Where grown; Culture. This species was introduced from Cumana, into the Botanic Garden, Glasgow, and the specimen here figured, received from that establishment, flowered in the stove of the Royal Botanic Garden, Edinburgh, in September and October, potted in ordinary garden mould.—GRAH.

“June,” according to Dr. Aikin, “is really, in this climate, what the poets represent May to be—the most lovely month of the year. Summer is commenced, and warm weather thoroughly established; yet the heats rarely arise to excess, or interrupt the enjoyment of those pleasures, which the scenes of nature now afford. The trees are in the fullest dress; and a profusion of the gayest flowers is everywhere scattered around, which put on all their beauty just before they are cut down by the scythe, or withered by the heat.

One of the earliest rural employments of this month, is the shearing of sheep; a business of much importance in various parts of the kingdom, where wool is one of the most valuable products. England has for many ages been famous for its breeds of sheep, which yield wool of various qualities, suited to different branches of the woollen manufactory. The downs of Dorsetshire, and other southern and western counties, feed sheep whose fine short fleeces are employed in making the best broad cloths. The coarser wool of

^a For the foregoing description we are indebted to Mr. Maund's charming work “The Botanist,” from which we have likewise copied the figure.

Yorkshire, and the northern counties, is used in the narrow cloths. The large Leicestershire and Lincolnshire sheep are clothed with long thick flakes, proper for the hosier's use; and every other kind is valuable for some particular purpose.

The season for sheep-shearing commences as soon as the warm weather is so far settled, that the sheep may, without danger, lay aside great part of their clothing. The following tokens are given by Dyer, in his *Fleece*, to mark out the time.

If verdant elder spreads
Her silver flowers; if humble daisies yield
To yellow crowfoot and luxuriant grass,
Gay shearing-time approaches.

Before shearing, the sheep undergo the operation of washing, in order to free the wool from the foulness it has contracted.

Upon the brim
Of a clear river, gently drive the flock,
And plunge them one by one into the flood:
Plung'd in the flood, not long the struggler sinks,
With his white flakes, that glisten thro' the tide;
The sturdy rustic, in the middle wave,

Awaits to seize him rising: one arm bears
His lifted head above the limpid stream,
While the full clammy fleece the other laves
Around, laborious, with repeated toil;
And then resigns him to the sunny bank,
Where, bleating loud, he shakes his dripping locks. DYER.

The shearing itself is conducted with a degree of ceremony and rural dignity; and is a kind of festival as well as a piece of labour.

At last, of snowy white, the gathered flocks
Are in the watted pen innumerable press'd,
Head above head: and rang'd in lusty rows
The shepherds sit, and whet the sounding shears.
The housewife waits to roll her fleecy stores.
With all her gay-drest maids attending round.
One, chief, in gracious dignity enthron'd,

Shines o'er the rest, the pastoral queen, and rays
Her smiles, sweet beaming, on her shepherd-king.

A simple scene! yet hence BRITANNIA sees
Her solid grandeur rise: hence she commands
Th' exalted stores of every brighter clime,
The treasures of the sun without his rage. THOMSON.

A profusion of fragrance now arises from the fields of clover in flower. Of this plant there are the varieties of white and purple. The latter is sometimes called honeysuckle, from the quantity of sweet juice contained in the tube of the flower, whence the bees extract much of their honey.

For the following passage, we are indebted to Mr. Howitt's *Work on the Seasons:—Wild Flowers and their ancient names*.—Amongst the most interesting wild flowers now in full bloom, are the dog rose, the pimpernel, thyme, and white bryony. The last is one of our most elegant plants. Running up in the space of a month, over a great extent of hedge or thicket, and covering it with its long twining stems, spiral tendrils, green vine-like leaves, and graceful flowers, in a beautiful style of luxuriance, it is deserving more notice than it has yet received, and seems well calculated for clothing bowers and trellis-work. Many of our wild flowers derive much interest from the simple and poetical names given them by our rural ancestors; as the wind-flower; the snap-dragon; the shepherd's-purse; the bird's-eye; the fox-glove; the blue-bell; cuckoo-flower; adder's-tongue, and hart's-tongue; goldy-locks; honesty; heart's-ease; true-love; way-bread, and way-faring tree, &c. Many also bear the traces of their religious feelings; and still more remind us of the religious orders by whom they were made articles of their *materia medica*, or *materia sancta*, each flower being dedicated to that saint near whose day it happened to blow.

Woe's me—how knowledge makes forlorn;
The forest and the field are shorn
Of their old growth, the holy flowers;—
Or if they spring, they are not ours.
In ancient days the peasant saw
Them growing in the woodland shaw,
And bending to his daily toil
Beheld them deck the leafy soil;
They sprang around his cottage door;
He saw them on the heathy moor;
Within the forest's twilight glade,
Where the wild deer its covert made;
In the green vale, remote and still,
And gleaming on the ancient hill.
The days are distant now, gone by
With the old times of minstrelsy,
When all unblest with written lore,
Were treasured up traditions hoar;
And each still lake and mountain lone
Had a wild legend of its own;

And hall, and cot, and valley-stream,
Were hallowed by the Minstrel's dream.
Then musing in the woodland nook,
Each flower was as a written book,
Recalling, by memorial quaint,
The holy deed of martyred saint,
The patient faith, which unsubdued,
Grew mightier through fire and blood.
One blossom, 'mid its leafy shade,
The virgin's purity portrayed;
And one, with cup all crimson dyed,
Spoke of a Saviour crucified:
And rich the store of holy thought
That little forest-flower brought.
Doctrine and miracle, what'er
We draw from books, was treasured there.
Faith in the wild wood's tangled bound
A blessed heritage had found!
And Charity and Hope were seen
In the lone isle and wild ravine.



Ricinus communis

RICINUS COMMUNIS.—PALMA-CHRISTI, OR CASTOR OIL PLANT.

CLASS XXI. MONECIA.—ORDER VIII. MONADELPHIA.

NATURAL ORDER, EUPHORBIACEÆ.—THE EUPHORBium TRIBE.

Fig (a) represents an anther; (b) a female flower, with the prickles removed, showing the calyx, and the insertion of the stamens ;
(c) a prickle, (d) the capsule, (e) the back view of the seed, (f) the side view of a seed.

THE Castor-oil plant, from the seeds of which the oil is obtained, grows spontaneously in many tropical districts. In our gardens it is well known as a tall annual plant: it is found native in almost every part of the East and West Indies, South America, and China. In Africa, the Palma-Christi, which seldom rises more than four or five feet high in England, attains the size of a considerable tree. Clusius observed it in Spain, with a trunk as large as a man's body, and fifteen or twenty feet high. Ray asserts, that in Sicily it is as large as the common elder-tree, woody, and perennial. Willdenow, however, expressly says, "*Planta semper annua, nunquam fruticosa vel arborea, nec in calidissimis terræ plagis lignescit.*"

The root is thick, whitish, and furnished with many slender fibres. The stem, as we have already observed, varies in height; it is round, thick, jointed, smooth, of a purplish red colour towards the top, and glaucous at the lower part. The leaves are on long tapering purplish footstalks, large, subpeltate, and deeply divided into seven acute, serrated, lanceolate lobes, of a blueish green colour. The flowers are in long, green, glaucous spikes of a blueish green colour, springing from the divisions of the branches, and appear in August and September; the males occupy the lower part of the spike, the females the upper. The male flower is destitute of a corolla, and consists of a calyx divided into five oval, pointed, purplish segments, inclosing several long stamens united at the base; the female flower is composed of a calyx cut into three narrow segments of a reddish colour; the styles are three, slender, and forked at the apex. The capsule is trilobular, covered with rough spines, and bursts elastically to expel the seeds; the seeds are usually three, of an oblong flat figure, and greyish colour, with brownish red streaks.

The scientific name *Ricinus*, is said to have been bestowed on the present genus, from the fancied resemblance of its seeds to the small apterous insect called a tick, *ricinus*; and this, according to Ainsworth, is compounded of *res* and *canis*, because the tick or tyke, is particularly troublesome to dogs. It is generally regarded as the *Kiki* or *Kpitan* of Dioscorides, who observes, that the seeds are powerfully cathartic. It is likewise mentioned by Aëtius, Paulus Ægineta, Pliny, and other ancient authors; hence this species of *Ricinus* appears to have been known at a very early period; and we are informed by Turner in his Herbal, that it was cultivated in England in 1562.

Dierbach informs us, that the plant was known to Hippocrates under the name *Kpitan*; and Dr. Ainslie says, the castor-oil plant grows in great abundance in almost every part of India. It is one of but few examples of an expressed oil possessing medicinal activity. The London College order the oil to be obtained by expression, a method, which according to Mr. Long in his History of Jamaica, is employed there, when it is intended for medical use. The expressed oil is, however, more acrimonious, and less pure, than that which is imported from the West Indies, which is obtained in the following manner:—"The seeds being freed from the husks, which are gathered upon their turning brown, and when beginning to burst open, are first bruised in a mortar, afterwards tied up in a linen bag, and then thrown into a large pot, with a sufficient quantity of water, and boiled till the oil has risen to the surface, when it is carefully skimmed off, strained, and kept for use."

The oil obtained by coction, has, however, the disadvantage of becoming rancid, sooner than that procured by expression. The seeds yield about one-fourth of their weight in oil.

QUALITIES AND CHEMICAL PROPERTIES.—Castor oil is of a pale yellow colour, is transparent, viscid, and has little taste or smell. It leaves, however, a slight burning in the throat, after it has been swallowed. That obtained by boiling, becomes rancid much sooner than that procured by expression. It is often adulterated, says Dr. Thomson, with olive oil, linseed oil, and poppy oil, which may be readily detected by adding an equal quantity of *alcohol*, sp. gr. 820 to any given quantity of the suspected oil; if it be pure, a uniform solution will take place, which will not happen if it be adulterated: and the same will be the case if a weaker spirit be employed, by the addition of camphor. Excepting that it is soluble in alcohol, it has all the characters of other expressed oils. Boiled in nitric acid, it is converted into a sort of wax, which melts too readily to be used for making candles.

POISONOUS EFFECTS.—Three drams of the seeds of Palma Christi, deprived of their ligneous envelope, were introduced into the stomach of a dog of middle size; and the oesophagus was tied. The next day he showed no remarkable symptoms. The day following, at eight o'clock in the morning, he experienced very

severe vertiges; it was impossible for him to walk without falling: he did not moan. At noon, he laid on his side, in great insensibility, his inspirations were few and deep; the pulsations of the heart natural. He died at two o'clock.

DISSECTION.—The mucous membrane of the stomach was not red, but exhibited some small ulcers, the centres of which were black; the lungs, though crepitating, contained a small quantity of venous blood.—*Orfila.*

MEDICAL PROPERTIES AND USES.—As a laxative, castor oil acts so mildly and speedily, that it is often resorted to in obstinate constipations, and diseases where irritation by other purgatives would be injurious. Unlike all other purgative medicines, its dose may be often lessened, when the patient is in the habit of taking it. Many of the planters in the West Indies, burn the oil in their lamps.

DOSE.—From half an ounce to an ounce and a half, which may be taken floating on peppermint water, to which can be added a little tincture of senna, if necessary. Sometimes it is formed into an emulsion, by means of mucilage or the yolk of an egg. To prevent nausea or griping from it, a little rum is often employed in the West Indies. The most pleasant mode of administration is to float the oil on a little warm milk, and immediately after swallowing it to wash the mouth with a small quantity of the same fluid; no disagreeable taste is then perceived.

“Let us next take a glance,” says an ingenious writer, “upon the silver Thames, and how many recollections does it not excite? What luxury, what vice, what improvement, what sources of human joy and human misery has it not from time to time borne on its bosom! How many sufferers have not rashly sought an asylum in its wave!—how many a verse does it almost now repeat of Pope, or of Gray! All these associations, however, are more connected with the passions than those which arise from gardens or from flowers. In the latter, while the mind enlarges, the passions are stilled; devotion excites our associations, and through nature, we look up to nature’s God! The knowledge that all these various colours and odours will decline in certain seasons, produces in us no anxious emotions, because experience shews the colours will bloom again, and the perfumes give their breathings to the winds. On the contrary, when we behold a ruin—even the simplest monument of ancient grandeur, we heave a sigh over the fate of empires, and feel the hand of time already beginning to press heavily on our being. The humblest rivulet or cottage can awaken tender associations, as may be found every day, and are perhaps more strikingly remarkable in the case of St. Pierre, Gray, and Marmontel. The sight of an old man playing upon an harp, by recalling to the recollection of Gray the massacre of the minstrels by Edward the First, prompted him to leave us one of the finest odes in the English language; and Marmontel was led to write the *Shepherdess of the Alps* by a view of a picturesque cottage at Cheveniere, which so charmed him, that it called forth those delightful associations every where communicated in that interesting tale. The scenes among which our early years were passed, offer many sources of joyous reflection; joys shared by the greatest and the basest of mankind—we need not mention the names of Tasso or Spenser, in the former catalogue, nor of a Dioclesian in the other. He who knows not the power of association, knows not half the happiness this world can give him, notwithstanding all the complaints which are every day made against it. In forming many of those associations the soul expands—our nature takes a higher rank, and while they may be but the results of education, they are some of the highest satisfactions of our life-time. He can have no poetry in his soul, and no feeling for beauty in his heart, who is dead to their allurements. But we do not now intend entering so generally upon the subject of association.—There are occasions when we could dispense with its influence; but they are still occasions not the less favourable to moral impressions and results. The temple—the tomb—our native spot—our common country—the field of victory or defeat—the animal or vegetable, and the soil of their production, call up associations of various influence; but there are general appearances of nature, which may afford nothing worthy of excitement to the vulgar mind, and yet to philosophic eyes present subjects of peculiar import and delight!

If gardens and flowers thus call up such associations, let us turn for a moment and see their analogies to particular affections, strikingly exemplifying the general harmony which subsists throughout the universe. It is from similar analogies that the heavenly bodies are considered symbols of majesty; the oak as an emblem of strength, the olive of peace, and the willow of sorrow. The yellow-green, which is the robe of nature at the close of autumn, was the emblem of chivalry in despair—guilt and anger are designated by red—green is the badge of tranquillity—and brown occasionally of melancholy, as well as health. The violet has long been regarded as the emblem of modesty—the myrtle, of love—the tulip, of vanity—the mulberry, of prudence—the rose, of beauty—the palm, of honour—and the laurel, of victory. Vigour of body and mind were, in elder times, represented by branches of palm, and the white violet designated love. The amaranth was an emblem of immortality; and Milton has told us, it bloomed in the garden of Paradise, but on man’s disobedience, adds, it was removed to heaven, where it still grows, and with crowns of which, he has supposed every angel to be bound.



Odontoglossum Rofae

ODONTOGLOSSUM ROSSII.—ROSS'S ODONTOGLOSSUM.

CLASS XX. GYNANDRIA.—ORDER I. MONANDRIA.

NATURAL ORDER, ORCHIDÆ.—THE ORCHIS TRIBE.

CHARACTER^a of the genus, *Odontoglossum*. Perigonium explanate; leaflets narrow, acuminate, free, exterior and interior equal. Labellum clawed, continuous with the base of the column, spurless, undivided lamina patent, crested at the base. Column erect, with a membranaceous margin winged on each side. Anthers two-celled. Pollen Masses two, solid. Caudicula linear. Gland hooked.

Description of the species, *Odontoglossum Rossii*. Epiphyte, Plant from 6 to 8 inches in height. Pseudobulbs about an inch high, somewhat compressed, two-edged. Sheaths brown, scarios, longer than the pseudo-bulbs. Leaves sometimes solitary, sometimes in twos, lanceolate, striated, acute, erect or revolute, from three to six inches long and about an inch wide. Scape erect, about six inches high, producing from two to three flowers. Peduncles from two to three inches long. Bracts solitary, brown, varying in length from two to ten lines. Flowers about two inches in diameter. Sepals patent, or incurved, lanceolate-acute, of a greenish brown colour, in the inside beautifully banded with brown, on the outside spotted with the same colour. Petals white, ovate, lanceolate, obtuse, longer than the sepals, revolute, margin irregular, sometimes spotted at the base with brown, sometimes blotched with brown. Labellum white, unguiculate ovately round, margin dentate or undulate, obtuse, unguis about three lines long. Lamellæ of the labellum yellow, cup-shaped, fleshy, united in the fore part, about three lines long, striped in the centre with scarlet. Column curved, about six lines long, wingless, but membranaceous at the edges. Stigmatic cavity ovate, about half the length of the column, and tinted with pink at the margin. Anther 2-celled, beaked, the apex partaking of the same colour as the edge of the stigmatic cavity. Pollen Masses two, pear-shaped, posteriorly sulcate. Caudicula linear. Gland hooked.

Popular and Geographical notice. The genus *Odontoglossum* was made by Humboldt and Kunth, from the collection of Orchidæ, collected by Humboldt and Bonpland during their travels in South America. It is, obviously, very nearly related to the genus *Oncidium*, from which it is not easily separated, unless you depend on the structure of the labellum and gland; the former of which is entire and unguiculate, the latter hooked.

The species composing this genus are natives of South America, and there are about twelve species known. Their flowers are handsome and showy. Although this is a very showy species, yet it is not equal in beauty to several species yet to be introduced into this country, such for instance as *Odontoglossum nebulosum*, whose flowers are stated to be in circumference nine inches, *Odontoglossum Cervantei*, which approach those of our present species, but are much larger and richer tinted. There is probably, little doubt, that from the exertions of Baron Hartweg, who has been exploring the nucleus of these plants, viz. Oxaca, at the expense of the London Horticultural Society, that if they are not at present in that collection, they shortly will be.

Introduction; Where grown; Culture. This plant was imported from Mexico in the year 1837, by George Barker, Esq. where it was found by his collector, Mr. Ross. Our figure was taken from a plant in the collection of the London Horticultural Society.

It should be cultivated in a warm and damp stove, and may be potted in the same way as other species of this tribe; or if preferred, it may be put on a piece of wood, and suspended from the top of the stove, as many other epiphytes. Its propagation is similar to many others—merely dividing the pseudobulbs. WEST.

Derivation of the Names. The generic name *Odontoglossum* is from *ὄδους* a tooth, *γλῶσσα* a tongue, in reference to the toothings at the base of the labellum: the specific name *Rossii* is in compliment to Mr. Ross, the collector of G. Barker, Esq. in Mexico.

A popular writer, quoted in the Every Day Book, observes: July is so called after Julius Cæsar, who contrived to divide his names between months and dynasties, and among his better deeds of ambition reformed the calendar. The heat is greatest in this month on account of its previous duration. The reason why it is less so in August is, that the days are much shorter, and the influence of the sun has

^a We are indebted both for figure and description to Mr. Maund's Botanist.

been gradually diminishing. The farmer is still occupied in getting the productions of the earth into his garners; but those who can avoid labour enjoy as much rest and shade as possible. There is a sense of heat and quiet all over nature. The birds are silent. The little brooks are dried up. The earth is chapped with parching. The shadows of the trees are particularly grateful, heavy, and still. The oaks, which are freshest because latest in leaf, form noble clumpy canopies, looking, as you lie under them, of a strong and emulous green against the blue sky. The traveller delights to cut across the country through the fields and the leafy lanes, where nevertheless the flints sparkle with heat. The cattle get into the shade, or stand in the water. The active and air-cutting swallows, now beginning to assemble for migration, seek their prey about the shady places, where the insects, though of differently compounded natures, 'fleshless and bloodless' seem to get for coolness, as they do at other times for warmth. The sound of insects is also the only audible thing now, increasing rather than lessening the sense of quiet by its gentle contrast. The bee now and then sweeps across the ear with his gravest tone. The gnats

Their murmuring small trumpets sounden wide;———*Spenser.*

And here and there the little musician of the grass touches forth its tricky note.

The poetry of earth is never dead;
When all the birds are faint with the hot sun,
And hide in cooling trees, a voice will run
From hedge to hedge about the new-mown mead;
That is the grasshopper's.———*Keats.*

Besides some of the flowers of last month, there are now candy-tufts, catch-fly, columbines, egg-plant, French marygolds, lavateras, London-pride, marvel of Peru, veronicas, tuberoses, which seem born of the white rose and lily; and scarlet-beans, which though we are apt to think little of them because they furnish us with a good vegetable, are quick and beautiful growers, and in a few weeks will hang a walk or trellis with an exuberant tapestry of scarlet and green.

The additional trees and shrubs in flower are bramble, button weed, iteas, cistuses, climbers, and broom. Pimpernel, cockle, and fumitory, are now to be found in corn-fields, the blue-bell in wastes or by the road-sides; and the luxuriant hop is flowering.

The fruits begin to abound and are more noticed, in proportion to the necessity for them occasioned by the summer heat. The strawberries are in their greatest quantity and perfection; and currants, gooseberries, and raspberries, have a world of juice for us, prepared as it were, in so many crowds of little bottles, in which the sunshine has turned the dews of April into wine. The strawberry lurks about under a beautiful leaf. Currants are also extremely beautiful. A handsome bunch looks like pearls or rubies, and an imitation of it would make a most graceful ear-ring. We have seen it, when held lightly by fair fingers, present as lovely a drop, and piece of contrast, as any holding hand in a picture of Titian.

Bulbous rooted flowers, that have almost done with their leaves, should now be taken up, and deposited in shallow wooden boxes. Mignonette should be transplanted into small pots, carnations be well attended to and supported, and auriculas kept clean from dead leaves and weeds, and in dry weather frequently watered.

It is now the weather for bathing, a refreshment too little taken in this country, either in summer or winter. We say in winter, because with very little care in placing it near a cistern, and having a leathern pipe for it, a bath may be easily filled once or twice a week with warm water; and it is a vulgar error that the warm bath relaxes. An excess, either warm or cold, will relax; and so will any other excess: but the sole effect of the warm bath moderately taken is, that it throws off the bad humors of the body by opening and clearing the pores. As to summer bathing, a father may soon teach his children to swim, and thus perhaps might be the means of saving their lives some day or other, as well as health. Ladies also, though they cannot bathe in the open air as they do in some of the West Indian islands and other countries, by means of natural basins among the rocks, might oftener make a substitute for it at home in tepid baths.



Erythraea Pentstemon

ERYTHRÆA CENTAURIUM.—COMMON CENTAURY.

CLASS V. PENTANDRIA.—ORDER I. MONOGYNIA.

NATURAL ORDER, GENTIANÆ.—THE GENTIAN TRIBE.

THIS elegant annual grows spontaneously in most parts of Britain, in dry gravelly pastures, and in woods; flowering in July and August. Dr. Milne found it in great abundance in Charlton Wood, near the seven mile-stone, on the lower road to Woolwich; in the meadows about Eltham and Sidcup; in Shooter's Hill Wood; and in the chalk-pits at Northfleet. We also observed it plentifully in Birch Wood, Kent. A white variety was gathered by Mr. Lawson, near the medicinal well at Cartmel, in Lancashire; and is affirmed by the editor of the third edition of Ray's Synopsis, to be pretty common in Kent and in the Isle of Sheppey. It occurs generally throughout Europe, as far northward as Sweden.

The plant rises from a small woody, fibrous root, to the height of ten or twelve inches. The stem is slender, erect, angular, leafy, sometimes branched at the upper part, and when very luxuriant, from the base also. The leaves grow close to the stalk, in pairs, tending upwards, and are pointed, ovate, or elliptic-lanceolate. Those next the root are numerous, obovate, and form a tuft near the ground; they are all smooth, ribbed like those of plantain or soap-wort, and of a bright green colour. The flowers, which open in the day-time and shut at night, are disposed in a beautiful more or less dense panicle, at the extremity of the forked branches. They have a smooth striated, 5-cleft calyx, about half the length of the tube of the corolla, whose limb is of a brilliant pink or rose-colour, rarely white, and divided into five elliptical spreading segments, succeeded by an oblong cylindrical capsule, that opens by two valves, disclosing a number of small seeds. The filaments are thread-shaped, and furnished with oblong, yellow anthers, which become spiral or threetimes twisted, after bursting, as represented by fig. *a*, on the plate. The germen is oblong, bearing a straight style, with a roundish bifid stigma.

The genus *Erythræa*, so named from the red colour of most of the flowers, contains four British species. It differs from *Chironia*, (which was originally appropriated to an African genus,) in habit, in the long tube and short limb of the corolla, and in other less important characters. The term *Centaurium* was bestowed on this species in honour of Chiron the Centaur, the celebrated preceptor of Achilles, who by the testimony of Pliny, (l. xxv. c. 6.) cured with it Hercules's foot, which had been wounded with a poisoned arrow.

QUALITIES. The flowering tops are principally used in medicine; they are intensely bitter, without any peculiar smell. Their active powers are extracted both by water and alcohol. The decoction with water affords, by inspissation, a bitter extract.

MEDICAL PROPERTIES AND USES. Common, or Lesser Centaury, as it is sometimes called, has long been celebrated for its medicinal virtues, and is justly esteemed as one of the most efficacious of our indigenous bitters. It is a useful stomachic and antiseptic, and before the discovery of cinchona, was much employed as a useful tonic, in the cure of intermittent and continued fevers. As a bitter, it may be given with advantage in dyspeptic complaints, and in all cases where that class of remedies is indicated. The tops enter as an ingredient into the Portland powder; once in the highest repute as a remedy against the gout, but now very properly discarded from medical practice. The extract agrees in its medical properties with that of gentian, and being less expensive, is perhaps preferable. The *dose* of the powder is from 3 fs to 5j; of the extract gr. v. to ʒj; of an infusion, made by macerating ʒij of the dried tops in lb. fs. of boiling water, ʒij may be taken three or four times a day.

The following extract is from the British Naturalist. "The charm of a summer's morning is in the upland, and the extensive view; they who have never beheld the rising sun from a mountain top, know not how fair the world is. Early though it be, there is a sentinel upon the heath; a shrill whistle comes sharp and clear upon the morning breeze, which makes all the echoes of the west answer. But be not alarmed, there is no danger; no guerilla, not even a solitary robber, upon the British uplands; and the eagle and the raven are yet in the rocks, and reynard just leaving his earth in the coppice below. That whistle is his reveillé, to warn those birds that nestle among the grass in the heath, that the enemy is coming abroad. It is the note of the plover.

The place to be chosen for a view of sun-rise on a summer morning is not the centre of a mountain ridge—the chine of the wilderness; but some elevation near the sea coast,—the eastern coast, where, from

a height of about two thousand feet, one can look down upon the chequered beauty of the land, and the wide expanse of the ocean; where the morning fog is found white and fleecy in the valleys along the courses of the streams, and the more elevated trees and castles, and houses, show like islands floating in the watery waste; when the uplands are clear and well defined, and the beam gilds yet higher peaks, while the streak upon the sea is of that soft purple which is really no color and every color at the same time. The whole landscape is so soft, so undefined, and so shadowy, that one is left to fill up the outlines by conjecture; and it seems to get more indefinite still as the sun comes nearer the horizon. The dews feel the coming radiance, and they absolutely ascend by anticipation. At length there is one streaming pencil of golden light, which glitters and breaks as if it were the momentary lightning of a cloud; the dew drops at your feet are rubies, sapphires, emeralds, and opals, for an instant; and then it is gone. If the horizon be perfectly clear, this "blink" of the rising sun (and we have observed it only on such occasions as that alluded to) has a very curious effect. It comes momentarily, and when it is gone, all seems darker than before. But the darkness is of as brief duration as the light, and the rising grounds are soon brought out with a power of *chiar' oscuro*—a grouping of light and shade, that never can be observed when the sun is at any height, as the shadow is from eminence to eminence, filling all the hollows; and, though deep, it is remarkably transparent, as evaporation has not yet begun to give its fluttering indistinctness to the outlines of objects. By the time that half of the solar disc is above the horizon, the sea is peculiarly fine, and it is better if the view be down an estuary. If the distant offing it is one level sheet, more brilliant than burnished gold, in which the boats, with their dark lug sails, as they return from the deep sea fishing, project their streaky shadows for miles, though each seems but a speck. The lands on the opposite sides of the estuary pay their morning salutations, in soft breezes wafted across, as the sun touches a point of the one here, and of the other there; for the summer sun no sooner beams out upon one part of the landscape than the little Zephyrs from all the others hasten thither to worship, so instantly does the genial beam put the atmosphere, in motion; and as those Zephyrs come from more moist places, there is absolutely dew upon the parched heights at sun-rise, if they be not too extensive. Those cross winds rippling the water this way and that way, give an opal play to the whole; while behind you, if the estuary stretches that way, it passes into a deep blue, as from the small angle at which the rays fall, they are all reflected forward; and the very same cause that makes the water so brilliant before you, gives it that deep tint in your rear. By and by, the trees and buildings in lateral positions come out, with a line of golden light on their eastern sides; while to the west every pane in the windows beams and blazes like a beacon fire. The fogs, too, melt away, except a few trailing fleeces, over the streams and lakes, that lie sheltered beneath steep or wooded banks; and they soon fade from these also, and the mingled fields, and woods, and streams, are all arrayed in green and gold. The cottage smokes begin to twine upward in their blue volumes; the sheep are unfolded; the cattle sent to their pastures; and people begin the labor of the fields."

We will conclude with a few stanzas to an elegant flower which blooms in July, from "May you like it."

To the Bellflower.

With drooping bells of clearest blue
Thou didst attract my childish view,
Almost resembling
The azure butterflies that flew
Where on the heath thy blossoms grew
So lightly trembling.

Where feathery fern and golden broom
Increase the sandrock cavern's gloom
I've seen thee tangled,
'Mid tufts of purple heather bloom
By vain Arachne's treacherous loom
With dewdrops spangled.

'Mid ruins tumbling to decay,
Thy flowers their heavenly hues display,
Still freshly springing,
Where pride and pomp have passed away
On mossy tomb and turret gray,
Like friendship clinging.

When glow-worm lamps illumine the scene
And silvery daisies dot the green,
Thy flowers revealing,
Perchance to soothe the fairy queen,
With faint sweet tones on night serene
Soft bells are pealing.

But most I love thine azure braid,
When softer flowers are all decayed,
And thou appearest
Stealing beneath the hedgerow shade,
Like joys that linger as they fade,
Whose last are dearest.

Thou art the flower of memory;
The pensive soul recalls in thee
The year's past pleasures;
And led by kindred thought, will flee,
Till, back to careless infancy,
The path she measures.

Beneath autumnal breezes bleak,
So faintly fair, so sadly meek,
I've seen thee bending,
Pale as the pale blue veins that streak
Consumption's thin, transparent cheek,
With death hues blending.

Thou shalt be sorrow's love and mine,
The violet and the eglantine
With Spring are banished.
In Summer pinks and roses shine,
But I of thee my wreath will twine,
When these are vanished.



Cummingia bimaculata

CUMMINGIA TRIMACULATA.—THREE-SPOTTED CUMMINGIA.*

CLASS VI. HEXANDRIA.—ORDER I. MONOGYNIA.

NATURAL ORDER, LILIACEÆ.—THE LILY TRIBE.

GENERIC CHARACTER.—Perianth half-superior, campanulate, six-cleft, deciduous. Anthers emarginate at the base; filaments very short, wide at the insertion, conniving. Ovary three-celled. Ovules indefinite. Stigma covered with frosted points. Capsule three-celled, dehiscing through the back of the cells; cells few-seeded—Don's Gard. and Botany.

Specific Character.—Plant a bulbous perennial. Stem erect, rigid. Leaves linear, channelled, glabrous, recurved, spreading. Flowers in loose panicles. Pedicels thread-shaped, very smooth. Perianth monopetalous, ten-nerved; limb spreading, longer than the tube, three-spotted. Filaments obcuneate. Anthers yellow. Style awl-shaped, white.

The eagerness so universally manifested to possess blue-flowering plants will create for the present little species, when brought more generally into cultivation, and its qualifications as a becoming and ornamental plant more widely known, a greater degree of solicitude than has hitherto been extended towards it. The apathy and indifference with which but too many of the most lovely of Flora's kingdom are regarded, when the first feelings which their novelty excited have subsided, is a matter continually exhibited, and our greenhouses and flower-gardens are thus prevented from being the gaily decorated places they might be with a judicious selection of the plants already in the country. Indeed, the introduction of new species, is in some degree at least, an evil, when mere novelty can usurp the place of positive merit, and really deserving and engaging plants are disregarded with the sole view of making room for a new candidate of inferior pretensions.

The subject of our embellishment is a Chilian species, and was first known in this country through plants collected by the daughter of the British Consul at Valparaiso, and forwarded to a friend in England, who presented them to the Chelsea Botanic Garden in 1829. The specimen from which our figure was taken in the month of June, 1842, at Mr. Knight's nursery, was received by that gentleman in 1840, from a friend at Valparaiso, where it is known amongst the natives by the name of Paxero, or Paterita.

The flower-stalk grows about a foot high, and is crowned with a loose and spreading panicle of pretty, pendulous, bell-shaped blossoms, attached to short and attenuated, flexile pedicels. The leaves are long and narrow, and surround the flower-stalk without rising high enough to interfere with the exposure of the flowers; but instead, they are spread out with a pleasing gentle curvature.

It flowers in May and June, and when grown in a pot is a neat plant to place on the front stage of a greenhouse. To have fine flowering specimens for the open borders, the bulb should be potted early in a light sandy loam, and started into growth in a frame, to be planted out, as soon as it can be safely done, without injury from frost, in a warm border prepared with a similar soil. But the bulbs may be allowed to remain in the ground all winter, as they merely require to have the ground covered with some protecting material to preserve them uninjured from severe frosts.

Cummingia is a genus formerly incorporated with *Conanthera*, but separated by Mr. D. Don, and named in compliment to Lady Gordon Cumming. The specific name of the present species is expressive of the large dark spot at the base of each of the three petals.

The following extracts are taken from the pages of the Every Day Book.

The ears are fill'd, the fields are white,
The constant harvest-moon is bright;
To grasp the bounty of the year,
The reapers to the scene repair,
With hook in hand, and bottles slung,
And dowlas-scrips beside them hung.
The sickles stubble all the ground,
And fitful hasty laughs go round;
The meals are done as soon as tasted,
And neither time nor viands wasted
All over—then the barrels foam—
The "Largess"-cry, the "Harvest-home!"

* We are indebted for the figure and description of this plant to Mr. Paxton's agreeable work, the "Magazine of Botany."

The "Mirror of the Months" likens August to "that brief, but perhaps best period of human life, when the promises of youth are either fulfilled or forgotten, and the fears and forethoughts connected with decline have not yet grown strong enough to make themselves felt; and consequently when we have nothing to do but look around us, and be happy." For it is in this month that the year "like a man at forty, has turned the corner of its existence; but, like him, it may still fancy itself young, because it does not begin to feel itself getting old. And perhaps there is no period like this, for encouraging and bringing to perfection that habit of tranquil enjoyment, in which all true happiness must mainly consist; with *pleasure* it has, indeed, little to do; but with *happiness* it is every thing."

The author of the volume pursues his estimate by observing, that "August is that debateable ground of the year, which is situated exactly upon the confines of summer and autumn; and it is difficult to say which has the better claim to it. It is dressed in half the flowers of the one, and half the fruits of the other; and it has a sky and a temperature all its own, and which vie in beauty with those of the spring. May itself can offer nothing so sweet to the senses, so enchanting to the imagination, and so soothing to the heart, as that genial influence which arises from the sights, the sounds, and the associations, connected with an August evening in the country, when the occupations and pleasures of the day are done, and when all, even the busiest, are fain to give way to that 'wise passiveness,' one hour of which is rife with more real enjoyment than a whole season of revelry. Those who will be wise (or foolish) enough to make comparisons between the various kinds of pleasure of which the mind of man is capable, will find that there is none (or but one) equal to that felt by a true lover of nature, when he looks forth upon her open face silently, at a season like the present, and drinks in that still beauty which seems to emanate from every thing he sees, till his whole senses are steeped in a sweet forgetfulness, and he becomes unconscious of all but that *instinct of good* which is ever present with us, but which can so seldom make itself felt amid that throng of thoughts which are ever busying and besieging us, in our intercourse with the living world. The only other feeling which equals this, in its intense quietude, and its satisfying fullness, is one which is almost identical with it,—where the accepted lover is gazing unobserved, and almost unconsciously, on the face of his mistress, and tracing there sweet evidences of that mysterious union which already exists between them.

"The whole face of nature has undergone, since last month, an obvious change; obvious to those who delight to observe all her changes and operations, but not sufficiently striking to insist on being seen generally by those who can read no characters but such as are written in a *text* hand. If the general *colours* of all the various departments of natural scenery are not changed, their *hues* are; and if there is not yet observable the infinite variety of autumn, there is as little the extreme monotony of summer. In one department, however, there is a general change, that cannot well remain unobserved. The rich and unvarying green of the corn-fields has entirely and almost suddenly changed to a still richer and more conspicuous gold colour, more conspicuous on account of the contrast it now offers to the lines, patches, and masses of green with which it every where lies in contact, in the form of intersecting hedge-rows, intervening meadows, and bounding masses of forest. These latter are changed too; but in *hue* alone, not in colour. They are all of them still green; but it is not the fresh and tender green of the spring, nor the full and satisfying, though somewhat dull, green of the summer; but many greens, that blend all those belonging to the seasons just named, with others at once more grave and more bright; and the charming variety and interchange of which are peculiar to this delightful month, and are more beautiful in their general effect than those of either of the preceding periods: just as a truly beautiful woman is perhaps more beautiful at the period immediately before that at which her charms begin to wane, than she ever was before. Here, however, the comparison must end; for with the year its incipient decay is the signal for it to put on more and more beauties daily, till, when it reaches the period at which it is on the point of sinking into the temporary death of winter, it is more beautiful in general appearance than ever."

Lammas-day. So stands the first of August in our English almanacs, and so it stands in the printed *Saxon Chronicle*. "Antiquaries," says Brand, "are divided in their opinions concerning the origin of *Lammas* Day; some derive it from Lamb-Mass, because on that day the tenants who held lands under the cathedral church in York, which is dedicated to St. Peter ad Vincula, were bound by their tenure to bring a live lamb into the church at high mass: others derive it from a supposed offering or tything of lambs at this time." Various other derivations have been imagined. Blount, the glossographer, says, that *Lammas* is called *Hlaf-Mass*, that is Loaf-Mass, or Bread-Mass, which signifies a feast of thanksgiving for the first fruits of the corn. It was observed with bread of new wheat, and in some places tenants are bound to bring new wheat to their lord, on or before, the first of August.



Valeriana officinalis.

VALERIANA OFFICINALIS.—GREAT WILD VALERIAN.

CLASS III. TRIANDRIA.—ORDER I. MONOGYNIA.

NATURAL ORDER, VALERIANEÆ.—THE VALERIAN TRIBE.

Figs. (a) and (b) are two views of the corolla magnified.

THE great wild Valerian, *Valeriana officinalis* of Linnæus, or *Valeriana sylvestris major montana* of Bauhin, is a perennial indigenous plant, growing on the banks of rivers and ditches, and in dry mountainous woods and pastures; flowering from June to August.

The root of this species of Valerian is composed of several long, slender fibres, of a dusky brown colour, approaching to olive, that issue from one head. The stem is erect, furrowed, hollow, smooth, and branched; it rises to the height of three or four feet. The leaves are of a deep glossy green, serrated, a little hairy on the under surface, growing opposite, in pairs on foot-stalks, and are all pinnated, but differ in different parts of the plant, in the number of leaflets. In the lower leaves there are generally ten pairs; in those on the stem nine; and towards the top five or seven only; hence the leaf, except towards the bottom of the plant, is always terminated by an odd leaflet. The radical leaves are larger, and stand upon long footstalks: the *pinnæ* are elliptical, and deeply serrated; the bractæas, or floral leaves, are lanceolate and pointed. The flowers, which are small, and of a reddish white colour, are disposed in large dense aggregates, or corymbiform panicles, at the extremities of the stem and branches, and contain both stamens and pistils, whereby the present species may at once be distinguished from the *V. dioica*. The calyx is a slight border, subsequently expanding into a crown for the seed. The corolla is tubular, with a protuberance at the base, and divided at the limb into five obtuse, somewhat unequal segments. The stamens are three, awl-shaped, and support oblong yellow anthers. The germen is inferior, oblong, having a thread-shaped style the length of the stamens, and terminated by a trifid stigma. The seeds are ovate-oblong, compressed, and crowned with a feathery pappus of ten rays.

The *V. locusta*, corn salad, or lamb's lettuce, is sometimes cultivated in gardens for salad; and of the Official Valerian there are two varieties; one growing in woods and moist places, the other on dry heaths and high pastures. Both sorts have been used indiscriminately, but the latter variety is esteemed of far greater efficacy than the marshy sort. It is principally distinguished by the leaves being narrower, and of a duller green; and by its stronger smell, and more humble growth.

This plant having till lately been generally regarded as the celebrated *ρῶν*, or Valerian of Dioscorides, has been extensively employed as an article of the *Materia Medica*. Dr. Sibthorp, in his Greek tour, however, has ascertained that the real plant of the ancients is a distinct species, which he has figured and described under the name of *Valeriana Dioscoridis*. It was gathered by the learned author near the river Linyrus in Lycia; and has a much more pungent and more durable, and yet less nauseous odour, than the plant here represented.

CULTURE.—In Derbyshire, Valerian is planted in rows twelve inches apart, and the plants six inches asunder. Soon after it comes up in the spring, the tops are cut off to prevent its running to seed, which spoils it. At Michaelmas the leaves are pulled off and given to cattle, and the roots dug up, and cleanly washed, and the remaining top is then cut close off, and the thickest part slit down to facilitate their drying, which is effected on a kiln, after which they must be packed tight and kept very dry, or they will spoil. The usual produce is about 18 cwt. per acre.

QUALITIES & CHEMICAL PROPERTIES. The leaves have a saltish taste, but little or no smell. The roots, particularly the mountain sort, are bitter, subacid, and of an aromatic and penetrating odour. The smell of the roots is very alluring to cats, and rat-catchers employ it to entice rats, who are also fond of it. Trommsdorff has examined the root of the *Valeriana officinalis*. It loses three-fourths of its weight by drying. Distilled with water it yields a volatile oil, very liquid, and of a greenish white colour. Its odour is strong and camphoric; its specific gravity, at the temperature of 77° is 0.9430; its taste is aromatic and camphoric, without being acid. Nitric acid converts it into a resinous substance, or, if it be used in a sufficient quantity, into oxalic acid. The expressed juice of the roots has a strong odour, and is muddy. It lets fall a portion of starch. It contains a peculiar substance approaching the nature of extractive, soluble in water, insoluble in ether or in pure alcohol. It is precipitated from water by the salts of lead, silver,

mercury, and antimony. The juice also contains a portion of gum. The roots, deprived of this juice, yield a portion of black-coloured resin, but consist chiefly of woody fibre. *Annales de Chimie*, t. xx. p. 384.

MEDICAL PROPERTIES AND USES &c.—Valerian has long been esteemed an excellent remedy in various affections of the nervous system, especially in hysteria, chorea, and epilepsy; and when those diseases seem to depend rather on increased susceptibility than on organic derangement, it is frequently useful. Fabricius Columna first discovered its antispasmodic powers, having cured himself of epilepsy by the powdered root, when many other powerful medicines had failed.

Dr. Scopoli relates the case of a young man who having become subject to epilepsy from fright, was shortly cured by the use of the valerian powder. M. Marchant has also related many cases of its success in the same disease. A fact supported by the testimony of others. It has been found extremely beneficial in many cases of hysteria, and hemicrania, especially when combined with bark, or the volatile alkali; and conjoined with guaiacum, it is beneficially employed for strumous enlargement of glandular structures. Dr. Cullen strongly recommends the root of that which has grown in a dry calcareous soil for hysterical affections. Dr. Withering speaks of it as a useful remedy for habitual costiveness; and, although its aperient qualities can no more be relied on than its diuretic, or anthelmintic ones, we consider it to be among the most powerful of the vegetable antispasmodics. The powder is the best mode of administration; and Lewis justly remarks that its taste is best covered by a suitable addition of *mace*.

Dose.—When given in substance the dose may be from ʒj to ʒj twice or thrice in twenty-four hours: of the ammoniated tincture, which is a better preparation than the simple tincture made with proof spirit, the dose is from ʒj to ʒij.

OFF. PREP.—Tinctura Valerianæ. *L. D.*

Tinctura Valerianæ ammoniata. *L. E. D.*

Extractum Valerianæ. *D.*

Infusum Valerianæ. *D.*

The odour of Valerian, says Professor Burnett, seems to be most peculiarly agreeable to cats, who will chew its roots, roll on it, and become for a time intoxicated under its influence. Rat-catchers are also said to use it as they do oil of anise, to draw their prey together; for rats, like cats, appear to be spell-bound by its power. And although the odour is in general thought unpleasant by European nostrils, it is so much admired by Eastern nations, that some of the most esteemed Asiatic perfumes are composed of Valerian: and *Valeriana Celtica*, which is the Celtic spikenard, is often used to impregnate the waters of baths, and render them fragrant. *Nardostachys* (olim *Valeriana*) *Jatamansi* is believed to be the true spikenard of the ancients.

“The red-flowered Valerian,” says the author of the “Sentiment of Flowers,” “has but recently been introduced into our gardens from the Alpine rocks, where it grows naturally. Its appearance is showy, but always disordered. In its cultivated state it still has the bearing of a rustic, which imparts to it somewhat of the air of a *parvenu*; notwithstanding, this wild beauty owes its fortune to its merit. Its root is an excellent remedy for those diseases which produce weakness; an infusion of it strengthens the sight, re-animates the spirits, and drives away melancholy. It continues in flower nearly the whole year, and is much improved by cultivation, though it never disdains its wild origin, but often quits our borders to deck the sides of a barren hill, or to climb over old and ruined walls. The Valerians of our woods and our fields possess greater medicinal virtues and as much beauty as this emblem of an accommodating disposition; but they are neglected by the florist because they yield not so gracefully to his training hand as that derived from the Alps. It is difficult to say whence it derives the name of Valerian; Linnaeus supposes it to be named after a certain king, Valerius, whilst De Théis thinks it altered from the verb *valere* on account of its medicinal qualities.

Old Gerarde says of Valerian or Setwall, “the dry root as *Dioscorides* teacheth, helpeth the paine in the sides; and is put into counterpoysons and medicines preservative against the pestilence, as are treacles, mithridates, and such like: whereupon it hath been had (and is to this day among the poor people of our northerne parts) in such veneration amongst them, that no broths, pottage or physcall meats are worth any thing, if Setwall were not at an end: whereupon some woman Poet or other, hath made these verses:

They that will have their heale,
Must put setwall in their keale.

It is used generally in sleight cuts, wounds, and small hurts. The extraction of the roots given, is a most singular medicine against the yellow jaundice.”

The Red Valerian is the emblem of an *accommodating disposition*.



Psychnos. Nux-vomica?

STRYCHNOS NUX-VOMICA.—POISON-NUT.

CLASS V. PENTANDRIA.—ORDER I. MONOGYNIA.

NATURAL ORDER, LURIDÆ.

Fig. (a) represents the germen, pistil, and calyx; (b) the corolla spread, showing the anthers magnified; (c) a section of the fruit of the natural size.

THE *Strychnos Nux Vomica* is a native of the East Indies, and is very common on the coast of Coromandel, where it flowers during the cold season. It is the tree called, by Planknet, *Cucurbitifera Malabarensis enoplie foliis rotundis, fructu orbiculari rubro, cujus granu sunt nuce vomice officinarum*; described and figured in the Hortus Malabaricus, under the name of *Caniram*.

This species of *Strychnos* is a middle-sized tree, with a short, crooked, thickish trunk, irregularly branched, and covered with a smooth ash-coloured bark. The leaves are opposite, short, petioled, ovate, shining, smooth on both sides, entire, three to five-nerved, differing in size from one inch and a half to four inches long, and from three to four inches broad. The flowers are small, greenish-white, and collected into small terminal cymes; they are said to exhale a strong disagreeable odour. The calyx is five-cleft, and deciduous: the corolla is monopetalous, of a pale green colour, and divided at the border into five segments: the filaments are five, very short, with roundish anthers; the germen is superior, roundish, and crowned with a single style, the length of the tube of the corolla. The fruit is a berry about the size of a pretty large apple, globular, covered with a smooth hard rind, of a rich orange colour when ripe, and filled with a soft jelly-like pulp. The seeds are generally five in number, and immersed in the pulp of the fruit. They are round and flat, about an inch in diameter, and a quarter of an inch thick, with a prominence in the middle, of a grey colour externally, and covered with a woolly matter, but internally hard and tough, like horn.

The systematic name, *Strychnos*, which occurs in Pliny and Dioscorides, is derived from *στρογνις*, to overthrow, in allusion to the powerful effects of the plant to which it was assigned; the *Στρογνος* of the Greeks being a kind of *nightshade*. It was Linnæus who adopted this name for the present genus, on account of the analogy of its poisonous qualities with the plant of the ancients.

QUALITIES AND CHEMICAL PROPERTIES.—The taste of the vomic nut, which is the seed of the fruit or berry, is intensely bitter; it has little or no smell, and is so hard that it cannot be reduced into powder by beating, but requires to be filed down. According to an analysis by M. Chevreul, it consists of acidulous malate of lime, gum, vegeto-animal matter, bitter matter, fixed oil, colouring matter, (which was yellow, and probably starch, which could not be directly extracted on account of its desiccation,) earthy and alkaline salts, woody hairs, and wax, which latter appears to preserve the perisperm from humidity. Messrs. Pelletier and Caventou have since discovered that the active properties of the plant depend on the two peculiar vegetable alkalies, *strychnia* and *brucia*. The former, *strychnia*, is also the active principle of the *upas-tiente* of Java.

POISONOUS EFFECTS.—It is very generally believed amongst the lower classes of people in this country, that *nux vomica*, (by them called *rat's-bane*), is capable of poisoning animals only: and on a coroner's inquest held ten years ago, a jurymen observed, that the vulgar imagine that it will not produce death to those persons who are born blind. So strongly, he said, was he impressed with this idea, that he should have had no hesitation in taking a quantity of it, before he had heard, on the present occasion, of its baneful effects on the human constitution. *Nux vomica* is one of the narcotico-acrid class of poisons, and seems to have a direct power over the spinal cord. It produces laborious respiration, which is followed by torpor, trembling, coma, convulsions, and death. It is fatal to dogs, hares, wolves, foxes, cats, rabbits, rats, ducks, crows, and other birds; hogs and goats eat it with impunity; so do several species of Ramphates or Toucan. Loureiro poisoned a horse by an infusion made of the seeds in a half-roasted state.

"Hoffman reports that a young girl, ten years of age, labouring under an obstinate quartan fever, took, at two doses, fifteen grains of *nux vomica*; she died in a short time, after having experienced extreme anxieties, and having made some efforts to vomit."

"A person swallowed in the morning a scruple of nux vomica in powder, and drank afterwards a few glasses of cold water, in order to diminish the bitterness occasioned by this substance. Half an hour after, he appeared to be drunk; his limbs, especially his knees, were stiff, and tense; his walk was staggering, and he was afraid of falling. He took some food, and the symptoms disappeared."

"The administration of nux vomica, and of the root of gentian, to a woman affected with ague, was followed by convulsions, cold and stupor, and almost every part of the body was torpid."—*Scutler's Dissert.*

Dissections of those who have died show no organic lesions; proving that it acts directly on the nervous system: and those who are anxious to see the result of numerous experiments on dogs, and other animals, must consult Orfila's Toxicology; Wepfer's Historia Cicutæ Aquaticæ, p. 248, and Dr. Chapman's American Medical Journal.

TREATMENT.—In the treatment of poisoning by nux vomica, keeping up artificial respiration is of the utmost importance; ammonia and hot brandy and water should also be given.

It would seem, too, from the following interesting account, that there exists a plant which is itself an antidote against this and some other vegetable poisons:—

"M. Drapiez has ascertained, by numerous experiments, that the fruit of the *Feuillea cordifolia* is a powerful antidote against vegetable poisons. This opinion has long been entertained by naturalists, but it appears that M. Drapiez has verified the fact by numerous experiments. He poisoned dogs with the rhus toxicodendron, hemlock, and nux vomica. All those that were left to the effect of the poison, died; but those to whom the fruit of this plant was administered, recovered completely, after a short illness. To see whether this antidote would act in the same way, when applied externally to wounds into which vegetable poisons had been introduced, he took two arrows which had been dipped in the juice of manchenille, and slightly wounded with them two young cats. To one of these he applied a poultice, composed of the fruit of the *Feuillea cordifolia*, while the other was left without any application. The former suffered no other inconvenience except from the wound, which speedily healed; while the other, in a short time, fell into convulsions, and died. It would appear from these experiments that the opinion entertained of the virtues of this fruit, in the countries where it is produced, is well founded. It loses its virtues, if kept longer than two years after it has been gathered."—*Annals of Philosophy*, v. 15, p. 389.

MEDICAL PROPERTIES AND USES.—For a century nux vomica has been known as a powerful medicine, and employed in a vast variety of diseases, with different degrees of success. Linnæus, who could know but little of pathology, attributed dysentery to irritation of the mucous membrane of the intestines, produced by worms, and recommended these seeds for that disease, in consequence of their intense bitter, and narcotic powers. Hagstrom considered, that a scruple dose, given in the morning, was a specific for dysentery; and Bergius narrates a case, in which the evacuations were stopped for twelve hours, but afterwards returned. Roxburgh says: "the wood is hard and durable, and is used by the natives for many purposes. It is exceedingly bitter, particularly the root, which is used to cure intermittent fevers and the bites of venomous snakes. The seeds are employed in the distillation of spirits to render them intoxicating. The pulp of the fruit seems perfectly innocent, as it is eaten greedily by many sorts of birds." Nux vomica is also occasionally employed by brewers in this country to impart an intoxicating effect to beer.

Dr. Good was never able to give more than seven grains of the powdered nut for a dose, without the head becoming stupid and vertiginous.

The researches of modern physiologists, especially Majendie, Orfila, &c., have ascertained in a precise and definite manner, that nux vomica acts as a direct stimulus to the spinal cord, especially that portion of it which presides over the functions of motion; those of sensation being less evidently under its influence. Physicians have taken advantage of this information, and used the drug with much success in certain kinds of paralysis. The powdered seed was liable to great variations in strength, from dryness, decay, and other causes; its employment was consequently uncertain and dangerous; but chemists now obtain the active principle of this plant in the form of an alkali, *strychnia*, definite in its qualities, and manageable in its doses and combinations.

Thus the deadly arrow-poison of the savage is used in the hands of art to repair the overwrought and exhausted nerves of the intellectualist and the mechanic.



Hibiscus splendens.

HIBISCUS SPLENDENS.—SPLENDID HIBISCUS.

CLASS XVI. MONADELPHIA.—ORDER XII. POLYANDRIA.

NATURAL ORDER, MALVACEÆ.—THE MALLOW TRIBE.

CHARACTER OF THE GENUS, HIBISCUS. Involucellum many-leaved, leaves simple, or forked. Calyx five-parted, persistent, valvate in æstivation. Petals of the corolla five, situate on the receptacle, unequally obovate, being joined by unguis to the base of the stameneous tube, convolute in æstivation. Stameneous tube column-like, naked beneath the apex, truncate, or five-toothed, putting forth filaments more or less abundant. Anthers reniform, two-valved. Ovarium sessile, simple, five-celled. Ovules many or few in the cells, inserted on the central angle. Style terminal, the apex projecting with five divisions. Stigmas in very little heads, rarely cohering. Capsule five-celled, and five-valved, valves bearing septa, containing the seeds on the middle of their margin, no central columella. Seeds many, or sometimes from abortion few, rising upwards, kidney-shaped, testa crustaceous, naked or in scales, or sometimes woolly. Embryo curved in the direction of the seed, within a very small mucilaginous albumen; cotyledons leafy, plicately folded, radicle inferior.

DESCRIPTION OF THE SPECIES, HIBISCUS SPLENDENS. Stem round, from four to twenty-two feet high, clothed with stellate pubescence, amongst which are scattered tubular prickles, arising from callous glandular bases, red on the young shoots, green on the old. Branches axillary, round, ascending. Leaves six inches long, from four to six inches broad, palmately divided into three or five lobes, underneath strongly reticulated, thickly covered on each side with a harsh stellate pubescence, lobes lanceolate, irregularly dentate, ribs prominent, more or less aculeate. Petioles in the upper leaves from two to three inches long, roundish, and aculeate, similar to the ribs. Stipules about an inch long, green, subulate, linear, free, exteriorly pubescent. Peduncle solitary, longer than the petiole, single-flowered, and bent a little from the calyx. Involucre about the length of the stipules, segments linear, subulate, sometimes branched. Calyx yellowish, divided into five segments, somewhat longer than the involucre, exteriorly pubescent, segments tapering, three-nerved, the centre forming a strong keel. Corolla unexpanded about three inches in length, when fully expanded from five to six inches in diameter. Petals five, obovate, of a most delicate rose colour, nerves flexuose, prominent on the outside, and pubescent. Stamens numerous, united, filaments pale towards the base, in the upper part rose-coloured. Anthers a dark crimson, arranged in the form of a cone. Pollen large, spherical, hispid. Style about an inch long, projecting about a quarter of an inch beyond the conical combined anthers. Germen five-celled, covered with silky pubescence. Ovules numerous, each cell containing two. Seeds greenish, angular, wrinkled, and warty.

POPULAR AND GEOGRAPHICAL NOTICE. The order Malvacæ is, for the most part, tropical, and in regions of high temperature the species reveal in all their beauty. The present plant is one of the most beautiful of the genus. It is a native of New Holland, where, says its discoverer, Mr. Frazer, it is so beautiful that it is considered the King of all known Australian plants, that its flowers are nine inches across, and so profuse a flowerer is it, that they literally cover the entire plant.

INTRODUCTION; WHERE GROWN; CULTURE. This species was raised from seeds sent to this country by Mr. Frazer, in the year 1828, from which flowering plants were raised in 1830. It may be propagated either by seeds, or by cuttings. Its soil should be sand, loam, and peat.

DERIVATION OF THE NAME. Hibiscus, from *βίβκος*, the Greek name of a plant nearly allied to this genus. Splendens, in allusion to its elegant inflorescence.

"This is the month," says a popular writer, "of the migration of birds, of the finished harvest, of nut-gathering, of cyder and perry-making, and, towards the conclusion, of the change of colour in trees. The swallows and many other soft-billed birds that feed on insects, disappear for the warmer climates, leaving only a few stragglers behind, probably from weakness or sickness, who hide themselves in caverns and other sheltered places, and occasionally appear upon warm days. The remainder of harvest is got in; and no sooner is this done, than the husbandman ploughs up his land again, and prepares it for the winter

* We are again indebted for figure and description to Mr. Maund's charming work "the Botanist."

grain. The oaks and beeches shed their nuts, which in the forests that still remain, particularly the New Forest in Hampshire, furnish a luxurious repast for the swine, who feast of an evening in as pompous a manner as any alderman, to the sound of the herdsman's horn. But the acorn must not be undervalued because it is food for swine, nor thought only robustly of, because it furnishes our ships with timber. It is also one of the most beautiful objects of its species, protruding its glossy green nut from its rough and sober-coloured cup, and dropping it in a most elegant manner beside the sunny and jagged leaf. We have seen a few of them, with their stems in water, make a handsome ornament to a mantle-piece, in this season of departing flowers.—The few additional flowers this month are corn flowers, Guernsey-lilies, starwort, and saffron, a species of crocus, which is cultivated in separate grounds. The stamens of this flower are pulled, and dried into flat square cakes for medicinal purposes. It was formerly much esteemed in cookery. The clown in the *Winter's Tale*, reckoning up what he is to buy for the sheepshearing feast, mentions 'saffron to colour the warden-pies.' The fresh trees and shrubs in flower are bramble, chastetree, laurustinus, ivy, wild honey-suckle, spirea, and arbutus, or strawberry-tree, a favourite of Virgil, which, like the garden of Alcinoüs, in Homer, produces flower and fruit at once. Hardy annuals, intended to flower in the spring, should now be sown; annuals of curious sorts, from which seed is to be raised, should be sheltered till ripened; and auriculas in pots, which were shifted last month, moderately watered. The stone-curlow clamours at the beginning of this month, wood-owls hoot, the ring-ouzel re-appears, the saffron butterfly is seen, hares congregate; and, at the end of it, the woodlark, thrush, and blackbird, are heard."

He further observes, that "September, though its mornings and evenings are apt to be chill and foggy, and, therefore, not wholesome to those who either do not, or cannot, guard against them, is generally a serene and pleasant month, partaking of the warmth of summer and the vigour of autumn. But its noblest feature is a certain festive abundance for the supply of all the creation. There is grain for men, birds, and horses, hay for the cattle, loads of fruit on the trees, and swarms of fish in the ocean. If the soft-billed birds which feed on insects miss their usual supply, they find it in the southern countries, and leave one's sympathy to be pleased with an idea, that repasts apparently more harmless are alone offered to the creation upon our temperate soil."

"I am sorry to mention it," says the author of the *Mirror of the Months*, "but the truth must be told even in a matter of age. The year then is on the wane, It is 'declining into the vale' of months. It has reached a certain age, it has reached the summit of the hill, and is not only looking, but descending, into the valley below. But the year steps onward towards its temporary decay, if not so rejoicingly, even more majestically and gracefully, than it does towards its revivification. And if September is not so bright with promise, and so buoyant with hope, as May, it is even more embued with that spirit of serene repose, in which the only true, because the only continuous enjoyment consists. Spring 'never is, but always to be blest;' but September is the month of consummations—the fulfiller of all promises—the fruition of all hopes—the era of all completeness."

"The sunsets of September in this country are perhaps unrivalled, for their infinite variety, and their indescribable beauty. Those of more southern countries may, perhaps, match or even surpass them, for a certain glowing and unbroken intensity. But for gorgeous variety of form and colour, exquisite delicacy of tint and pencilling, and a certain placid sweetness and tenderness of general effect, which frequently arises out of a union of the two latter, there is nothing to be seen like what we can show in England at this season of the year. If a painter, who was capable of doing it to the utmost perfection, were to dare depict on canvas one out of twenty of the sunsets that we frequently have during this month, he would be laughed at for his pains. And the reason is, that people judge of pictures by pictures. They compare Hobbima with Ruysdael, and Ruysdael with Wynants, and Wynants with Wouvermans, and Wouvermans with Potter, and Potter with Cuypp; and then they think the affair can proceed no farther. And the chances are, that if you were to show one of the sunsets in question to a thorough-paced connoisseur in this department of fine art, he would reply, that it was very beautiful, to be sure, but that he must beg to doubt whether it was *natural*, for he had never seen one like it in any of the old masters!"



Begonia nitida.

BEGONIA NITIDA.—SHINING BEGONIA.

CLASS XXI. MONŒCIA.—ORDER I. POLYANDRIA.

NATURAL ORDER, BEGONIACEÆ.*

CHARACTER OF THE GENUS, BEGONIA. Flower monœcious. Stamiferous flowers with the perigone of four segments, the folioles roundish, the two exterior large. Stamens numerous; filaments very short, free or united at the base, anthers extrose, two-celled, cells linear, distinct, adherent to the obtuse margin of the continuous connectivum, dehiscing longitudinally. Pistilliferous flowers having the tube of the perigone three-winged, united to the ovary, the limb superior, of from four to nine segments, the persistent lobes imbricated in several rows. Ovary inferior, three-celled. Ovules numerous, anatropous, attached to placentæ, formed of two plates, springing from the central angles of the cells. Styles three, two-cleft; stigmata thick, flexuose or capitate. Capsule triangular, from three membranaceous wings, three-celled, splitting by a loculicidal dehiscence into three valves. Seeds numerous, small, striated. Embryo orthotropous, in the axis of a fleshy albumen.

DESCRIPTION OF THE SPECIES, BEGONIA NITIDA. Stem inclined to be woody at the lower part, upper rather fleshy and succulent, round, branched, remarkably smooth, and, as well as the under surface of the leaves shining. Leaves alternate, petiolate, stipulate. Stipules sessile, oblong, acuminate, deciduous. Leaves somewhat fleshy, very smooth, persistent, very unequally cordate at the base, the one lobe being twice the size of the other, so that the leaf is very oblique, acute at the apex, margin irregularly and obscurely toothed, the young leaves pinkish at the margin, seven-nerved, nerves not very conspicuous on the upper, very distinct on the under surface, upper surface of a light green, under of a bright or pearly white (owing to great inequalities, of the surface.) Peduncles dichotomous, with opposite bracts under the forks, and at the pedicels; bracts semi-amplexicaul, ovate, erect, of a pinkish colour. Flowers monœcious. Stamiferous flowers placed lowest in the cyme, spreading, two external longer, opposite, roundish, inseparable from the pedicels, two internal smaller, attenuate at the base, narrower but not shorter than the external ones. Stamens numerous, short, erect; anthers oblong, erect, two-celled, yellow. Pistilliferous flowers at the top of the cyme. Perigone having the tube three-winged, two folioles in an outer whorl, five in a double series, of unequal dimensions. Ovary inferior or only semi-adherent. Styles three, short, divergent. Stigmata divided, large, spiral, pubescent, yellow. Capsule triangular, three-winged, wings unequal, the third being very long, three-celled. Seeds very numerous, small, brown, and very much pitted.

POPULAR AND GEOGRAPHICAL NOTICE. This species of *Begonia* is a native of the mountains of Jamaica. The affinities of the order have been much discussed, without any satisfactory conclusion being formed. The analogy of properties is in favour of the Polygoniaceæ. *Begonia grandiflora* and *Begonia tomentosa* have bitter astringent roots, which are used in Peru in hemorrhages and scorbutus, like *Bistort* with us. *Begonia odorata* and *Begonia suaveolens* are fragrant, like *Polygonum odoratum*. *Rheum ribes* yields in the East a cooling drink, a similar one is prepared in Brazil from several species of *Begonia*. Oxalate of potass is obtained from several species of *Rumex*, so likewise from many *Begonias*. Sundry *Rumices* are used as sorrels, and the leaves of this species are known in Jamaica, and those of *Begonia obliqua* in Martinique as the "Sorrel of the woods." While in Brazil the leaves of *Begonia ulmifolia*, bidentata, spathulata, cucullata and *hirtella*, are all used as cooling salads; lastly the root of *Begonia obliqua* is called "wild rhubarb."

It was brought to England in 1779. Our plant grew in the very fine collection of John Allcard, Esq. Stratford, near London. It grows in the conservatory, and is easily propagated by cuttings.

In Hindostan, the god of love is known as *Camdeo*. There we may see the fair young child surrounded by gay laughter-loving nymphs. His mother never leaves him,—his spouse is *Ketty*, the essence of affection,—and his bosom friend is *Bessent*, or *Spring*. The plains of *Agra* are his favourite resort. His bow is of sugar cane, twined with flowers; his string with bees; his five arrows are each pointed with an Indian flower. The Hindoo nymphs chant the following hymn to the Indian cupid:

God of the flowery shafts, and flowery bow,
Delight of all above and all below!
Thy loved companion, constant from his birth,
Is ycleped *Bessant*, gay spring on earth,

Weaves thy green robes and flaunting bowers,
And from thy cloud draws balmy showers,
He with fresh arrows fills thy quiver,
(Sweet the gift, and sweet the giver.)

* We are indebted for this description and figure to that delightful work "the Botanist."

And bids the many-plumed warbling throng
Burst the fresh blossoms with their songs,
"He bends the luscious cane, and twists the string

With bees,—how sweet, but ah! how keen their sting,
He with five flowerets tips thy ruthless darts,
Which through five senses pierce enraptured hearts."

Translation by SIR WILLIAM JONES.

But we will leave this dangerous land, and wander through the ever blooming vales of Japan. Let us deck ourselves with her gorgeous lilies,—her Japonicas,—her flowers so beautiful that even the ladies are named from them. Where'er we roam we shall find that nature strews the earth with flowers.

We proceed to take a brief survey of the habits of flowers. Many flowers open their petals in the morning, and close them in the evening; yet all do not open or close at the same hour. Plants of the same species are pretty regular to an hour in equal temperatures; hence the daily opening and shutting of the flower has been called *Horologium Floræ*.

It has been very truly observed that flowers were the first playthings of Linnæus; whose motto was,

Tantus amor florum.

This devoted lover of flowers carefully noticed the sensibility of plants, and composed a horologe of flowers. The list is given in his "*Philosophia Botanica*," which, however, is only valuable to us in giving the names of plants which open and close at stated periods, as the time given is for the meridian of Upsal, and we must, therefore, in order to form one for Britain, make our own observations. For the use of our friends we have given a list of twenty-four (all of which may be easily procured,) extracted from that magnificent and useful work, the *Encyclopædia of Gardening*, by J. C. Loudon, Esq., and by observation of the following plants also, the ingenious reader may be enabled to add to the number,—many species of convolvulus and campanula, the marvel of Peru, or belle-de-nuit, broom, tulips, cræss, hibiscus, yellow lily, white water lily, and dianthus.

DIAL OF FLOWERS.

TIME OF OPENING.

	h.	m.
Yellow Goat's Beard	*T.P.	3 5
Late-flowering Dandelion	Leon S.	4 0
Bristly Helminthia	H.E.	4 5
Naked Borkhausia	B.A.	4 5
Wild Succory	C.I.	4 5
Naked Stalked Poppy	P.N.	5 0
Copper-coloured Day Lily	H.F.	5 0
Smooth Sow Thistle	S.L.	5 0
Alpine Agathyrus	Aga.A.	5 0
Small Bind-weed	Con.A.	5 6
Common Nipple Wort	L.C.	5 6
Common Dandelion	L.T.	5 6
Spotted Achyrophorus	A.M.	6 7
White Water Lily	N.A.	7 0
Garden Lettuce	Lac.S.	7 0
African Marigold	T.E.	7 0
Common Pimpernel	A.A.	7 8
Monsear Hawkweed	H.P.	8 0
Proliferous Pink	D.A.	8 0
Field Marigold	Col.A.	9 0
Purple Sandwort	A.P.	9 10
Small Purslane	P.O.	9 10
Creeping Mallow	M.C.	9 10
Chickweed	S.M.	9 10

* These are the initial letters of the Latin names of the plants.

DIAL OF FLOWERS.

TIME OF CLOSING.

	h.	m.
Helminthia echinoides	B.H.	12 0
Agathyrus alpinus	A.A.	12 0
Borkhausia alkina	A.B.	12 1
Leontodon serotinus	L.D.	12 0
Malva caroliniana	C.M.	12 1
Dianthus prolifera	P.P.	1 0
Hieracium pilosella	M.H.	2 0
Anagallis arvensis	S.P.	2 3
Arenaria purpurea	P.S.	2 3
Calendula arvensis	F.M.	3 0
Tagetes erecta	A.M.	3 4
Convolvulus arvensis	S.B.	4 5
Achyrophorus maculatus	S.A.	4 5
Nymphaea alba	W.W.L.	5 0
Papaver nudicaule	N.P.	7 0
Hemerocallis fulva	C.D.L.	7 8
Cichorium intybus	W.S.	8 9
Leontodon taraxacum	C.D.	8 9
Tragopogon pratensis	Y.G.B.	9 10
Stellaria media	C.	9 10
Lapsana communis	C.M.	10 0
Lactuca stativa	G.L.	10 0
Sonchus levis	S.T.	11 12
Portulaca clarea	S.P.	11 12

The time here stated is from noon to night.

Among the poets we often meet with allusions to floral dials.

The dial, bid by weeds and flowers,
Hath told, by none beheld, the solitary hours.—WILSON.

Young Joy ne'er thought of counting hours,
Till Care, one summer's morning,
Set up, among his smiling flowers,
A dial by way of warning.—MURRAY.

What a wide field for the imagination is displayed in the succeeding quotation from Hartley Coleridge. We might fancy ourselves luxuriating in a garden of roses, where "every flower that blows" would add to our felicity; where the most agreeable and delightful companions were assembled to pass the hours in heedless pleasure,—where no care,—no sorrow,—no unpleasant recollections of past disappointments,—of hopes destroyed,—or the overthrow of anticipated happiness,—are allowed to interrupt our joy, and mar the beauty of the enchanted scene. Alas! these are but day-dreams scattered by a breath. The rude realities of life—the continual frustration of long-cherished designs,—and the constant blighting, if not extinction of our fondest hopes,—all prove how utterly fallacious are the projects on which unassisted man attempts to construct a durable felicity.



Leontodon Taraxacum.

LEONTODON TARAXACUM.—COMMON DANDELION.

CLASS XIX. SYNGENESIA.—ORDER I. POLYG. ÆQUALIS.

NATURAL ORDER, COMPOSITÆ.

The seeds (a) are solitary, oblong, each enclosed in a scabrous achenium; and supporting a simple radiated pappus, on a long pedicel.—Fig. (b) is a floret somewhat magnified, showing the germen and five united anthers surrounding the forked style.

THIS is a well known perennial inhabitant of our meadows, pastures, and gardens, generally despised as a troublesome weed; it flowers from April till late in autumn.

The root is spindle-shaped, white and fleshy within, and covered externally with a brown epidermis. The ascending axis being abortive all the leaves spring from the crown of the root; they are numerous, spreading, smooth, of a bright green, tapering towards the root and runcinate, or deeply cut into sharp lobes, unequal, and pointing downwards. The flower stalk, or, as it is termed in botanical language, scape, is erect, round, smooth, very brittle, tubular, and terminated by a single capitulum of flowers, or rather florets of a golden yellow colour, which expand in fine weather only, and close in the evening. The common calyx, or, as it is now more correctly named, the involucre, is imbricated and oblong, and the bractæ of which it is formed are surrounded by a whorl of a shorter patent (and in the official species reflexed) bracteolæ. The head of flowers is composed of very numerous monopetalous, equal, ligulate, truncated, five-toothed florets. The five filaments are capillary and slender, with conjoined antheræ. The germen is obovate, crowned with a slender cylindrical style, and furnished with two revolute stigmas. The receptacle, to which the seeds are attached, is convex and dotted.

DISTINCTIVE CHARACTER.—*Leontodon palustre*, Marsh Dandelion, which is regarded by some as a distinct species, and by others merely as a variety, may be distinguished from *L. Taraxacum*, by its having the outer scales of the involucre shorter, and not reflexed; by the leaves being less runcinate, and the flower and whole plant smaller and more slender. In its sensible qualities it agrees with the preceding species; the distinction, therefore, in a medical point of view, is not very important.

The summer of 1832 was peculiarly favourable to the extra-development of plants, and many irregular growths have been observed. One of not the least curious is the evolution of bractæ, upon the usually naked scape of the *Leontodon Taraxacum*. In some of the specimens examined and preserved, the bractæ are evidently parts of the involucre not collected into the normal whorl; but in others, they have all the characters, and are nearly as large as the ordinary leaves; thus rendering the plant as it were caulescent. Should this form be permanent, it might almost be regarded as a distinct species.

The term *Leontodon*, is derived from *λεων*, a lion, and *δενς*, tooth and is so called from the indentments of the leaves, which have been fancifully compared to the jaw or teeth of a lion. Linneus bestowed this name upon the genus, in preference to the compound one of *Dens-Leonis*, which had been given by Tournefort; and *Taraxacum* is said to be an Arabian corruption of *τροξιμον*, *edule*, one of the names of Ceres. From the receptacle looking bald, after the flowers and seeds are gone, it is sometimes called Monkshead; while by the French, it is termed *pissenlit*, from its diuretic properties, and it has obtained in this country a vulgar designation expressive of the same powers. The English name Dandelion appears to be a corruption of *Dent de lion*.

Linneus has given the dandelion a deserved place in the horologe of Flora. It is one of the plants that may be most certainly depended upon as to the hour of opening and closing its flowers. The flower, if we well examine it, we shall discover to be fully as handsome as the fine garden anemone; and it only needs to be as rare, to be prized as much. This plant blossoms early in the spring, and continues through the summer.

Thine full many a pleasing bloom
Of blossoms lost to all perfume;
Thine the dandelion flowers,
Gilt with dew like sun with showers.—CLARE.

The winged seeds are used for Love's oracle. If you are separated from the object of your affection, gently detach one of these transparent spheres, each little feather that composes it is charged with a tender thought. Turn towards the spot inhabited by your beloved: blow softly, and every little winged traveller, like a faithful messenger, shall bear your secret homage to her feet. If desirous of knowing whether the

object so dear thinks of you now you are absent, blow again, and if there remain one tuft, it is a sign you are not forgotten. But the second charm should be done with care; blow very gently; for at any age, even at that age which is most congenial to life, it is not well for our peace that we should too rudely disperse the pleasing illusions which embellish life.

Miss Landon wrote some very beautiful lines on seeing an illustration of the garden scene in Goethe's Faust, where Margaret plucks a star-like flower to divine the real sentiments of her lover. They are called "The Decision of the Flower."

And with scarlet poppies around, like a bower,
The maiden found her mystic flower;
"Now, gentle flower, I pray thee tell
If my lover loves me, and loves me well;
So may the fall of the morning dew
Keep the sun from fading thy tender blue.

Now I number the leaves for my lot—
He loves not—he loves me—he loves me not—
He loves me—yes, thou hast leaf, yes—
I'll pluck thee not for that last sweet guess!
He loves me!" "Yes," a dear voice sighed,
And her lover stands by Margaret's side.

Professor Burnett says, "the dandelion, has sometimes, when blanched, been introduced on our tables in salad, but its bitterness is too powerful to allow it to be a pleasant food. It is hence more in repute as a medicine, and in the hepatic complaints of persons long resident in warm climates it often affords very marked relief. It is tonic, and promotes the various secretions, forming likewise an excellent food for milch cows; and, from its influence over the excretions of the kidneys, probably arose its vulgar name, which is found identical in several languages.

QUALITIES AND CHEMICAL PROPERTIES. The plant is nearly inodorous, and its taste is somewhat bitter, and sweetly acidulous. Although it yields but little of its virtues either to alcohol or ether, (water being the best menstruum,) it has been found on analysis to contain caoutchouc. *Infusion of galls, nitrate of silver, oxy muriate of mercury, acetate of lead, and sulphate of iron, precipitate its decoction*, and are, therefore, incompatible with it. The milky juice is supposed to contain tartaric acid, as it reddens vegetable blues; and it is probable, remarks Dr. A. T. Thomson, that the active principles of taraxacum are, extractive gluten, a bitter principle, which does not appear to be resinous, and tartaric acid, either free, or as a supertartrate.

MEDICAL AND ECONOMICAL USES. Dandelion is moderately aperient, and diuretic; the whole of the plant possessing these properties, which are most active in the roots. As a domestic medicine it is often administered with superstitious expectations; PARK, an old English author, remarking, "whoso is macilent, drawing towards a consumption, or ready to fall into a cachexy, by the use hereof for some time together, shall find a wonderful help." Many authorities might be quoted in its favour, but like most of our indigenous medicines it is seldom prescribed. Dr. Pemberton, however, recommended it. Where the stomach is irritated by its own secretions, arising from chronic inflammation affecting some of the abdominal viscera, especially the liver; and where active treatment would be injurious, the decoction of Taraxacum, or the extract, administered three or four times a day, will often prove a valuable remedy. In habitual costiveness, the result of a long residence in hot climates, dandelion is a most efficient medicine; for instead of impairing the constitution further, by producing a purgative action that it may be difficult to control, it assists the bowels in performing their functions, and constrains them mildly and regularly to perform them: and Dr. James Johnson ranks it amongst those agents that possess the power of preventing the formation of biliary concretions, by keeping up a due and healthy secretion in the liver. As an adjuvant to other more active remedies, it may be prescribed with advantage in dropsical cases, and for induration of the liver, while by our continental neighbours, it is recommended for pulmonic tubercles, and some cutaneous diseases. When its diuretic effect is required, supertartrate of potass may be combined with its decoction or infusion. We have not discovered any narcotic powers from its administration, although they frequently reside in the lactescens plants.

It is a fact well known to gardeners, that plants when blanched, lose many of their active properties; and dandelion thus prepared, is frequently eaten on the continent in salads; and sometimes by the lower class of people in this country, in its native state; while at Gottingen, the roots are roasted and used by the poor for coffee, a decoction of which, properly prepared, can hardly be distinguished from the real. The French eat the young roots, and the etiolated leaves, with thin slices of bread and butter; and it is stated, that the inhabitants of Minorca subsisted on this root, after a swarm of locusts had destroyed the fruits of the earth. Miller remarks, that "goats eat it, swine devour it greedily, sheep and kine are not fond of it, and horses refuse it."

Dandelion, in the language of flowers, stands for Oracle.



Guia bracteosa.

ERIA BRATESCENS.—LONG-BRACTED ERIA.

CLASS XX. GYNANDRIA.—ORDER I. MONANDRIA.

NATURAL ORDER, ORCHIDÆ.—THE ORCHIS TRIBE.

AMONG the extensive genus *Erias*, we find a few species particularly distinguished by their short fleshy stems, and the membranous coloured bracts which accompany their hairless flowers. Of these the best known are the present species, *longilabris*, *obesa*, and a Philippine plant that may be called *ovata*. They are natives of the hotter parts of India, and are so much alike that an incautious observer might almost regard them as varieties. They are, however, most truly distinct, as the following definitions of them will shew.

1. *E. bratescens*.

Mr. Cuming found this at Singapore, and Mr. Griffith in Burma, near Moulmain. It has a fleshy oblong stem, which bears at the summit two or three leaves, from one and a half to two inches broad, and gradually tapering to the base. Its flowers are in the Singapore plant greenish white, with a lip crimson except at the end; in the Burma plant they are more straw colour than green. The lip is three-lobed, has an abruptly truncated extremity, and is marked with three elevated ridges, of which the two side ones are very short, while the middle one reaches to the end of the lip. Fig. 1. shews this structure, and fig. 2. the pollen-masses.

2. *E. longilabris* (Lindl. in Bot. Reg. 1841. misc. 69.)

This is a native of Panay in the Philippines, whence it was sent to Messrs. Loddiges by Mr. Cuming. It is very like *Eria bratescens*, but is a much finer species, and bears more flowers. It is distinguished at once by its lip, which is not truncate, and has three equal wavy ridges prolonged almost as far as the tip of the middle lobe, which is long and acuminate.

3. *E. obesa*. (Lindl. in Wall. Cat. no. 1976. Gen. and Sp. no. 15.)

This was originally taken up from imperfect Martaban specimens in Dr. Wallich's herbarium. It was afterwards met with at Moulmain and Merquy by Mr. Griffith; always, however, without leaves. The pseudo-bulbous stems are about twenty-seven inches long; the bracts ovate, reflexed, greenish dull purple; the flowers white with a tinge of pink, and a yellow lip; they are arranged in short spreading racemes.

4. *E. ovata*.

This plant, found in the Philippines by Mr. Cuming, evidently differs from the three others in the shape of the lip, which has no lobes, but an ovate-oblong form and a couple of little diverging plates near the base. It is nearest to *E. longilabris* in general appearance.

All these should be potted in turfy heath-mould, mixed with a few pieces of potsherds. Water should be liberally given during the growing season, and the atmosphere kept as humid as possible. In sunny weather the house should be slightly shaded, for although this plant succeeds well in a high temperature, it is soon injured by the rays of the sun. In winter very little water is required, and where steam cannot be admitted a slight syringe over head will be sufficient for two or three months.

"This is the month," says a popular writer, "in which we are said by the Frenchman to hang and drown ourselves. We also agree with him to call it 'the gloomy month of November;' and, above all, with our in-door, money-getting, and unimaginative habits, all the rest of the year, we contrive to make it so. Not all of us, however: and fewer and fewer, we trust, every day. It is a fact well known to the medical philosopher, that, in proportion as people do not like air and exercise, their blood becomes darker and darker: now what corrupts and thickens the circulation, and keeps the humours within the pores, darkens and clogs the mind; and we are then in a state to receive pleasure but indifferently or confusedly, and pain with tenfold painfulness. If we add to this a quantity of unnecessary cares and sordid mistakes, it is so much the worse. A love of nature is the refuge. He who grapples with March, and has the smiling eyes upon him of June and August, need have no fear of November.—And as the Italian proverb says, every medal has its reverse. November, with its loss of verdure, its frequent rains, the fall of the leaf, and the visible approach of winter, is undoubtedly a gloomy month to the gloomy, but to others, it brings but pensiveness, a feeling very far from destitute of pleasure; and if the healthiest and most imaginative of us may feel their spirits pulled down by reflections connected with earth, its mortalities, and its mistakes, we should

but strengthen ourselves the more to make strong and sweet music with the changeful but harmonious movements of nature."

"No period," says Dr. Drake, "of the year is better entitled to the appellation of The Season of Philosophic Enthusiasm, than the close of Autumn. There is in the aspect of every thing which surrounds us, as the sun is sinking below the horizon, on a fine evening of October (or November,) all that can hush the troubled passions to repose, yet all which at the same time, is calculated to elevate the mind, and awaken the imagination. The gently agitated and refreshing state of the atmosphere, though at intervals broken in upon the fitful and protracted moaning of the voiceful wind; the deep brown shadows which are gradually enveloping the many-coloured woods, and diffusing over the extended landscape a solemn and not unpleasing obscurity; the faint and farewell music of the latest warblers, and the waning splendor of the western sky, almost insensibly dispose the intellectual man to serious and sublime associations. It is then we people the retiring scene with more than earthly forms; it is then we love

To listen to the hollow sighs
Through the half-leaffless wood that breathes the gale.
For at such hours the shadowy phantom pale
Oft seems to fleet before the Poet's eyes;
Strange sounds are heard, and mournful melodies
As of night-wanderers who their woes bewail.

CHARLOTTE SMITH.

It is scarcely possible not to prostrate ourselves with deep humility before the throne of that Almighty being, who wields, directs, and limits the career of an element which, if let loose on this firm globe, would winnow it to dust.

When we behold the birds that wing their way through this immeasurable void, through what vast tracts and undiscovered paths they seek their distant food; with what love and gratitude should we not reflect, that if he in mercy has become their pilot and their guide, how much more will he prove to us a sure and never failing protector.

And when we turn our eyes from earth, its falling leaves and fading aspect, its gathering gloom and treacherous meteors, to that great and glorious vault where burn the steady lamps of heaven, or where, shooting into interminable space, flow streams of inextinguishable lustre, we are almost instinctively reminded, that here our days are numbered, that on this low planet brief is the time the oldest being lives, and that, passing from this transitory state, we are destined to pursue our course in regions of ever-during light, in worlds of never-changing beauty.

It is owing to these, and similar reflections, which it has been the business of this paper to accumulate, that autumn has been ever felt as more peculiarly the Season of Religious Hope. Amid vicissitude and decay, amid apparent ruin and destruction, we behold the seeds of life and renovation; for he who pervades and dwells with all things, the unchangeable and immortal Spirit, has so ordained the course of organized nature, that not only is life the precursor of death, but the latter is essential to the renewal of existence, a chain and catenation, a cycle, as it were, of vitality, which tells us, in the strongest language of analogy, that if such seem the destiny of irrational nature, if thus she die to live again, how assured should be the hope of intellectual being.

To him who views the temporary desolation of the year with no consolatory thought—who sees not, in the seeming ruin which surrounds him, any hope of emblem of a better world, who hears not the accents of dying nature responding to the voice of revelation, and telling of a Spring beyond the grave—to him who is insensible to reliances such as these, to hopes which can whisper peace, and soothe the evils of mortality, how stale, flat, and unprofitable must appear all the uses of this feverish existence. He may be told, in the language of the poet, in the language of faith and heart-felt consolation,

To you the beauties of the autumnal year
Make mournful emblems, and you think of man
Doom'd to the grave's long winter, spirit-broke,
Bending beneath the burden of his years.
Sense-dull'd and fretful, full of aches and pains,
Yet clinging still to life. To me they show
The calm decay of nature, when the mind,
Retains its strength, and in the languid eye
Religion's holy hopes kindle a joy
That makes old age look lovely. All to you
Is dark and cheerless; you in this fair world
See some destroying principle abroad,
Air, earth, and water full of living things
Each on the other preying; and the ways

Of man, a strange perplexing labyrinth,
Where crimes and miseries, each producing each,
Render life loathsome, and destroy the hope
That should in death bring comfort. Oh, my friend,
That thy faith were as mine! that thou could'st see
Death still producing life, and evil still
Working its own destruction; could'st behold
The strifes and tumults of this troubled world
With the strong eye that sees the promised day
Dawn thro' this night of tempest! all things then
Would minister to joy; then should thine heart
Be healed and harmonised, and thou should'st feel
God, always, every where, and all in all.

SOUTHEY.



Allium sativum?

ALLIUM SATIVUM.—COMMON GARLIC.

CLASS VI. HEXANDRIA.—ORDER I. MONOGYNIA.

NATURAL ORDER, ASPHODELEÆ.—THE ASPHODEL TRIBE.

Fig. (a) represents a flower; (b) the bulb; (c) a subordinate bulb, or clove.

THE common or cultivated Garlic is a hardy, perennial bulbiferous plant, growing naturally in Sicily and the south of France; flowering in July, and has been cultivated in this country since 1548. It shows the same propensity to form bulbs instead of flowers as the *A. Scorodoprasum*, or Rocambole Garlic, which it also resembles in other respects.

The bulbs are composed of several oblong, subordinate bulbs, called cloves, of a pale colour internally, frequently tinged with purple on the outside, and enclosed in a common membrane, from the base of which proceed long white fibrous roots. Each clove being planted, grows, and in one season attains the size and structure of the parent bulb. The stem is simple, erect, solid, and rises about two feet in height, surrounded with many long, flat, linear, pointed leaves, of a yellowish green colour; and is terminated by a dense umbel, inclosed in a spathe containing both flowers and bulbs, which opens at one side and withers. The flowers are small and white, the perianth consists of six oblong petals, with tapering alternately 3-cleft filaments, shorter than the corolla, and supporting oblong, erect anthers: the germen is superior, short, angular, bearing a simple style, with a pointed stigma; the capsule is short, broad, 3-lobed and 3-celled, containing a few roundish, angular seeds.

This plant is the *Σκородον* of the Greeks, and is said to have been called *Σκородον*, *quasi σκέρδιον ρόδον, rudis rosa*, on account of its offensive odour. Amongst the Greeks, garlic was held in such abhorrence, that those who partook of it were regarded as profane. The Egyptians, however, worshipped it; and the Romans gave it to their labourers to impart strength, and to their soldiers to excite courage; their game cocks were also fed with garlic previous to fighting. From the following lines of Persius, it appears that it was sometimes offered to propitiate the Gods:—

“Hinc grandes Galli, et cum Sistro Iusca sacerdos,
Incussere Deos inflantes corpora, si non
Predictum, ter mane, caput gustaveris Alli.”

Let this be as it may, Horace, having supped with Mæcenas, found himself very ill, in consequence of partaking of a dish of herbs in which garlic had been put, and upon this writes an ode to his friend, in which he condemns it in no measured terms.

Notwithstanding the denunciations of Horace, Olerius states that garlic was much used in his time by nobles and courtiers; and Haller avers that the inhabitants of all countries are very fond of it. It appears, from Tusser, to have been cultivated in the time of Queen Mary; who says in his twelfth verse for November—

“Set garlicke and beans at St. Edmund the king.”

Garlic is now usually propagated by detaching the cloves, and planting them in February or March; and in this way it seldom throws up a flower-stem. The soil should be light and dry; the sets are placed about four inches asunder, and between two and three inches deep. About the middle of June the leaves are tied in knots, to prevent the stronger plants from spindling or running to flower, and to promote the swelling of the bulbs. The crop is dug up in autumn, when the leaves begin to wither; the bulbs are then cleaned, tied in bunches, and hung in a dry room for use.

Besides the common garlic, the following species are frequently cultivated in our gardens for culinary and other domestic purposes.

1. *ALLIUM SCHENOPRASUM*. The *Cive*, or *Chive Garlic*, is a small plant, with a naked stalk seldom exceeding five or six inches in height; cylindrical, hollow, somewhat tapering leaves, and simple stamens. It is a native of Britain, growing in meadows and pastures, but is not common; it occurs, according to Mr. Neill, among other places, in the south of Scotland, on low hills near Hawick; and also in some parts of Westmoreland; it is figured in “English Botany,” v. 34, t. 2441. The bulbs are very small and flat, and grow connected together in clusters. The young leaves are employed principally for soups, and as a salad ingredient, in the spring. Sometimes they are added as a seasoning to omelets; and they are often eaten with bread and butter.

2. *ALLIUM ASCALONICUM*. The *Ascalonian Garlic*, or *Shallot*, with a naked stem, awl-shaped leaves, globose umbels, and 2-cleft stamens, is a perennial plant, a native of the Holy Land, where it was observed by Hasselquist. *Eschalot* (*Eschalotte*, Fr.) is the more correct appellation, the name being thus derived by some old authors, (Bauhin for example,) and it is styled *cepa sterilis*, or barren onion, from the circumstance of its seldom sending up a flower-stalk. It was cultivated here in 1633. In size and general growth the plant resembles the Chive; but it produces bulbous roots composed of cloves like garlic. These are used for culinary purposes in the manner of garlic, but they are milder, and do not communicate to the breath the offensive flavour which garlic or even raw onions impart.

3. *ALLIUM SCORODOPRASUM*. *Rocambole Garlic*; *Ail d'Espagne* of the French, is a perennial plant, indigenous to Sweden and Denmark, and was cultivated by Gerarde in 1596. It has compound bulbs, like the common garlic, but the cloves are much smaller. It sends up a stem two feet high, which is bulbiferous; the leaves are rather broad and crenate at the edges; the flowers, which are collected in a sort of globular head, are of a pale purple colour. The cloves are used in the same manner as garlic or shallot, and nearly for the same purposes.

4. *ALLIUM FISTULOSUM*. *Cibol* or *Welsh Onion*; *La Ciboule de St. Jaques* of the French, is a perennial plant, a native of Siberia. It appears to have been cultivated in 1629, but it was known a long time previously. It produces no bulbs, but the fistular leaves, and the lower part of the stems, are much used in salads, in the spring months.

MEDICAL PROPERTIES AND USES.—Garlic resembles the squill in its medical properties, being diaphoretic, and expectorant. Cullen asserts that it acts as a stimulus more promptly and energetically than any other, and it is much commended by Bergius for its virtues in agues; in dropsical affections by Sydenham; and in scurvy by Dr. Lind. It has long been celebrated as a domestic remedy for worms; and instances are related by Mosentin and Tissot of its expelling tenia; the usual method of administering it being to give the expressed juice in a little milk, or to boil it with sugar to form a syrup: it is, however, rarely used in modern practice, having given place to remedies of more decided utility, and less nauseous to the taste. In France, the expressed juice diluted, is much employed in asthma, catarrh, and torpor of the abdominal viscera. Sydenham extols the application of garlic to the soles of the feet, as an efficacious method of producing revulsion from the head; and it is occasionally applied in the form of poultice to boils and indolent tumours. Given in considerable doses, garlic is capable of producing inflammation of the alimentary canal; but taken in moderation, is considered highly beneficial to soldiers and sailors when exposed to a damp atmosphere; and is recommended to make part of the regimen of those who are exposed to the plague and other pestilential disorders. Celsus recommends garlic mixed with rue, as an external application against the bites of scorpions and venomous spiders: "Et ad scorpionis autem et ad aranci ictum allium cum ruta recte misceatur, ex oleoque contritum, superimponitur."—*De Med.* l. v. c. xxv. 6.

Garlic, and onions of various kinds, were highly esteemed in Egypt, and according to Hasselquist, not without reason. He conjectures that the *A. cepa*, which is still used in that country in amazing quantities, and forms a most delicious food, is one of the species of onion after which the Israelites longed when in the wilderness. He says, "whoever has tasted onions in Egypt will allow that none can be had better in any part of the universe. Here they are sweet, in other countries they are nauseous and strong; here they are soft, whereas, in the northern and other parts, they are hard, and their coats so compact that they are difficult of digestion. Hence they cannot in any place be eaten with less prejudice and more satisfaction than in Egypt."

There are none of our customs, says William Howitt, which more mark our selfishness than that of keeping singing birds in perpetual confinement, making the pleasure of our ears their misfortune, and that sweet gift, which God has given them wherewith to make themselves happy and the country delightful, the curse of their lives. If we were contented, however, with taking and rearing young ones, which never knew the actual blessing of liberty, or of propagating them in cages or aviaries, the evil would not be so enormous. But the practice of seizing singing birds, which have always enjoyed the freedom of the earth and air, in summer when they are busy with the pleasant cares of their nests or young broods, and subjecting them to a close prison, is detestable—doubly detestable in the case of *migratory* birds. They have not merely the common love of liberty, but the instinct of migration to struggle with; and it may be safely asserted, that out of every ten nightingales so caught, nine pine away and die. Yet the capture of nightingales is very extensively practised. The bird-catchers declare them to be the most easily taken of all birds; and scarcely can one of these glorious songsters alight in a copse or a thicket, but these kidnappers are upon it. Some of these men assure me that the female birds arrive about ten days later than the males, whose songs give notice of their retreats, on hearing which the females alight; therefore, when nightingales first appear, the bird-catchers are almost sure of taking only male birds, which, being the singers, are the only ones they want. The nightingale, a bird which God has created to fly from land to land to crown the pleasantness of spring with the most delicious music; or a lark, which he has made to soar, in the rapture of its heart, up to Heaven's gates,—"cribbed, cabined and confined" in a narrow cage by man, is one of the most melancholy objects on earth. Let those who have hearts for it keep them, and listen to them with what pleasure they may; for my part, while I am myself sensible of the charms of freedom, and of the delights of the summer fields, I shall continue to prefer the "wood notes wild" of liberty to a captive's wail.



Crocus sativus.

CROCUS SATIVUS.—SAFFRON CROCUS.

CLASS III. TRIANDRIA.—ORDER I. MONOGYNIA.

NATURAL ORDER, IRIDES.—THE CORN-FLAG TRIBE.

Fig. (a) represents one of the segments of the corolla with a stamen and anther; (b) the 3-parted stigma which is the official saffron.

Our drawing of this beautiful and interesting *Crocus*, which affords the well-known Saffron of the shops, was taken from specimens obligingly communicated by Mr. Fiske of Walden, in Essex, where it was formerly much cultivated for medical use. It is a perennial, bulbous plant, and is supposed to have been originally brought from the East, where it first acquired that high reputation in medicine, which it has now almost lost in Europe. It is said that the saffron crocus was imported into England in the reign of Edward III., and that a Sir Thomas Smith introduced it into the neighbourhood of Walden, where it was probably first cultivated. It was, however, grown at an early period in Herefordshire; but it is now confined to a very small district in Cambridgeshire, at the foot of the Gogmagog hills. It appears to have been planted abundantly near Walden, at the end of the sixteenth and at the beginning of the seventeenth century. It migrated gradually into Cambridgeshire between the years 1675 and 1723, where the place of its growth was the large tract of ground between Saffron Walden and Cambridge, in a circuit of about ten miles. At present, however, it is, we believe, but little attended to by the farmer, and is now confined to two or three parishes only, of which Stapleford is one. Saffron has long been extensively cultivated in many countries on the continent, particularly in France and Spain; but English Saffron is generally preferred here to that which is imported, and may be distinguished by its parts being larger and broader. The bulbs may be planted in dry, light soil; but they succeed best in sand. About the first week in October the flowers begin to appear; but the seed are never perfected in this climate.

The saffron crocus has a roundish bulbous root, as large as a small nutmeg, which is solid, somewhat compressed, and covered with a coarse brown reticulated skin. From the bottom of this bulb are sent out many long slender fibres, which strike pretty deep into the ground, and are, properly speaking, the true roots. Immediately from the upper part of the bulb proceed the flowers on a long slender white tube, which together with the leaves are inclosed in a thin membranous sheath, opening on one side. The leaves are inclosed in a thin membranous sheath, opening on one side. The leaves are numerous, curved, linear, smooth, longer than the corolla, of a deep green colour, with a white central stripe, and are accompanied by the flowers. The corolla is large, and divided into six nearly elliptical segments, equal, and of a rich violet, or lilac colour. The stamens are shorter than the corolla, and surmounted by arrow-shaped, erect, pale yellow anthers. At the bottom of the tube is situated a roundish germen, crowned with the style, which is thread-shaped, the length of the corolla, and hangs out at one side between the segments. The stigma is deeply 3-parted, of a deep orange colour, fragrant, narrow, a little dilated upwards, and notched at the summit.

DISTINCTIVE CHARACTERS.—Saffron differs from the spring crocus (*C. vernus*) in having the stigma divided into three very long narrow segments, which are notched at the summit, of a deep orange colour, and fragrant. In the spring crocus the stigma is within the flower, divided into three wedge-shaped jagged lobes, which are inodorous, and the tube of the corolla is hairy at the mouth: while in the official species the throat of the corolla is smooth. The naked-flowering crocus (*C. nudiflorus*) is readily distinguished from the other two by the deeply-laciniated tufted segments of the stigma, and by the flowers, which are of a deep purple, appearing in autumn unaccompanied by leaves; the latter not being produced till December.

Saffron is unquestionably a native of Greece and Asia Minor, having been introduced into the south of Europe for cultivation as a medicinal plant; but it has naturalized itself in some parts of England, and is retained by Smith in the English Flora, on the authority of the Rev. Mr. Wood, who found it about Halifax, and of Mr. Whatley, who observed it near Derby. Of the genus, Miller admits only two species, the autumnal saffron, *C. sativus* and the spring crocus, *C. vernus*. Sir J. E. Smith describes three species as natives of Britain, *C. vernus*, *nudiflorus* and *sativus*; of the former there are several varieties, blue and purple, yellow, white, and striped. Linnæus reduces all the species to one, and supposes the vernal, and the autumnal, or official crocus, to be only varieties, notwithstanding the difference in the form of their stigmas, leaves, and bulbs, as well as in the time of their flowering. Besides these, the following species are cultivated in crocus beds; *C. versicolor*, or partly-coloured crocus, a kind which requires a light loam, while most of the others grow best in sand; *C. biflorus*, or yellow-bottomed; *C. asiaticus*, or great yellow; *C.*

susianus, or cloth of gold; *C. sulphureus*, or sulphur-coloured; and *C. serotinus*; or late-flowered, blossoming in autumn, the leaves appearing at the same time with the flower. The Scotch *erocus* is said by Mr. Niell to be a beautiful striped variety.

The medicinal properties of this flower were early known to the Romans; as we find that the Cilician physicians who attended Anthony and Cleopatra in Egypt, recommended saffron as a medicine that cleared the complexion, by relieving the jaundice or the bile; which is an early indication of the prevalence of the "doctrine of signatures," for which the sect termed "*Rosicrucians*," or "*Theosophists*" became so notorious in the beginning of the 14th century. Dioscorides says that it is good for a surfeit. Pliny informs us that the best saffron grew in Cilicia, on a mountain called Corycus, and the next in quality on Mount Olympus. The Sicilian saffron was also esteemed by the Romans, who used it as a perfume. According to Pliny, it was steeped in wine, and then sprinkled over the theatres, filling every part with a sweet odour. The same author says, the wild crocus produces the best saffron, therefore the planting of it in gardens was deemed bad husbandry; for the plants became strong and large, while the flowers yielded but few chives, and would not pay the expense of planting. In a work, comparatively modern, (Townsend's Travels in Spain,) the plant is mentioned as growing in abundance in the neighbourhood of Salamanca, where without cultivation, it affords excellent saffron. Saffron is the *σάφρον* of the Greeks; and is mentioned by Homer as one of the flowers that formed the genial couch of Jove and Juno.

Lindestolpe suspects that it was the *σάμπερος*, nepenthes, of Homer; while other writers have affixed this appellation to the Inula *Helenium* and Borage, but without consideration, for in the celebrated passage alluded to, the word is evidently not used as the name of any especial plant, but merely to express the quality of the soothing oblivious draught proffered to Telemachus by Helen.

Our plant is the *zaffaran*, or *zahafaran* of the Arabians, and was highly esteemed by the Hebrews, who called it *carcom*. It is the *Crocus* of the Latins, who named it after a beautiful youth, who was said to have been consumed by the impatience of his love, for Smilax was metamorphosed into the plant called by his name Smilax, or Bindweed. Ovid commemorates this fable, and Virgil also speaks of the *crocus* as one of the flowers upon which the bees most love to feed:—

"pascuntur et arbuta passim,
Et glaucas salices, casiamque, crocumque rubentem,
Et pinguem tiliam, et ferrugineos hyacinthos."—GEORG. 4.

"They feed also at large on arbutes, and hoary willows, and cassia, and glowing saffron, and fat limes, and deep coloured hyacinths." *Martin's Translation*, p. 372.

By the old Chemists saffron was called, from its golden colour, *Aurum Philosophorum*; by others, *Sanguis Herculis*, *Aurum Vegetabile*, *Rex Vegetabilium*, and *Panacea Vegetabilis*. Its English name is evidently derived from its Arabian; which is nearly the same in French, Dutch, and German.

CULTURE. As several naturalists with whom we conversed were ignorant of the habits of this plant, and as it is imperfectly described in a work, which passes for an authority, we took the pains to obtain specimens from Samuel Fiske, Esq. of Saffron Walden, a gentleman who once cultivated it, and who is an accomplished botanist. In his communication, for which we are greatly indebted, he says, "The bulbs of the *Crocus sativus* are planted in July, in a rich light mould, with some well-rotted manure, in rows six inches apart, with three inches distant from each other in the rows.

"About the 18th of September, the leaves [or grass,] begin to appear in small pencil-like tufts, and during, and after the period of flowering, keep growing, and gradually cover the whole bed, continuing green all the winter, until May, when they die away, and the bed is bare all the next summer.

"The flowers begin to spring up about the 3rd of October, with a stem about an inch above the ground; they continue daily coming up for three or four weeks, six, eight, or more rising in succession from one plant. They are gathered every morning during the time of flowering, and the stigmata or chives, with part of the style plucked out for use, the rest of the flower being thrown away.

"The saffron, thus procured, is either dried in a room, in the sun, on papers, or made into cakes by a moderate heat and pressure.

"At the end of three years, when the leaf is entirely dead, the bulbs are taken up and cleaned, and the largest set by for planting again.

"The increase in the bulbs is very great, but being of no use except for replanting, what are not wanted for that purpose are thrown away; and as the produce of the saffron does not repay the expenses, it is now entirely out of cultivation here as an article of commerce."

Saffron is now discarded from practice as a medical agent; but still enters the composition of several official preparations, to impart an aromatic flavour and a rich colour.

OFF. PREP.—Confectio aromatica. L.D.

Decoctum Aloes comp. L.

Pilula Aloes c. myrrhâ. L.

Syrupus Croci. L.

Tinctura Aloes comp. L.

OFF. PREP.—Tinctura Aloes. D.

—— Cinnamon comp. L.

—— Croci sativi. E.

—— Rhei. L.

—— Rhei comp. L.

In the language of flowers the Saffron signifies *excess is dangerous*.



Macleania longiflora.

MACLEANIA LONGIFLORA.—LONG-FLOWERED MACLEANIA.

CLASS XVI. MONADELPHIA.—ORDER IV. DECANDRIA.

NATURAL ORDER, VACCINIEÆ.—THE BILBERRY TRIBE.

WHEN Sir William Hooker named a plant *Macleania*, he not only paid a well merited compliment, for few British merchants have deserved better of Botany than Mr. John Maclean of Lima, but he founded a good genus. A less accurate observer might indeed have referred it to *Thiebaudia*, a group of plants from the same countries, and very similar in habit; but each anther of *Thiebaudia* is divided into two long tubes, which open at their point; while, on the contrary, in *Macleania* the anthers have only one tube each.

The plant now described is very near *M. angulata*, figured in the Botanical Magazine, t. 3979, and said to be from Peru. But that species has shorter and broader leaves with manifest stalks, and the flowers are also shorter, contracted at the orifice, and yellow there. Their colour, too, is represented as much more vivid than in our species.

A warm greenhouse shrub, which requires to be kept in an intermediate house during winter. It may be potted in a compost, consisting of sandy loam and peat in equal proportions. Owing to its producing very fleshy roots, a large pot or tub will be required, or where there is convenience it is probable it would succeed well if planted out in a conservatory. It requires a liberal supply of water in summer, but very little in winter. To have this plant well furnished with young wood from the bottom for flowering, it is necessary to cut it well back early in autumn, in order to have the plant clothed with leaves before winter. It is rather difficult to multiply, but may be managed under a bell glass in a bottom heat of 80°.

NOTE BY MR. HARTWEG.—This is one of the numerous fleshy-rooted wretched shrubs, frequently met with in dry and exposed situations in the Andes; the present species has been collected on the main Cordillera near Loxa, (4° S.) at an elevation of about 8,000 feet above the sea, where it forms a neat compact evergreen shrub, five feet high, and is called by the inhabitants Salapa.

It is remarked, in the "Literary Pocket Book," that now Christmas-day only, or at most a day or two are kept by people in general; the rest are school holidays. But, formerly, there was nothing but a run of merry days from Christmas-eve to, Candlemas, and the first twelve in particular were full of triumph and hospitality. We have seen but too well the cause of this degeneracy. What has saddened our summer time has saddened our winter. What has taken us from our fields and May-flowers, and suffered them to smile and die alone, as if they were made for nothing else, has contradicted our flowing cups at Christmas. The middle classes make it a sorry business of a pudding or so extra, and a game at cards. The rich invite their friends to their country houses, but do little there but gossip and gamble[?]; and the poor are either left out entirely, or presented with a few clothes and eatables that make up a wretched substitute for the long and hospitable intercourse of old. All this is so much the worse, inasmuch as christianity had a special eye to those feelings which should remind us of the equal rights of all: and the greatest beauty in it is not merely its charity, which we contrive to swallow up in faith, but its being alive to the *sentiment* of charity, which is still more opposed to these proud distances and formal dolings out.—The same spirit that vindicated the pouring of rich ointment on his feet, (because it was a homage paid to sentiment in his person,) knew how to bless the gift of a cup of water. Every face which you contribute to set sparkling at Christmas is a reflection of that goodness of nature which generosity helps to uncloud, as the windows reflect the lustre of the sunny heavens. Every holly bough and lump of berries with which you adorn your houses is a piece of natural piety as well as beauty, and will enable you to relish the green world of which you show yourselves not forgetful. Every wassail bowl which you set flowing without drunkenness, every harmless

pleasure, every innocent mirth, however mirthful, every forgetfulness even of serious things, when they are only swallowed up in the kindness and joy with which it is the end of wisdom to produce, is

Wisest, virtuouslest, discreetest, best;'

and Milton's Eve, who suggested those epithets to her husband, would have thought so too, if we are to judge by the poet's account of her hospitality."

ANCIENT CHRISTMAS.

And well our christian sires of old
Loved, when the year its course had roll'd
And brought blithe Christmas back again,
With all its hospitable train.
Domestic and religious rite
Gave honour to the holy night :
On Christmas-eve the bells were rung ;
On Christmas-eve the mass was sung ;
That only night, in all the year,
Saw the stole'd priest the chalice rear.
The damsel donn'd her kirtle shen ;
The hall was dress'd with holly green ;
Forth to the wood did merry men go,
To gather in the mistletoe.
Then open wide the baron's hall,
To vassal, tenant, serf, and all ;
Power laid his rod of rule aside,
And ceremony doff'd his pride.
The heir, with roses in his shoes,
That night might village partner choose,
The lord, underogating, share
The vulgar game of " post and pair,"
All hailed, with uncontrouled delight,
And general voice, the happy night,
That to the cottage, as the crown,
Brought tidings of salvation down.
The fire, with well-dried logs supply'd,
Went, roaring, up the chimney wide ;
The huge hall table's oaken face,
Scrub'd till it shone, the day to grace,
Bore then upon its massive board

No mark to part the squire and lord.
Then was brought in the lusty brawn,
By old blue-coated serving man ;
Then the grim boar's-head frown'd on high,
Crested with bays and rosemary.
Well can the green-garb'd ranger tell,
How, when, and where the monster fell ;
What dogs before his death he tore,
And all the baiting of the boar ;
While round the merry wassail bowl,
Garnish'd with ribbons, blithe did trowl.
There the huge sirloin reek'd ; hard by
Plum-porridge stood, and Christmas pie ;
Nor fail'd old Scotland to produce,
At such high tide her savoury goose.
Then came the merry maskers in,
And carols roar'd with blithsome din ;
If unmelodious was the song,
It was a hearty note and strong.
Who lists may in their mumming see
Traces of ancient mystery ;
White shirts supply the masquerade,
And smutted cheeks the visor made ;
But, oh ! what masquers, richly dight,
Can boast of bosoms half so light !
England was merry England when
Old Christmas brought his sports again.
'Twas Christmas broach'd the mightiest ale ;
'Twas Christmas told the merriest tale ;
A Christmas gambol oft would cheer
A poor man's heart through half the year. *Walter Scott.*

"In this, the last month of the year," says the *Mirror of the Months*,—"the beautiful Spring is almost forgotten in the anticipation of that which is to come. The bright Summer is no more thought of, than is the glow of the morning sunshine at night-fall. The rich Autumn only just lingers on the memory, as the last red rays of its evenings do when they have but just quitted the eye. And Winter is once more closing its cloud-canopy over all things, and breathing forth that sleep-compelling breath which is to wrap all in a temporary oblivion, no less essential to their healthful existence than is the active vitality which it for a while supersedes." Yet among the general appearances of nature there are still many lively spots and cheering aspects. "The furze flings out its bright yellow flowers upon the otherwise bare common, like little gleams of sunshine; and the moles ply their mischievous night-work in the dry meadows; and the green plover 'whistles o'er the lea;' and the snipes haunt the marshy grounds; and the wagtails twinkle about near the spring-heads; and the larks get together in companies, and talk to each other, instead of singing to themselves; and the thrush occasionally puts forth a plaintive note, as if half afraid of the sound of his own voice; and the hedge-sparrow and tit-mouse try to sing; and the robin does sing still, even more delightfully than he has done during all the rest of the year, because it now seems as if he sang for us rather than for himself—or rather to us, for it is still for his supper that he sings, and therefore for himself."

We are indebted for the figure and description of the *Macleania* to Professor Lindley's excellent work the "*Botanical Register*."



Gulcanandra Ironiana?

GALEANDRA DEVONIANA.—DUKE OF DEVONSHIRE'S GALEANDRA.

CLASS XX. GYNANDRIA.—ORDER I. MONANDRIA.

NATURAL ORDER, ORCHIDÆ.—THE ORCHIS TRIBE.

CHARACTER OF THE GENUS, GALEANDRA. Perianth spreading, sepals and petals nearly equal, ascending. Lip undivided or obscurely three-lobed, spurred, internally enlarged by four plates or lamellæ. Column erect, membranaceously winged, clinandrium directed downwards. Pollen-masses two, hollowed out behind, the caudicula short, and adhering to the short diverging two-lobed gland.

DESCRIPTION OF THE SPECIES, GALEANDRA DEVONIANA. Stem erect, simple, round, many-leaved, leaves embracing the stem, lanceolate, three-nerved. Inflorescence a racemose peduncle, sessile, erect, many-flowered. Perianth of five spreading folioles, nearly equal, of a yellowish green, except the lip, which is of a whitish or cream colour, marked by pinkish, longitudinal, and irregularly transverse lines. Lip prolonged into a spur of a green colour; the lamina ovate, obtuse, crenulate, marked, at the hinder part, with four elevated plates. Anthers furnished with a fleshy rounded pubescent crest.

POPULAR AND GEOGRAPHICAL NOTICE. The following is an account of this plant, by Mr. Schomburg, its discoverer, extracted from his letter, in Dr. Lindley's elegant *Sertum Orchidaceum*: "During our peregrinations we have seen this plant no where else but at the banks of the Rio Negro, a tributary of the Amazon; where, in the neighbourhood of Barcellos, or Mariua, we found it growing in large clusters on the trees which lined the river, sometimes on the *Mauritia aculeata*, or even on the ground, where the soil consisted of vegetable mould. It was so luxuriant that some of the large clusters of stems, which sprouted from a common root, might have been from ten to twelve feet in circumference." The profusion of orchidaceous plants in tropical America may be judged of by the following statement of Dr. Walsh: "The destruction of a tree in these woods does not lessen the abundance of vegetable life. On every stem which had lost its own bark and leaves, a crop of parasites had succeeded, and covered the naked wood with their no less luxuriant leaves and flowers. Of these the different species of air-plants, and *Tillandsias* were the most remarkable. The first were no less singular than beautiful; they attach themselves to the driest and most sapless surface, and bloom as if springing from the richest soils. A specimen of one of these, which I thought curious, I threw into my portmanteau, where it was forgotten; and some months after, in unfolding some linen, I was astonished to find a rich scarlet flower in full blow; it had not only lived, but vegetated and blossomed, though so long excluded from air, light, and humidity. Every withered tree here was covered with them, bearing flowers of all hues, from the brightest yellow to the deepest scarlet." Notices of Brazil, II, p. 306.

INTRODUCTION; WHERE GROWN; CULTURE. Sent, by Mr. Schomburg, to the ever-augmenting stores of the Messrs. Loddiges, at Hackney. It grows in a pot, in the stove. Much attention must be given to ensure free drainage.

DERIVATION OF THE NAMES. GALEANDRA, a word most inelegantly compounded of GALEA, a helmet, and *anther* a stamen, from the helmet-shaped crest of the anther. DEVONIANA, a justly merited compliment to the Duke of Devonshire, President of the Horticultural Society.

JANUARY. To this month there is an ode with a verse beautifully descriptive of the Roman symbol of the year:

'Tis he! the two-fac'd Janus comes in view;
Wild hyacinths his robe adorn,
And snow-drops, rivals of the morn.
He spurns the goat aside,
But smiles upon the new
Emerging year with pride;
And now unlocks, with agate key,
The ruby gates of orient day.

We stop a moment to peep into the "Mirror of the Months," and inquire "Who can see a new year open upon him, without being better for the prospect—without making sundry wise reflections, (for *any* reflections on this subject *must* be comparatively wise ones,) on the step he is about to take towards the goal of his being? Every first of January that we arrive at, is an imaginary mile-stone on the turnpike track of human life; at once a resting place for thought and meditation, and a starting point for fresh exertion in the performance of our journey. The man who does not at least *propose to himself* to be better *this year* than he was last, must be either very good or very bad indeed! And only to *propose* to be better, is something; if nothing else, it is an acknowledgment of our *need* to be so, which is the first step towards amendment. But, in fact, to propose to oneself to do well, is in some sort to *do* well, positively; for there is no such thing as a stationary point in human endeavours; he who is not worse to-day, than he was yesterday, is better; and he who is not better, is worse."

It is written, "Improve your time," in the text-hand set of copies put before us when we were better taught to write than to understand what we wrote. How often these three words recurred at that period without their meaning being discovered! How often and how serviceably they have recurred since to some who have obeyed the injunction! How painful has reflection been to others, who recollecting it, preferred to *suffer* rather than to *do*!

The author of the paragraph quoted above, expresses forcible remembrance of his youthful pleasures on the coming in of the new year.—"Hail! to thee, January!—all hail! cold and wintry as thou art, if it be but in virtue of thy first day. The day, as the French call it, *par excellence*, 'Le jour de l'an.' Come about me, all ye little schoolboys that have escaped from the unnatural thralldom of your taskwork—come crowding about me, with your untamed hearts shouting in your unmodulated voices, and your happy spirits dancing an untaught measure in your eyes! Come, and help me to speak the praises of new-year's day!—*your* day—one of the three which have, of late, become yours almost exclusively, and which have bettered you, and have been bettered themselves, by the change. Christmas-day, which *was*; New-year's-day, which *is*; and Twelfth-day, which *is to be*; let us compel them all three into our presence—with a whisk of our imaginative wand convert them into one, as the conjurer does his three glittering balls, and then enjoy them all together, with their dressings, and coachings, and visitings, and greetings, and gifts, and "many happy returns" with their plum-puddings, and mince-pies, and twelfth-cakes, and neguses, with their forfeits, and fortune-tellings, and blindman's-buffs, and sittings up to supper, with their new penknives, and pastrycooks' shops, in short, with their endless round of ever new nothings, the absence of a relish for which is but ill supplied, in after life, by that feverish lingering and thirsting after excitement, which usurp without filling its place. Oh! that I might enjoy those nothings once again in fact, as I can in fancy! But I fear the wish is worse than an idle one; for it not only may not be, but it ought not to be. "We cannot have our cake and eat it too," as the vulgar somewhat vulgarly, but not less shrewdly, express it. And this is as it should be; for if we could, it would neither be worth the eating nor the having."



Boeckleria armoraciaefolia.

COCHLEARIA ARMORACIA.—HORSE RADISH.

CLASS XV. TETRADYNAMIA.—ORDER I. SILICULOSA.

NATURAL ORDER, CRUCIFERA.—THE CRUCIFEROUS TRIBE.

Fig. (a) represents a flower, with the calyx and petals removed; (b) the germen; (c) the pod.

HORSE-RADISH is a perennial plant, growing naturally by the sides of ditches, on the banks of rivers, and in waste grounds, from the refuse of gardens. It has long been received into our materia medica, and was cultivated in Britain in the time of Gerard, who says, "Horse-radish for the most part groweth, and is planted in gardens, yet have I found it wild in sundrie places, as at Nanptwich in Cheshire, in a place called the Milne Eye, and also at a small village near London, called Hogsdon, in the field next unto a farm house, leading to Kingsland, where my verie good friend Master Bredwell, a practitioner in physick, a learned and diligent sercher of symples, and Master VViliam Martin, one of the Fellowship of Barbers and Chirurgians, my deere and louing friende, in company with him, found it, and gaue me knowledge of the place where it flourisheth to this day." The specimen from which our figure was taken, grew by the side of the Thames, between the Red-House, Battersea, and Putney Bridge, where it was also found many years ago by Sir J. E. Smith, and figured in "English Botany," t. 2223. It flowers in June; but rarely perfects its seeds.

The root so well known at table as an accompaniment of the roast beef of Old England, is long, white, cylindrical, strikes deep into the earth, and is extremely difficult of extirpation. The stem is round, erect, branched, and rises about two feet high. The radical leaves are petiolate, very large, dark green, oblong, obtuse, veiny, crenate, waved, and occasionally pinnatifid: those of the stem are scattered, much smaller, sessile, lanceolate, sometimes serrated or toothed, and sometimes entire. The flowers are numerous, white, and terminate the stem in dense clusters. The leaves of the calyx are ovate, concave, spreading, and deciduous; the petals obovate, twice the length of the calyx, and inserted by narrow claws. The filaments are awl-shaped, incurved, the length of the calyx, and bearing heart-shaped anthers. The germen is oblong, surmounted with a short style, and a large capitate stigma, changing into an elliptical, compressed, notched, bilocular pod, containing about four seeds in each cell, most of which prove abortive.

CULTURE.—The Horse-radish is generally propagated by cuttings, and requires a rich deep soil, in order to induce the plants to strike their roots freely. "Crowns," says Mr. Neill, "having about two or three inches only of root attached to them make very good plants; but cuttings of the knotty parts of the roots, provided always they be furnished with one or two buds or eyes, are often preferred, as they are to be planted entirely under the soil. They are generally planted in February or March, in lines, leaving a foot and a half between each line. The sets are placed at the depth of at least a foot; if the soil be light fifteen inches is not too deep. The roots are not dug for use till the second year; and they are raised only when wanted, the pungent quality escaping rapidly as the root dries."

QUALITIES.—The root has a pungent odour, and a warm acrid taste, with a degree of sweetness. Both water and alcohol extract its virtues. By drying, it loses all its acrimony, becoming at first sweetish, and afterwards nearly insipid; if kept in a cool place, covered with sand, it retains its pungency for a long time. It yields, by distillation with water, a pale yellow-coloured, acrid, pungent, essential oil. According to Einhoff, the distilled watery liquid yields traces of sulphur.

MEDICAL PROPERTIES AND USES.—The use of the scraped root as a warm pungent condiment to various kinds of animal food, and also to give a zest to winter salads, is well known. As an article of the materia medica its effects much resemble those of mustard-seed, but it is somewhat more powerful. Infused in water, and received into the stomach, it acts as a stimulant and sudorific, and is occasionally employed with advantage in paralytic affections and chronic rheumatism; it has also been successfully ad-

ministered in dropsy supervening upon intermittent fever, particularly by Sydenham. This infusion, taken with large draughts of warm water, readily proves emetic, and may either be employed by itself to excite vomiting or to assist the operation of other emetics. It has also been used as a sialagogue, in paralysis of the tongue, in some obstinate cutaneous diseases, and in asthma. One drachm of the root infused in a close vessel, with four ounces of boiling water, and made into a syrup with double its weight of sugar, taken in the quantity of a teaspoonful, and swallowed leisurely, is strongly recommended by Dr. Cullen to remove hoarseness, arising from relaxation or deficient secretion of mucus. Externally it readily inflames the skin, and if its application be long continued, produces blisters. An infusion of the root in milk is recommended by Dr. Withering, as one of the safest and best cosmetics. Horse-radish may be given in doses of a drachm or more of the recent root cut into small pieces, and swallowed entire.

OFF. PREP.—Infusum Armoracæ compositum, *L. D.*

Spiritus Armoracæ compositus, *L. D.*

“The solar year,” says a popular writer, “commences in the very depth of winter; and I open my record of its various aspects under that of its unmitigated austerity. I speak now as I intend to speak, *generally*. I describe the season not as it may be in this, or another year, but as it is in the average. December may be, I think, very justly styled the gloomiest, January the severest, and February the most cheerless month of the year. In December the days become shorter and shorter; a dense mass of vapour floats above us, wrapping the world in a constant and depressing gloom; and

Murky night soon follows hazy noon.—BLOOMFIELD.

In January this mantle of brumal sadness somewhat dissipates, as if a new year had infused new hope and vigour into the earth; light is not only more plentifully diffused, but we soon perceive its longer daily abode with us; yet, in the words of the common adage,

As the day lengthens,
The cold strengthens.

This is the month of abundant snows and all the intensity of frost. Yet winter, even in its severest forms, brings so many scenes and circumstances with it to interest the heart of the lover of Nature and of his fellow-creatures, that it never ceases to be a subject of delightful observation; and monotonous as it is frequently called, the very variety of the weather itself presents an almost endless source of novelty and beauty.

I will conclude with one suggestion; there are some respects in which there is a resemblance between our structure and that of vegetables—like us, too, they live and die; but between us there is still an immense space. Well may it be said:

“Am I but what I seem, mere flesh and blood,
A branching channel with a mazy flood?
The purple stream that through my vessels glides,
Dull and unconscious flows, like common tides;
The pipes, through which the circling juices stray,
Are not that thinking I, no more than they:
This frame, compacted with transcendent skill,
Of moving joints, obedient to my will;
Nursed from the fruitful glebe, like yonder tree,
Waxes and wastes—I call it *not mine, but me.*
New matter still the mouldering mass sustains;
The mansion changed, the tenant still remains;
And from the fleeting stream repaired by food,
Distinct as is the swimmer from the flood.”

Yes, “there is a spirit in man, and the inspiration of the Almighty giveth him understanding.” This gift constitutes him the only being, through the whole range of the visible creation, who is able to contemplate the character and works of the Almighty and Supreme Artificer. The human soul is also immortal, and capable of eternal progression; and it should be with us, our great end, in this brief and chequered life, to prepare for that which is glorious and eternal.



Pentas carnica?

PENTAS CARNEA.—FLESH-COLOURED PENTAS.

CLASS V. PENTANDRIA.—ORDER I. MONOGYNIA.

NATURAL ORDER, STELLATÆ.—THE MADDER TRIBE.

THE beautiful half-shrubby plant here depicted has been lately introduced to this country from the Continent, and grown in several of the gardens and nurseries about London under the name of *Sipanea carnea*. It was first received at the Botanic Gardens of Kew, from Mr. Mackoy of Liege, and has since been obtained by Messrs. Rollisson and others, from the Jardin des Plantes at Paris. No memoranda were furnished with these plants respecting the native country of the species, and we are, consequently, unable to state with certainty what part of the world claims it as its production. Another species of the genus, *P. parviflora*, having been discovered by Dr. Vogel, in the late Niger expedition, growing in the western part of Tropical Africa, near Acera, and other plants nearly allied being found in the same neighbourhood, Sir William Hooker, in the Botanical Magazine, conjectures this to belong to the same locality.

As an ornamental plant for the stove, or possibly for a warm greenhouse, this will be hailed as an acquisition of some importance. It has an excellent robust habit, and produces a number of partially-spreading branches, forming a handsome bushy plant, clothed with an abundance of large, broad foliage, concealing the stems to the very base with its lively verdure. These branches usually bear flowers as they are formed, even when the plant is in an exceedingly dwarf state, without appearing to have any injurious effect on the continuing growth of the specimen. The blossoms are collected into corymbose clusters, and stand erect, displaying their lovely soft flesh-coloured hue to the utmost advantage. When the flowers are first developed they are very pale, but gradually acquire colour with exposure. If the plant is kept growing in a favourable situation, it will continue to blossom, with the formation of new branches, for the greater part of the year; and such is the rapidity of its growth, that it will form a large bush in the course of a single season.

Like most soft-wooded plants of quick growth, it requires a rather large pot, and a strong soil, rich in nourishing properties. And it will probably be beneficial to use an occasional application of manure water, to increase its vigour, especially where large specimens are desirable. In the summer months there is little doubt that it will be found to succeed satisfactorily in a close greenhouse, although in winter and spring a little more warmth is necessary.

It is easily propagated by taking off the extremities of the young shoots as soon as they have acquired a little firmness; and, inserting them in a pot of sand, covered with a bell glass, and placed in heat, they will take root in ten days or a fortnight, and should be immediately potted into separate pots and encouraged to grow.

The generic name, *Pentas*, has been applied by Mr. Bentham, from the division of the corolla being quinary instead of four-cleft, as in other allied genera. Although general, this is not constant, as flowers on the same head are four and five-parted. Three or four plants, which have hitherto been arranged under other genera, are suspected by Mr. Bentham to belong rightly to this.

—Then came cold February, sitting
In an old waggon, for he could not ride.
Drawn of two fishes, for the season fitting,
Which through the flood before did softly slide

And swim away; yet had he by his side
His plough and harness fit to till the ground,
And tools to prune the trees before the pride
Of having prime did make them burgeon round.—*Spenser*.

This month has Pisces or the fishes for its zodiacal sign. Numa, who was chosen by the Roman people to succeed Romulus as their king, and became their legislator, placed it the second in the year, as it remains with us, and dedicated it to Neptune, the lord of water. Its name is from the *Februa*, or Feralia, sacrifices offered to the manes of the gods at this season; Ovid in his *Fæsti* attests the derivation:—

In ancient times, purgations had the name
Of *Februa*, various customs prove the same;
The pontiffs from the *rex* and *flamen* crave
A lock of wool; in former days they gave
To wool the name of *Februa*.
A plant branch cut from a lofty pine,
Which round the temples of the priests they twine,
Is *Februa* called; which if the priest demand,
A branch of pine is put into his hand;
In short, with whatso'er our hearts we hold
Are purified, was *Februa* termed of old;
Lustrations are from hence, from hence the name

Of this our month of February came;
In which the priests of Pan processions made;
In which the tombs were also purified
Of such as had no dirges when they died;
For our religious fathers did maintain,
Purgations expiated every stain
Of guilt and sin; from Greece the custom came,
But here adopted by another name;
The Grecians held that pure lustrations could
Efface an impious deed, or guilt of blood.
Weak men! to think that water can make clean
A bloody crime, or any sinful stain.—*Massey's Ovid*.

THE SEASON.

Sunk in the vale, whose concave depth receives
The waters draining from these shelvy banks
When the shower beats, yon pool with pallid gleam
Betrays its icy covering. From the glade
Issuing in pensive file, and moving slow,
The cattle, all unwitting of the change,
To quench their customary thirst advance.
With wondering stare and fruitless search they trace

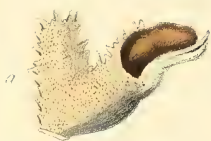
The solid margin: now bend low the head
In act to drink; now with fastidious nose
Snuffing the marble floor, and breathing loud,
From the cold touch withdraw. Awhile they stand
In disappointment mute; with ponderous feet
Then bruise the surface: to each stroke the woods
Reply; forth gushes the imprisoned wave.

Our Saxon ancestors, according to Verstegan, "called February *Sprout kele*, by kele meaning the kelewurt, which we now call the cole-wurt, the greatest *pot-wurt* in time long past that our ancestors used, and the broth made therewith was thereof also called kele; for before we borrowed from the French the name of potage, and the name of herbe, the one in our owne language was called *kele*, and the other *wurt*; and as this kele-wurt, or potage-herbe, was the chiefe winter-wurt for the sustenance of the husbandman, so was it the first herbe that in this moneth began to yeeld out wholesome yong sprouts, and consequently gave thereunto the name of *Sprout kele*." The "kele" here mentioned, is the well known kale of the cabbage tribe. But the Saxons likewise called this month "Solmonath," which Dr. Frank Sayers in his "Disquisitions" says, is explained by Bede "mensis placentarum," and rendered by Spelman in an unedited manuscript "*pan-cake* month," because in the course of it, cakes were offered by the pagan Saxons to the sun; and "Sol" or "soul," signified "food," or "cakes."

In "The Months," a popular writer remarks that "if February were not the precursor of spring, it would be the least pleasant season of the year, November not excepted. The thaws now take place; and a clammy mixture of moisture and cold succeeds, which is the most disagreeable of wintry sensations." Yet so variable is our climate, that the February of 1825 broke in upon the inhabitants of the metropolis with a day or two of piercing cold, and realized a delightful description of January sparkled from the same pen. "What can be more delicately beautiful than the spectacle which sometimes salutes the eye at the breakfast-room window, occasioned by the hoar-frost dew? If a jeweller had come to dress every plant over night, to surprise an Eastern sultan, he could not produce any thing like the 'silvery plumage.' An ordinary bed of greens, to those who are not at the mercy of their own vulgar associations, will sometimes look like crisp and corrugated emerald, powdered with diamonds."

In February, says William Howitt, "The houses, and all objects whatever, have a dirty and disconsolate aspect; and clouds of dim and smoky haze hover over the whole dispiriting scene. In the country the prospect is not much better: the roads are full of mire. In the woods and copses you hear a continual dripping and pattering of wet: while the fieldfares, instead of flying across the country with a pleasant chattering, sit solitarily amongst the comfortless trees, uttering their plaintive cry of "cock-shute, cock-shute;" and the very rooks peer about after worms in the fields with a drooping air. Instead of the enchantments of hoar-frost, you have naked hedges, fallow and decaying weeds beneath them, brown and wet pastures and sheets of ice, but recently affording so much fine exercise to skaters and sliders, half submersed in water, full of great cracks, scattered with straws and dirty patches, and stones half liberated by the thaw;—such are the miserable features of the time.

Let us felicitate ourselves that such joyless period is seldom of long duration. The winds of March speedily come piping their jovial strains, clearing the face of the blessed heavens from their sullen veil of clouds, and sweeping away the superabundant moisture from earth and air. Oh; blithe and animating is the breath of March! It is like a cool but spirit-stirring draught of some ancient vintage; elating but not enervating the heart; deadening the memory of past evil, and expanding it to the delicious hope of future delights. So precious a boon, however, is not exclusively permitted to March; February is allowed to be a liberal partaker ere its close, and we have known the winds lift up their voices this month with all their triumphant and sonorous energy. Nothing can perhaps illustrate so lively our idea of a spirit, as a mighty wind—present in its amazing power and sublimity, yet seen only in its effects. We are whirled along with its careering torrent with irresistible power; we are driven before it, as Miss Mitford says, as by a steam-engine. How it comes rushing and roaring over the house, like the billows of a mighty ocean! Then for the banging of doors, the screaming and creaking of signs, the clatter of falling shutters in the street! Then for the crash of chimneys, the down-toppling of crazy gables, the showering of tiles upon the pavement, as if the bomb-shells of a besieging army were demolishing the roofs, and rendering it even death to walk the streets! Then for a scene of awful grandeur upon the glorious ocean! That which, but an hour before, was calm and sun-bright, a variety of vessels lying at anchor, or sailing to and fro in serene beauty, then is a scene of sublime and chaotic uproar!—the waves rolling and foaming, and dashing their spray over rocks, pier-heads, houses, and even over the loftiest towers and churches too, as I have seen it, to an amazing extent, till the water ran down the walls like rain, and the windows, at a great distance from the beach, were covered with a salt incrustation—the vessels meanwhile labouring amidst the riotous billows as for life, and tugging at their cables, as if mad for their escape.



Betularia Islandica



Rocella tinctoria?

ROCELLA TINCTORIA.—DYEING ROCK-MOSS, OR ORCHEL.

CLASS XXIV. CRYPTOGRAMIA.—ORDER IV. ALGÆ.

NATURAL ORDER, ALGÆ.—THE SEA-WEED TRIBE.

THE Lichens constitute an extensive natural group of plants, belonging to the class Cryptogamia, of the Linnean system; and are commonly known in this country by the popular names of *rock-mosses*, *tree mosses*, and *timetains*. By the illustrious Linnæus they were included in one great and complicated genus, Lichen, but Dr. Erick Acharius, a learned botanist of Stockholm, has since divided the whole series into three distinct tribes, and forty-two genera: and subsequently, Borrer, in this country, and Fries, in Germany, have greatly extended our knowledge of these interesting vegetables. In the plants of this Order, there are no regular roots, many of the species being attached by small fibres issuing from the under surface of the frond, or fixed to their place of growth as if by a sort of cement. They are equally destitute of stems, and also of leaves properly so called; the part most analogous to a leaf, and which constitutes the body of the plant, being generally a crustaceous expansion, usually denominated the *frond*, and by Acharius the *thallus*. The species are very numerous; and not a few of them have at different times been employed in domestic economy, in medicine, and the arts. In Lapland, the branched coralline Lichen, *Cenomyce rangiferina*, is highly important in rural economy, as affording fodder for the rein-deer. A few species only have been used as food by men, but several sorts are eaten by goats, and other animals. Of these perhaps the most important in a dietetic point of view is the *Cetraria Islandica*, to be noticed hereafter; and a species mentioned by Professor Pallas, as growing on the calcareous mountains of the great desert of Tartary, and described by Acharius under the name of *Urceolaria esculenta*. In Siberia, the lungwort lichen, *Sticta pulmonacea* is used in the making of ale, as a substitute for hops, and *Parmelia physoda*, *Usnea plicata*, and *Ramalina farinacea*, when eaten with salt, are used in some northern countries as food. Dr. Withering tells us, that the country people in some parts of England, make an infusion of *Peltidea aphthosa*, in milk, and give it to children affected with thrush, and that in large doses it excites purging and vomiting. Nor is this tribe of plants when administered internally, entirely harmless, for according to Pontoppidan, the yellow filamentous lichen, *Evernia vulpina*, is so poisonous, that it is employed for killing wolves, a carcase of some animal stuffed and smeared with the powder of it, mixed with pounded glass, being set as a bait. Several species are used for dyeing, and not a few were at one time considered as of great efficacy in the practice of medicine. Thus the common *cup-moss lichen*, Lichen *pyridatus*, or *Cenomyce pyxidata*, Ach. was long regarded as an infallible nostrum for the whooping-cough; the common *ground-liverwort*, *L. caninus*, or *Peltidea canina*, Ach., received its trivial name from the fame it had acquired as a specific in the cure of hydrophobia, and the *tree lungwort* or *oak lungs*, was equally renowned in former times for the cure of pulmonary complaints. At the present day, two species only, the *Roccella tinctoria* and *Cetraria Islandica*, the subjects of the following article, are retained in the list of the British Pharmacopœias.

The Orchel or Archil, *Roccella tinctoria*, is an indigenous Lichen, found sparingly on the maritime rocks of the south of England, particularly in Portland Island, and grows very abundantly on the sea rocks of the Cape Verd, and also of the Canary Islands; and from both clusters it is exported in considerable quantities. In France it is called *Orseille*, and is used to a considerable extent in the southern provinces for dyeing silks, being collected on the rocky shores of the Mediterranean. By the Dutch, it is manufactured into a paste called by them *Lacmus* or *Litmus*. This is sold in square masses about an inch in breadth, and thickness; hard and brittle, having the appearance of a violet coloured earth with white spots. The plant seldom exceeds two inches in height: it is firmly fixed to the rocks, and sends up a thick tuft of slender worm-like stems, round, pointed, often curved, more or less branched, smooth, of a white, grey, or brownish hue, studded about their upper part with numerous scarlet tubercles, or wartlike excrescences, replete with a white powder, which has been regarded by Redwig, or pollen or seeds, and by Gærtner and others as a peculiar sort of gems or buds. The latter opinion has been established by Acharius, and lichens are now considered as gemmiparous plants, propagated only by bud-knots, or gongyli.

Although many other species afford colours, this is the most valuable lichen as a dye-stuff. If we may credit Tournefort, it was known to the ancients, being the *Αερνυ* of Dioscorides, and the *Phycos thalassion* of Pliny. It was collected in the islands of the Archipelago, and from one of these acquired the name of *Purple of Amorgus*. In modern times, according to Berthollet, it was prepared as an article of commerce at Florence, the fine violet colour which it was capable of producing, having been accidentally observed by a

Florentine merchant, about the year 1300, while visiting the Levant. The persons by whom the *archil* or *litmus* was formerly prepared, being desirous to keep it a secret, gave it the name of *tincture of turnsole*, pretending that it was extracted from the turnsole, *Heliotropium Europæum*. Its nature is now well known in this country, and large manufactures of it are carried on in London and Liverpool. The Lichen is imported as it is gathered, and is prepared in the following manner:—The plant is first dried, cleansed, and pulverized in a mill like the oil-mill. The powder is then thrown into a trough, with one-half its weight of pearlsh; is moistened, and then allowed to ferment. This fermentation is kept up for some time, till the colour of the materials first changes to a purple red, and then to a blue. In this state it is mixed with a third of its weight of very good potash, and spread upon deep wooden trays till dry. A quantity of chalk is added at last, apparently for the mere purpose of increasing its weight. It may here be remarked, “that another species of *Rocella*, *R. fuciformis*, is reported to vie in richness of colouring matter with the common orchel, while the plant attains to a much larger size. This species, like the former, occurs sparingly on the sea rocks of the south of Europe; but it is said to abound in the East Indies, especially on the shores of Sumatra, and might deserve the notice of some of our enterprising countrymen.”

Prepared archil, which has a violet odour, derived from orris root, very readily gives out its colour to water, to volatile spirits and alcohol, and is the substance principally made use of for colouring the spirits of thermometers. As exposure to the air destroys its colour upon cloth, the exclusion of the air produces a like effect in hermetically sealed tubes, the spirits of large thermometers becoming in a few years colourless, and the colour being again restored by the admission of air. Archil stains marble in a beautiful manner; and by the addition of a little solution of tin, this drug gives a durable dye of a scarlet colour.

MEDICAL PROPERTIES AND USES.—We know of no medicinal virtues possessed by this lichen, though it was employed at one time for relieving pulmonary complaints. It is, however, used in the manufacture of red and blue syrups; which in the trade are known as syrup of red poppies and syrup of violets.

Litmus is used in chemistry as a most delicate test, either by staining paper with it, or by infusing it in water; which will presently turn red by acids, and have the blue colour restored by an alkali.

CETRARIA ISLANDICA.

ICELAND LICHEN, OR ERYNGO-LEAVED LIVERWORT.

THIS species of Lichen is a native of the mountainous heaths and woods in the alpine parts of Britain. The late Sir J. E. Smith gathered it on the Pentland Hills, near Edinburgh, on Ben Lomond, and in various parts of Scotland. It occurs on all the heaths and mountains on the north of Europe, and Dr. Holland informs us that it grows abundantly on the lava on the western coast of Iceland, where the whole plant is more luxuriant than with us. Although this Lichen is more or less common in all arctic countries, no mention is made of it by Wahlenberg, in his interesting account of the physical distribution of vegetables in Lapland.

MEDICAL PROPERTIES.—Iceland moss was first recommended by Linnæus as a popular remedy in Sweden, for coughs. Scopoli afterwards published his observations on it, but it excited little attention in this country, till Dr. Regnault's treatise on consumption appeared, in which its virtues were highly extolled. According to Bergius, the lichen in its recent state is “ecoprotica,” and when dried, “nutriens, pectoralis.” In the *Dispensatorium Fuldense*, it is said to be “astringens, roborans, humectans, inviscans, nutriens, antiseptica.” It is not, however, used on the Continent, indiscriminately, in every species of phthisis, nor in every stage of that disorder. It is chiefly recommended in those instances where the cough is attended with purulent expectoration; in cases preceded, or accompanied by hæmoptysis; in incipient phthisis, when from relaxation there is an increased discharge of mucus from the bronchiæ; in the sequelæ of measles, attended by a quick small pulse, pain of the breast, emaciation, violent cough, and purulent expectoration. The use of it is forbidden when vomice are already formed, and proceeding towards ulceration; in dyspnœa, and when there is an increased action of the vessels, with diminished expectoration. Neither has the use of *Cetraria Islandica* been confined to phthisical cases; for it has been recommended in malignant fevers, dysentery, and hæmatemesis. The decoction as ordered by our pharmacopœias, is so bitter as to prevent many persons from taking it; and when deprived of its disagreeable taste, it can only be viewed as a demulcent, and hardly equal in effects to linseed, quince seed, and marsh-mallows. Iceland moss certainly does not cure phthisis pulmonalis, but in the last stage of that disease, when solid food is oppressive, and the diarrhœa appears to be kept up by the acrid contents of the stomach and bowels; it has appeared to us to check the latter, and to impart both vigour and nourishment to the digestive organs.

OFF. PREP.—Decoctum Lichenis Island. L. E. D.

