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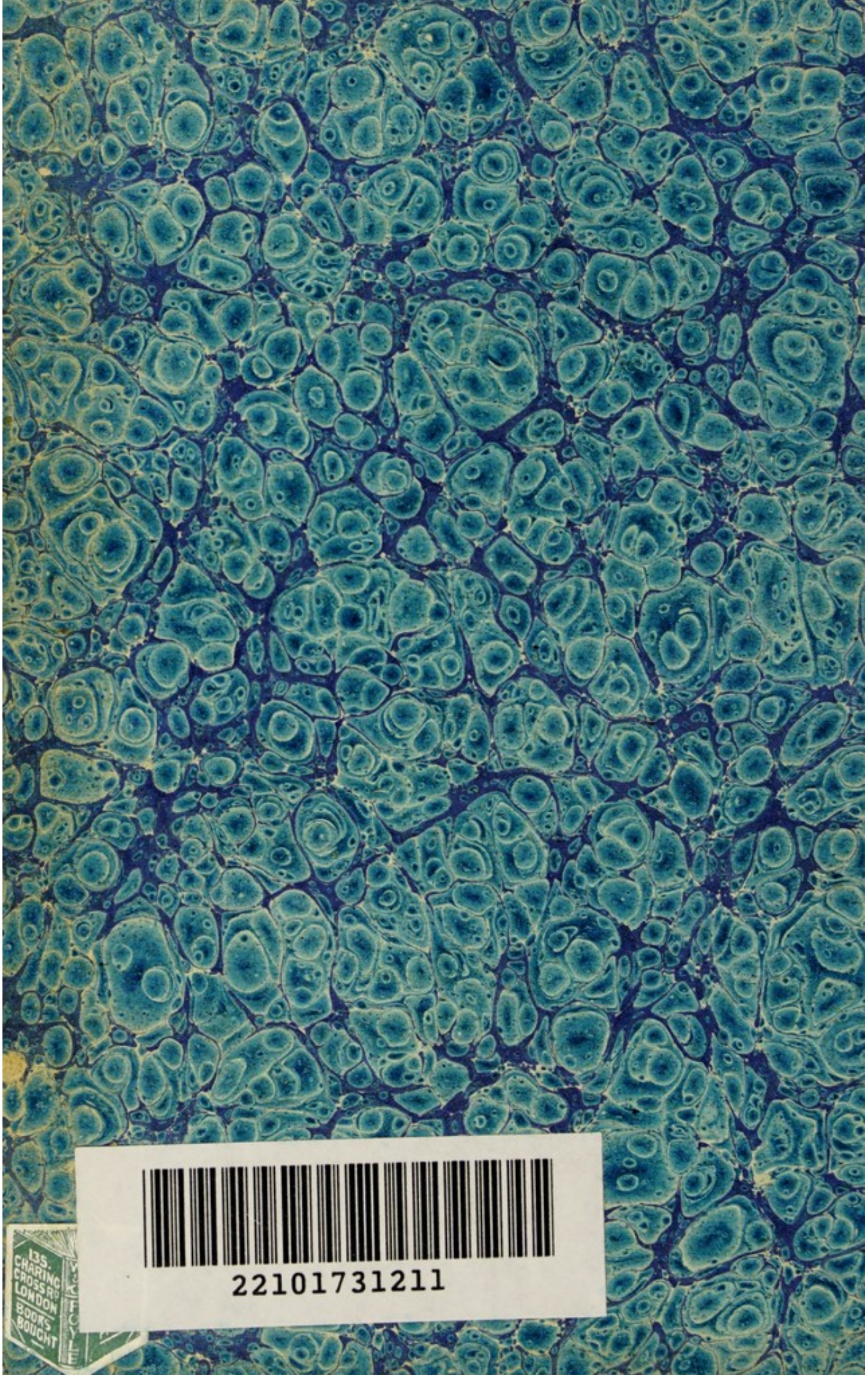
FAMILIAR WILD FLOWERS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BEE ORCHIS.

BEE ORCHIS.

Ophrys apifera. Nat. Ord., Orchidaceæ.

NATURE contains many curious examples of what has been termed mimicry; the reproduction of a certain form in some wholly different species. In most cases this mimicry is held to be a protective feature, but in others, as in the present case, this theory does not meet the requirements of the case. One can easily understand that the resemblance of the curious clear-winged moths, such as the *Sphecia apiformis*, to bees, wasps, hornets, and such-like well-armed insects, often saves them from being captured, but in the case of the resemblance of our present plant to the insect of which it bears the name this can only be regarded purely and simply as a freak of Nature. The animal and vegetable kingdoms curiously interchange their forms, and while on the one hand we have a plant having its flowers strongly

suggestive of a bee, on the other we find the wonderful leaf-insect of the tropics so similar in its marking to the colouring, veining, form, and texture of some leaves that it becomes extremely difficult to detect its presence when motionless amongst the surrounding foliage. The upper surfaces of the wings of many moths, and the under surfaces of the wings of most butterflies, those parts in fact in each that are most visible when the insect is at rest, are beautifully mottled and shaded with greys and browns resembling the tints of barks and lichens. The Lappet and Bufftip moths afford beautiful illustrations of the mimicry of foliage and dead sticks. Some caterpillars closely resemble twigs, and many of our readers will remember to have seen specimens in our museums of the eccentric stick insects of the Eastern archipelago. It would be easy to multiply to almost any extent additional examples of this curious mimicry, protective or otherwise.

The old poet Langhorne has the following lines on the subject of our illustration :—

"See on that flowret's velvet breast,
How close the busy vagrant lies!
His thin-wrought plume, his downy breast,
The ambrosial gold that swells his thighs.

Perhaps his fragrant load may bind
His limbs; we'll set the captive free;
I sought the living bee to find,
And found the picture of a bee."

The name by which the plant is commonly known is so distinctly appropriate that, with the exception of the old name of "honey-bee flowere," given in some of the old herbals, it has no alternative title, the "dead carkasse of a Bee," to quote Gerarde, being too evidently to the fore to make any name appropriate that ignored so marked a feature

The bee-orchis should be searched for on chalk downs and clayey soils during June and July. Though not by any means a scarce plant in the special localities it favours, it is often almost extirpated in a district by the passion that some botanists and excursionists have for rooting up every specimen they can find, exceeding all bounds of moderation, and selfishly depriving those who come after them of a pleasure they might fairly claim to share. When gathered the flowers preserve their freshness for a long time, the buds continuing to expand.

The tubers of the bee-orchis are of the ordinary type of the genus, two roundish and unequal masses surmounted by a few small fibres. The stem is a foot or so in height. Near its base are several small sheathing leaves, silvery on their under surface and green or brown above. The flowers are large and few in number, about four or five being the ordinary number. From their size and the considerable distance apart at which they are placed they render the flower-spike very noticeable, the upper four to six inches being flower-bearing. The sheathing floral leaves from which the blossoms spring are very large and conspicuous. The lip of the flower is broad and convex, and though lobed at the base appears almost as a simple form from the turning under and back of the parts. In texture it is very smooth and velvet-like, and richly variegated in colour with markings of yellow and brown. The flowers are without the spur that is so characteristic a feature in the butterfly orchis (figured in the present series) and several of the other species. The outer sepals are large and prominent, sometimes pale pink in colour throughout, at other times greenish or white; the inner sepals are similar in tint but very much smaller.

The generic name *Ophrys* is simply the Greek word for eyebrow, while *apifera* signifies bee-bearing. It is not at first sight very evident why our beautiful plant should be branded by botanists as the bee-bearing eyebrow; but we find on turning to Pliny, a great authority on natural history, that the plant was in his time employed by ladies to darken their eyebrows. He tells us that "Lysimachia gives a fair and golden tint to the hair, and hypericon, likewise ophrys, makes it black." From the description which he gives of the plant it is more probable that he had in his mind an allied species, the tway-blade, a very common plant of our woods and moist pastures. The second name was bestowed on the plant by Hudson, a botanist of some repute. The plant was in the catalogue of Linnæus given as the *O. insectifera* or insect-bearing, but as we have other insect forms, as, for example, the butterfly orchis, the more definite and individualised name is clearly an advantage.

HEMP-NETTLE.

HEMP-NETTLE.

Galeopsis Tetrahit. Nat. Ord., Labiatæ.

THE hemp-nettle is so called not on account of any botanical affinity with the hemp—for the name was bestowed long before botanical science was out of its infancy—nor even from its sharing the valuable qualities of the hemp as a raw material for fabrics, though doubtless the fibres of many plants could be turned to more account than we find to be the case. The name merely arose from a slight resemblance in the leaves of the two plants. The leaves of the true hemp are composed of some five or seven long, narrow, sharply-serrated leaves, all springing from one point—a beautiful form in itself, and somewhat resembling the leaf of the better known horse-chestnut, except that in the hemp all the leaflets are much narrower in proportion to their length. The leaves of the hemp-nettle have no such

compound and radiate character, but each complete leaf was, in its form, the deepness of its serrations, and the prominent character of its veining, supposed to resemble the leaflets that composed the leaf of the hemp. The resemblance is somewhat remote, but was quite near enough to satisfy our forefathers, who seem never to have been so happy as when detecting these accidental natural likenesses of one plant to another.

The hemp-agrimony is another example of this system of nomenclature, a general likeness of its foliage to that of the hemp being the motive power in the choice of this name also. We may in fairness add that the resemblance in this latter case is more pronounced than in the plant that is the subject of our notice. Hemp-seed is readily obtainable, as all who keep canaries must be aware, and if any of our readers who are not already familiar with the plant will only sow some of the seed, they will, we think, be glad that we have introduced them to so graceful a plant. One may occasionally, and especially on the Continent, meet with it as a field-crop, and it is often grown in small quantities by cottagers and then disposed of to dealers.

The hemp-nettle is a somewhat rank and coarse-looking plant, attaining to a height of some eighteen inches or two feet, and is frequently met with throughout Britain on waste ground. It may be found in flower during the summer and autumn months. The plant has a somewhat stiff-looking and erect growth, and throws out a few spreading branches. Both stems and leaves are more or less covered with stiff hairs. The leaves are stalked, deeply veined, and sharply toothed, and, as in the case of all the *Labiatæ*, always in pairs. Another constant characteristic

in all the plants of this very large natural order is the quadrangular form of the stem. In some plants the angles are somewhat more rounded off than in others, but the feature is always clearly visible, and is in the present plant so marked, that it was formerly called the *Tetrahit*, a name derived from the Greek-word *tetra*, four. This allusion to the marked tetragonal character of the stem is still preserved by making this old name the present second or specific title. The meaning of the title, *Galeopsis*, we shall shortly give in our remarks on the yellow dead-nettle. The numerous flowers are found clustering near the summits of the stems, springing from the axils of the upper leaves, and of the well-known labiate type, of which we have already given so many illustrations. The calyx teeth are very long and bristle-like.

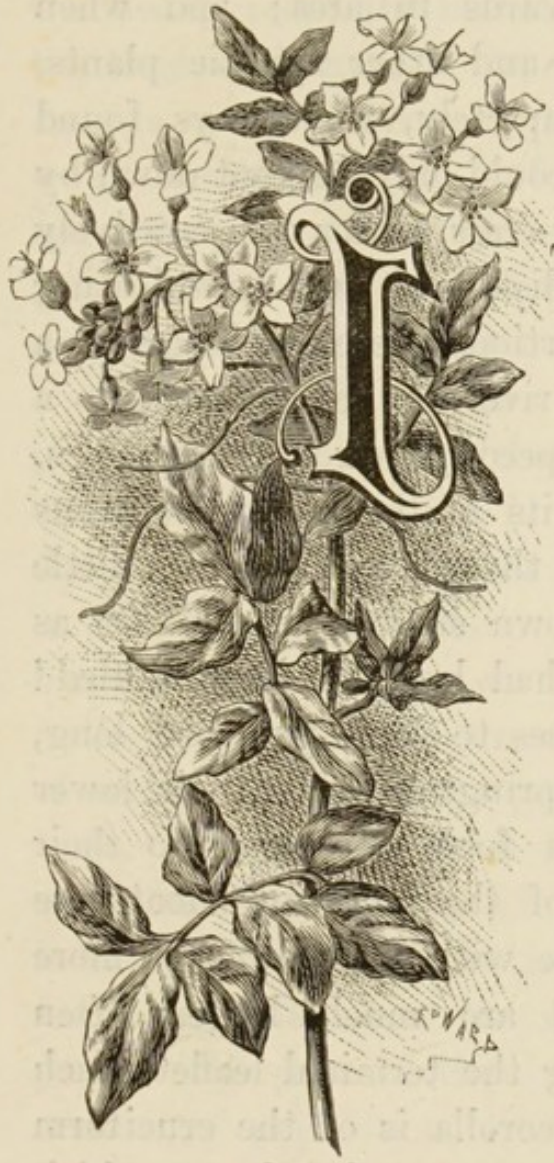
The flowers of the hemp-nettle are ordinarily in colour as we have represented them; but we at times find what is termed the variegated hemp-nettle, a very marked variety, or possibly a distinct species. The botanists who claim for it a distinct specific value call it the *G. versicolor*, but as various intermediate forms between the two extreme types may be met with, it is probably more correct to consider it but a variety, and in that case it would be termed the *G. tetrahit*, var. *versicolor*. In this variety the plant is ordinarily more robust in growth, and the flowers are chiefly yellow, but have a large purple blotch on the lower lip. It seems to be more especially met with in Scotland, and is there in many places abundant. Like many other crimson and purple flowers, the hemp-nettle occasionally varies with white blossoms, but this is merely accidental. To quote Parkinson, in his "Theatrum Botanicum," "there is another hereof whose flower is of a perfect white colour

for the most part, or a little pale whayish, which doth plainly express the difference." The old authors often call our species the bastard-hemp.

Critical zoologists have been known to object to the popular name for the common cockroach or black-beetle, on the ground that the creature is not black, and that it is not a beetle; and we may in the same way be allowed to point out that our present plant is neither hemp nor nettle. The true nettles belong to a wholly different order.

The plant "dronken in wine comforteth the hart and driueth away all melancholie and sadnesse." But, as the charge against us as a nation by our foreign critics centuries ago was that we were the victims of phlegm we can only conclude either that our critics were mistaken, or that our forefathers had not the courage of their opinions, and were wanting in the needful faith in this and several other plants that were equally commended as antidotes to the "melancholie."

WATER-CRESS.



WATER-CRESS.

Nasturtium officinale. Nat. Ord., Cruciferæ.

IT will doubtless be conceded that whatever degree, more or less, of acquaintance which some of our readers may have had with certain of our plants, we have at length, as in the case of the daisy and the dandelion, all reached a common meeting-ground, a plant that is familiar to every one. All our readers, urban as well as rural, will have made acquaintance with the water-cress, though only the latter will have seen it, as we have figured it, in the flowering state. The plant is not so desirable as an esculent during the flowering-season, and it is naturally the aim of the water-cress grower to cultivate large masses of foliage rather than to allow free flowering. Hence the townsman has no opportunity, so long as he keeps within sight of the paving-stones, of seeing the plant as we have figured it.

The root of the plant is long and creeping, composed of numerous tufts of slender white fibres. It is very

easily eradicated. In the river at the bottom of our own garden we have in some years had large quantities of the plant in vigorous growth, some of the masses being many square yards in area; and when this and the water buttercups, and other aquatic plants, blocked the river up too completely, we always found that while many of the things could only be kept down by a free use of the scythe, the water-cress, with a comparatively slight pull, could be entirely dislodged, and sent floating down stream. The floating portions presently lodge on a shallow part of the bed of the river, or get drifted into a quiet back-water, and there speedily re-root themselves. When the plant is in flower its multitudinous blossoms give quite a white mantling to the stream, and at a little distance, as one looks up or down stream, look almost as though not flowers, but flour had been freely sprinkled! The stems are from a few inches to some four feet long, and have numerous rootlets springing from their lower portions. The leaves vary in form according to their position on the stem; those of the flowering-shoots are shown in our sketch, but those with which we are more familiar as an article of diet are much larger, often bronzed or purpled, and having the terminal leaflet much larger than the others. The corolla is of the cruciform type, so characteristic of the great natural order to which the plant belongs. The pod is an inch or so in length.

The fool's-cress, water-parsnip, or *Sium nodiflorum*, is often found growing with the water-cress, and as the latter is thoroughly wholesome, while the former is deleterious, some little care should be exercised, though there is no real difficulty in discriminating them. The fool's-cress belongs to the umbel-bearing plants; all its flowers, therefore, are

borne on stems that spring in bunches from one point, like the ribs of an umbrella, while its leaves are much longer, more acutely pointed, and of a paler green than those of the water-cress; the leaf-stalks also at their bases sheathe the stem, and those of the water-cress do not. The fool's cress is so called because no one but a very foolish person would really mistake it for the true water-cress. The resemblance between the two species is after all very slight, and the points of difference we have set down are amply sufficient to prevent any possibility of mistake.

The water-cress grows most luxuriantly in clear and gently-moving streams having a gravelly bottom, and the plants have then a far finer development and a richer flavour than those that have sprung up either on mud or in almost or quite stationary water; but we have even heard of its being grown very successfully as a pot-plant in the greenhouse, the great necessity being an ample supply of water, or the plants grow tough and burning to the taste. Water-cress must be familiar to all as an agreeable and wholesome salad, and its culture for the table is very extensively practised in many parts of England. Large quantities are brought in daily for a considerable part of the year to the London markets and other large centres of population, travelling in many cases forty or fifty miles to their destination. One Nicholas Mesner has the credit of being the first man to cultivate it. He was a native of Erfurt, and lived there in the middle of the sixteenth century; but though after this beginning the water-cress was freely grown in Holland and Germany, it was more than a hundred years afterwards that an Englishman, named Bradbury, introduced its culture into England.

A water-cress bed should be about four or five feet wide, and have a good sandy or gravelly bottom: in this the young plants or cuttings are planted in rows about a foot apart, so as to allow free passage of water. The depth of water need not be more than three or four inches. The water-cress bears a great deal of gathering without injury to the plants.

The plant is in France the *Cresson*, and in Germany the *Brunnenkresse*. The generic name is derived from the words *nasus tortus*, a convulsed nose, on account of the pungency of most of the species. The water-cress contains a considerable amount of sulphur and iodine, and though we now value it more especially as a pleasant relish, it is doubtlessly valuable medicinally from its stimulative effects on the digestive organs and its anti-scorbutic virtues to persons of debilitated constitutions. A decoction of it formed at one time a leading ingredient in the "spring tea" our forefathers, or perhaps more especially our fore-mothers, seem to have had such faith in.

CHERRY.

CHERRY.

Prunus Cerasus. Nat. Ord., Rosaceæ.

WE have already depicted one species of *Prunus*, the black-thorn, or sloe; the only other representatives of the genus amongst us are the present plant and the bird-cherry, or *P. Padus*. The cherry is found in an apparently wild state in spots far remote from cultivation, as, for example, on the mountains of Scotland, as well as in our English lanes and fields. While some writers dispute whether it be truly indigenous with us, or merely the degenerate descendant of some long-since-introduced variety, we can at all events point to the fact that it is widely disseminated almost everywhere. We owe the introduction of the garden cherry into these islands to the Romans, and while it is possible our hedge cherry may be but a degeneration from this, it is at least as possible that while we have indigenous wild

apples and plums, we may have equally indigenous wild cherries.

Pliny, in an interesting passage, writes as follows :— "The cherry did not exist in Italy until the victory of L. Lucullus over Mithridates, in the year of the city 680. He was the first to introduce this tree from Pontus, and now, in the course of one hundred and twenty years, it has travelled beyond the ocean, and arrived even in Britannia." The tree, we are told, was brought from a place called Cerasus, in Pontus, but it is doubtful whether the Romans called the fruit the cerasus from the name of the place, or whether they so called the place from the abundance of the cerasus there, in the same way that saffron is not so called because it was cultivated at Saffron Walden, but Saffron Walden was so called because so much saffron was cultivated in its neighbourhood. Be this as it may, the Romans called the cherry the cerasus, and their name is yet preserved amongst the nations they subdued, as we may see in the French cerise, the Spanish cereza, the Portuguese cereja, the Italian ciriegia, and the English cherry. In Chaucer and other old English writers the word is given as cherise.

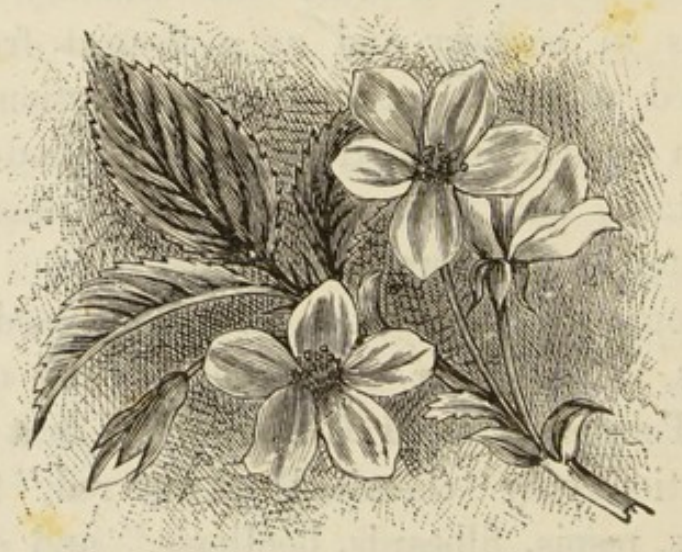
For some long period after the Roman occupation we find no reference to the plant or fruit, and it has been supposed by some writers that the cultivation of the tree was lost during the stormy period that followed; we hear nothing of it during Saxon, Danish, or Norman occupation, but from a passage in a poem by Lydgate (who was born about 1370), we find that the hawkers of London were then exposing cherries for sale amongst their other wares.

The wild cherry may be found in flower in the

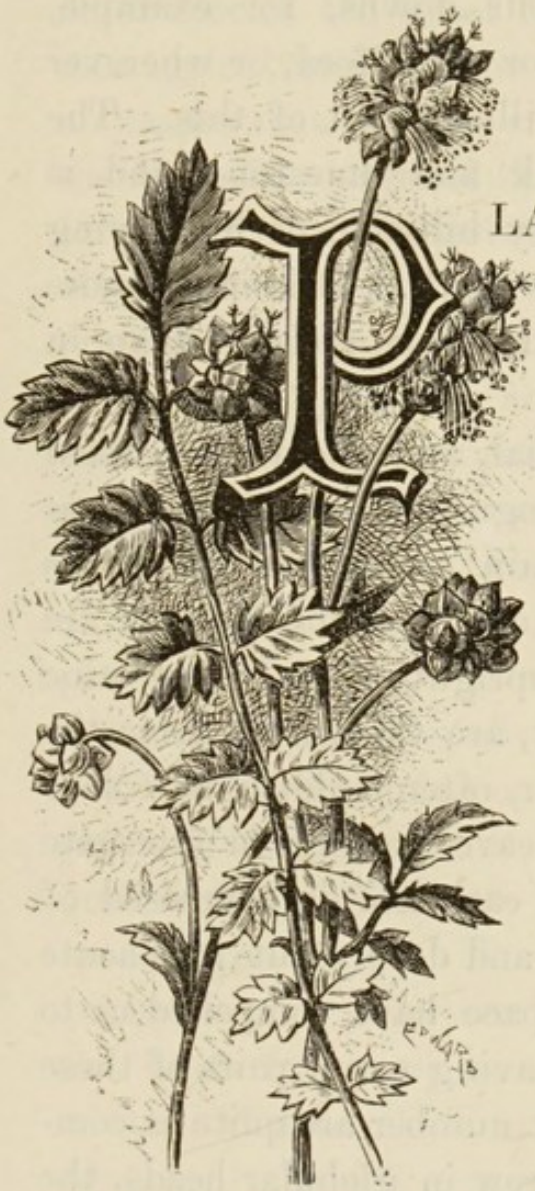
woods and hedgerows in May, at which time it is too conspicuous to be overlooked. Its flowers are large, pure white, and very numerous, so that the whole shrub or tree is a mass of white, and may be seen a mile away. The leaves are large, deeply veined and serrated, and but few in number during the flowering-season. The blossoms are borne on stems about an inch and a half or two inches long, in groups of some three or four; these spring in a clustered arrangement from the little groups of leafy scales that are given out at intervals from the stems. The petals and sepals are each five in number, and on the expansion of the blossom the calyx is thrown boldly back on the stem, in much the same way that we see it in the bulbous crowfoot, a plant we have elsewhere figured. The stamens form a conspicuous yellow mass in the centre of the flower. The fruit is globular and smooth, and though edible by birds and boys, has a bitter taste that makes it very inferior to the cultivated kinds. The gum which exudes from the wild cherry is equal to gum arabic, and the wood is hard and tough, taking a good polish and having a grain that makes it sought after by the turner and cabinet-maker. Besides the ordinary employment of cherries in cookery and as a dessert fruit, they are largely used on the Continent for distillation. Kirschenwasser is a spirit obtained from the fruit and kernels, and noyau, ratafia, and maraschino all owe more or less of their potency and flavour to the same fruit.

The Romans are known to have cultivated eight kinds of cherries, while Tusser, in his delightfully quaint "Five Hundred Pointes of Good Husbandrie," first published in 1573, mentions only "cherries black and red," together with "damisens, respis, filbeards, boollesse," and several other

fruits. Parkinson refers to thirty-four sorts, and in these later days this number has been considerably exceeded. Loudon we see, in his "Encyclopædia of Gardening," gives a list of thirty-six sorts, but expressly indicates that he could have made the list longer, and that he only cared to set down the best kinds. The cherry delights especially in a dry and light soil, but in Kent, the paradise of cherry-growers, many of the best orchards are on a deep loam. Birds, and especially blackbirds, are particularly fond of cherries, and as they rise at very early hours, long before any one else is about, they manage to do a great deal of mischief. Scarecrows in the trees soon lose their terrors, and where the trees are large it is much easier to suggest netting them over than to accomplish this satisfactorily. We have often had occasion to wish that the "Small Birds Protection Act" could be somehow supplemented by a little cross legislation, bearing some such title as the "Cherry and Currant Protection Act," as it is, to say the least of it, aggravating, to watch one's fruit slowly ripening, and then much more rapidly vanishing.



SALAD BURNET.



SALAD BURNET.

Poterium sanguisorba. *Nat. Ord.,* *Rosaceæ.*

PLANTS, there is no doubt, in not a few cases may be very common and yet scarcely come within the literal scope of our title and be called familiar; and the present species, the salad burnet, may be taken as a very good illustration of that fact, for it is abundantly distributed throughout the country, and yet we venture to say that to ninety-nine pairs of eyes out of a hundred that light here upon its counterfeit presentment, it will be a stranger. The reason of this is not far to seek; the small size of its flower-heads and their absence of strong colour are sufficient to render the plant invisible amongst the grass to those who only cast a casual glance at the herbage at their feet, while it does not occur in such masses, nor on spots so bare of other vegetation as the equally inconspicuous moschatell, and other such-like plants do, thus more or less compelling us to give it our observation.

The influence of geological formation is often much greater than many persons who have not studied the matter at all would suppose, for we find numerous species attaching themselves, either exclusively or by evident choice, to certain soils; the chalk hills of our downs, for example, whether met with round Dover, or Guildford, or wherever else they may be, afford a good illustration of this. The salad burnet is a lover of chalk and limestone, and is abundant wherever we get a dry hill-side or high-lying pasturage of this character in the south. It is much more rarely met with in either Scotland or Ireland, than in England.

The salad burnet is a perennial, and should be looked for during June, July, and August. Inconspicuous as it is, it is not without a certain quaint charm of its own; the foliage is richly cut, and the flower-heads are very curious. Several nearly upright stems, from nine inches to a foot or so in height, are thrown up from the root; these are somewhat angular, often reddish in colour and smooth to the touch. The leaves spring in alternate arrangement from these stems; each leaf is composed of numerous lateral leaflets, small, and deeply cut into acute teeth. The necessities of our space have compelled us to be content with showing a leaf having seven pairs of these leaflets, but leaves with twice that number are quite as commonly met with. The flowers grow in globular heads, the lower flowers in each head being males, and the upper ones females. Hence, at the lower part of each head we see conspicuously the hanging tufts of stamens, while the whole is surmounted by the less noticeable, but delicate and richly coloured stigmas. The staminiferous flowers are large and spreading, green in colour, and often edged with crimson;

the pistil-bearing flowers are smaller—the first, or stamen-bearing, are cut into four very evident lobes; the second four-cleft, but much more finely.

Attempts have been made to introduce both this and our allied species the great burnet, or *Sanguisorba officinalis*, into agriculture, but the results would appear to have by no means answered the expectations of those who promoted the idea. The leaves of the salad burnet, when bruised, smell somewhat like cucumber, and have an acid flavour that at one time led to its introduction into salads, a fact still preserved in its common name; while others added it to wine, on account of an agreeable taste it was held to contribute to the mixture. This preparation is commemorated in the generic name *poterium*, a word signifying drinking-cup. Pliny highly commended a decoction of the plant beaten up with honey, for divers complaints. This old use of the plant as a flavouring and a medicine is incidentally seen in the following extract from the "Theatrum Botanicum." "It groweth wilde in divers places of this Land, in dry sandy places, but is usually preserved in gardens, to be ready at hande when it shall neede to be used." According to this author, the plant possesses many "vertues." "It is a speciall helpe to defend the heart from noysome vapours, and from the infection of the Plague or Pestilence, and all other contagious diseases, for which purpose it is of great effect, the juice thereof being taken in some drink. It is also a singular good Woundherbe for all sorts of wounds, both of the head and body, either inward or outward, to bee used eyther by the juice or decoction of the herbe, or by the powder of the herbe or roote, or the water of the distilled herbe, or else made into oyle or oyntment by it selfe, or with other

things to be kept." We see, too, that in the "New Herball or Historie of Plants" of "that learned D. Rembert Dodoens," a quaint old black-letter volume published in 1586, the burnet is strongly commended as a healer of wounds, "made into powder and dronke with wine, wherein iron hath bene often quenched, and so doth the herbe alone, being but only holden in a man's hand as some have written. The leaues stiped in wine, and dronken, doth comfort and rejoice the hart, and are good against the trembling and shaking of the same." These are but samples, mere surface skimmings, of some of the more evident "vertues" of this lowly herb: space forbids our adding more, nor, indeed is it necessary, for if our readers will only consider that it is a sort of general-heal-all, a more detailed catalogue becomes needless.

MARSH-THISTLE.

MARSH-THISTLE.

Cnicus palustris. Nat. Ord., Compositæ.

IN our series we have already figured the lordly spear-plume thistle, the corn sow-thistle, and the dwarf thistle; and ere we come to the end of our series we hope to give more, in addition to the present plant. All are common plants, and as such claim a place, as of right, in our series. Culpeper, we see, begins and ends his description of the British thistles as follows:—"Of these there are many kind growing here in England, which are so well known that they need no description." There are certain manifest advantages to the author in this way of treating the subject, but to any one in search of information the treatment appears a little bold. Of the ash-tree, for example, he writes:—"This is so well known that time will be mis-spent in writing a description

of it." Of the barberry again he writes;—"The shrub is so well known by every boy and girl that has but attained to the age of seven years, that it needs no description;" while of the cherry he says, "I suppose there are few but know this tree for its fruit's sake, and therefore I shall spare writing a description thereof. In like flippant manner he discourses of the white lily, and several other plants.

Like all other plants, the Marsh-thistle was placed by mediæval botanists under the planetary influences: "Mars rules it, it is such a prickly business." Many of the older writers approached the study of plants less from a botanical than a medico-astrological point of view, and ascribed Jovial, Mercurial, or Saturnine influences to the wayside weeds. In one of these old books the writer divides his readers into two classes: the vulgar, and those who study astrology, and thus addresses them:—"To the vulgar: kind souls, I am sorry it hath been your hard mishap to have been so long trained in such Egyptian darkness, even darkness that may be felt. The vulgar road of physic is not my practice, and I am, therefore, the more unfit to give you advice. If I should set you to look at the sun, I should dazzle your eyes and make you blind. To such as study astrology, who are the only men I know that are fit to study physic, physic without astrology being like a lamp without oil, you are the men I exceedingly respect, and such documents as my brains can give you at present I shall give you. Fortify the body with herbs of the nature of the Lord of the Ascendant, 'tis no matter whether he be a Fortune or Infortune in this case. Let your medicine be something anti-pathetical to the Lord of the Sixth. If the

Lord of the Tenth be strong, make use of his medicines: but if this cannot well be, make use of the remedies of the Light of Time. Be sure always to fortify the grieved part of the body by sympathetical remedies. Regard the heart, keep that upon the wheels, because the sun is the foundation of life, and therefore, those universal remedies, *aurum potabile* and the philosopher's stone, cure all diseases." All which points we trust our readers will duly bear in mind when they doctor themselves with this or any of the other plants of our series, or we must most distinctly decline to be responsible for any consequences that may ensue. But *revenons à nos chardons.*

The marsh-thistle, as its name implies, prefers moist situations, and may be looked for—or rather, found, as its abundance precludes the necessity of search—not only on marshy grounds, but on moist heaths and commons, damp meadows, and the boggy places in woods. It is ordinarily some five feet high, but in this last locality its growth amongst the sheltering and shade-casting trees is often considerably beyond this, while its long, slender, and scarcely-branched stem and erect growth make it look even taller than it is. As it is pre-eminently the thistle of the marsh, and is never found except in such localities as we have referred to, it is not likely to be mistaken for any other thistle. Like all the rest of its relatives, it often varies to white flower-heads, and while the stem and leaves are exceptionally spiny, it differs from most of the other species in having its flower-heads defenceless. Both these characters, the excess of spiny defence in one part and the absence of it in another, may be clearly seen in our figure. The leaves are long,

narrow, and stalkless, their bases being produced down the stem, their upper surfaces of a deep green, and the whole leaf more or less covered with rough hairs. The lateral segments of the upper leaves are long and narrow, while the terminal portion of the leaf is carried out into a still longer and more acute point, giving a very quaint and marked character to the form. The flower-heads are numerous, and densely massed in clusters at the end of the stem; the flowers themselves are of the well-known composite type, and are succeeded by a mass of feathery down. As the plant is a biennial, there should be no great difficulty in its extirpation by the husbandman, but it is very necessary that it should be eradicated or cut down before seeding-time, otherwise each passing breeze will waft its winged seeds far and wide over the country-side. The neglect of one farmer falls on all in such a matter. In many cases it would probably be possible to meet the plague most effectually by effective drainage operations.

TEASEL.

THE TEASEL.

Dipsacus sylvestris. Nat. Ord., Dipsaceæ.

THE teasel, though not so common as some other plants, is very generally distributed, and we should imagine that few persons out for a day's ramble in the country would fail to come across a specimen or two of it. Its harsh, tough, wiry stems offer no temptation to any animal to browse on them, and long after most plants have died away with the summer or autumn, the dry gaunt stalks of the teasel and its brown and withered heads stand erect in the hedgerow and attract our notice. Some of our botanists admit three species, the *D. Fullonum*, or fuller's teasel, the present species, and the *D. pilosus*, a small teasel, while most of them are inclined to blend the first and second into one. The first form has the hooked scales of the flower-head largely developed, and cultivation is found to preserve this feature, while neglect or

a poor soil causes it to disappear and pass into the second form, and there is little reason to doubt that the fuller's teasel should be considered merely as a variety of our present plant. The small teasel is a distinct species; it may at times be found in moist hedgerows, but is not generally distributed; its height, the shape of its flower-heads, the form of the foliage, are all quite distinct from the present plant.

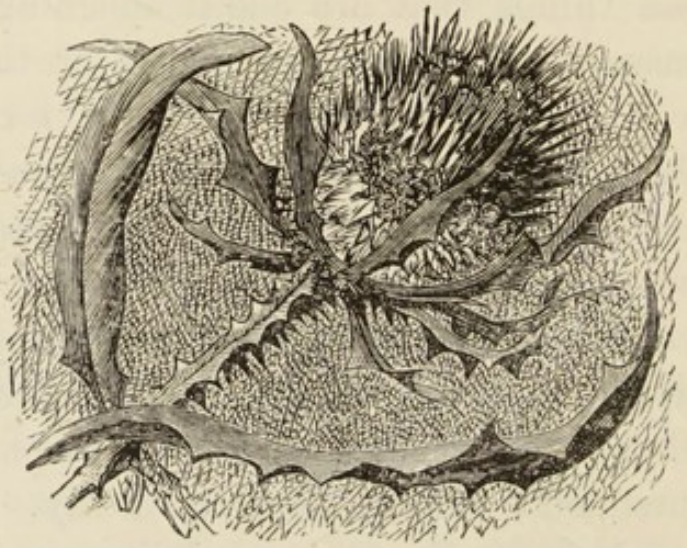
The common teasel should be searched for on waste land, in the hedgerows, and by the roadside. It flowers rather late in the summer, and while commonly distributed in the south of England, becomes rarer as we go northward. The plant is a biennial, and attains to a height of some four or five feet, though we may sometimes find specimens only eighteen inches or so in height, bearing the crop of cylindrical flower-heads. The whole plant is very harsh and prickly to the touch. The lower leaves are large, and lance-headed in shape, and coarsely toothed; the upper leaves are more pointed in character, grow in pairs, and have their bases so grown together as to form a deep cup, capable of holding dew and rain. This conspicuous feature has earned the plant its older and alternative name of Venus's basin, and it was held that the water which collects in this natural receptacle—and may almost always be found there—was a remedy for warts. Its generic name, *Dipsacus*, also refers to this peculiarity of structure, being derived from the Greek verb signifying to be thirsty.

Lyte, in his translation of Dodœns (1586), calls our plant the card thistle. "The card thistle his first leaues be long and large, hackt round about with notches like the teeth of a sawe, betwixt these leaues riseth a holow stalke of three foote long or more, with many branches, set here and

there with diuers hooked sharp prickles, and spaced or seuered by ioints, and at euery of the sayd ioints grow two great long leaues, the which at the lower endes be so closely ioined and fastened together round about the stalke, that it holdeth the water, falling either by raine or dewe, so sure as a dish or bason. At the top of the branches grow long, rough, and prickle heads set full of hookes; out of the same knops or heads grow small purple flowers placed in cels and cabbins, like the honie-combe, in which chambers or cels (after the falling away of the flower) is found a seed-like fenil. The knops or heads are holow within, and for the most part hauing worms in them, the which you shall find in cleaning the heads. The small wormes that are founde within the knops of teasels do cure and heale the quartaine ague, to be worne or tied about the necke or arme."

Gerarde, in his "Historie of Plants," tells us his own experience in this latter matter. It would appear from this that the theoretical remedy would not bear the rough strain of actual use. He shall, however, speak for himself in his own refreshingly quaint way :—"It is needlesse here to alledge those things that are added touching the little wormes, or magots, found in the heads of the Teasell, which are to be hanged about the necke, for they are nothing else but most vaine and trifling toies, as my selfe haue proued a little before the impression hereof, hauing a most grieuous ague, and of long continuance: notwithstanding physicke charmes, these wormes hanged about my neck, spiders put into a walnut-shell, and divers such foolish toies that I was constrained to take by phantasticke people's procurement; notwithstanding, I say, my helpe came from God himselfe, for these medicines, and all other such things, did me no good at all."

The flower-heads are numerous, growing singly on the extremities of the footstalks, and first breaking forth into flower in a ring of blossoms near the centre. Cloth-makers have found that no invention can supersede the natural teasel-head for raising a nap on woollen cloth. These heads are therefore an extensive article of commerce, the plant being largely cultivated for this purpose in the west of England, in France, Germany, Italy, and elsewhere. Many thousands are imported every year, and any one who is familiar with any of the centres of the clothing industry, will remember seeing the waggon-loads of teasel-heads going through the streets to the different factories. The heads are cut as soon as the flowers wither, about eight inches of stem remaining attached to them, and they are then dried, and sorted into qualities. The great utility of the teasel-head is that it gives the necessary nap, but breaks at any serious obstruction, while all metallic substances in such a case expect the cloth to yield first, and therefore tear the material.



RED-BERRIED BRYONY.

THE RED-BERRIED BRYONY.

Bryonia dioica. Nat. Ord., Cucurbitaceæ.

BRYONY in popular parlance is a name bestowed equally on two very distinct species—the plant we have here figured, and a second plant which appears on another of our plates. The only point in common is found in the fact that both are hedge-creepers; in every other respect they are completely unlike; there is no botanical affinity, no outward semblance. The present plant is sometimes called the white bryony, so as to make a more emphatic distinction between it and the other plant referred to—the black bryony. The name is not, however, at all a good one, for while the berries of the black bryony are, from their deep purple-black, a sufficient justification of its name, there is no especial propriety in the name white bryony as applied to the present species. Its ordinary name, that with which we head our remarks, is in every way the most expressive. It is also called wild vine, wood-vine, or hedge-vine by old writers, and these names, all pointing to its resemblance to the

true vine of our gardens and hot-houses, are not by any means bad ones, as its large leaves, insignificant flowers, tendrils, and clusters of red berries, are all features in which it more or less resembles the grape-vine.

The root of the red-berried bryony is tuberous in form, white, and very large, often branched or forked. The root-stock is perennial. The branches thrown off die down annually; they grow with great rapidity and stretch to a long distance, enfolding the hedge over which they climb in a mass of beautiful foliage. These stems branch a good deal, are very rough in texture, and angular in section; they are, however, very weak, and need almost continuous support. On breaking them they are found to be full of an acrid and very ill-smelling juice. The tendrils with which the plant is liberally provided as a means of attachment to sturdier neighbours are either simple or branched, of a considerable length, and ordinarily wound up tightly in a spiral form, fold after fold wrapping round any convenient object within reach, and giving so firm a hold that nothing but downright violence will suffice to part them from their point of attachment. The flowers are diœcious, *i.e.*, the male and female blossoms are on different plants. In most plants, we need scarcely say, each flower is complete in itself. If we pick a poppy, for example, we find a central organ, or stigma, surrounded by its ring of stamens, and any one flower selected from such plant will show all the floral parts or organs. In the bryony all the flowers upon a certain given plant will either be pistil-bearing solely, or they will all be exclusively stamen-bearing. Both kinds of blossom are of a pale and rather sickly shade of green, veined over rather prominently with lines of dark green in a kind of rough reticulation. The male, or staminiferous,

flowers grow several together in a racemose inflorescence; the female, or pistilliferous, flowers ordinarily grow in twos or threes. These latter are much smaller, and of a somewhat different form from the others. In each case the calyx and corolla are both divided into five parts. The foliage is a rich green, rather coarse in appearance, and very rough to the touch. The forms of the leaves are, however, very graceful, and rendered the plant one of the favourite subjects of the carver in mediæval times. It will be found introduced in many works of the Gothic period. The leaves are divided into five or seven large lobes, the central one being always considerably the largest, and there is a certain quaint angularity of form that is very pleasing. The berries, which will only be found on the plants having pistillate flowers, are first green, then yellow, next orange, and end by being a beautifully bright red. Berries of all these tints may be found at the same time in close companionship, and as the plant dies away as the berries ripen, long festoons of these brilliantly-coloured fruits may be met with hanging on what appears to be a thin brown line. The effect is very curious, and would be in no slight degree puzzling to any one who did not know more of the plant than such an opportunity of observing it would afford him. The red-berried bryony is very commonly distributed throughout England, though it would appear to be seldom or never met with in either Scotland or Ireland. It flowers from May to September.

The botanical name of the plant is the *Bryonia dioica*. The first of these names is derived from a Greek word signifying to shoot out, and is bestowed on the plant in allusion to the rapidity of its growth. The second, or specific,

name points to the diœcious character of its blossoms. The red-berried bryony is not only the sole species indigenous to England of the genus, but this genus is the only one having a British representative in the order *Cucurbitaceæ*, an order that is chiefly tropical in its range. Most of the plants of the order are African in their habitat, but it includes such well-known cultivated species as the various forms of cucumber, gourd, melon, and pumpkin. Almost all the species abound in a bitter and laxative principle.

The berries of the bryony are poisonous, and although the plant has been at one time a good deal used in rustic medicinal practice, it is a dangerous thing to meddle with. Its violent and powerful action has caused it in France to receive the name of *Navet du diable*, a sufficiently expressive indication of the peril of having any dealings with it.

WOOD LOOSESTRIFE.

WOOD LOOSESTRIFE.

Lysimachia nemorum. Nat. Ord., Primulaceæ.

WE have in Britain four species of yellow loosestrife, and we propose having the pleasure of introducing our readers to three of them, including the present illustration. All these belong to the same genus, *Lysimachia*, and in addition to these there is another plant of a quite different genus, the purple loosestrife or *Lythrum Salicaria*, of which also we hope to give an illustration. Of the yellow loosestrifes, the plants yet to be figured will prove the *L. vulgaris*, or great yellow loosestrife, so conspicuous an adornment of our river-sides, as it throws up its stem some three feet high, and bears on its summit its clustering golden flowers; and the *L. nummularia*, the creeping loosestrife, money-wort, herb-twopence, or creeping-Jenny (for it is a general favourite, and has many popular names), which sends its long lines of conspicuous

yellow blossoms and glossy verdant leaves creeping amidst the herbage of the hedgerow. The only species we shall not figure is the *L. thyrsifolia* or tufted loosestrife. In this the stems are some two feet high, the leaves are numerous and lanceolate, and the small yellow flowers spring in dense bunches from the axils of the leaves. It is found in wet marshy ground, or by the sides of streams, but is very rarely met with in England, and chiefly in the northern counties when found at all, though it occurs somewhat more frequently in Scotland.

The wood loosestrife, the subject of our present illustration, is one of the smaller species, its slender stems being rarely a foot in length. It should be looked for in woods and shady copses, from the end of May to the beginning of September, and it seems to thrive more especially where there is a considerable amount of moisture in the soil. All lovers of woodland scenery will be aware that beneath trees the ground is often decidedly soft, and when we come to a place where we more especially hesitate whether to go on or to turn back, we may expect to find the wood loosestrife not far off.

The meaning of the generic title *Lysimachia* we shall probably refer to in our comments on a succeeding species in the genus; the specific name is Latin in its origin, and means that which pertains to woods or groves. We recognise it again in the botanical name of the wood anemone—*Anemone nemorosa*—and some few others. A good many other plants have the terms *sylvestris* or *sylvatica* applied to them, but these would appear to be distinctions without any real difference, as the sylvan shades are equally those of the woodland or the grove. The hound's-tongue, *Cynoglossum sylvaticum*, and the wood

scorpion-grass, *Myosotis sylvatica*, are neither more nor less plants of the forest than the wood loosestrife itself.

The root of the present loosestrife is perennial, and composed of numerous long whitish fibres. From this spring several slender spreading stalks, weak and prostrate in character, often rooting near their bases, and generally bright red in colour; the leaves grow in pairs, on short foot-stalks, and are of a broadly oval form, but pointed at their extremities. They are glossy on both the upper and under surfaces, somewhat prominently veined, and have their margins waved. In our illustration it will be seen that in one case the leaf stands alone, and so far seems to dispute our assertion that the leaves always grow in pairs, but it will also be seen that the foot-stalk of the second leaf is visible, and that it is only some accidental circumstance that has deprived the plant of that particular leaf. The botanist desires to see the absolute facts of plant structure, and runs some little risk of making his drawings too suggestive of diagrams, while the artist often too little regards these facts, and draws the object as he thinks he sees it, trusting to the artistic eye and accuracy of perception to supply all that is needed. Our aim has been in all our drawings to try and combine these two things—the absolute facts of the case and those picturesque accidentals that tell somewhat of the history and vicissitudes of the particular plants.

The flowers of the wood loosestrife have a deeply five-cleft corolla, broadly displayed and a brilliant yellow in colour. Each flower is supported on a long and slender stalk, rising from the axils of the leaves. The five long and narrow segments of the calyx may be seen in the flower that turns its back on us. The globular capsule

that succeeds the blossom has a way of twisting round on its stalk in the same manner as the pimpernel does, and on this account and from general similarity to that flower the old authors often called the wood loosestrife the yellow pimpernel. A drawing of the pimpernel will be found at page 152 in our third volume, so that a comparison of the two plants may be readily made.

WATER AVENS.

WATER AVENS.

Geum rivale. Nat. Ord., Rosaceæ.

IN a subsequent volume we shall figure another species of avens, the common avens, or Herb Bennet, the *Geum urbanum* of botanical nomenclature; a plant abundantly to be met with almost everywhere in the hedgerows and on banks. A reference to its illustration will show that though in foliage the common avens is very similar to the water avens, its flowers are entirely different, those of the one forming a small but widely-spreading golden star of five petals, while the flowers of the other, as our illustration shows, are much larger, of bell-like form and of reddish tint. We have thus dwelt upon the marked differences in the flowers of the two varieties—differences that will be still more readily perceived by an inspection and comparison of our illustrations, because it is a curious fact that when the two species are found in the same neigh-

bourhood, we frequently find hybrid forms partaking of the characters of both, and inclining sometimes towards one and sometimes towards the other. What may be called the typical intermediate form was at one time raised to the dignity of an independent species, under the title of *Geum intermedium*, a name that sufficiently explains itself; but as every degree of hybridism and transition from the two extremes may be met with, there is evidently no justification in admitting the claim of any particular degree of change to an independent existence. We have ourselves met with every stage of gradation between the two extreme types.

The water avens, as its name implies sufficiently clearly, is a lover of moist situations, so that we find it ordinarily by the banks of rivers and canals in the coarse herbage that fringes their margins, or in ditches. It is not, however, so exclusively a plant of the low-lying valleys as its name would perhaps, lead us to suppose; the specimen, for example, from which our illustration was taken was growing in a wood on the summit of a considerable eminence, but we need scarcely remind any one who has had any experience of mountains, whether in Cumberland, Wales, or Switzerland, that marshy and swampy ground is by no means uncommon on them, and it is in such situations that we find the water avens. It is altogether a northern plant, flourishing most freely in the northern parts of Europe, in Canada, and Siberia, and though occasionally found in southern England, it is very much more common in the northern counties and in Scotland.

The generic name geum is derived from the Greek, and signifies yielding an agreeable flavour: this refers, however, to the root of the other species in the genus, the *G. urbanum*; while the specific name is based on

the Latin word *rivulus*, a small brook. On turning to Prior, to see what he could tell us of the significance of the popular name, we were met by the following very unsatisfying statement:—"Avens, in Promptorium Parvulorum *avence*, in Topsell and Askam *avance*, Mediæval Latin *avantia* or *avenci*, in Ortus Sanitatis *anancia*: a word of obscure origin and quite unintelligible: spelt also anartia, anantia, arancia, and amancia." Several of these authorities for the spelling are decidedly antique; for example, the last book referred to was brought out in the year 1486, so that we must conclude that all clue to the original meaning of the word is lost in the mists of far-reaching antiquity.

The root-stock of the water avens is perennial, the stems are erect, about a foot high, scarcely branching, having only a few leaves upon them, and those of a very simple character. Most of the leaves spring from the base of the plant, and have one large terminal lobe and a few small lateral leaflets. The whole plant is hairy. The flowers are few in number, often drooping, the five petals forming together a compact and cup-like corolla. The petals are heart-shaped, and vary in colour from a dull orange to red or purplish. The calyx is cleft into ten segments, five being very much smaller than the others with which they alternate. It is dull reddish-purple in colour, and partakes of the same compact nature as the corolla. The stamens are of the usual rosaceous character, an indefinite number of them clustering together, and forming with their anthers a yellow mass in the centre of the flower—using the term centre, of course, in its artistic, not botanical, sense, for here, as elsewhere, the female organs occupy the actual centre, and the stamens surround them.

Though the common avens had a great reputation in ancient and mediæval times as a medicinal plant, we fail to find any special commendation of the water avens. It is either passed over unnoticed, or we are merely told that its properties are similar to those of the common avens. It was, however, often used in olden times to flavour ale and other beverages, its roots, like those of the commoner species, having a somewhat aromatic character, and a slight astringency. It was held to not merely improve the flavour of the home-brewed ale, but also to preserve it from turning sour.

Our modern herbalists collect the water avens, and we learn that in the United States especially it has a popular reputation, and is held in great esteem as a febrifuge and tonic, in such settlements as that of Eden so graphically described by Dickens.

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FAMILIAR WILD FLOWERS

FIGURED AND DESCRIBED BY

F. EDWARD HULME, F.L.S., F.S.A.

"These are thy works, Parent of Good,
Almighty! Thine this universal frame
Thus wondrous fair. Thyself how wondrous then!
Unspeakable; who sitt'st above the heavens,
To us invisible, or dimly seen
In these Thy lowest works; yet these declare
Thy goodness beyond doubt, and power divine."

MILTON.

Third Series

WITH COLOURED PLATES

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LA BELLE SAUVAGE

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SUMMARY.

It should be prefaced that this Summary merely professes to give a brief epitome of each of the plants represented in this volume, and that it is principally a condensation from the writings of Hooker, Lindley, Bentham, or other authorities on the subject.*

BUTTERFLY ORCHIS, *HABENARIA BIFOLIA. Nat. Ord., Orchidaceæ.*—Perianth superior, irregular, of six petal-like segments, the two lateral segments widely spreading, pure white or greenish. Lip linear, obtuse, entire, white or greenish. Spur long and slender. Column in centre of flower consisting of stamen and pistil, anther on face of column. Ovary inferior, one-celled. Capsule three-celled. Inflorescence a loose panicle. Flowering stems with lanceolate bracts, and having two large broadly-ovate leaves at its base, and a few small scales. Tubers large and entire.—Moist pastures and woods. June, July, August. Perennial. *p.* 1.

DEWBERRY, *RUBUS CÆSIUS. Nat. Ord., Rosaceæ.* Calyx of five narrow segments. Corolla of five equal, perigynous petals. Flowers few in number, in loose panicles. Stamens perigynous, numerous. Style short. Drupes clustered on a common receptacle, superior, more or less enveloped in calyx, covered with a grey bloom. Leaves of three serrated and strongly-veined leaflets. Stems more or less with a bloom on them, and covered with small and weak prickles. —Thickets and waste ground. June, July. Perennial. *p.* 5.

YELLOW ROCKET, *BARBAREA VULGARIS. Nat. Ord., Cruciferæ.* Calyx of four sepals, slightly bigibbous. Corolla small, bright yellow, of four petals. Stamens six, tetradynamous. Ovary and style one. Pods numerous, spreading, linear, terminating in pointed style, four-angled. Inflorescence a long and dense raceme. Leaves alternate, varying in form, lower ones lyrate, upper pinnate or pinnatifid, lobed. Stem stout, erect, branching, furrowed, smooth.—Hedges, pastures. May to September. Perennial. *p.* 9.

* See Prefatory Note to the Summary, Series I.

GOOSE-GRASS, *GALIUM APARINE. Nat. Ord., Rubiaceæ.*—Calyx adherent with ovary. Corolla monopetalous, rotate, white, regular, four-cleft. Stamens four, inserted on corolla. Style one, two-cleft at summit. Ovary one. Fruit a dry two-lobed pericarp, having hooked bristles. Flowers three to ten together on short foot-stalks springing from axils of leaves. Leaves in whorls, six to nine in a ring, prickly, linear-lanceolate. Stems rough, angular, weak, straggling, freely branching, supporting themselves by numerous recurved prickles.—In hedgerows. June, July. Annual. *p.* 13.

SAWWORT, *SERRATULA TINCTORIA. Nat. Ord., Compositæ.*—Calyx adherent with ovary. Corolla tubular. Involucre oblong, imbricated with unarmed or downy scales, glabrous. Stamens five. Anthers syngenesious, ecaudate at base, appendages obtuse. Ovary one. Style one, sheathed by anther tube, bifid at apex; the stigmas along each branch. The plant diœcious. Fruit an achene, obovate, glabrous, compressed; pappus pilose, hairs filiform, in several rows. Receptacles chaffy. Flower-heads in corymbs. Lower leaves pinnatifid or pinnate; upper ones lanceolate; all finely serrate. Stems erect, stiff, slightly branching.—Woods and copses, sheltered pastures. July, August. Perennial. *p.* 17.

EVERLASTING PEA, *LATHYRUS SYLVESTRIS. Nat. Ord., Leguminosæ.*—Calyx of five sepals, the fifth inferior, mouth oblique. Petals five, papilionaceous, standard large, bright pink, veined. Stamens diadelphous, ten. Ovary one-celled. Style and stigma one. Fruit a two-valved, large, and several-seeded legume. Leaves alternate, stipulate, one pair of leaflets, ensiform, branching tendrils, leaf-stalks flattened, winged. Stems weak, climbing, winged. Inflorescence racemose, on long axillary peduncles.—Thickets and rocky places. June, July, and August. Perennial. *p.* 21.

YELLOW DEAD-NETTLE, *GALEOBDOLON LUTEUM. Nat. Ord., Labiatæ.*—Calyx tubular, campanulate, five-cleft. Corolla monopetalous, hypogynous, irregular, bright yellow; upper lip long and arching, lower lip divided into three nearly equal segments, spotted with orange. Stamens four, didynamous, longer than tube of corolla; two longer than the other two; anthers glabrous. Ovary one, four-lobed. Stigma two-lobed. Achenes four, truncate at end, three-angled.

Stems hairy, square. Leaves in pairs, ovate-acuminate, large and bold serrations, on petioles. Flowers in whorls in the axils of the leaves.—Woods and shady hedgerows. April, May, June. Perennial. *p.* 25.

STITCHWORT, *STELLARIA HOLOSTEA. Nat. Ord., Caryophyllaceæ.*—Calyx of five petals, narrow and very deeply cut. Corolla regular; petals five, white, deeply cloven. Stamens ten, inserted on fleshy disk; anthers large and conspicuous, opening longitudinally. Ovary one, capsule one-celled, sessile. Seeds numerous. Inflorescence paniculate, numerous leafy bracts. Leaves opposite, entire, exstipulate, lanceolate, sessile, ciliate. Stem brittle at nodes, four-angled. Creeping root stock. — Hedges and woods. April, May, June. Perennial. *p.* 27.

TUBEROUS MOSCHATEL, *ADOXA MOSCHATELLINA. Nat. Ord., Araliaceæ.*—Flowers irregular in their parts, terminal flower having two sepals and the laterals three sepals. Corolla superior, rotate, four or five-cleft, according to position. Stamens eight or ten. Berry fleshy, four or five-seeded. Inflorescence a globular head of four lateral flowers and one terminal one, borne on long peduncles. Leaves radical, on long foot-stalks, triternate, two cauline and ternate, radicals longer than the stem-leaves. Stem slender and herbaceous, and whole plant light green in colour, very delicate and fragile-looking.—Woods and shady banks. April and May. Perennial. *p.* 29.

LAMB'S-TONGUE, *PLANTAGO LANCEOLATA. Nat. Ord., Plantaginaceæ.*—Calyx scariose, four-partite. Corolla minute, having tube and four spreading lobes in limb. Stamens four, long and conspicuous, inserted on tube of corolla. Style and stigma simple. Fruit a capsule. Inflorescence densely spicate, borne on long, leafless, erect, and angular peduncles. Leaves lanceolate, tapering at each extremity, strongly marked by the parallel nerves, radical, spreading.—Meadows, rubbish heaps, waste ground. June, July. Perennial. *p.* 33.

UPRIGHT MEADOW CROWFOOT, *RANUNCULUS ACRIS. Nat. Ord., Ranunculaceæ.*—Calyx yellowish green, spreading, five distinct sepals. Petals five, distinct, bright yellow, having nectariferous spot at base. Stamens free, hypogynous, numerous, on receptacle. Fruit a globular head of numerous carpels. Inflorescence a loose, many-flowered panicle. Stems round, erect, two to three feet in height,

freely branching, covered with soft hairs. Leaves deeply divided into palmate and strongly serrated segments, the lower leaves being on stalks, and much more richly cut than the upper and more linear leaves.—Meadows and banks. June and July. Perennial. *p.* 37.

STRAWBERRY, *FRAGARIA VESCA. Nat. Ord., Rosaceæ.*—Calyx persistent, ten-cleft, the alternate segments being larger than the others. Petals five, equal, perigynous, pure white. Stamens perigynous, numerous, the anthers two-celled. Styles simple, short. Leaves clothed with soft hairs, alternate, chiefly radical, stipulate on stem. Achenes on fleshy crimson receptacle. Calyx reflexed on ripening of the fruit. Stems herbaceous, radical, bearing a small number of flowers.—Woods and copses. May, June, July. Perennial. *p.* 41.

FURZE, *ULEX EUROPÆUS. Nat. Ord., Leguminosæ.*—Calyx two-partite, segments slightly toothed, having two small bracts at base, pubescent, yellowish. Corolla papilionaceous, bright yellow, fragrant. Stamens ten, monadelphous. Style and stigma one. Fruit a two-valved legume. Leaves simple, alternate, stipulate, inconspicuous. Stems freely branching, covered with spreading and rigid spines. Growth compact and bushy.—Commons and sandy or gravelly heaths, railway embankments and cuttings, open forest land, etc. Flowers more or less throughout the year, but chiefly in the spring. Perennial. *p.* 45.

COMMON VETCH, *VICIA SATIVA. Nat. Ord., Leguminosæ.*—Calyx of five sepals, gibbous at base. Corolla papilionaceous. Stamens ten, diadelphous. Ovary one-celled. Style filiform, simple. Fruit a legume, two-valved, several seeded. Leaves alternate, pinnate, leaflets four to ten in each leaf, varying from obcordate to linear. Branching tendrils. Stipules small, deeply serrate. Flowers axillary, on very short peduncles, solitary or in pairs.—Open spaces in woods, pastures, waste ground. May, June. Annual and biennial. *p.* 49.

SEA CAMPION, *SILENE MARITIMA. Nat. Ord., Caryophyllaceæ.*—Calyx monophyllous, tubular and inflated, five-toothed, strongly veined and reticulated. Corolla of five white petals, having two-cleft and spreading lamina. Stamens ten. Styles three. Ovary one. Fruit a dry capsule opening at the top, six-toothed. Leaves opposite,

entire, ovate lanceolate, small, exstipulate. Flowers few in number. Stems spreading.—On sandy and stony beaches. June, July, August. Perennial. *p.* 53.

BROAD-LEAVED PLANTAIN, *PLANTAGO MAJOR. Nat. Ord., Plantaginaceæ.*—Calyx minute, scariose, four-partite. Corolla four-lobed, minute, scariose, tubed, reflexed. Stamens four, long, springing from tube of corolla. Style and stigma one. Fruit indehiscent, ovate capsule, many-seeded. Inflorescence a long cylindrical and dense spike; bract at base of each flower. Leaves spreading, radical, broadly ovate, conspicuously nerved, dull green. Root-stock short and thick.—Meadows and roadsides. June, July, August. Perennial. *p.* 57.

GREEN HELLEBORE, *HELLEBORUS VIRIDIS. Nat. Ord., Ranunculaceæ.*—Calyx of five large, persistent, conspicuous, spreading sepals. Petals eight to ten, very small, tubular. Stamens numerous. Carpels many-seeded. Flowers few in number and drooping. Fruit a follicle. Upper leaves sessile, the lower leaves large, divided into numerous segments, on long footstalks, all palmate and broadly spreading, of a dull bluish-green, glossy surface, deeply serrate. Stem short, freely branching.—On pasture-lands, in copses, and often about old walls, ruins, and human habitations, preferably on chalk. Flowers in March and April. Perennial. *p.* 61.

HEATH or **LING,** *CALLUNA VULGARIS. Nat. Ord., Ericaceæ.*—Calyx of four coloured lanceolate leaves, much larger than corolla, and accompanied by four external small, ovate, pointed, spreading bracts. Stamens eight; anthers clustering in a ring round style, and furnished with two appendages. Corolla monopetalous, campanulate, marcescent, purple, deeply divided into four segments, drooping. Style filiform, longer than calyx. Stigma quadrifid. Leaves numerous, small, spurred at base, opposite, sessile, placed round the small branches in four rows. Stem upright, wiry, freely branching. Inflorescence racemose. Capsule four-celled, four-valved.—Heaths and moors. June, July, August. Perennial. *p.* 65.

BURDOCK, *ARCTIUM LAPPA. Nat. Ord., Compositæ.*—All florets having tubular corollas, five-cleft, equal, dull purple; tube slender. Anthers exserted; filaments papillose. Pappus short and

stiff. Flower-heads in terminal corymbs. Involucre globular, often more or less covered with a soft white wool, the bracts armed with hooked points. Stem about three feet high, stout, and branching freely. Lower leaves very large, heart-shaped, stalked, at times slightly serrate; upper leaves smaller, obovate, all often covered on under surface with grey, woolly hairs.—Waste places and roadsides. July, August. Biennial. *p.* 69.

OX-EYE DAISY, *CHRYSANTHEMUM LEUCANTHEMUM. Nat. Ord., Compositæ.*—Heads of flowers large, those of the disk yellow, the ray white. Flower-heads solitary, on long terminal peduncles. Involucre hemispherical; bracts imbricate, membranaceous at their edges, purple or brown margins. Stems slightly branching, one to two feet high, smooth, erect. Leaves alternate: radical leaves obovate, stalked, coarsely serrate; stem-leaves sessile, narrow, few coarse serrations, sub-pinnatifid.—Dry pastures, railway banks. June, July. Perennial. *p.* 73.

MULLEIN, *VERBASCUM THAPSUS. Nat. Ord., Scrophulariaceæ.*—Calyx deeply cleft into five. Corolla of five broad, rounded lobes, rotate, irregular, bright yellow. Tube of flower short. Inflorescence a dense raceme. Stamens five, having three of the filaments covered with yellowish soft hairs. Capsule two-celled, septiadal, ovoid opening in two valves. Seeds small, very numerous. Style simple. Leaves decurrent, very woolly on both sides, ovate, slightly serrate, alternate. Stem simple, or slightly branched below; erect.—Hedge-banks and waste ground. June, July, August. Biennial. *p.* 77.

BUXBAUM'S SPEEDWELL, *VERONICA BUXBAUMII. Nat. Ord., Scrophulariaceæ.*—Calyx persistent round fruit, four-lobed. Corolla deciduous, monopetalous, rotate, irregular, four-lobed, pale blue. Stamens two, inserted in tube of corolla. Stigma two-lobed. Ovary and capsule two-seeded. Capsule lobes broad and laterally spreading, twice as broad as long. Inflorescence axillary. Stems procumbent, hairy. Leaves petiolate, alternate, cordate, deeply serrate, much shorter than the flower-stalks that spring from their axils, hairy. —Cultivated ground, rubbish-heaps, and road-sides. Flowers throughout the summer. Annual. *p.* 81.

FLOWERING RUSH, *BUTOMUS UMBELLATUS. Nat. Ord., Butomaceæ.*—Perianth of six divisions, the three inner ones petaloid in character; pink. Inflorescence umbellate. Stamens nine. Carpels six. Stigmas lateral. Capsules many-seeded. Leaves linear, trigonous, cellular. Stems long, leafless, unbranched.—Ponds and lakes and slowly-running streams. June, July. Perennial. *p.* 85.

PINK CAMPION, *LYCHNIS DIURNA. Nat. Ord., Caryophyllaceæ.*—Calyx monophyllous, tubular, five-toothed, swollen after flowering. Corolla of five petals, lamina spreading, pink, two-cleft, scentless, having small two-notched scale at base. Flowers diœcious. Stamens ten, hypogynous. Styles five, linear, stigmatic throughout their length. Capsule globular, ten-toothed, many-seeded. Leaves opposite, entire, exstipulate, upper sessile, lower ones stalked, slightly rough, hairy, veining prominent. Inflorescence loosely paniculate. Stem cylindrical, swollen at sides.—In moist woods, copses, and hedgerows. Flowers during June and July. Perennial. *p.* 89.

DOG-ROSE, *ROSA CANINA. Nat. Ord., Rosaceæ.*—Calyx-tube fleshy, globular, contracted at summit; the sepals, five, reflexed, leafy, imbricate in bud. Corolla of five petals, obovate, notched, pink, fragrant. Stamens numerous; anthers bright yellow and conspicuous. Styles distinct, hirsute. Flowers solitary, or two or three together along the branches. Leaves pinnate, eglandulose, slightly hairy; leaflets, five or seven, ovate, serrate, stipulate. Stems straggling, armed with hooked prickles. Fruit ovoid-urceolate, scarlet.—Hedges and copses. June, July. Perennial. Subject to variation. *p.* 93.

SPINDLE-TREE, *EUONYMUS EUROPÆUS. Nat. Ord., Celastraceæ.*—Calyx small, flattened out, having four broad short lobes. Petals four, pale green, obovate, rising from flat, fleshy disk. Stamens four, alternating with petals, inserted on disk. Flowers in loose, axillary cymes. Ovary immersed in disk, style very short. Capsule four-lobed, pink, containing large seeds in orange-coloured arillodium. Leaves glabrous, opposite, lanceolate, finely toothed. Stems smooth, green, tough. A shrub, about five feet high.—Woods and hedgerows. Flowers in May and June. *p.* 97.

SPOTTED ORCHIS, *ORCHIS MACULATA. Nat. Ord., Orchidaceæ.*—Perianth of six segments, superior, irregular, spurred at base of

lip. Lip irregularly three-lobed, spotted. Stamen and pistil combined in column in axis of flower. Anther two-celled. Ovary inferior, one-celled. Capsule three-valved. Inflorescence terminal, densely spicate, bracts shorter than the flowers. Stem leafy at base, often a foot or so in height, but very variable. Leaves ovate and lanceolate, entire, parallel-nerved, more or less marked with dark, purple blotches. Tubers flattened, lobed.—Perennial. Flowers in June and July. Pasture lands. *p.* 101.

HOLLY, *ILEX AQUIFOLIUM. Nat. Ord., Aquifoliaceæ.*—Calyx four-toothed. Corolla regular, monopetalous, white, four-lobed, rotate. Stamens four, alternate with corolla-lobes and inserted on corolla. Stigmas four, sessile. Fruit a scarlet berry, containing four seeds. Flowers in dense clusters in the leaf-axils. Leaves coriaceous, rigid, alternate, evergreen, stalked, shiny, the upper ones sometimes entire and flat, but typically much waved in outline and bordered with strong prickly teeth. A freely-branching shrub or small tree. Bark smooth and greyish.—Woods and hedgerows. Flowers in May and June. *p.* 105.

PRIVET, *LIGUSTRUM VULGARE. Nat. Ord., Oleaceæ.*—Calyx persistent, four-toothed. Corolla regular, white, four-lobed, tubular at base. Stamens two, inserted at base of corolla. Ovary two-celled, each cell two-seeded. Fruit a fleshy globular, black, shining berry. Inflorescence compact, paniculate at ends of branches. Leaves nearly evergreen, lanceolate, entire, on short stalks, opposite, exstipulate. Branches long, slender, cylindrical, tough, smooth, pliant. A shrub.—In woods and hedges. Flowers during June and July. *p.* 109.

SALLOW, *SALIX CAPREA. Nat. Ord., Amentaceæ.*—Flowers diœcious, the males in dense cylindrical, sessile, silky, fragrant catkins, the females also in catkins, but green and more openly arranged in the catkin. Flowering before the appearance of the leaves. Stamens two in each flower. Anthers two-celled, bright yellow, conspicuous. Scales of catkins entire. Perianth wanting. Stigmas two. Capsules pedicellate, silky, one-celled, beaked. Stipules large. Leaves stipulate, alternate, roundish-ovate, wrinkled, whitish beneath. A small, bushy tree.—Flowers in early spring. In woods and hedgerows, ordinarily in drier situations than most of the other species of the willow. *p.* 113.

CLUSTERED BELL-FLOWER, *CAMPANULA GLOMERATA. Nat. Ord., Campanulaceæ.*—Calyx adherent to ovary, having five teeth. Corolla regular, campanulate, purple, five-lobed. Stamens five, inserted at base of corolla. Anthers distinct. Style single, cleft at summit into three stigmas. Ovary inferior. Capsule opening at base. Flowers closely sessile in the axils of the upper leaves and forming a compact terminal cluster. Radical leaves large and stalked, rough, hairy, ovate, toothed; upper leaves sessile, ovate, toothed, rough, hairy, clasping stem by their bases. Stalk erect, wiry, angular, varying from an inch or two to a foot or more in length, hairy.—Found in dry pasturage and hedge-banks. Flowers throughout the summer. Perennial. *p.* 117.

YARROW, *ACHILLEA MILLEFOLIUM. Nat. Ord., Compositæ.*—Outer florets few in number, with an obcordate ray. Central florets tubular; all either white or rose-coloured. Stamens five, syngenesious; anthers linear, and united in a sheath round the style. Style one, branched at top, and having stigmas on the inner surface of the upper part. Ovary one. Fruit an achene, without pappus. Receptacle flat. Involucre ovoid, imbricate. Inflorescence dense, corymbose. Stems erect, furrowed, slightly branched. Leaves deeply cut into very numerous bipinnatifid linear segments.—Roadsides, meadows, rubbish-heaps. June, July, August, September. Perennial. *p.* 121.

CHARLOCK, *SINAPIS ARVENSIS. Nat. Ord., Cruciferæ.*—Calyx of four linear, spreading, blunt, and hairy sepals. Corolla of four obcordate, clawed, spreading, yellow petals. Stamens six, two being shorter than the others; filaments yellow, tapering. Stigma capitate. Seed-vessel a two-valved, glabrous, many-seeded, and beaked pod. Leaves on foot-stalks, spreading, alternate, rough, serrate; upper ones ovate-lanceolate; lower ones lobed at base. Stem upright, branched, round, solid, hispid. Root simple, fibrous.—Cornfields and amongst crops. May, June, July. Annual. *p.* 125.

FORGET-ME-NOT, *MYOSOTIS PALUSTRIS. Nat. Ord., Boraginaceæ.*—Calyx five-cleft. Corolla monopetalous, salver-shaped; five obtuse lobes, throat of flower partly closed by scales; bright blue with yellow centre; tube small and straight. Stamens five, inserted in sides of tube. Ovary four-lobed. Nuts smooth and shining. Inflorescence racemose, scorpoid, forked, unilateral. Leaves oblong or

ovate, glabrous or slightly downy ; no stipules. Stem slender, weak, ascending.—Banks of streams and ditches. June, July, August. Perennial. *p.* 129.

YELLOW LOOSE-STRIFE, *LYSIMACHIA VULGARIS. Nat. Ord., Primulaceæ.*—Calyx deeply five-cleft. Corolla large, bright yellow, rotate, deeply five-lobed. Stamens five, connected at base, unequal. Style one. Stigma capitate. Ovary one-celled. Fruit a globular capsule, opening at summit. Inflorescence paniculate, freely branching. Stem erect, branching, often downy. Leaves in twos, threes, or fours, entire, conspicuously veined, ovate, lanceolate, almost or quite sessile. Bracts large and conspicuous.—Water-sides. July, August. Perennial. *p.* 133.

COLTSFOOT, *TUSSILAGO FARFARA. Nat. Ord., Compositæ.*—Flower-heads monœcious, bright yellow, solitary, terminal, inner florets tubular, outer ligulate ; the florets of the ray very numerous, the rays very narrow ; florets of the disk sterile, few. Pappus pilose. Receptacle naked. Involucre of a single row of scales. The flowering stems erect, clothed with small, narrow, alternate scales, and appearing before the leaves. Root-stock creeping. Leaves radical, large, cordate, angular toothed, their under-surface covered with a white down.—Clayey soils, railway embankments, waste ground. March, April. Perennial. *p.* 137.

STONE-CROP or **WALL-PEPPER,** *SEDUM ACRE. Nat. Ord., Crassulaceæ.*—Calyx of five ovate, oblong, obtuse sepals, gibbous at base. Corolla regular, of five golden yellow, lanceolate, acuminate, spreading petals. Stamens ten. Ovaries five, glabrous, verticillate, with nectareous scale beneath, and subulate style. Stigma simple. Fruit of five carpels. Leaves alternate, erect, ovate, gibbous, fleshy, smooth, bright green, acrid, and on the barren shoots closely imbricated in rows. Inflorescence terminal, cymose. Stems ascending, succulent, branched. Root creeping and fibrous. Walls and rocks. June, July. Perennial. *p.* 141.

FEVERFEW, *MATRICARIA PARTHENIUM. Nat. Ord., Compositæ.*—Flower-heads pedunculate, inflorescence corymbose and terminal. Involucre hemispherical, scales membranous, imbricated, villous. Disk-florets tubular, numerous, perfect, yellow, five-toothed.

Ray-florets pistilliferous, white. Stamens five; filaments very short; anthers forming a tube. Ovary angular. Style short, filiform. Stigma bifid, spreading. Fruit an achene, angular, furrowed, crowned with toothed disk. Leaves petiolate, alternate, light green, bi-pinnate-segments ovate. Stem erect, smooth, branched. Root thick, branch, ing, with numerous fibrous tufts. Waste places, hedgerows. July, August, September. Perennial. *p.* 145.

MOUNTAIN POPPY, *MECONOPSIS CAMBRICA. Nat. Ord., Papaveraceæ.*—Calyx of two deciduous sepals. Corolla of four large, pale yellow, crumpled petals. Stamens indefinite. Stigma rayed. Ovary one-celled. Fruit capsular, oblong, glabrous, many-seeded. Flowers singly on long peduncles. Leaves stalked, alternate, bright green; downy or slightly hairy, pinnate, the segments toothed, lobed, or pinnatifid. Stems erect, round. Whole plant herbaceous.—Rocks and woods. June. Perennial. *p.* 149.

PIMPERNEL, *ANAGALLIS ARVENSIS. Nat. Ord., Primulaceæ.*—Calyx of five sepals, deeply cleft. Corolla scarlet, rotate, regular, five-lobed. Stamens five, the filaments fringed with short hairs. Pistil filiform, short; and stigma capitate. Capsule superior, opening transversely. Flowers axillary. Leaves in pairs, ovate, sessile, the under surfaces covered with dark spots, entire. Stems much branched, erect or procumbent.—Arable land, gardens, and waste places. May, June, July, August, September, October. Annual. *p.* 153.

WALL PENNYWORT, *COTYLEDON UMBILICUS. Nat. Ord., Crassulaceæ.*—Calyx very small, five sepals. Corolla campanulate, five teeth. Stamens ten, inserted at base of corolla. Carpels five. Ovary superior. Flowers pendulous, racemose. Leaves mostly radical, on long stalks, orbicular, fleshy, peltate, crenate, depressed in cent e. Stem erect, succulent, simple or slightly branched.—Old buildings, rocks, wayside walls. June, July, August. Perennial. *p.* 157.

BUTTERFLY ORCHIS.

FAMILIAR WILD FLOWERS.

BUTTERFLY ORCHIS.

Habenaria bifolia. Nat. Ord., Orchidaceæ.

SOME of the species of orchis, as for example the bee orchis, mimic so admirably the natural forms from which they derive their popular names, that there has been a great temptation to carry this fanciful nomenclature farther than facts altogether warrant. Of this the present species may be taken, we think, as a fair illustration, for quaint as the flowers are, it is in the last degree improbable that they would have suggested to any one the idea of a butterfly, had we not already had other species named after the monkey, the lizard, the spider, the bee, the fly, and even man himself.

The butterfly orchis should be sought for in moist woods and copses; it may also at times be found on meadow land, but then it is often so dwarfed that it is scarcely recognisable as identical with the plant growing in more favourable conditions. It is generally distributed over

Britain, though in some localities it is unknown, and where found at all is found in abundance, its pale clustering mass of flowers rendering it very easily visible in the woodland shade. This pale tint of its blossoms is one ready means of identification, and the extreme length of its spur is another marked characteristic. This feature is readily noticeable in our illustration, though another equally well-marked point, the delicious fragrance of its flowers, is a quality altogether too subtle for reproduction; this odour is more especially noticeable in the early morning and evening. The structure of the blossoms, too, is very curious, though we could scarcely hope to satisfactorily indicate it without the use of diagrams and technicalities. The species is not so difficult of culture as several of the others; and those who will be at the trouble of carefully removing it may hope to derive enjoyment from its quaint beauty each recurring spring, when possibly they may not have any opportunity of seeing it growing as a wildling in its forest home.

There was once a time, ere London had become a province of brick and mortar, when the citizens had little or no need to transport the butterfly orchis to their urban gardens. We find it mentioned, as one of the plants of the metropolitan district, in the "Flora Londinensis" of Curtis; and on turning to old Gerarde, an author who always gives London localities if possible, we find that he writes as follows concerning our plant: "That kinde which resembleth the white Butterfly, groweth upon the declining of the hill at the north end of Hampsted heath, neere unto a small cottage there in the way side, as yee go from London to Hendon, a village thereby. It groweth in the fields adjoyning to the pond or pinnefold without the gate, at

the Village called High-gate neere London, and likewise in the wood belonging to a Worshipfull Gentleman of Kent, named Master Sidley, of South-fleet." Gerarde goes on to say that "there is no great use of these in physicke, but they are chiefly regarded for the pleasant and beautifull floures wherewith Nature hath seemed to play and disport herselfe."

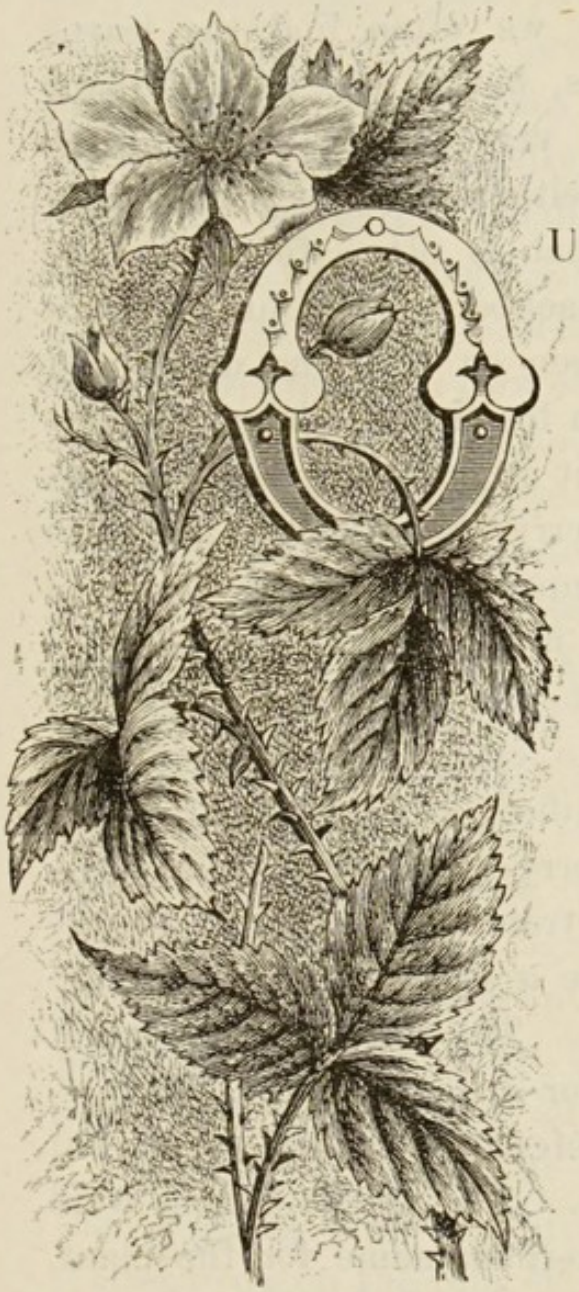
The tubers of the root of the butterfly orchis are two in number, somewhat large, and terminating below in long points. "To describe," says an old author, "all the several sorts of orchis would be an endless piece of work; therefore, I shall only describe the roots, which are to be used with some discretion. They have each of them a double root; within, some of them are round, in others like a hand: these alter every year by course; when the one riseth and waxeth full, the other waxeth lank and perisheth. Now it is that which is full which is to be used in medicines, the other being either of no use, or else, according to the humours of some, it destroys and disannuls the virtue of the other, quite undoing what that doth."

The stalk is a foot or more in height, having small scaly leaves at intervals upon it, smooth to the touch, but prominently ribbed. The large radical leaves are ordinarily two in number—hence the specific name *bifolia*—but we may at times find three. These are a rich green in colour, and broadly oval in form, the veinings upon them being distinctly seen. The flower-cluster is often six or eight inches long, the flowers themselves being either pure white or slightly tinged with green or cream-colour. The blossoms may be looked for early in June, and they continue well into August. The plant varies a

good deal in size and form, and some of these extreme variations have by some botanists been considered of sufficient importance to give specific rank; but the new species thus formed, *Habenaria chlorantha*, is by no means generally accepted.

Though in ordinary parlance the plant takes rank as an orchis, it will be noted on inspection of its botanical name, that the men of science have placed it in another genus. As this transfer from the genus *Orchis* arises chiefly from a different structure of the anthers, and deals with technical details of structure which would be scarcely appreciated by non-botanists, we may for all practical purposes consider it an orchis. *Habena* signifies a thong or strap; the name was bestowed upon the genus from the long and strap-like form of the lower part or lip of the flower.

DEWBERRY.



DEWBERRY.

Rubus cæsius. Nat. Ord., Rosaceæ.

OUR great botanical authorities are hopelessly at variance as to what is a blackberry and what is not, and while some will tell us that there is but one species, others go so far as to say that there are thirty-six. It is a plant that varies considerably, and this variation of the parts has led to an excessive multiplication of supposed species; and as scarcely two writers agree as to what should be legitimately counted a specific variation of structure, and what should not, the whole subject has got into a very chaotic state. The dewberry has a close affinity to the blackberry, and some of the varieties of each are found to closely approach each other; but one ordinarily finds no difficulty in identifying it. The stem of the dewberry is covered with a greyish bloom, and is much more slender and weak than that of the blackberry, and

the prickles too are of a less formidable character. The flowers are large, but few in number, either white or a pale pink, and often in small clusters at the ends of the branches. In the blackberry we often find the leaves composed of five distinct parts, but in the present plant they are, as our illustration very clearly shows, made up of three leaflets only. Neither have they ordinarily the grey bloom or felting that is often found in the foliage of the bramble or blackberry, but are at once thinner to the touch, and green on both the upper and under surfaces. It will be seen too that the lateral leaflets are without stems. The fruit is ordinarily less in size than a fully-developed blackberry, but though the parts or drupes of which it is composed are much fewer in number, they are individually much larger, and as it is covered with a rich bloom it has a decidedly inviting appearance, and one that, on a closer acquaintance with it, we feel to be amply justified, as its flavour is far superior to that of the blackberry. The sepals are large, and instead of falling back from the fruit, as in the better-known blackberry, close a good deal over it and form a cup in which it rests. The rich blue bloom of its luscious fruit has earned for it its popular name dew-berry, a name that has no reference to dew at all, but is a corruption of dove-berry. The Anglo-Saxon word for dove is *duua*, and in the German name for the plant, the *tauben-beere*, we see still preserved the idea that we have ourselves allowed to slip from us. The specific name *cæsius* signifies bluish grey, and either on account of the bloom on the fruit or on the young branches the dewberry is by some writers called the grey bramble.

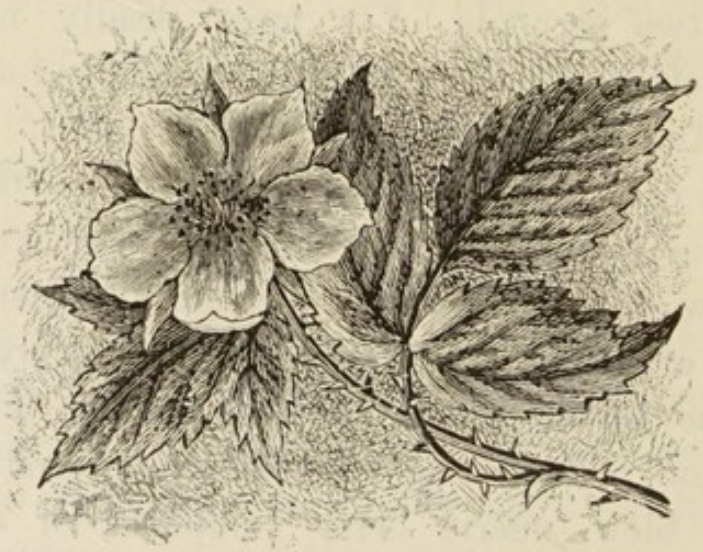
Parkinson, in his "Theatrum Botanicum," published in

1640, recognises the distinct individuality of our plant, and calls it the deawberry and winberry. He thus describes it: —"The deawberry hath slender weake branches like the last, more often lying down than being raised up, with fewer prickes and thornes thereon then in the last, the leaves likewise are usually but three set together; the floures are white and small, the berries usually consisting but of three small berries or graines set together in one, but not lesse sweete or blewe then the other." We had already written our own description before taking down our trusty Parkinson, and find that the two almost literally agree, though we cannot quite find ourselves at one with him, either as to the small size of the flower or the comparatively faint praise he bestows on the luscious sweetness of the fruit. Our old author, perhaps, goes farther in the matter of "vertues" than we should ourselves be prepared to follow him, finding the plant, and especially the fruit, most efficacious in all sorts of cases. Pliny declared that the flowers of the bramble were a most powerful remedy against the poison of the prester or dipsas, two serpents of a most deadly nature; and would, therefore, of course, be fully efficacious for such small matters as the attacks of adders and scorpions.

Gerarde calls our plant the *Rubus repens fructu cæsio*, the creeping bramble with bloom-covered fruit. "The floures grow on the tops of the branches, sometimes white, sometimes of a very light purple colour, every floure containing fiue leaues, which are crompled or wrinkled, and do not grow plaine; the fruit followes, first green and afterwards blew, euerie berry composed of one or two graines, seldome above foure or five growing together, about the bignesse of corans, wherein is contained a stony

hard seed, and a juyce of the colour of claret wine, contrarie to the common bramble, whose berries being ripe are of a shining blacke colour, and euery berry containes usually aboue forty graines closely compacted and thrust together."

Several other species of *Rubus* are found in Britain, and are more or less common, the *R. idæus*, or raspberry, being one of the most abundant. The fruit is small, but fully equal in flavour to that of the garden raspberry, and makes even superior preserve. The cloud-berry, *R. chamæmorus*, is found in profusion in Scotland, but extends no farther south than Derbyshire. The fruit is large, and of a rich orange colour, giving a very welcome refreshment to the mountain-climber. The stone bramble, *R. saxatilis*, is another northern species. The flowers of all these three kinds are white, the first and third being small and inconspicuous, while the blossoms of the cloudberry are as large in size and as pure in colour as those of the wood anemone.



YELLOW ROCKET.

YELLOW ROCKET.

Barbarea vulgaris. *Nat. Ord.* *Cruciferæ.*

THE yellow rocket may commonly be met with in fields, and on waste lands by the roadsides; the specific name *vulgaris* is a sufficient testimony to this fact. It may be found in flower from May to August. Its general growth is stiff and erect, the stout and branching stem attaining to a height of some eighteen inches or two feet. The leaves vary in character according to their position on the plant. "It hath many greene, broad, smoothe, and flat leaves, like unto those of the common turneps." Both upper and lower leaves are clearly shown in our illustration: the upper leaves, it will be seen, are cut into numerous deep depressions so as to form a leaf of several rounded lobes, while the lower leaves are considerably larger and consist of a large terminal lobe, and

at intervals down the stem some few others of much smaller and narrower form. The flowers are individually rather small, but as they are very numerous, and of a clear bright yellow colour, they become sufficiently noticeable in the mass. They are of the well-known and characteristic cruciferous or cross-bearing type. The pods that succeed the blossoms are a very conspicuous feature, as they are often much longer than those we figure. Our plant, as we see by the clustering buds and small size of the pods, is yet in a comparatively early stage of the flowering state. As the upper buds one by one expand into blossoms the stem elongates, and the lower pods develop until they are some two inches long or even more. The pod is quadrangular, and contains a single row of seeds. It must always be borne in mind that the mathematician and the botanist use similar terms sometimes, but with a different significance. Many leaves, for example, are botanically termed oblong, though their outline would not by any means satisfy the definitions of geometry; and in the same way, when we speak of the pod being quadrangular we do not imply that the form is as rigidly four-angled as a section through the leg of a kitchen table. The plant varies somewhat at times in the form of the leaves, some being much more markedly lobed and cut than others; and in some examples the flowers or pods are larger than in others. Attempts have been made to convert these variations into type-forms as the basis for new species, but for this there would seem to be little or no justification.

The yellow rocket is also called the herb St. Barbara, the bitter winter cress, and the land-cress. The first of these names arose from the mediæval association of plants with saints; examples of such dedication are not uncommon,

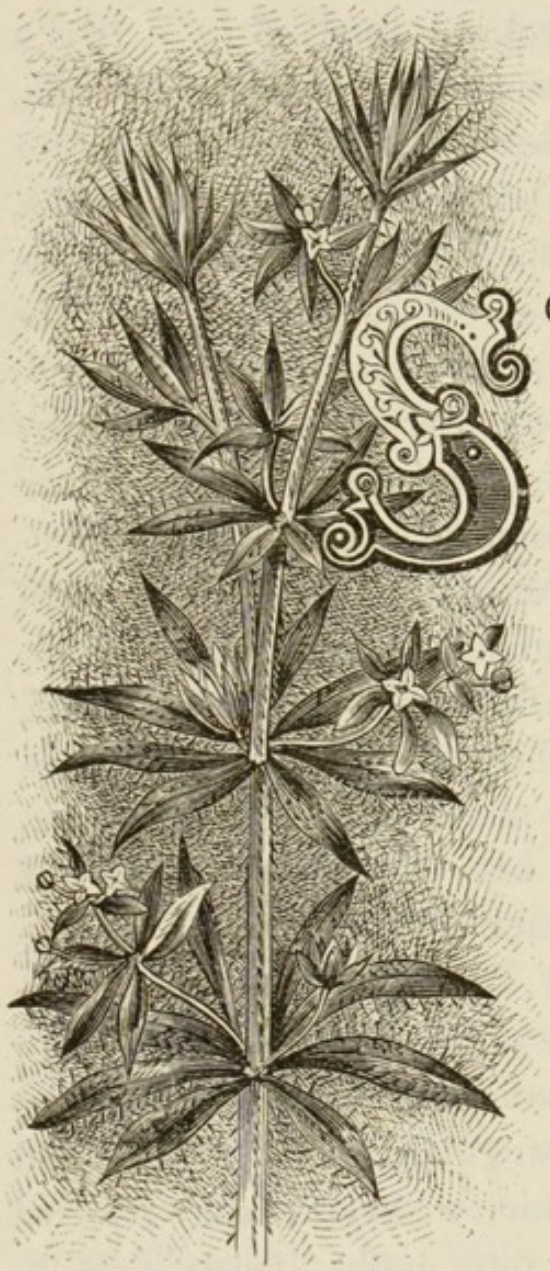
we need here only refer to St. Anthony's nut, St. Barnaby's thistle, herb Bennet, herb Christopher, and St. John's wort. The yellow rocket was at one time cultivated as an early salad, and it was probably placed under the patronage of this special saint from its being sown about the 16th of December, the day consecrated to her. To St. Barbara was assigned, during the Middle Ages, the somewhat unsaintly and unwomanly function of presiding over the safety of arsenals and powder magazines. At first sight one is at a loss to account for such an association, but the legend attached to her name gives us the needful clue to the mystery. It appears that on her profession of Christianity her father denounced her to the authorities, and after she had been subjected in vain to torture, the task of her decapitation was assigned to him, but when he was about to strike the fatal blow a flash of lightning laid him dead at her feet. Hence she was invoked in thunderstorms by the timid, and her protection would naturally be claimed by those who had charge of warlike stores and realised the disturbing influence the artillery of heaven might exercise on their stores of powder.

The name bitter winter cress was bestowed on the plant because, as we have already indicated, it was cultivated as a salad-plant. One great recommendation it possessed was that it was available at a time when other plants were not procurable, as its leaves continue green all the winter long. If the outer leaves are picked as the plant grows up, and the flowering-stems cut off and kept down, a plentiful supply of leaves may be obtained from it throughout the winter and spring months. The plant is very rarely destroyed by frost, and we may see its glossy leaves on the hedge-banks even in the midst of winter: they have a slightly

bitter and pungent taste, that commends them as an ingredient in a salad. People nowadays no longer avail themselves of much which afforded welcome sustenance to their forefathers, and many of the plants contemptuously passed by, or burnt as useless cumberers of the ground, would furnish wholesome food were it not for the combined ignorance and prejudice that prevent their use. We could imagine no book much more useful than one giving simple illustrations of such plants and hints as to the best way of utilising them; but as no one would buy it, we need pursue the idea no farther.

The name land-cress is evidently bestowed on the plant as a means of distinguishing it from the water-cress. Some species of water-cress have yellow flowers, and strongly resemble our present plant, but the form of the pods will suffice in any case to distinguish them. Our ancestors believed that the seed of the rocket would cure the bites of the serpent, the scorpion, and the shrew-mouse. Perhaps it would.

GOOSE-GRASS.



GOOSE-GRASS.

Galium Aparine. Nat. Ord., Rubiaceæ.

SCATTERED as it is in almost every neglected garden, on every piece of waste ground, or rambling over every hedge, we may be tolerably certain of finding the plant here figured. Though its stems are very slender and feeble-looking, they have great roughness and power of grip, and by this means sustain themselves amongst other herbage, and run for many feet amongst the denizens of the hedgerow. Stem and leaves alike are closely covered with numerous small hooks, and both these and the fruits cling with tenacity to anything with which they come in contact. Any one who has brushed along the hedgerows while botanising or blackberrying will be familiar with the look of the numerous fruits of the goose-grass that will be found attached to the dress; the old Greeks, noticing this, ascribed to the plant a peculiar fondness for mankind, and called it the Philanthropon.

The name goose-grass is bestowed upon the present species because geese have a great partiality for it, though horses, sheep, and cows seem equally fond of it. It is a plant of many names; one frequently hears it called cleavers, or clivers, from its habit of cleaving to other things for support, while in Scotland it is often known as grip-grass, a name that as clearly as the others carries its meaning on its face. It has, of course, no real connection with the grasses, but our forefathers did not go in for nice distinctions, and called many another lowly herb a grass on no better grounds. Another old popular name for the plant is the catch-weed; it is sometimes called the tongue-bleed, too: any one who will endeavour to draw a small portion of the plant across his mouth will at once see why. A very old name, Anglo-Saxon in its origin, is the harriff, a word compounded of two others, and signifying hedge-robber. The burdock, another plant with clinging fruits, at one time shared this name with it; the name arose, of course, in each case, from the habit the plant has of laying hold on any passing substance. Other names are goose-bill, loveman, and scratchweed.

The goose-grass is an annual; the roots are long and fibrous, the stems quadrangular, weak, brittle, and jointed, having the hooks to which we have already referred placed along the lines of the four angles, freely branching, and attaining at times to a length of seven or eight feet. The lateral branches are thrown off in pairs. The leaves grow in rings, varying in number from six to nine. We had the curiosity to count one hundred of these rings, and found that thirteen of them were composed of six leaves, thirty-eight had seven leaves, while no fewer than forty-one were made up of eight leaves each, and the

remaining eight alone had nine leaves in the ring. The flowers are few in number and small in size, a cluster of from two or three to eight or nine being borne on a peduncle springing from the leaf-ring. Each little corolla is conspicuously cross-like in form, a feature seen equally well in the bedstraws, plants belonging to the same genus, and one of which, the cross-wort, we shall elsewhere figure. On the dying away of the flowers, they are succeeded by fruits that resemble two dry and globular berries in contact; the form may be readily seen in our illustration. The bristly character of the fruit, and its consequent attachment to the clothing of animals and man, is an evident provision for its wide dispersion and propagation.

The goose-grass forms one of the ingredients for the cooling spring drinks in such favour with our great grandmothers; the expressed juice was taken internally in cutaneous eruptions; and the herb, when crushed and bruised, was applied externally as a soothing poultice. Even yet the services of the plant to humanity are not exhausted, for we are told that the roots will yield a good red dye; that the berries, when dried and slightly roasted over the fire, form an excellent substitute for coffee, and yield a very colourable and palatable imitation of it, while the whole plant gives a decoction equal to tea. The juice taken in wine was supposed to be a remedy for the poison of the adder; and it was also added to broth and pottage "to keep them lean and lank that are apt to grow fat." It was drunk twice a day, too, by the victims of yellow jaundice, and in divers other ways pressed into rural medical practice.

Besides the present plant and the cross-wort, of both

of which we hope to provide illustrations, the *G. verum*, or Lady's bedstraw, is another very common and attractive species. Its yellow flowers are individually small, but, as in the case of the Yellow Rocket, they grow in such large and compact masses as to render the plant a conspicuous ornament of the dry hedge-banks it especially delights in.

SAW-WORT.

THE SAW-WORT.

Serratula tinctoria. Nat. Ord., Compositæ.

NOT so striking perhaps in appearance as many plants of the order, the saw-wort is not nevertheless without a certain beauty of its own, in its slender growth and small fan-like flower-heads; and it gains an additional interest when we remember that before the days of aniline dyes and all the products that an extended commerce brings to our shores from all over the world, the saw-wort was one of the tinctorial plants of our forefathers. It was used by dyers to give a yellow colour to woollen stuffs, and was fixed with alum, but as it was inferior to the *weld*, or yellow-weed, the *Reseda luteola* of the botanist, its use was confined to the coarser goods.

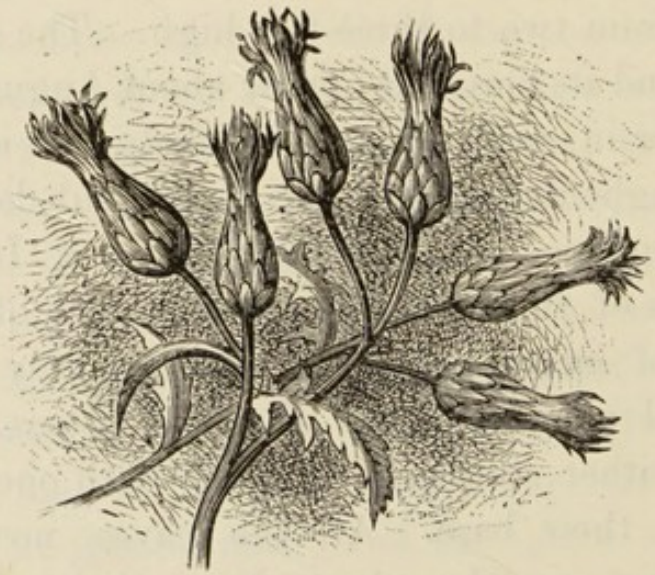
The saw-wort belongs to the tribe of *Cynarocephalæ*. The order in which it is included is so extensive, that it has been found desirable to divide it into sub-orders

or tribes, and these are three in number: the *Chicoraceæ*, the *Cynarocephalæ*, and the *Corymbiferæ*. Without going at too great a length into dry and formal botanical details, we may be able to give an idea of the peculiarities of each, as the knowledge, once gained, will enable our readers themselves to assign to their proper tribe any composite plants which they may find. In the first tribe all the florets of the flower-head are ligulate and perfect. Ligulate is a term that refers to the form of the flower; it is derived from the Latin *ligula*, a little tongue. If we examine any flower-head of this tribe, we shall find that each floret has its corolla on one side produced into a broad tongue, or strap-like portion, and this, as in the dandelion, forms by far the most conspicuous portion of the whole arrangement. At a cursory glance all small details of structure are lost, but we can at once give a good idea of a dandelion by drawing a number of these radiating strap-like forms. The term "perfect" signifies that every floret is provided with both pistil and pollen-bearing anthers. The sow-thistle, the dandelion, the hawkweed, and the chicory are all good examples of this tribe of composites, and have all appeared amongst our illustrations. The second tribe, that to which the saw-wort belongs, has all the florets in each flower-head tubular instead of ligulate, and all are perfect in some of the species, or the inner ones are perfect and the outer ones neuter in others. The various kinds of thistles and knapweeds and the brilliant cornflower are all good illustrations of this tribe. The third tribe is a very extensive one, and, at first sight, less recognisable than the other two. The greater number of the species which compose it have radiate flowers—such, for example, as the ox-eye or the daisy—and then they are readily distinguish-

able. All the florets in the same head are perfect, and similar in form, or else those of the circumference are filiform, tubular, or ligulate. If our readers will gather a good selection of composite flowers, they will have no difficulty in sorting them into the three tribes, as the first and second are each very distinct from the third, and from each other, and all that do not fall naturally into tribes one or two, must of necessity go to number three. The milfoil, the daisy, the tansy, the coltsfoot, the ragwort, the leopard's-bane, the flea-bane, the feverfew, and the corn-marigold are all characteristic plants of the third great tribe of the composites, and will all be found represented amongst our illustrations.

The general habit and appearance of the saw-wort, when we see it growing, suggest its near relationship to the thistles, but it has not the formidable prickles with which those are armed. The general growth is stiff and erect, and the leading stems spring direct from the root, and are only slightly branched ; such branching as there is preserves the general upward direction. The plant is ordinarily from two to three feet high. The saw-wort is a perennial, and its blossoms appear about August. It should be looked for in open woods and thickets. It is fairly distributed throughout England and Wales, but does not appear to be indigenous either to Scotland or Ireland. The lower leaves of the plant are pinnate, each of the four or five pairs of lateral segments being acutely pointed, and the terminal member larger than the others. The upper leaves are either simple in form, or with one or two pairs of lobes at their base. All the leaves, no matter what their position on the plant, have their outlines finely toothed, hence the generic name *Serratula*, a name derived

from the Latin *serrula*, a little saw; notwithstanding this it has occasionally been found with its foliage entirely free from these serrations. The flower-heads cluster on the ends of the flowering stems. Some, it will be seen, are rather larger and stouter-looking than the others. The plant is what is termed botanically *diœcious*, and if we open some of the heads we shall find that all the florets have stamens alone, while other heads on the same plant have pistils alone. The florets are normally purple, but, like many other purple flowers, and particularly purple composites, they vary occasionally to white. The involucre, or flask-like portion within which the florets are contained, is covered by numerous small and tightly-adherent bracts, the outer ones being often more or less coloured towards their tips. They are at times smooth to the touch, and at others we find a slight cobweb-like down on them. The specific name *tinctoria*, Latin in its origin, refers to its use in dyeing.



NARROW-LEAVED EVERLASTING PEA.

NARROW-LEAVED EVERLASTING PEA.

Lathyrus sylvestris. Nat. Ord., Leguminosæ.

WHILE the narrow-leaved everlasting pea is not a familiar wild flower in the way that dandelions or buttercups are—a thing that we may meet with here, there, and everywhere—it is, like the wood vetch, *Vicia sylvatica*, which we have already figured, a plant that may be found in fair profusion if one only goes to the right place. Curtis, we see, in his "Flora Londinensis" speaks of it as growing in the Oak of Honor Wood, at Peckham, and as being abundant in many parts of Kent in the hedges by the roadside. Curtis, of course, only gives localities within easy reach of the metropolis. Though found in the hedgerows occasionally, it is more especially at home in thickets and rocky places. We remember to have been much struck with its appearance in some of the wilder parts of the Undercliff, in the Isle of Wight; and it was in just such another locality that we found the piece from which our

sketch was taken. When found at all, the plant is ordinarily met with in abundance. It should be sought for in flower during June, July, and August. It is a hardy perennial, so that when it is once established in a district there is no difficulty in finding it year after year. The stalk is six feet or more in length, climbing and branching freely, smooth to the touch, and having its angles expanded into lateral wings, that run along it on either side. The leaf-stalks, too, are flattened and winged in the same way, and terminate in a three-branched tendril; each leaf-stalk bears a single pair of long and sharply-pointed leaflets, and at its base are two small and narrow stipules. The large size of the leaf unfortunately prevented our showing this latter feature on our plate. The flower-bearing stems are some six inches long, wingless, springing from the axils of the leaves, and each bearing numerous flowers. The flowers themselves are large and attractive-looking, rosy-red in colour, conspicuously veined, and of the papilionaceous form one is so familiar with in the furze, broom, clover, meadow vetchling, and other equally common examples of the great natural order to which they and this belong. The seed-vessel is a pod of some two or three inches long, at first green, but afterwards changing to a bright, but pale brown. Each pod contains some ten or twelve globular and blackish seeds.

That the present species should be the narrow-leaved everlasting pea will naturally suggest to our minds that there is possibly a broad-leaved species as well, and for this we have not far to seek, though we must look for it in the garden, and not in the hedgerow or copse. The broad-leaved everlasting pea is one of the commonest, most old-fashioned, and most beautiful adornments of an old-fashioned garden. Some few writers consider it as but a variety of the plant

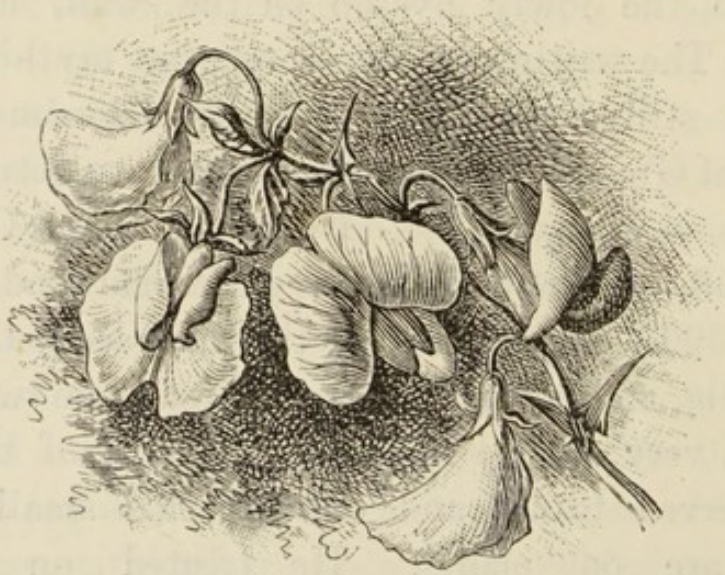
we figure; but most botanists give it full specific rank as the *L. latifolius*. It has at rare intervals been found in woods in various counties throughout England; but it is a very doubtful native. We see that Edwards, in his "Flora Britannica," speaks of it as follows:—"The stalks several, thick, climbing by means of tendrils to the height of six or eight feet, or even higher in woods;" while others tell us that, when found as a wildling, it is always an escape from cultivation. When, however, we find the plant in the heart of a large wood far removed from human habitations, we feel that this sweeping statement has its difficulties.

The name *Lathyrus* was applied by Theophrastus to some leguminous plants, but the exact species cannot now be traced. The name was bestowed by the great Linnæus on the present genus.

As Theophrastus will be to many but the pale shadow of a great name, we may advantageously diverge into a brief biography. Botanical lore dates back, we are told by some enthusiasts, to Adam himself, while Solomon's treatise, that extended from the lordly cedar of the slopes of Lebanon to the lowly hyssop on the wall, is a stock reference. The writings of the somewhat mythical Æsculapius date still earlier than those of Solomon; but the most ancient Greek writer whose works have actually come down to us is Hippocrates. He was born at Cos, in the year B.C. 459. Theophrastus was a Lesbian, and was born about B.C. 390. He was one of the disciples both of Plato and Aristotle, and is said to have written some two hundred treatises on very diverse subjects. Twenty of these have been preserved to us, and out of this small number two only are on plants. He treated on vegetable physiology, the nature and properties of various kinds of

timber, on the ornamental plants of the garden, on wild plants, on various kinds of grain, on gums and resins, and so forth, dealing with the whole subject in a broad and comprehensive way. He was one of the chosen followers of Aristotle, and was entrusted by him at his decease with all his writings. He died at the age of a little over a century, regretting the shortness of his life, and that he had been able to do so little of what he had proposed to himself. Dioscorides, whose name we have from time to time had occasion to introduce, was the third of the great trio of ancient Greek writers on natural history.

The first of the Greek botanical works introduced into Western Europe on the invention of the printing-press was the treatise of Dioscorides. A Latin translation of this was prepared by a Venetian nobleman, and issued from the press in the year 1478. The work of the second great Greek writer on plants, Theophrastus, was printed only five years afterwards, in 1483. Both these books ran through many editions, and, at the time of their republication in the Middle Ages, they were held in great esteem.



YELLOW DEAD-NETTLE. STITCHWORT.

THE YELLOW DEAD-NETTLE AND THE STITCHWORT.

Galeobdolon luteum. Nat. Ord., Labiatæ.
Stellaria holostea.
Nat. Ord., Caryophyllaceæ.

THE yellow-flowered plant, the most conspicuous feature in the present illustration, is a near relative of the white and red dead-nettles already figured. It is called indiscriminately the yellow dead-nettle, the yellow blind-nettle, or yellow archangel, while a less common name is weasel-snout.

A certain amount of difficulty seems to have been felt in assigning it its true place in a systematic botanical arrangement, as by some of the older writers it is classed as a *Galeopsis*, while later writers call it either *Galeobdolon luteum*, or else *Lamium Galeobdolon*. *Galeopsis* is compounded of two Greek words signifying *a weasel* and *appearance, i.e.*, resemblance to a weasel, a portion of the flower being supposed, by a considerable stretch of the imagination, to resemble the nose of a weasel, whence, too, its vulgar

name of weasel-snout; while *Galeobdolon* is made up of two words, also from the Greek, the first being our friend the weasel again—for the idea, though somewhat recondite and far-fetched, has a charm that prevents its being willingly abandoned—and a second word signifying a disagreeable odour, in allusion, probably, to the somewhat strong and not altogether pleasant smell that the stems and leaves of the plant have when crushed in the hand.

The yellow nettle is much more local in its habitat than either the white or red nettles, and though common enough when met with at all, will in many localities be searched for in vain. Woods and shady hedgerows are its favourite spots, therefore it does not come so readily before the eye as do its relatives; while a further reason why it is less known is, that whereas the red and white species may almost all the year round be found more or less in flower, the yellow dead-nettle will only be thus met with from the middle of April to the middle of June. The leaves of the present species are somewhat longer in proportion to their width than in the case of either of its congeners, and the whole plant has a more delicate look. The inflorescence, or arrangement of the flowers, is the same as in the white dead-nettle, a ring of blossoms surrounding the stem at the points from whence the leaves are given off, and the leaves, as in that plant, are arrayed in pairs, placed at right angles to those that precede them on the stem. The lip of the corolla, it will be noticed, is spotted with a darker and richer colour than that of the rest of the flower. The whole plant stands about one foot in height: it is a perennial. The yellow dead-nettle is of no economic value, though, as the other dead-nettles may in time of scarcity be eaten as food, and are, in fact, so

eaten in some places, the present species might probably prove equally palatable under equal pressure of circumstances. We may, in passing, mention that the common stinging-nettle, which is, however, a quite distinct plant, and one some distance removed in botanical classification from the present plants, is largely eaten as a matter of course in many rural districts, from its real or supposed value as a cooler of the blood, its stinging powers being, of course, destroyed by the act of boiling, and guarded against in the act of gathering by the prudent wearing of leather gloves.

The white-blossomed plant introduced in our present illustration is the greater stitchwort, the *Stellaria holostea* of botanical nomenclature. The generic name *Stellaria* is derived from the Latin word for a star, *stella*, and is used as being descriptive of the star-like or stellate appearance of the flowers of the various species in the genus, while the specific name *holostea* is composed of two Greek words signifying *all bone*, a name said by many writers to be bestowed upon the plant by a bold figure of speech, to be taken as meaning the very opposite to the idea that appears on the surface, and that it was really called all-bone from the very softness of its nature. We should, however, be inclined to think that the name was bestowed upon the plant by the fathers of the science in all good faith, partly because we meet with so few other examples of the same principle in nomenclature, and we may, therefore, the more readily doubt whether this be indeed one, but more especially because, while fully admitting the delicacy of the growth, we also notice that in this plant the stems are swollen out at the junctions of the leaves with them, and at these points they very readily snap across.

It appears to us that the earlier botanists, who ordinarily studied plants from a medicinal point of view, and were commonly at least as much at home in animal as in vegetable physiology, were struck by this resemblance of the stems of the stitchwort to the articulations of the bones, in the human hand for instance, and in all seriousness regarded *holostea* as a very fairly descriptive specific affix.

The stitchwort may very commonly be met with in woods and damp hedgerows. It attains to the height of eighteen inches to two feet, and from the profusion and brilliant whiteness of its starry flowers, is very readily noticed. It is a perennial, and flowers in the spring and early summer; its companions, therefore, are the primrose, the hyacinth, the wood anemone, and the orchis, and it will ordinarily be found with them by the lover of nature as he rambles through the coppice in May. We are unable to say with certainty why it should have received its familiar name; possibly because, at a time when almost all plants were held to have healing virtues, it may have been regarded as an antidote for stitch, or catching of the breath.

TUBEROUS MOSCHATEL.

TUBEROUS MOSCHATEL.

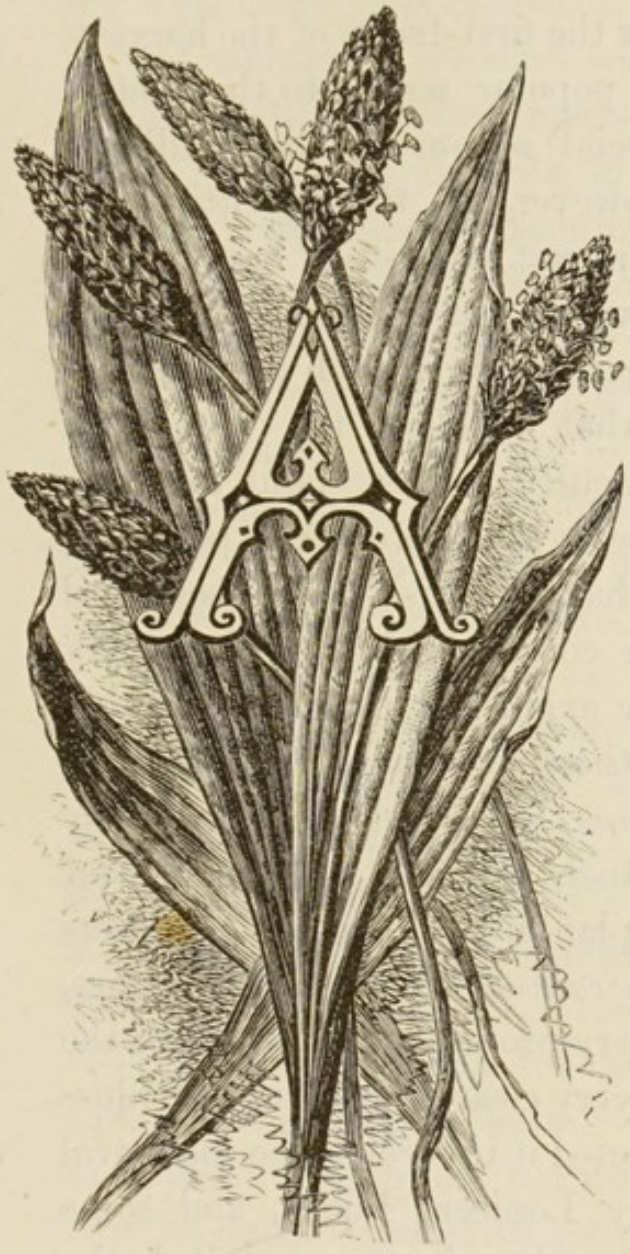
Adoxa moschatellina. Nat. Ord., Araliaceæ.

AMONGST the more conspicuous floral treasures of each recurring spring, the delicate little blossom we have here figured runs a considerable risk of being overlooked. It has, nevertheless, a refined charm of form and tint that makes it a not unworthy companion of the delicate sulphur-coloured flowers of the primrose, starring every hedge-bank and coppice, the pure white blossoms of the stitchwort, or the royal purple of the hyacinths, as their countless blossoms clothe the woodland glades in rich masses of colour. The moschatel has no charms so immediately patent to all beholders as these, yet we doubt not that those who may hitherto have overlooked it will be grateful for our introduction of it, and will henceforth give it due recognition. Were we asked to justify our commendation and particu-

is green in colour; each berry contains from one to five oval and flattened seeds, but ordinarily the smaller numbers are the most commonly to be found. In many cases the berries are single-seeded.

Though some of the early botanists called our plant the *Moschatella*, or the *Moschatelleria*, it has, ever since Linnæus bestowed its present name on it, been the *Adoxa*. The name may be considered fairly descriptive, compounded as it is of two Greek words, signifying "without glory," in allusion to its humble and lowly growth and station. The specific name is Latin in origin, and refers to the slightly musky smell of the plant. The English name betrays its foreign origin, and can scarcely be called a really popular name, the plant being too inconspicuous to have received one. It is sometimes given as moscatel, and at others as moschatel, or moschatell.

LAMB'S-TONGUE.



LAMB'S-TONGUE.

Plantago lanceolata. *Nat. Ord.*, *Plantaginaceæ.*

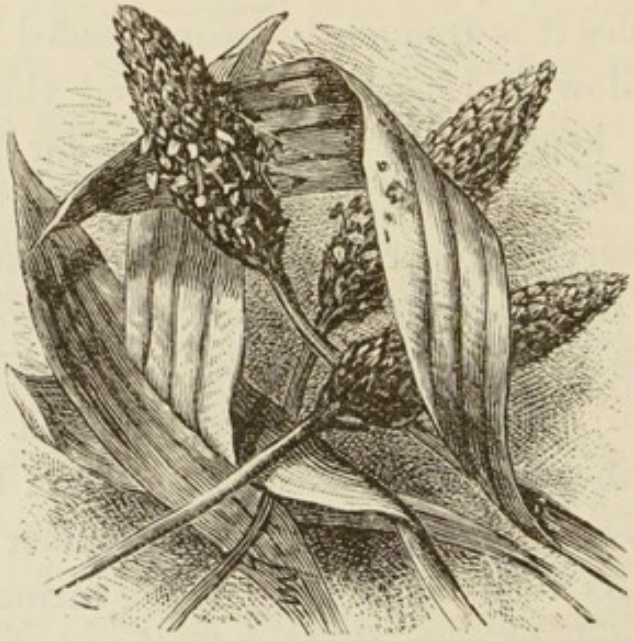
AMONGST the plants of the meadow and pasture, few are more abundant than the lamb's-tongue; hence we could not deny it a place in our series, though it would be gross flattery to place it on a par in attractiveness with many of the plants we have figured. Still it has a certain wild picturesqueness of its own, and, like everything else in the whole realm of nature, improves on acquaintance and study. It derives its name from a supposed resemblance in the form of the foliage to the tongue of a lamb, but our readers will not have reached our present volume, we are sure, without having made the discovery that a very slight resemblance indeed is in most cases all that is required in rural nomenclature. The resemblance in the present case is fairly illustrative of this easy-going system, and some writers, not

so easily satisfied as others, have endeavoured to transfer the meaning from lamb's tongue to Lammas tongue. Lammas was a festival held in olden times at the beginning of August; a thanksgiving for the first-fruits of the harvest, and several plants owe their popular names to the fact of their flowering at some special season in the mediæval calendar. Any attempt however, to thus identify our present plant with Lammas is not altogether happy, as it begins flowering some six weeks before this date. The added word tongue, too, is meaningless in such a connexion, and we can only conclude that whether the idea is in harmony with our critical faculty or not, lamb's-tongue in its most literal significance is what we are expected to accept. Many of our plants have English names bestowed by the rustic dwellers on the country side, and these vary in quality from the admirably expressive to the intolerably stupid, and in addition to these they have other English names that no rustic ever uses, but which may be briefly described as "bookish." Such a name for our present species is the narrow-leaved plantain. In some old books we find the plant called *Costa canina*, rib-wort or rib-grass, evidently in allusion to the very prominent veinings on the leaves, a feature that may be very clearly noted in our illustration: a feature too, that caused it to receive the mediæval name of *Quinquenervia*. By Lonicer, Fuchs, and some others of the older botanists, the plant was called the lanceola from the shape of the leaves resembling the head of a lance, a suggestion still preserved in the specific name *lanceolata*. Another old popular name for the lamb's tongue was the kemps, a word at first sight sufficiently unmeaning, yet carrying within it an interesting reference. The stalks of our plant are peculiarly tough and wiry, and

the Anglo-Saxon word for a soldier was *cempa*. If now, like the talented writer on Chinese metaphysics, who so excited the wondering admiration of Mr. Pickwick, we "combine our information," we shall see why our plant is the kemps. It has from time immemorial, been one of the favourite games of country children to arm themselves with a particularly tough lamb's-tongue stem, and then to challenge all comers to break it, each in turn holding up their stem for the others to slash at with theirs, the one that longest survived the ordeal being of course victorious and the champion. The plant is also for the same reason provincially called cocks, an allusion that carries us back to the days of our grandfathers, when a main of fighting-cocks had such an attractive power.

The economic use of the lamb's-tongue seems to have long been a matter of dispute, though we imagine that the verdict is now finally given against its utility. Curtis, in his "Flora Londinensis," says "the farmers in general consider this species of plantain as a favourite food of sheep and cattle, hence it is frequently recommended in the laying down of meadow and pasture land; and the seed is for that purpose kept in the shops. How far the predilection of cattle for this herb is founded in truth, we cannot at present determine; nor do we pretend to say how far it is economical to substitute this plant in the room of others which produce a much greater crop, and which they show no aversion to. We should be rather inclined to think that plantain (or rib-grass as it is called) should be but sparingly made use of, particularly if the farmer's chief aim be a crop." As a good crop really is the farmer's chief aim ordinarily, it will be seen that our author holds it in very small esteem.

When the plantain grows amongst the tall grasses of the meadow its leaves are longer, more erect, and less harsh, than when we find it by the roadside, or on any dry and barren soil. The leaves are often slightly hairy, and have at times a silvery appearance from this cause, but this is more especially apparent in the roadside specimens. The flower-stalks are longer than the leaves, furrowed and angular, and thrown boldly up. The flower-head varies a good deal in size and form, sometimes being much smaller and more globular than those represented in our illustration. The sepals are brown and paper-like in texture, and give the head the somewhat peculiar rusty look; the corolla is very small and inconspicuous, tubed, and having four spreading lobes. The stamens, four in number, are the most noticeable feature, their slender white filaments and pale yellow anthers forming in the aggregate a conspicuous ring around the flower-head.



UPRIGHT MEADOW CROWFOOT.

UPRIGHT MEADOW CROWFOOT.

Ranunculus acris. Nat. Ord., Ranunculaceæ.

WE shall gather from our many remarks on other species of crowfoot or buttercup, that the genus is distinguished by a peculiar acridity, a quality which finds its maximum in the flower before us. Though we have never ourselves experienced it, we are told by various authorities that the mere carrying of the plants in the hand is often sufficient to cause blistering and inflammation. This property it loses when made into hay, but the plant is in any case unwelcome to the agriculturist, for cattle dislike it exceedingly in its green state, or if hard pressed for forage, can only eat it at the expense of blistered mouths; while in its dried state, though it has lost its hot and biting pungency, it is at best but hard and tough, and yields little or no nourishment. It is, therefore to the interest of the

farmer to eradicate it as far as may be. Though it bears a strong similarity to the bulbous crowfoot, a plant we have already figured, a little discrimination will soon enable us to distinguish the two species.

The upright meadow crowfoot worthily deserves its name, as it is one of the tallest of our buttercups, and there is a peculiar lightness and delicacy in its freely up-springing stems. The plant may often be found a yard or more high, and its appearance is distinctly "genteel," to quote Martyn, the author of the "Flora Rustica." The meadow-crowfoot has perennial roots, consisting of numerous white fibres. The stems are hollow, often more or less covered with soft silky hairs, and very freely branching towards their summits. The leaves vary a good deal in form, according to their position on the plant, a feature that may be very clearly seen in our illustration. The lower leaves are on long footstalks, composed of numerous widely-spreading and deeply-divided segments, while the upper leaves are small, composed of few segments, simple in form, and few in number. The flowers form a golden crown to the plant, being very numerous, and growing at the extremities of the stems. These flower-bearing stems are not channelled or furrowed as in many of the other species, but are smooth and cylindrical. The calyx is composed of fine greenish yellow and spreading sepals, while the corolla has the same number of bright golden yellow and glistening petals; in its centre is the clustering mass of stamens. The fruit consists of numerous small bodies, technically called achenes, clustered together into a globular head; an example of the form may be seen in the centre of our illustration.

The plant is one of the flowers of the early summer,

but though it may be found in flower by the beginning of June, it lasts much longer than many other blossoms, and may often be found throughout the summer and well into the autumn. It is naturally more noticeable, however, in the earlier months of the year, when it has not so many rivals to distract attention from it, and though roadside and waste-ground specimens greet us all through the summer months, it is especially a plant of the meadows, and shares with the rattle, the ox-eye, and many other fair wildlings the fell doom of the mower's scythe. It is a plant of general distribution, and is in most places abundant.

Our plant shares with the bulbous and the creeping crowfoots the generally popular names of buttercups, king-cups, and goldcups. It is also one of the "butter flowers" of Gay and other poets. Gay associates the flower with the rosemary, or herb remembrance, in his description of the rustic funeral: —

> "To show their love, the neighbours far and near
> Followed with wistful looks the damsel's bier;
> Sprigged rosemary the lads and lasses bore,
> While dismally the parson walked before.
> Upon her grave the rosemary they threw,
> The daisy, butter-flower, and endive blue."

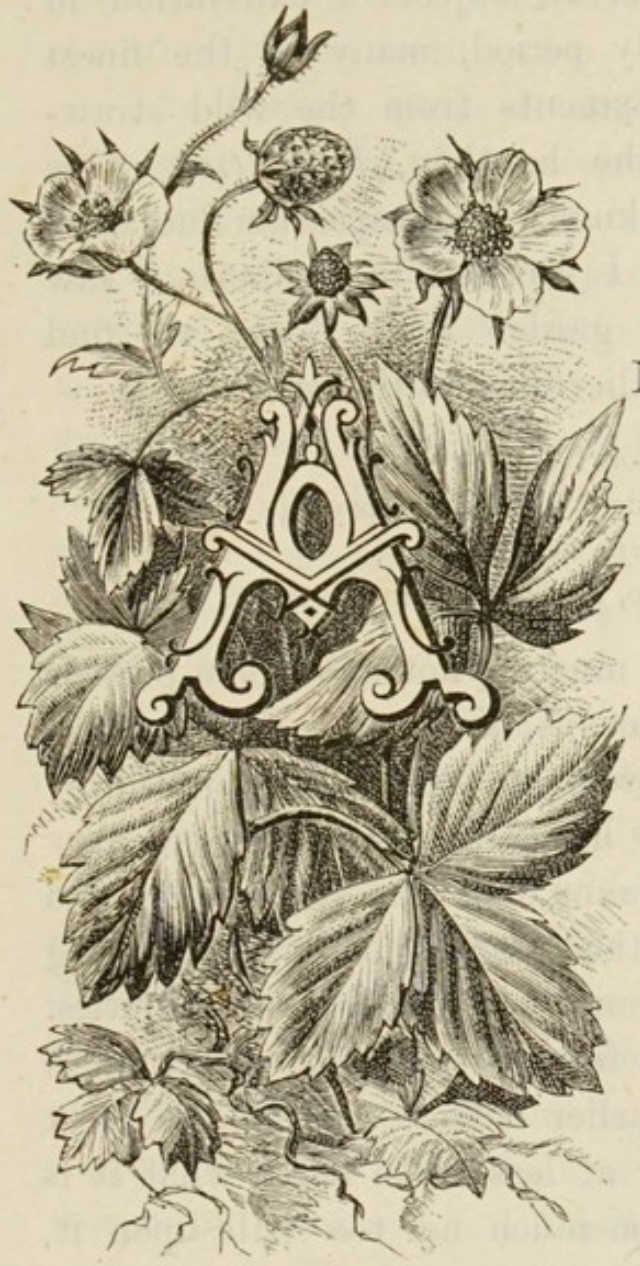
Though the rosemary was almost always associated by the earlier writers with the idea of bereavement, the connection was not a necessary one, and we sometimes, as in the boar's head carol, find the herb introduced as a remembrance of old customs of a joyous nature.

Shakespeare writes of the "cuckoo-buds of yellow hue," but the name cuckoo-bud or cuckoo-flower was applied rather vaguely to various plants, such as the stitchwort, the

ladies'-smock, and marsh marigold, that flowered at the time of the arrival of the cuckoos; and it is an open question whether the meadow-crowfoot was ever included by the mediæval writers in this happy family. If not, it at all events very well might have been.

In France the meadow-crowfoot is the grenouillette, a name similar in meaning to its generic name Ranunculus, and referring to the moist meadow land in which the plant best prospers. In the mediæval botanico-astrological treatises the meadow crowfoot was reckoned a plant of Mars, on account of its acrid and fiery nature. One old author we see says of it, "They grow very common everywhere; unless you turn your head into a hedge you cannot but see them as you walk." We doubt, indeed, if even this would be sufficient to avoid all sight of them, for we have seen their golden blossoms springing up on many a hedge-bank, but we may accept his somewhat flippant statement, as it stands at least as a testimony of the abundance of the flower.

WILD STRAWBERRY



THE WILD STRAWBERRY.

Fragaria vesca. Nat. Ord., Rosaceæ.

AMONGST the many graceful little denizens of the hedge-bank, few, perhaps, are more pleasing than the wild strawberry, whether we regard its pure white blossoms with their golden centres, the form of the foliage, or the ruddy fruit. It is abundantly to be met with in woods and copses, and on somewhat sheltered hedge-banks. It flowers during April and May, and, like the bramble, may be found frequently both in flower and in fruit at the same time. It appears to be equally at home in Europe, Northern and Western Asia, the north of Africa, Canada, and all the more northerly portions of the United States of America. The fruit of the wild strawberry is as wholesome and delicious as that of the garden plant; it has a pleasant sub-acid taste of its own, but the great drawback is that, owing to the small size of the fruit, one soon gets tired of the labour of collecting it.

The strawberry has been an object of cultivation in England from a very early period, many of the finest varieties being only developments from the wild strawberry, and others from the hautboy, *F. elatior*. One naturally thinks of the well-known Shakespearian quotation —"My lord of Ely, when I was last in Holborn, I saw good strawberries in your garden there," and we find other references of much earlier date to the strawberry.

"Then unto London I did me hye,
Of all the lands it beareth the pryse;
Gode pescode owne began to cry,
Straberry rype, and cherrys in the ryse."

The spelling of the word must be noted, as some persons jump too readily at conclusions, and when they see the plants in a well-ordered garden all neatly surrounded by fresh straw, think that they have solved the easy mystery of its name. In Anglo-Saxon it is the streowberie, and the name was given to it either from its long suckers being strewn on the ground, or from their straying propensities. John Lydgate has the same form of spelling, and, though the orthography of the earlier writers was of the most erratic description, we may at least take it for what it is worth, and neither build too much nor too little upon it, and this form of spelling certainly suggests stray-berry. Any one who has noticed the long runners travelling for many feet across a neglected bed will see considerable force in the use of this term. John Lydgate, born about 1370, was a writer of clear fluent verse, bringing home to the uneducated the works of the Greek and Latin poets, or satirising in his rhyming moralities the abuses of the time. The reference to the strawberry will be found in his "London Lickpenny," wherein he introduces the street

cries of his day, and points a moral against avarice and the denial of justice to the poor.

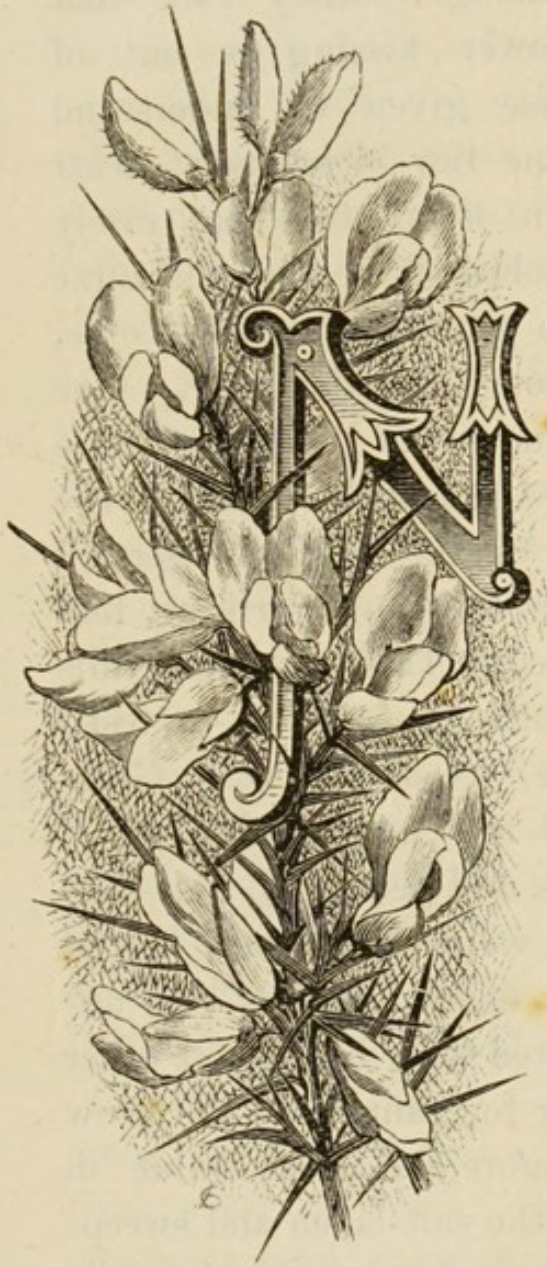
The generic name is derived from the Latin word *fragrans*, a word that carries its meaning on its face, and will at once suggest to the most unlearned of our readers the idea of fragrance, while the specific name signifies edible, a sufficiently frigid way of putting it, as most people consider strawberries not only edible but are very glad to find themselves in a position to reduce their opinions to practice. It is singular that a fruit so delicious should have been held in so slight esteem by the ancients: the references to it in Pliny, or Ovid, or Virgil, for example, deal with it very coldly, and merely as a wild fruit, but in these later days it has received full attention. It is a particularly easy plant to grow.

The stock is perennial, scaly, and fibrous, throwing out numerous slender runners which, in turn, root at intervals and produce new plants. The flower-bearing stems spring directly from the roots, and are erect, herbaceous, clothed with soft hairs, and some six inches in height: either entirely leafless or with one, or possibly two, leaves of very simple character upon them, a feature that may be clearly seen in our illustration. The flowers are few in number on each stem. The leaves are of the form botanically termed ternate, and are composed of three nearly equal leaflets; each leaflet being egg-shaped and deeply cut into teeth like a saw. The leaves, like the stems that bear them, are often thickly clothed with silky hairs. The petals are five in number, pure white in colour, easily shattering, and the calyx is cleft into ten divisions. The stamens are numerous, and form a compact ball-like yellow mass in the centre of the flower. The fruit is fleshy and succulent, ordinarily

bright red, but sometimes white. The strawberry-leaved potentil, *Potentilla Fragariastrum*, by the older botanists called the sterile strawberry, closely resembles it: into the botanical differences it would here be scarcely advisable to go at any length, but the presence or absence of fruit is in itself a very conspicuous point of difference, as the pseudo-strawberry never produces the succulent and ruddy fruit that is so conspicuous in the true plant.

We remember to have seen the wild strawberry very pleasingly introduced in a sixteenth-century MS. in the British Museum, the white flowers and crimson fruit being painted on a golden ground; it may be seen, too, very gracefully rendered in the foreground of a picture of the Virgin and Child, by Hugo Vandergoes. The Gothic stone-carvers of Southwell, Wells, and elsewhere were not oblivious of its charms, and we have seen it, too, in old stained glass.

FURZE.



FURZE.

Ulex Europæus. Nat. Ord., Leguminosæ.

NO one who is at all familiar with our commons and waste lands can be ignorant of the present plant, its rich wealth of golden blossoms stretching over many acres of ground, the sweet fragrance of its flowers, and the long duration of its flowering season, being all points that arrest the attention even of the most indifferent. Early in the month of February we may find it here and there in blossom, "a token to the wintry earth that beauty liveth still;" and as the spring advances the dark and sombre-looking masses of prickly foliage become thickly laden with its brilliant blossoms. As the spring passes into summer, and the primroses, hyacinths, and all the other floral beauties of the opening year give place to their successors, the furze still continues in all its richness of colour; and as summer, in turn, gives place to

autumn, and its blossoms fade away, the furze still stands its ground, and brightens the declining year.

It is a common saying among country folk that when the furze is out of flower kissing is out of season, whence we are of course given to understand that as at almost all times some few blossoms at least may be met with, such a token of affection can rarely be ill-timed. Even when the golden flowers of the furze are but sparingly to be found, the plant is always welcome, as it preserves its verdure throughout the year. Our plant is almost equally well known as the gorse, while a third name for it is the whin. Goldsmith speaks of the "blossomed furze," and Cowper of the "prickly gorse," its two commonest names and its two most striking features being thus at once illustrated. Thompson, too, calls it "the flowering furze poured forth profusely"—a testimony to a third marked feature, its abundance. Goldsmith, however, goes on to call it "unprofitably gay," while Cowper terms it "shapeless and deformed, and dangerous to the touch;" and here we must at once beg to enter our protest. The furze is most distinctly not unprofitable. It is sometimes planted as a hedge; at other times it affords an admirable cover for game. It will grow near the sea, too, and is, therefore, of great value in shielding young plantations from the salt-laden and sweeping gusts of wind that would prove fatal to them, while few things throw out a fiercer heat when burnt.

Any one at all familiar with country life will have seen the furze faggots being cut on the heath, or will at least recall the places bare of all but stumps whence this harvest has been gathered. It is ordinarily cut once in three years, so that we generally find not only the bare ground, but

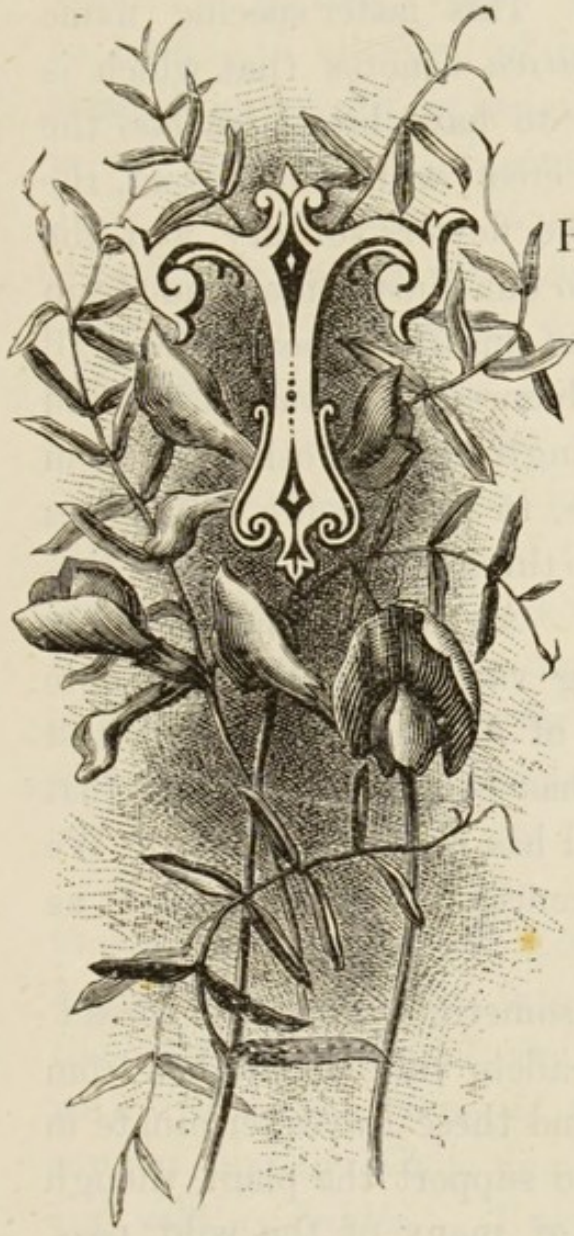
patches elsewhere of more or less up-springing shoots, and in other places the full-grown plants awaiting the woodman's visit. Its ashes yield a serviceable dressing for the land, and its upper shoots, after being bruised with a mallet, form a valuable fodder for cattle and horses. In large dairy establishments the gorse is crushed almost into a pulp by a small engine, and then given to the cows. It may, therefore, be sown to advantage on poor land, the proper proportion being at the rate of 35 or 40 lbs. of seed to the acre. It is ready for cutting in the second autumn, and should yield some two thousand bundles, or about eighteen tons per acre. If to this we add its more indirect service to us through the industry of the bees, we shall at all events have clearly demonstrated that the furze can scarcely be called "unprofitably gay"; besides, beauty is in itself an end, and we need not feel under any compulsion to reduce everything to a strictly utilitarian standard. We ourselves feel perfectly content to enjoy its beauty in the landscape, and to revel in its golden richness: Cowper's injurious epithets, then, need not delay us long; a glance at our figure, or, better still, a walk over the breezy and furze-clad common, will effectually dispose of them.

The word furze is derived from its Anglo-Saxon name, *fyrs*, while gorse, also Anglo-Saxon in its origin, is from *gorst*, a waste, and refers, of course, to the open commons and moorlands on which we find the shrub. The derivation of the word whin is obscure, and two or three different theories are given in various etymological works; but into these we have not space to enter. The furze is sometimes, but less commonly, called the thorn-broom, its spiny branches, laden with the large yellow broom-like flowers, being, of course, the ca...

of the name. A variety, distinguished from the typical plant by its smaller size, upright growth, and soft and succulent stems, is sometimes met with; it is ordinarily called Irish furze, as it was first observed in County Down.

In our fourth volume will be found the description and illustration of the rest-harrow, a plant having considerably larger leaves than the furze, and a rich array of pink blossoms. As these blossoms, however, though pink, are of the same size as those of the furze, and of the same papilionaceous or pea-flower type, while the plant has spine-guarded stems, the rest-harrow is sometimes called the petty-whin. The bilberry, too, from its growing on the open moorland and common, the characteristic home of the golden-blossomed furze, is sometimes locally known as the whin-berry.

COMMON VETCH.



COMMON VETCH.

Vicia sativa. Nat. Ord., Leguminosæ.

THE vetch has long been cultivated as a forage-plant, and has therefore got widely distributed. It may be found almost everywhere: on cultivated ground, on dry pasturage, on waste patches of soil, and in open woodlands. Cultivation has to some extent modified its appearance, and some two or three varieties or sub-species have been recognised, but these have a way of running into each other that makes their identification difficult, and for our purpose, at least, we need attach little or no importance to them. Cultivation in rich ground naturally makes the plant more luxuriant in growth, the stems attain to a greater height, the leaflets are broader and the flowers larger; but all these modifications are but developments that can readily be traced to its change of circumstances, and directly we attempt to make a specific difference difficulties arise.

Attempts have been made to discriminate between the cultivated and the wild plants, and the first has retained the name of *V. sativa*, while the second has been re-named as *V. angustifolia*. This latter specific name signifies narrow-leaved, while *sativa* denotes that which is cultivated. The first is said to have broad leaflets, the flowers in pairs, and the pods erect, while the second, the wildling, has narrow leaflets, the flowers solitary, and the pods spreading. On turning to our illustration, made from a plant growing in a large forest and far removed from all suspicion of being under the influence of cultivation, we find that one piece has the flowers singly and the other has them in pairs. According therefore, to the specific differences we have quoted, our plant is two things at once, "which"—to quote Euclid—"is absurd." An attempt has also been made to form a low-spreading variety of the plant into another species, under the title of *V. Bofartii*, but the test of observation and cultivation has conclusively shown that it runs into the other forms and has no permanence. We may, then, ignoring these differences, speak of the plant as only one.

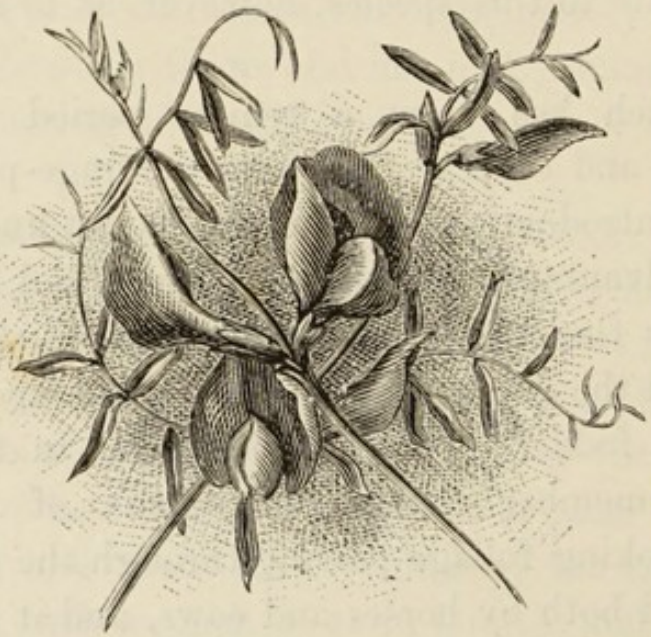
The stems of the vetch are sometimes short and spreading, sometimes erect. The leaflets vary in number from about six to ten on each leaf, and these leaves terminate in a branched tendril that helps to support the plant, though it has not the climbing habit of many of the wild peas and vetches. The flowers are singly or in pairs in the axils of the leaves, and these are followed by the characteristic pea-like pods, each an inch or so in length, and containing about a dozen small globular seeds. The flowering-season is the spring and early summer. The common English name of the plant varies from vetch to fetch and fitch,

while in Germany it is wicke, in France vesce, and in Italy veccia. All these names have a strong family likeness, and are derived, we are told by Prior, in his "Popular Names of British Plants," from the Latin verb signifying to bind; in allusion, of course, to the tendrils and the straggling growth on hedges and neighbouring plants that is so characteristic of some of the plants of the genus. The generic name, *vicia*, probably carries a similar significance, though its derivation is now a point of dispute, some finding significance for it from the Latin and others from the Celtic. Our plant is also sometimes called the tare, and in some of the older writers we get both the common names combined into one, and our plant called the tare-fytche; the origin of the name is doubtful, but it has been suggested that it is derived from the French verb *tirer*, to drag, from the unceremonious way the plant has of utilising other plants for its support. The name is not so appropriate to this species, however, as to several of the others.

The vetch has from a remote period been grown in southern and central Europe as a forage-plant, but the date of its introduction into England is not known. It has the great advantage of coming on early, and is often sown with rye, as the stems of the latter afford it the needful support, and the whole crop is then made up into bundles and sold as fodder. Even the dweller in the town will probably remember noticing cartloads of its verdant, succulent-looking foliage passing through the streets. It is greatly liked both by horses and cows, and it is one of the most nutritious foods they can have; its seeds, too, are often given to poultry and pigeons. "This is a certaine knowne pulse to doves wherewith they are much delighted,

and although they be wild, yet where the dove-houses are served herewith they also will resort and become tame with the rest, and therefore some countrey people knowing it sow some fields therewith to serve to that use." It does not seem to have been commended by the ancients either as a meat or a medicine for mankind—"they yeeld a thicke clammy nourishment and hard of digestion,"—and instead of curing, as most things do, almost every evil under the sun, the mediæval physicians are content to commend it merely for use as "a pultis."

When grown as a field-crop the plant has a decidedly rich and luscious appearance, and we can readily enter into the feelings of a cow who has a reputation to keep up with the dairy-maid when she turns from even the fragrant but decidedly dry-looking hay to the manger full of the cool and succulent-looking vetches.



SEA CAMPION.

SEA CAMPION.

Silene maritima. Nat. Ord., Caryophyllaceæ.

SOME writers on matters botanical speak of the present plant as only a variety of the common bladder campion, *Silene inflata*, a plant that will later make an appearance in our series. Bentham, for example, in his "Handbook of the British Flora," winds up his description of the bladder campion by saying: "A sea-coast variety, with short diffuse stems, thicker, more obtuse leaves, and almost solitary flowers, has been distinguished as a species under the name of *S. maritima*." Hooker and Arnott, in their "British Flora," admit it to specific rank, as did the author of the well-known standard work "English Botany," but the former, after describing the plant, go on to say, "This, though it has smaller stems and leaves than the last, has larger flowers; yet we will not assert we have done right in again raising it to the rank of a species." In so doubtful a

rose needs the sheltering bank, the hyacinth the solemn shade of the woodland, the heath the open moorland, and as we visit each scene in turn we find in all alike the proofs of adaptation.

"I have learned
To look on Nature, not as in the hour
Of thoughtless youth, but hearing oftentimes
The still, sad music of humanity.
Nor harsh, nor grating, though of ample power
To chasten and subdue. And I have felt
A presence that disturbs me with the joy
Of elevated thoughts; a sense sublime
Of something far more deeply interfused."

The coy and sheltered primrose and the wind-tossed campion are alike the children of one common Father, and have equally received at His hand all that is essential for their well-being.

BROAD-LEAVED PLANTAIN.

BROAD-LEAVED PLANTAIN.

Plantago major. Nat. Ord., Plantaginaceæ.

LIKE its near relative the lamb's tongue, narrow-leaved plantain, or ribwort, the broad-leaved plantain claims a place in our series, for there are few plants that from their abundance and universal distribution can show a better right to the title of Familiar Wild Flowers. It may be found anywhere by road-sides and in meadow land. It is, perhaps, in these latter days better known than respected, though there was a time when its more or less real virtues gave it a high place in rustic esteem. All the species of plantain are mucilaginous and astringent in nature; and in more primitive days, when the herbs required for the healing art had to be in large measure derived from the neighbouring hedgerow or meadow, it was, no doubt, a distinct acquisition to the store of the rural practitioner. In the Highlands of Scotland it is still, we believe, called the

Slan-lus, or plant of healing; and the old herbals are full of its commendation, and abound in suggestions for its use in all sorts of directions. Dioscorides, Galen, and many others of the ancient writers, bestowed on it lavish praise for its services in all inflammations, bleedings, the bites of mad dogs, of scorpions, and of venomous serpents, for ophthalmia, insanity, hysteria, asthma, phthisis, fevers, ague, and many others of the ills of suffering humanity, applying it internally, or in poultices, fomentations, gargles, and so forth—in fact, in every way in which it was possible to turn its services to account. All these details of the ancients are carefully reproduced by the mediæval writers—as, for instance, that "the juice mixed with oyle of roses, and the temples and forehead anointed herewith, easeth the paines of the head proceeding from heate, and helpeth franticke and lunaticke persons very much, as also the bitings of serpents or a madde dogge." Erasmus, in his "Colloquia," tells a story of a toad, who, being bitten by a spider, was straightway freed from any poisonous effects he may have dreaded by the prompt eating of a plantain leaf; and a relative of our own informed us that in the United States the plant is called snake-weed, from a belief in its efficacy in cases of bites from venomous creatures. A favourite dog of his was one day stung by a rattle-snake, and a preparation of the juice of the plantain and salt was as promptly as possible applied to the wound. The poor animal was in great agony, but quickly recovered, and shook off all trace of its misadventure.

The greater, or broad-leaved, plantain is almost cosmopolitan. It would almost appear to possess a peculiar sense of companionship and domesticity, for it has followed the migrations of our colonists to every part of the world,

and in both America and New Zealand has been called by the aborigines the Englishman's Foot, for, with a strange degree of certainty, wherever the stranger race has taken possession of the soil, there the plantain in like manner asserts its claim to a home.

An old English name for the plantain is the way-bread, a name apparently meaningless at first sight; but on turning to some of the older herbalists, we find it given as way-bred. The name, therefore, bears no allusion to any food-yielding property, but to the habitat of the plant, flourishing as it does by the roadside, born and bred amidst the busy haunts of men. In a very curious old book, "Leechdoms, Wortcunning, and Starcraft," it is called way-broad. This opens out a new theory, that the plant was possibly so called from its broad and spreading leaves flaunting by every path-side. The Anglo-Saxon name for the plant was *wegbræd*. The generic name, *plantago*, is derived from the Latin word *planta*, the sole of the foot, a name that may have been originally bestowed either from the broad flat form of the leaves, from their closely appressed growth, in almost or complete contact with the ground, or from their growing where they get trodden under foot of man.

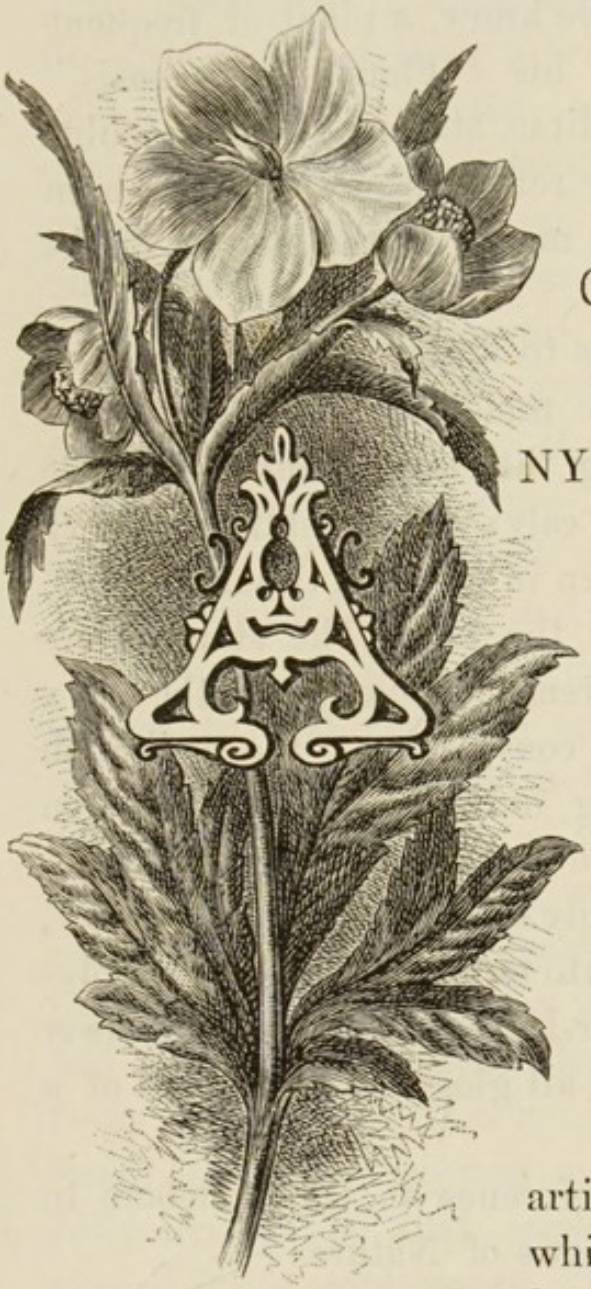
Though the plant ministers in no way to the food and sustenance of man, it is probably to many of our readers a well-known food-plant. Cage-birds greatly enjoy it, and its collection and sale along with the equally well-known chickweed and groundsel is a well-recognised branch of street industry. Many of our smaller native birds also are indefatigable collectors of it, not, indeed, as a commercial speculation, but for home consumption.

The root-stock of the broad-leaved plantain is short and

thick, while from it issue numerous white fibres that strike deeply into the earth, and from their stronghold render the plant very difficult to eradicate. The leaves vary very much, both in size and mode of growth; when the plantain is found amongst the luxuriant herbage of the hedge-row the foliage is large, on long foot-stalks, and struggling upwards, like all its surroundings, to the necessary air and light; but on lawns and road-sides the leaves are considerably smaller, massed in a solid rosette, and pressed closely to the earth. The plant seeds freely, and is a great disfigurement to a lawn. If left alone, plantains rapidly multiply, and quite spoil the look of the turf, besides presently throwing up their multitudinous scythe-blunting flower-stems; and if eradicated, the place where their dense rosette of leaves had destroyed the grass is for some time an unsightly feature in the midst of the verdant expanse.

Like the lamb's tongue, an allied species we elsewhere figure in our present volume, the broad-leaved plantain has its leaves very conspicuously veined.

GREEN HELLEBORE



THE GREEN HELLEBORE.

Helleborus viridis. Nat. Ord. Ranunculaceæ.

ANY of our readers who may by chance find a specimen of our present plant will have little difficulty in recognising it, the palmate character of its foliage and the unusual colour of its flowers being sufficiently striking points to aid in its identification. Though we have spoken of the colour of its flowers, it is only in deference to popular phraseology; for as the artist would divide things into white, black, or coloured, so the botanist divides his plants into green and coloured. The green hellebore should be looked for in thickets and woods, and appears to thrive best in a stiff and calcareous soil. Like the henbane or the deadly nightshade, too, it seems to find in the society of mankind an especial attraction; hence we find it on ruins and at the foot of old walls. It is in some cases an introduced plant, but in some of the eastern and southern counties it is probably indigenous. In many of

the Hertfordshire lanes it is, we know, a plant of frequent occurrence; and Curtis, in his "Flora Londinensis," gives Finchley as a metropolitan station, though, doubtless, the wood to which he refers has long ago been overwhelmed by the inevitable march of the men of bricks and mortar.

The green hellebore begins to flower in February, and continues to blossom until the middle of April. The five large spreading bodies forming the conspicuous cup of the flower are the sepals of the calyx; the petals are very much smaller, from eight to ten in number, tubular, green, and divided into two lobes at the top. The stamens are numerous, and from their difference in colour from the calyx and corolla, are decidedly conspicuous, the yellowish convex mass of anthers telling out clearly from the green cup in which they stand. The flowers of the green hellebore are drooping, and ordinarily somewhat few in number, the leaves large, and divided into numerous fine and deeply-toothed segments. The upper leaves are sessile, the lower borne on long foot-stalks, and all glossy in effect, and of a dull and bluish green.

We find an interesting reference to the hellebore in Bishop Mant's poem on the Laws of Nature:—

> "Why is the lowly speedwell blue?
> The strawberry white? The nettle spread
> With yellowish-white and purplish-red?
> What gives the pileworts golden sheen?
> The hellebores their blossoms green?
> One purple-tipped, the other still
> Verdant throughout."

The first of the two hellebores referred to is the *H. fœtidus*, or bear's foot; the second is the plant we illustrate. In our figure it will be seen that the sepals are en-

tirely green; but in the allied species they are not "verdant throughout," but have a fringe, or border, of dull purple colour. Both are British species. A third well-known species is the black hellebore, or Christmas rose (*H. niger*), a plant of Southern Europe, that may often be met with in cultivation; in this the broadly-displayed sepals are pure white, and in the centre, surrounding the clustering stamens, are the small and inconspicuous green petals. Another foreign species, *H. officinalis*, is—or it would be more correct to say was—held in repute as a medicinal plant, but the two British species and the Christmas rose possess powerful effects, and are at times substituted for it.

As it may be somewhat puzzling to some of our readers to find that the species which is especially distinguished as the black hellebore has large and striking flowers of a pure white, we hasten to explain that it derives both its English and botanical name from the colour of its roots—the parts used medicinally, and therefore well known to many herbalists and physicians, who had perhaps little other knowledge of the plant. The fresh root of the hellebore applied to the skin produces inflammation and blistering, and given internally it is powerfully irritant, so that some considerable degree of care is needed in its employment; but we find both a tincture and a powder of it are still occasionally used by the faculty, and directions for their proper preparation, use, and so forth, are all duly set forth in the manuals of materia medica. In Burton's "Anatomy of Melancholy" we find that—

> "Borage and hellebore fill two scenes,
> Sovereign plants to purge the veins
> Of melancholy, and cheer the heart
> Of those black fumes which make it smart."

But an overdose produces the less cheering symptoms of syncope and convulsions, followed by death.

Some of the older writers, as Parkinson and Gerarde, regarding matters from a more purely medical point of view than their successors, call the green hellebore the bastard black hellebore, or the wild black hellebore, while Fuchs names it pseudo-helleborus. Gerarde says it is "good for mad and furious persons; for melancholy, dull, and heavy men; for those that are troubled with the falling sickness; for lepers; for them that are sicke of a quartane ague; and briefly, for all those that are troubled with black choler and molested with melancholy." He gives various ways of administering it, one being "the leaves dried in an oven after the bread is drawne out, and the powder thereof taken in a figge or raisin, or strawed upon a piece of bread spred with honey." Bad as an attack of the melancholy may have been, the remedy would appear to have been almost worse.

HEATH OR LING.

HEATH OR LING.

Calluna vulgaris. *Nat. Ord.,* *Ericaceæ.*

NOT perhaps so attractive as the heather, *Erica cinerea*, to be shown in Vol. V., the present species is even more abundant, and this, too, although the heather is found everywhere on our northern moorland tracts and the great commons and wastes in the southern counties. We get so accustomed to using words without a full consideration of their meanings, and what is involved in them, that we may be forgiven if we here point out that these great open commons are often called heaths from the simple fact that various species of heath form their most characteristic covering and adornment, and a vast purple expanse of heath in the sunlight is one of the most delightful pictures on which the eye can gaze. Though we naturally associate the idea of the heath with a wide and breezy expanse, the soil on which it grows is often suitable for tree-planting. In an essay, entitled, "Wild Plants

a Guide to Soils," we find the heath thus referred to:— "When it is rank and strong-growing, it indicates deep, black, mossy soil, poor, and naturally unfertile, but which, if dry, and the altitude be not too great, will grow Scotch fir and birch; if wet, Scotch fir, spruce, and alder. If the heath be close and healthy, and mixed with moss, tormentil, and grasses, the soil is more fertile." Many of our poets refer to the beauty of the heath, its effect in the landscape, and its uses of various kinds. It is impossible to quote to any large extent; but any one who will turn to the writings of the two great Scotchmen, Burns and Scott, will find abundant references.

> "Of this, old Scotia's hardy mountaineers
> Their rustic couches form, and there enjoy
> Sleep, which beneath his velvet canopy
> Luxurious idleness implores in vain."

The heath is applied to many useful purposes. Houses are roofed with it instead of with thatch. In Scotland a strong decoction of it is used in tanning leather, and a very refreshing drink is made by brewing together two parts of heath-top to one of malt. The heath plant, too, is a good deal used for making brooms, and for heating ovens, while the turf, full of its fibrous and matted roots, and with the plants still on it, is cut up, dried, and used as fuel by many a poor cottager. Woven into a wooden framework it makes a protective fencing. Neither horses nor cattle seem to care for it, but in some parts of the country the old heath is from time to time fired, as sheep enjoy the tender shoots that afterwards spring up. This custom is referred to in "Marmion." Its close and sheltering masses form a home for many a wild animal, and birds and other small creatures find a meal as well as a refuge in its umbrageous

depths. Grouse thrive on it, for example, and several species of lepidoptera have the heath as the food-plant of their caterpillars. Mary Howitt writes in one of her poems of

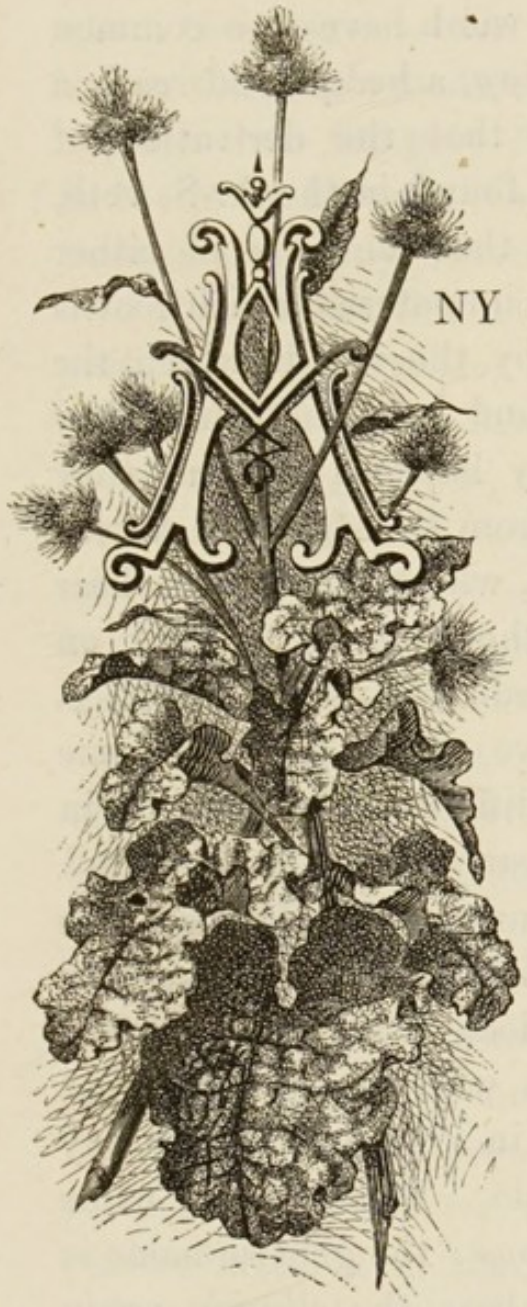
> ———"those wastes of heath,
> Stretching for miles to lure the bee,
> Where the wild bird, on pinions strong,
> Wheels round, and pours his piping song,
> And timid creatures wander free."

The heath-honey, however, is browner and coarser than that which is gathered in other districts, and Gerarde, we see, says, "Of these flowers bees do gather bad honey." It gains a somewhat strong and distinctive taste that is more objected to by some persons than by others. Quite recently a new golden-yellow dye has been brought out, made from the woody portions of the heath. The shoots and stems are crushed, and then boiled in alum-water; after cooling, filtering, and standing for some three or four days exposed to the air, the liquid assumes a rich golden tint, and in this state, says the "Textile Manufacturer," it can be used for dipping fabrics of all materials. Used alone it gives various tints of yellow and orange, with oak-bark a rich brown, with cochineal tints of scarlet; or the colouring-matter may be precipitated, and then forms a fine yellow body-colour for wall-papers and many other purposes.

The heath or ling forms a low, straggling, and much-branched shrub. Its branches are tough and woody, and the leaves are borne in close masses on the side shoots. They are very small, and placed in four rows. The flowers, too, are small and of a purplish tint, or occasionally white. What at a first glance we might suppose to be the corolla is in reality the calyx, and the true corolla, having its petals

much shorter and smaller than the enclosing sepals, may be seen within on a more critical examination. Outside and beneath the true calyx may be seen four bracteas, resembling a secondary calyx. The corolla is deeply cut into four lobes, and the calyx and bracteal ring have each four parts, while the stamens are eight in number. Its flowering season is in June, July, and August. Africa is the true home of the heaths, and many fine species may be found in cultivation, but in Europe the ling is the most abundant representative of the family. Linnæus, in his "Flora Lapponica," tells us that large tracts of Lapland are covered with this heath, and that the people have an idea that the whole earth is destined to be ultimately overspread by two plants, the heath and the tobacco. Their prediction may not, after all, be so unreasonable as it appears on the surface, for, leaving out of the question the thousands of acres of heath in Scotland alone, tobacco in the only form in which the Laplanders could possibly know it has encircled the globe. The ling is in Wales called the grug cyffredin, and in Ireland the fraogh, or the grig.

BURDOCK.



THE BURDOCK.

Arctium Lappa. Nat. Ord., Compositæ.

ANY one who wanders much amidst the hedgerows will probably, *nolens volens*, amongst his other floral treasures, bring home with him some portion at least of the present species. Though the plant is not in any way related to the dock family, its large lower leaves are sufficiently like those of the common dock to satisfy the not too exacting requirements of popular nomenclature; and to distinguish it from the other plant of that name, it is the burdock, or dock that bears burrs. Several other plants are, in popular estimation, docks simply because they bear large leaves of simple character. In some districts the big leaves of the white water-lily have procured it the name of flatter-dock, a corruption of "floating dock;" and, in like manner, the fine foliage of the butterbur—a plant common enough ordinarily by the banks of our streams—has caused it

to receive the name, in local nomenclature, of butterdock. In earlier days the burdock was called the heriff, aireve, or airup: like most other old names, the spelling was freely varied. All these forms of the word have one common origin—the Anglo-Saxon words, *hæg*, a hedge, and *reafe*, a robber. It has been suggested that the derivation of these old names should rather be found in the A.-S. verb, *reafian*, to seize, but it is evident that the force of either word is the same; it is, therefore, immaterial which root is taken. The name is suggested by the way in which the sharply-hooked involucres seize and hold anything they touch; though it more frequently happens that, as they will not let go, they are torn off from the stem and carried away by the unconscious traveller, who may probably bear them about with him all day if they happen to stick on some part of his clothing not immediately under his notice. We have seen already that if two plants agree in some striking respect, no matter how different they may be in all else, they will, probably, in early writings be found to bear almost or precisely the same name. Bearing this in mind, we are not surprised to find that the cleavers, or goose-grass, shared with the burdock these old names of aireve and airup, covered as it is with small burrs, that tenaciously adhere to the clothing in exactly the same way as the larger ones of the burdock do. The scientific name of the burdock is the *Arctium Lappa*: the generic name is derived from the Greek word for a bear, the allusion again being to the rough texture of the involucres of the plant.

The burdock is a very common plant on waste ground and by the roadside. Its flower-heads will be found expanded during the latter part of the summer and well into the autumn. The plant is often four feet high, or

even more; the lower leaves are very large, frequently more than a foot long, heart-shaped, and of a grey colour on their under surface, from the mass of fine down with which they are covered. The upper leaves are considerably less in size, more ovate in form, and not so densely clothed beneath with the grey down that is so marked a feature in the lower leaves. The involucre is almost spherical in form, and thickly covered with bracts, each terminating in a sharp point that is bent into a hook-like form—the peculiarity that enables them to grasp so tenaciously any suitable object that chances to touch them. The florets are all tubular, similar, and of a purple colour.

Though it is ordinarily held that we have but one species of burdock, it is a plant that varies a good deal in appearance; and some observers have held that these differences are sufficient, not merely to be recognised as varieties, but to justify them in creating four distinct species. It is, however, held by most botanists that the characters on which these specific differences are founded are scarcely sufficiently satisfactory to justify the division. The size of the flower-heads and of the whole plant, the abundance of the white cotton-like substance that is sometimes found on the involucres, or the absence of it, the length of the peduncles, and some few other minor points, are the features that, by their variation in different plants, have led to the attempt to set up forms of fixed and specific value.

For the ordinary observer, the long-established belief that we have but one species is amply sufficient for practical field-work; but as these varieties we have referred to are often met with, it may be well briefly to refer to them.

In that which is by some observers made a species

under the name of *A. nemorosum*, the stalks of the lower leaves are hollow, flattened above, and somewhat angular. The flower-heads are large, almost stalkless, and usually placed in threes. In the next, the *A. minus* of some writers, the lower stems are hollow, almost round, and scarcely furrowed; the flower-heads are small in themselves, borne on small stalks, and scattered thinly along the branches. In the third variety, the *A. intermedium* of those who hold it to be a distinct species, the lower stems are hollow and slightly furrowed, the flower-heads borne on long stalks, the lowermost being the longest, and the involucre woolly. In the *A. Lappa*, the specialists tell us, the lower leaves have their stalks solid; but such a feature is surely, in any case, of but slight value. It suffers, too, under a practical disadvantage—the great difficulty that would often be experienced in getting these leaves at all, as the plant is not only eaten by many animals, but, from its growth by the roadside, is subject to all sorts of casualties.

OX-EYE DAISY.

THE OX-EYE DAISY.

Chrysanthemum Leucanthemum. Nat. Ord., Compositæ.

IN writing these few accompanying words to each plate, we are almost invariably met on the very threshold of our subject with a grave difficulty — the difficulty arising from our desire to make our remarks not altogether a repetition of what has been said by scores of writers in scores of books already. When we gaze on a field white with the blossoms of the ox-eye, or yellow with countless thousands of buttercups, its perennial loveliness of colour is ever welcome. The fact that we have seen it all before for, perhaps, twenty summers in succession, gives but the added charm of all the associations of the past to the recurring bounty of Nature.

> "Age cannot wither her, nor custom stale
> Her infinite variety."

When, however, we pluck one of these blossoms, we cannot but feel that little remains to be said. The very commonness of the flower appears to render our comments superfluous. We have, nevertheless, often been surprised to

find how little of the biography, the life-history, or even the name of some of our very common plants is known to many whose thoughts do not happen to have been directed in that channel, and who, nevertheless, have a very real and lively appreciation of the charms of these wildlings, and who have something of the apologetic feeling expressed by Wordsworth in his ode to the smaller celandine :—

> " I have seen thee, high and low,
> Thirty years or more, and yet
> 'Twas a face I did not know."

In the hope, then, that to a portion of our readers, at least, our remarks may have some little interest, we take courage anew.

The ox-eye daisy is one of the commonest of flowers in dry pasture-land ; and it may also be seen in rich profusion on the sloping banks of our railways, covering large surfaces with a sheet of white. The flowers are so large and brilliantly white, while the foliage is so scanty, that at a very short distance the mass of white blossoms is alone distinguishable. The plant is a perennial, it is of little or no value as fodder, and it is an indication of poor soil—features that tend to make the agriculturist regard it with no favouring eye. It is said in some works that the leaves are useful as a salad. This, however, appears almost like adding insult to injury. The leaves are so small, as our illustration shows, that we can hardly imagine any one taking the trouble to collect any quantity of them for this object, especially as a person who has so far got over the prejudice of eating such wild herbs would find many others considerably better adapted to their purposes than this. The flowers of the ox-eye enliven the meadows as the grass is growing for the hay-crop ; and any one desirous

of obtaining specimens should resort to such spots before the long swathes of grass and blossom fall beneath the keen edge of the scythe. It will ordinarily be found in blossom by the middle of May. It is at its best for about a month after that date; but isolated specimens that have escaped the general massacre of the hay-field may be met with throughout the summer, and even late into the autumn. It is the *Chrysanthemum Leucanthemum* of scientific nomenclature. The genus, deriving its name from the Greek words *chrisos*, golden, and *anthos*, flower, contains only two indigenous species, this under present consideration and the *C. segetum*, or corn-marigold. The two species may readily be distinguished. In the ox-eye the central disc is yellow, and the rays surrounding it are white; while in the marigold the whole flower is yellow. The specific name of the ox-eye signifies white flower, and is, like the generic name, Greek in its origin.

The plant ordinarily grows from one to two feet high. The stems are hard and wiry in texture, furrowed, very slightly branching. The leaves are coarsely toothed. Those near the root are somewhat rounder in form than those on the stem, and are on long stalks; while those that spring from the stem are stalkless. The flower-heads call for no lengthy description. They are clearly shown on our plate.

In the north of England and Scotland the daisy is often called the gowan. Where this name is current, the ox-eye daisy becomes the horse-gowan. Many names have "horse" as a prefix. It is ordinarily used to imply that the plant is rather large and coarse, and in the present instance serves very well to mark the difference between the large showy blossoms of the ox-eye and those of the "wee, modest, crimson-tipped flower," the little daisy. Gowan means

golden. We see the word again, under slight modification, in the northern name for the marsh-marigold, water-gowlan, and in that of the corn-marigold, gowles or golding; so that it is somewhat of a perversion of the original idea to transfer the epithet to a flower not wholly yellow. It is the "fair ox-eye" of Ben Jonson.

The corn-marigold, or yellow ox-eye, is, as its name implies, one of the characteristic flowers of the corn-field. It is widely distributed, though in some districts it is quite unknown. In Scotland, Denmark, and Saxony it was one of the noxious plants that came within the reach of the law; and those who allowed it to grow in their fields had to suffer the penalty of their neglect and contumacy. It is a very brilliant and beautiful addition, æsthetically, to the field of ripening corn; and we can only regret that it is at the same time a pest to be ruthlessly warred against.

GREAT MULLEIN.

THE MULLEIN.

Verbascum Thapsus. Nat. Ord., Scrophulariaceæ.

WANDERERS by the hedgerows in the early spring may frequently find a large tuft of leaves that bear a very considerable resemblance to those of the foxglove, and are only distinguishable from these by a slightly more woolly texture. We have more than once known the plant on the strength of this resemblance carefully dug up and carried off in triumph to the garden borders, to be summarily ejected at a later period. It is, however, rather hard on the mullein to treat it in this way because it is not something else, and we venture to say that if only the would-be possessor of a foxglove would allow the plant to develop its true and proper individuality he would have little cause to be dissatisfied. Its long line of yellow flowers would make a sufficiently striking ornament to the border or shrubbery to be in great measure at least an equivalent for the stately foxglove; we have in fact seen it freely intro-

duced in the flower-beds in one of the London parks. The mullein may be very commonly met with throughout Britain (except in the extreme north of Scotland) on hedge-banks, by roadsides, and other waste ground, and more particularly on gravel, sand, or chalk. It will ordinarily be found in flower during June, July, and August.

The plant figured in our illustration is the common, or great, mullein, the *Verbascum Thapsus* of the botanist. The name was bestowed on the genus and species by Linnæus. Six other species of mullein, though none of them as common as the present plant, may be met with in Britain. Several of these, indeed, are very local, and therefore hardly likely to come under the observation of many of our readers.

The generic name, we are told, is a corruption from an older form of the word, *Barbascum*, and this in turn is derived from the Latin *barba*, a beard—a word suggested, it is said, by the rough and shaggy nature of the plant. To ourselves, however, this derivation, even if it be the right one, does not appear very happy. The similitude is not altogether a good one, as the texture of the leaves could scarcely be called rough and shaggy. They are densely covered with long soft hairs, that give to the eye the appearance, and to the hand the feeling, of some rich velvet—a property that is far better expressed in its common English name, mullein, a word derived from the Latin *mollis*, soft. The specific name is said to be derived from Thapsus, a place in Africa, in the neighbourhood of which it was said to have been exceedingly common. This sounds exceedingly mythical, but it is certainly true that there was not only a town of that name in Sicily, mentioned both by Virgil and Ovid,

but another also in Byzacena, in Africa Propria, referred to by Livy. What authority the great Swedish botanist had for affixing this name to the mullein it is now impossible to say. The plant is common all over Europe, and if the name be really derived from one of these two sources, the less out-of-the-way place in Sicily would probably afford the origin. The mullein is in some parts of the country termed the high-taper, a name which is erroneously explained as arising from its resemblance to the tall candles which, in the mediæval and pre-Reformation days, formed a conspicuous part of the decking of the altar. In old books it is, however, spelled hig-taper, and the words mean really the tall and tapering plant that grows in the hedge. Another old English name, agg-leaf, is clearly very similar in general meaning—the big leafy plant of the hedge-row. *Hæge* or *haga* was the Anglo-Saxon word for hedge.

The common, or great, mullein is a biennial. It throws up in the second year a stem that is little if at all branched, and that attains to a height of some four or five feet. The leaves at the base of the stem are large and numerous, but become smaller as they ascend the stem. They are alternate in arrangement, broad and simple in form, outline a good deal waved, and their bases produced some distance down the stem, as in the comfrey and some few other plants. Both leaves and stem are thickly covered with the soft mass of hairs to which we have already referred. This downy covering was at one time used as a substitute for cotton for lamp-wicks; the plant is hence in some old books called candle-wick. The leaves, owing to this covering, are very thick to the touch. The flowers are densely packed together at the end of the

stem, the line of buds and blossoms being often a foot or more in length. The flowers are of a brilliant yellow, the corolla irregular in form. Three of the stamens have their filaments—the little thread-like parts that support the anthers, or heads—covered with whitish woolly hairs; the remaining two are somewhat longer and free from this woolly or hairy covering.

The mullein, like most other plants, was, in the Middle Ages, credited with very considerable curative powers. It was believed in the time of Gerarde, a great herbalist in Elizabeth's reign, that the mere carrying of the leaves about one's person, if they had been gathered when the sun was in Virgo and the moon in Aries, was a specific against the falling sickness. A small decoction of the root was used for cramps and convulsion. Toothache, too, was supposed to yield to its power. Distilled water prepared from the flowers was an antidote for gout. The dried flowers in like manner had their especial virtues, while the seed boiled in wine, by some potent influence drew forth thorns and splinters from the flesh. In many parts, both of Europe and Asia, a still more subtle influence, the power of driving away evil spirits, is ascribed to it.

BUXBAUM'S SPEEDWELL

BUXBAUM'S SPEEDWELL.

Veronica Buxbaumii. Nat. Ord., Scrophulariaceæ.

WE have in England some seventeen distinct species of speedwell, and of these we have up to the present point only illustrated two, the Germander Speedwell, or *Veronica Chamædrys*, and the Brooklime or *V. Beccabunga*. The speedwell we now figure exhibits all the characteristic features of the genus, as may readily be perceived by comparing it with our figures of the two other species, though it is perhaps not so well known, and even when seen is often mistaken for another species of speedwell, the *V. agrestis*, which it a good deal resembles. The plant is an annual, and should be looked for in fields, gardens, and waste lands any time from May to September. The particular piece we sketched for our figure was growing by the roadside, and we mention the fact because it enables us to say that though the plant is an annual it must readily be produced

from seed, for we have seen the plants spring up year after year on the same piece of bank as regularly as though they were as perennial as oak-trees, or any other such symbols of endurance.

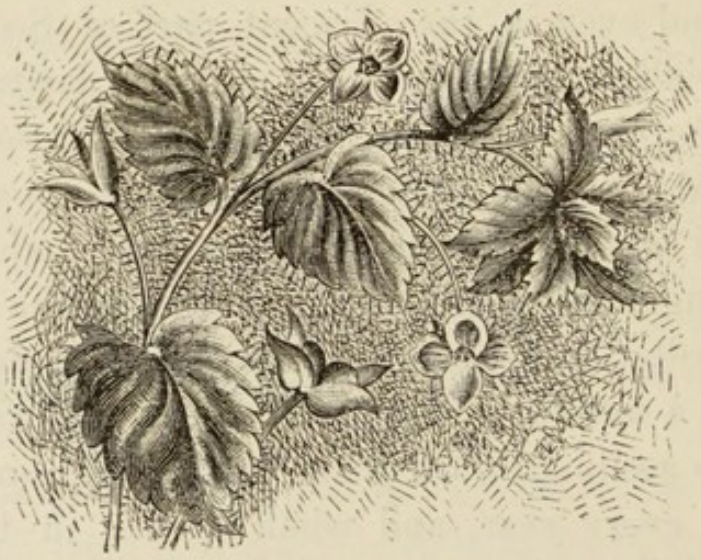
The Buxbaum's speedwell branches freely and attains to a height of a foot or so; its stems and leaves are thickly clothed with soft and silky hairs. The leaves are placed singly at irregular intervals along the stem, but are more numerous as we approach its summit. They are broadly heart-shaped, having their margins deeply cut into teeth, and each leaf has its short leaf-stalk, or in more technical language we may add that they are petiolate, cordate-ovate, inciso-serrate. All the leaves on the plant are of the same character. The flower-bearing stems that spring from the axils of the leaves are very long, and give a decided character to the plant, while the flowers themselves have the curious Veronica character—three large and fairly equal segments and then a lower and narrower one. The blossoms are a bright clear blue in colour, and for a Veronica are decidedly large. The fruit or capsule that succeeds the flower is twice as broad as it is long, and this flattened-out character is a very marked specific feature. It may be seen most clearly as the capsules ripen and develop, and is therefore best exhibited in our drawing in the detached piece at the bottom. The fruit, it will readily be observed, is two-lobed.

This graceful and beautiful flower derives its somewhat uncouth name from a distinguished botanist of the last century. Such complimentary names have often been applied by men of science in each other's honour, thus we get the Bartsia, so called by Linnæus in honour of his friend, John Bartsch a distinguished German botanist; the Schenchzeria,

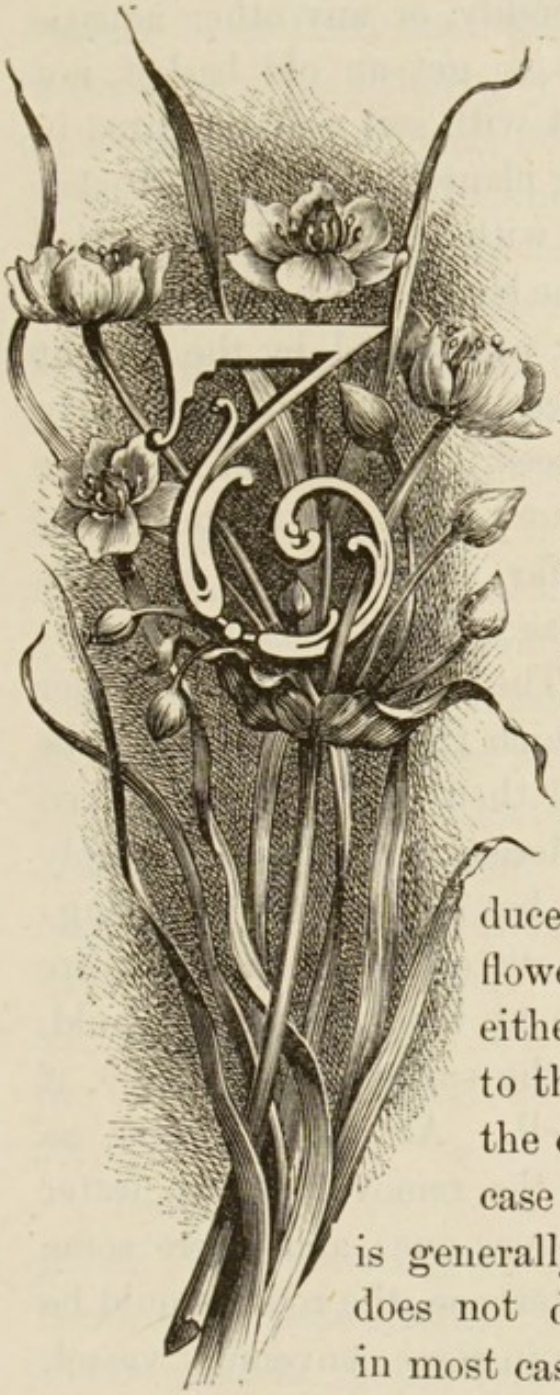
in honour of three Swiss botanists named Schenchzer; and the Goodyera, so named in commemoration of John Goodyer, an English botanist often referred to by Gerarde. Amongst the specific names we in the same manner find not only Buxbaumii, but Halleri, Babingtoni, Raii, Borreri, Mackayi, Witheringii, Lawsoni, and many others. In old plant lists we find the hoary sedge given as the Carex Buxbaumii, but this name is now disestablished, and the plant appears in the lists as the *C. canescens*. The only work of Buxbaum's with which we are acquainted, though he probably wrote others, is the "Centuriæ duæ Plantarum circa Byzantium et in Oriente Observatarum minus Cognitarum," a book published in two volumes in 1729, and illustrated by numerous plates. The Buxbaum's speedwell, like several of the others, may be termed a plant of cultivation, springing up in the gardens and fields, and never wandering far from human society and influence. The plant is a southerner, and though we find it throughout England, and even in the adjacent part of Scotland, it is more especially at home in less northern latitudes, and it is very probable that it was introduced with some kind of foreign seed at some bygone period that we cannot now trace. We some time since found a flower which was an entire stranger to us growing in Surrey in the midst of a field of swedes, and subsequent investigation demonstrated that it was a native of Peru. A friend of ours has so far managed to acclimatise the plant that it now springs up in his garden every year, and what is even in this limited degree possible in the case of this distant stranger becomes much more possible in the case of a plant of southern Europe.

Of the common species of speedwells we may mention

the thyme-leaved, or *V. serpyllifolia;* the common veronica, or *V. officinalis;* the water speedwell, or *V. Anagallis;* the marsh speedwell, or *V. scutellata;* the ivy-leaved speedwell, or *V. hederifolia;* the procumbent speedwell, or *V. agrestis;* and the wall speedwell, or *V. arvensis.* The spiked speedwell, a very handsome species, having its clear blue flowers arranged in a dense spike, is decidedly rare; botanically it is the *V. spicata.* The rock veronica, or *V. saxatilis,* another fine species, having but few flowers, but those large and handsome-looking, is a plant of the mountains, and is chiefly found in the highlands of Scotland, while the alpine speedwell, or *V. alpina,* is still more rare. The vernal speedwell, *V. verna,* and the finger speedwell, *V. triphyllos,* are also exceedingly scarce, each having been very seldom met with, and that only in some two or three of the eastern counties.



FLOWERING-RUSH.



THE FLOWERING-RUSH.

Butomus umbellatus. *Nat. Ord.*, *Butomaceæ.*

THE beautiful plant figured in the present plate is so unlike any other, that there can be no difficulty in its identification when seen. It grows freely over the whole of England and Ireland, but is only found in some few situations in Scotland, and those only where it has been introduced by the hand of man. The flowering-rush is ordinarily found either in ponds or canals; it appears to thrive best in still water, or where the current is very slight, as in the case of lock-guarded streams, and it is generally found near the banks, as it does not do well in deep water; though in most cases, as we know from experience, he who will gather its beautiful blossoms must not mind a little wading for them. As the flower is a perennial, it will, if once introduced into a lake or other suitable piece of water, continue to throw up its bunches of pink flowers year after year without any

further trouble on the part of the possessor. The best way, we may just remark in passing, to plant such flowers as the flowering-rush, the water-lily, or any other aquatic species we may wish to rear, is to get an old basket, not too coarse in its webbing, fill it with soil well saturated in water, and place the roots of the plant therein. The basket should then be either weighted with stones, or surrounded with stones built around it in the bed of the pond or stream, to prevent its being shifted or overturned by the current or any other disturbing influence. A sediment is quickly deposited around; the plant speedily finds itself at home in its new quarters, and in a short time the basket either falls to pieces, or at least so far yields to the unkindly conditions in which it is placed as to be little or no impediment to the spreading roots. The basket should be rather a fine one, or else the dirt in which the plant is set will be washed out, and the trouble will then all have been taken in vain. Many of the London florists and seedsmen supply the roots of the white water-lily, but whether the flowering-rush is also procurable at those establishments we are unable to say; a little trouble at the beginning would, however, be soon forgotten in the subsequent pleasure, if the experiment turned out well. As short a time as possible should elapse between the removal of any water plant from its old home to its new one; and where some little time must of necessity intervene, the roots should be kept damp, either by immersion in some convenient vessel, or by being surrounded by damp moss, until they can be replanted.

All the leaves of the flowering-rush are radical, that is to say, they spring directly from the thick rootstock of the plant. Though broad and sheath-like at their bases,

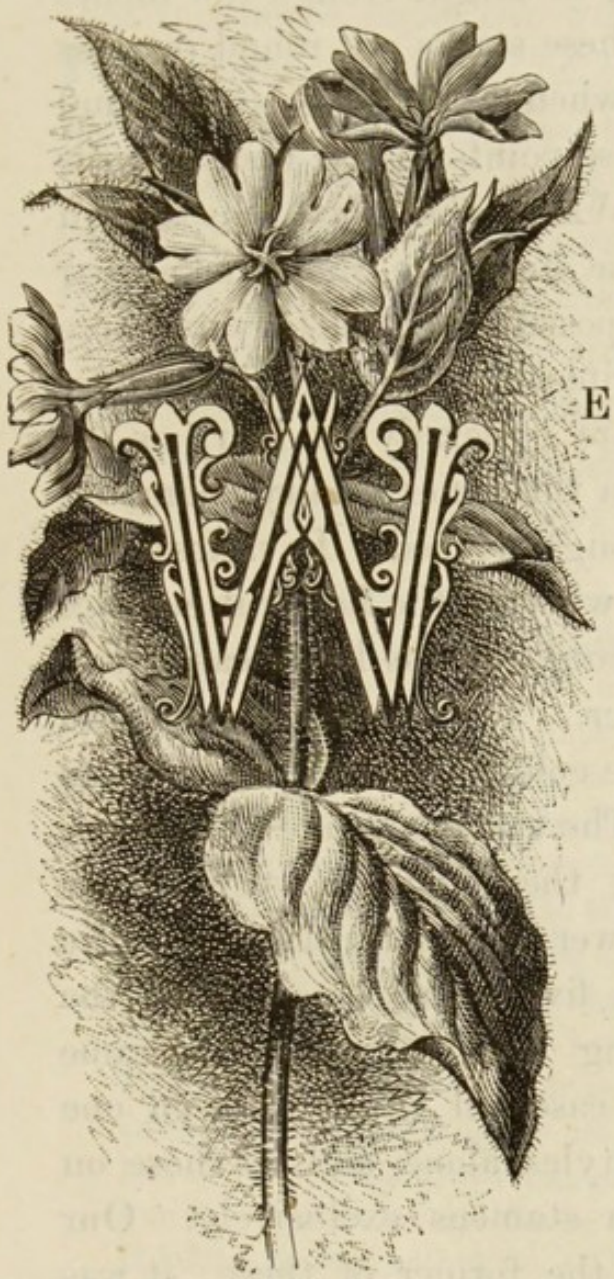
they are in general character long and narrow, and when cut across their length are seen to be triangular in form. It will readily be noticed that the stems or leaves of almost all water-plants are either very flattened in form or else triangular, as these two forms offer least resistance to the water. When the leaves are flattened, the edge only is presented to the current, which glides harmlessly by their broad sides; while, in the case of triangular leaves, the apex of one angle will be found in like manner pointed in the direction from which the stream flows. On the same principle, the engineer presents an angle to the current in the piers of his bridges, to break its force, and to offer less resistance to its steady flow. The leaves of aquatic plants are, from a similar reason, very simple in form, as they thus offer less opposition to the passage of the water than they would do if composed of large and spreading lobes. All floating leaves are of this character, while submerged leaves are ordinarily very finely cut, almost thread-like in form, as may be seen in the leaves of the water-buttercup, a plant we have already represented. It is clearly the best form for the situation in which it is found, as it turns readily with the current, and offers but little surface for the stream to act upon.

The perianth of the flowering-rush is composed of six parts. The flowers grow in an umbel, each flower being borne on a pedicel some three or four inches in length. These pedicels spread boldly out in all directions, like the ribs of a fan, and are often twenty or more in number. The example we have figured was, from the exigencies of space at command, necessarily a small one. At the base of the umbel are three thin and papery-looking bracts. The scapes, or flowering-stalks, that bear these umbels of

blossoms are longer than the leaves, often three to four feet high, and are entirely leafless.

The botanical name of the flowering-rush is the *Butomus umbellatus*, a name bestowed on the plant by Linnæus, and which it has borne ever since. The plant, unlike many that have come before us, is very distinctive, and could not possibly, when in blossom, be mistaken for anything else; and it is also very constant in itself, and does not vary from the well-recognised type-form; there has, therefore, been no question of species or sub-species arising to affect the original name. The specific name clearly refers to its umbellate inflorescence, while the generic name is compounded of two Greek words signifying "ox," and "to cut," because its sharp-edged leaves offer so little temptation to cattle to meddle with them, when the heat of summer has driven the herd to stand in the cool stream beneath some far-spreading tree.

PINK CAMPION.



THE PINK CAMPION.

Lychnis diurna. Nat. Ord. Caryophyllaceæ.

WE have already illustrated the white campion, the ragged robin, and the bladder campion, and the present species is equally common and equally attractive. There are fourteen different kinds of campion, divided between the two closely-allied genera, *Silene* and *Lychnis*, most of them being comparatively common, though some are very local or have their home amongst the mountains. On turning to Culpeper's "Herbal," we find that he definitely describes only the white campion and the present species, but winds up by saying, "there are forty-five kinds of campion more." Several species are found in gardens, but as his book does not deal with cultivated plants, we can only conclude that our author has been found tripping; perhaps it is a *lapsus pennæ* for "four or five kinds of campion more."

The pink campion is a perennial, and throws up each year

several upright stems, varying in height from a few inches to two or even three feet. These stalks are round in cross section, swollen at the joints whence the leaves spring, and readily breaking across at those points, hairy, and, towards their extremities, forking. Where the plant has grown amidst surrounding herbage the stems are green and appear to be succulent, but in more exposed situations they are more slender, and often deep dull crimson in colour. The leaves are thrown off in pairs, and are generally as hairy as the stems. The calyx, too, shares in this general hairy character, has five acute teeth, and is strongly ribbed. It varies somewhat in form, according as to whether the flower it encloses is stamen bearing or pistilliferous—in the latter case being more globular than in the other. The corolla is composed of five heart-shaped petals, the colour in some plants being much deeper than in others. The styles are five in number, white, long, and thread-like; they may be very clearly seen in the centre of the flower in our illustration. The stamens are ten in number, five being longer than the other five. Instead of finding both organs in the same plant, as is so generally the case, all the flowers on one plant will be found to have styles alone, and all those on another to be furnished with stamens exclusively. Our illustration presents us with the former of these; it was unnecessary to figure both, as the general appearance of the plants remains so nearly the same. The pink campion is abundantly met with everywhere in moist shady places and on hedge-banks, and flowers throughout the summer, commencing as early as May.

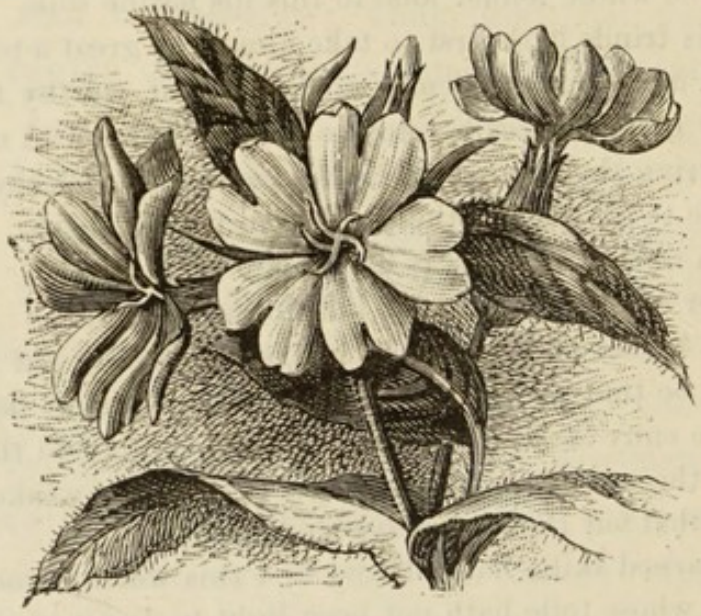
On taking down "Dodonæus," we find that "the seed and floures, with the whole herbe of the wild campion, are very good against the stinging of scorpions,

in so much that their vertue is so great in this behalfe that this herbe onely throwen before the scorpions taketh away their power to do harme." This fear of scorpions seems to have haunted the people of the Middle Ages, though in England it was a very chimerical terror indeed. The book we have just quoted was "first set forth in the Douch or Almaigne toong by that learned D. Rembert Dodoens, physition to the Emperor: And now first translated out of French into English by Henry Lyte, esquier." So far as we are aware, neither the Dutch nor the French have any more reason to fear scorpions than we have.

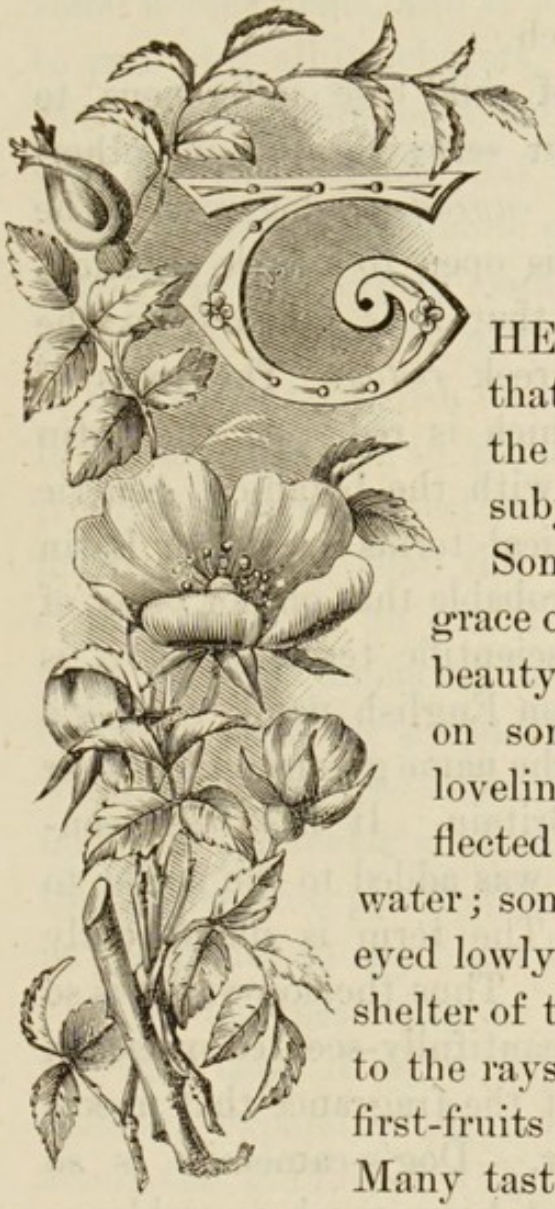
"If all Dame Enuies hatefull broode hereat shuld hap to prie,
Or Momus in his canckred spight shuld scowle with scorning eie,
Yet maugre them this worthy worke the author's name shall raise,
And painefull toile so well imploied shall reape renowned praise.
Not only he whose learned skill and watchfull paine first pend it,
And did with honor great (in Douch) to countie his commend it,
But also he whose tender loue to this his natiue soile
For vs his frinds hath first to take almost as great a toile.
A trauell meete for gentlemen and wights of worthy fame,
Whereby great princes heretofore have got immortal name.
By registring their names in herbes, as though thereby they ment
To testifie to all degrees their toile and trauell spent
In such a noble facultie was not a slauish thing,
But fit for worthy gentlemen, and for a noble king.
For if by herbes both helthe be had and sicknesse put to flight:
If helthe be that withut the whiche there can be no delighte,
Who dare enuy these worthy men that have imploid theire paine
To helpe the sore, to heale the sicke, to raise the weake againe?
No fie of that but Dodonæus aye shall have his dew,
Whose learned skille hath offered first this worthy worke to viewe.
And Lite whose toile hath not been light to dye it in this graine,
Deserues no light regard of vs, but thankes and thankes againe
And sure I am all English harts that like of physickes lore
Will also like this gentleman, and thank him much therefore."

The doctrine of signatures, as it was termed in the

Middle Ages, or, in other words, the belief that every plant bore stamped upon it some indication of its medicinal use, must have been brought to bear upon this plant either with a peculiarly strong penetration, or possibly an especial obtuseness, for there is nothing scorpion-like to the outward eye either in form, colour, or anything else. All one's feelings towards the pink campion are necessarily kindly, for it is one of the pleasant indications in the hedgerow that stern winter's reign is over, and it finds a place in every rustic nosegay with the cold steely blue of the blossoms of the bugle, the rich purple bells of the hyacinths, and the snowy stars of the anemone.



DOG-ROSE



THE DOG-ROSE.

Rosa canina. Nat. Ord., Rosaceæ.

THERE are, perhaps, few plants that are so generally admired as the beautiful flower that forms the subject of our present illustration. Some will admire the dignified grace of the foxglove, others the chaste beauty of the water-lily as it floats on some placid stream, and whose loveliness is doubled as it is reflected on the surface of the tranquil water; some again will cherish the meek-eyed lowly primrose, as it peeps from the shelter of the hedgerow, and unfolds itself to the rays of the sun, the harbinger and first-fruits of the coming floral splendour. Many tastes will find many beauties, but we think we may boldly say that whatever may be the reigning flowers in the hearts of their admirers, the charms of the wild rose, with its long wreaths of fragile flowers, will have gone far to lower them from their proud pre-eminence.

Of the recognition of the charms of the wild rose by the poets, it is not necessary to speak, nor need we here

quote any passages to show the appreciation in which this flower has been held; many such references throughout the whole range of English literature will no doubt at once rise to the minds of most of our readers, or may readily be met with by a very little research.

There are several species of wild rose indigenous to Britain; we have already in our series figured one other. The present species is the *Rosa canina*, or dog-rose. The derivation of the generic name is open to a little question, since some authorities tell us that it is taken from the Celtic *rhos*, others from the Greek *rodon*. The roots of both these words signify that which is red. As the Latin word for the plant is identical with the botanical generic name, and as most of our botanical terms are either Latin or Greek in their origin, it is probable that one or other of those languages supplied the scientific term, while it is equally probable that our common English name, rose, is a descendant in a direct line from the name given to the flower by our Celtic forerunners in Britain. It has been conjectured that the prefix "dog" was added to the flower to express its worthless quality. The term is undoubtedly often so used in old plant names. Thus the dog-violet is so called, because, though like the beautifully-scented species in many respects, it has no share of the fragrance that makes that so especially sought after. Dog's-camomile is so termed, because, though the plant bears much resemblance to the true camomile, it has not its most valued property—its medicinal virtue. Dog's-grass, a plant something like wheat, and belonging to the same genus, is, after all, but a counterfeit, and will never ripen into the full ear of corn; it fails in all that gives the other its value. It will be noticed in all these examples, however, that the plant thus

branded is so marked because it looks like what it is not, and is inferior to what it thus resembles, but it will at once be seen that our beautiful briar is no counterfeit of some nobler plant, and it seems a piece of gratuitous insult to pass over all its charms, and merely to call it worthless. We can, therefore, only think that the prefix does not here bear the significance that it certainly does in many other cases. The specific name *canina*, its French name *rose de chien*, and its German name *hund-rose*, all tell against our view; but the specific name is probably by no means so old as its familiar English name; and the old botanists, finding it already dog-rose in popular parlance, possibly translated it without much question. It has been suggested by no mean authority that the name refers to its long prickly stems; *dagge* is an old English word for a dagger. The plant is well defended, and whosoever will bear off its blossoms must be prepared to face its thorns. The dog-wood is certainly so called because the hardness of its wood makes it particularly suitable for skewers, and in the olden time, when iron goods were less accessible, it was employed in preference to any other for this service.

The dog-rose owes, no doubt, some of its popularity to the fact that it is a flower of the early summer; its blossoms expand in the early days of June, and last until about the middle of July. Later on, the wealth of floral beauty increases so rapidly that this association of particular plants with special seasons is to a great extent lost; but as we welcome the snowdrop and the primrose the more, beautiful as they are in themselves, because they tell us that winter is passing away, and the year is opening out, that the dark dull days are past, and the sunshine and awakening life of spring are at hand, so the wild

rose sprays, breaking into wreaths of blossom, are the pledges of the glorious days of the coming summer.

The general growth of the dog-rose is subject to a certain amount of variation, so much so, in fact, that the original species, as defined by Linnæus, has been, by later botanists, divided into four or five sub-species. It is doubtful, however, how far some of these divergencies from the type-form can be considered sufficiently fixed to give specific value; and in any case, in a work like the present, intended for the general reader, any attempt to analyse such minor points of distinction would be out of place.

The flowers vary considerably in colour, some being almost white, others a very deep pink, and have a delicate but very refreshing fragrance that is no slight addition to their charm.

SPINDLE-TREE.

THE SPINDLE-TREE.

Euonymus Europæus. Nat. Ord., Celastraceæ.

BEAUTIFUL as the subject of our illustration certainly is when the later months of the year recur in their season, it presents itself in an entirely different garb to us in the spring. Its beauty is then of a more refined and less evident type; and we can well imagine that the great majority of people are more familiar with the plant in its autumn dress, for in the one case a somewhat close examination is necessary, while in the other our attention is almost compelled by it. Few, we imagine, of those who are likely to read these remarks but would pause instinctively when they suddenly came in their walks upon a mass of these quaint and beautiful berries. The small green flowers appear in May; at this time the whole tree is clothed in all the freshness of the spring verdure, while in autumn the delicate green cross-like blossoms have given place to

hundreds of fruits of the brightest and rosiest pink colour, and of the quaintest form, and the once verdant foliage glows with exceptional brilliancy even amongst the rich autumnal tints that surround it in the hedgerow. Even when the chill winds and biting frosts of November and December have swept all trace of foliage from the branches, the ruddy and waxen berries yet remain to give unwonted life and beauty to the dreariest scene. As the seeds ripen, the various capsules open down their centres and expose to view the large and brilliant orange-coloured seeds lying within them.

The spindle-tree is scarcely a tree at all, but rather a hedgerow shrub, that attains to a height of some five to twelve feet. The leaves are broadly lance-headed in shape, smooth to the touch, and having their outlines minutely toothed, like a fine saw. The slender flower-stems bear at their summits some three to six flowers in a cluster. These flowers are a pale yellowish-green in colour. The fruit is four-lobed, and in each lobe is a single large seed. Occasionally a variety of the spindle-tree is found in which the fruit is pure white, affording a very rich and curious contrast with the bright orange seeds seen within on the opening of the valves. Beautiful as these fruits are to the eye, they are possessed of a very actively poisonous nature, a property not obscurely hinted at in its ancient name, Euonymus, a name handed down to us by the old Greek writer Theophrastus, and which modern botanical science has retained. The name is derived from Euonyme, the mother of the Furies in classic mythology.

The hard wood of this tree is commonly used for making butchers' skewers; and its familiar name, spindle-

tree, points to another of its uses. We nowadays associate the idea of spindles with gigantic cotton-mills and the ceaseless whirr and vibration of machinery; but the name was bestowed long before the power of steam was pressed into service, and the spindle referred to was the homelier form associated with the distaff—things that are now little more than a memory of the past. Fusus is the Latin word for a spindle, and by some of the old writers our plant was called the Fusanum and the Fusoria, and by the Italians it is still called the Fusano, and by the Germans the Spindelbaum. In France it is ordinarily the Fusin, though they sometimes call it Priest's Cap, the form of the fruit being somewhat suggestive of the biretta worn by the priesthood. The four lobes of the fruit were also the cause of the plant being called by some of the mediæval writers the Tetragonia and the Quadratoria. Parkinson, in his "Theatrum Botanicum," suggests that it might very well be called the square-berried tree; but the name is evidently one of his own composition, and we find no indication anywhere, either in his books or others, that the suggestion was ever adopted. The spindle-tree is also in some old herbals called the skewer-wood or the prick-wood, and gatter, gatten, or gadrise. Chaucer, in one of his poems, calls it the gaitre.

Prior, in his altogether excellent book on plant-names, explains these old words as follows:—The first is from the Anglo-Saxon words *gad*, a goad, and *treow*, a tree; the second is made up of *gad* again, and *tan*, a twig; while the third is again *gad*, and *hris*, a rod. The same hardness that fitted it, as we have seen, for skewers, spindles, and the like, made it equally available for the

ox-goad. Amongst other uses of this tree or shrub, we find that on the Continent it is sometimes utilised for the making of pipe-stems; the young shoots, too, make excellent charcoal, either for the purposes of the artist or in the fabrication of gunpowder. The seeds are said to yield a good yellow dye when boiled in water, and a green one by the addition of alum; but all such dyes are ordinarily very fugitive. We have tried several such suggestions found in the books of the old herbalists, but never found them of any real value; as a rule the colour does not at all come up in brilliancy to what one might expect from the description, and in any case it has no lasting beauty. Some old author starts with something that is after all only a guess or a fallacy, and then generation after generation copy the original statement, some writers being too idle to take any trouble in verifying or disproving it, and others regarding it almost as a heresy to throw any doubt on the authority to whom they go for information.

SPOTTED ORCHIS.

SPOTTED ORCHIS.

Orchis maculata. *Nat. Ord.*, *Orchidaceæ.*

AMONGST the numerous species of orchis that spring up each recurring year in our pastures, few are more commonly to be found than the subject of our figure. Many of the orchis family have a certain bizarre aspect that makes them quaintly attractive, as we may see, for example, in the bee orchis, or the butterfly orchis, both of them already figured; but the spotted orchis exhibits no such mimicry of other natural forms, but rests its claim on our admiration on its delicate tint and picturesque mottling and striping. Many of the names, we may say in passing that are bestowed upon some of the species of orchis are rather far-fetched; and though we can remember the delight with which we welcomed the afore-named bee orchis, our disappointment was perhaps equally great when we first saw the butterfly orchis. The form, quaint as it is, suggests

little or nothing of the butterfly; whether we had expected to see a plant laden with red admirals, peacocks, or wood argus, we scarcely stopped to inquire; suffice it only to say that in our case, as probably in many others, the reality did not bear out the somewhat hazy and nebulous anticipations formed. Those, however, who find the present flower have no such cause of complaint, for there can be no doubt that it fully bears out its name, and in so doing at the same time calls attention to one of its most beautiful and picturesque features. The spotted orchis is one of the later species; many of the kinds may be looked for in April and May, but this rarely appears before June. One accepts a statement of this kind very much as a matter of course; yet, when we give a moment's thought to it, one cannot but be greatly impressed with the sense of the unfailing working of Nature's laws. As the year revolves, plant after plant appears in orderly sequence, and each has its appointed time. The snowdrops lead the goodly throng, and all their fair successors are marshalled in their set places throughout the changing seasons. This fixity of law in nature is one of the most striking characteristics. We see it again in the fact that one spotted orchis is in all essential points just like any other spotted orchis, though they may be separated by a space of 500 miles, or by an interval of 500 years. The primroses of last year are in all essential points—their delicate colour and odour, and all else that make them so attractive—just such as nestled in the undergrowth when our ancestors were supposed savages, just such as year by year—till climatic influences change, or the dissolution of all things comes—shall spring up at the opening of each recurring year, to the delight of generations yet unborn. Empires totter

and decay, and the aspect of the earth is transformed through the influence of steam and electricity, so that even the men of a hundred years ago would be startled could they re-appear on the scene of their former labours; but in the woods and wilds their ruffled spirits would find welcome repose in the familiar notes of the lark or the golden bowls of the buttercups. Like the "Brook" of Tennyson, amidst the coming and going of men these remain for ever, stable in the midst of change, and inimitable in a world that speaks much of its progress, and dwells upon its ever-increasing development. The works of man, being at the best imperfect, change and pass away, the old order giving place to the new; but the works of God need no after-thought; the altogether lovely needs no added grace; perfection calls for no after-development.

The spotted orchis is so called by botanists and herbalists, and the name is merely a translation into the vernacular of the scientific title. Other names for our present plant are the hand orchis, and the somewhat more unpleasantly-sounding title of dead man's fingers. A second book name for the plant is the palmate orchis. These names have evidently some common underlying idea; and we find, on investigation of the plant and its nomenclature, that they are derived from the curious finger-like lobes into which the tubers are divided. As to the more ancient and distinctly provincial names, we may, perhaps advisedly, take refuge in the way that one of the old herbals we consulted deals with the matter, and say at once, "It hath gotten as many names almost attributed to it as would about fill a sheet of paper," and there be content to leave the subject.

The stem of the spotted orchis is ordinarily about a foot

in length. The leaves spring from this slender stem at distant intervals, and have the curious blotching of purple that may be so noticeably seen in our sketch of the plant. The flowers vary in tint from pure white to pale lilac; but in gathering a bunch of them the variations of colours in the various heads are often very noticeable. The flowers crown the summit of the stems, and form a dense and compact mass of blossoms for a distance of some three inches. The lip is deeply cut into three irregular lobes, and the spreading lateral sepals are also very conspicuous. Each flower has a long spur; this is scarcely, if at all, seen in the general mass of flowers, as they are too compactly placed to enable one to perceive it; but it may be very clearly seen in the lowest flower of all in our plate, as its isolated position gives us the opportunity we require. The spotted orchis varies a good deal, not only in colour but in the shapes and size of the leaves, the more or less conspicuous bracts, and so forth; but the points of resemblance are, after all, more than the points of divergence, and there is no real difficulty in its identification.

HOLLY.

HOLLY.

Ilex aquifolium. Nat. Ord., Aquifoliacæ.

LENGTHENED description of the holly will, we are sure, be wholly superfluous, as there can be but few people throughout the length and breadth of these islands who do not know the plant perfectly well. It seems to thrive best in a light and gravelly soil, and, though possibly some of our readers may be more familiar with it as a material for making hedges, in the woods it becomes a small tree. Its flowers should be looked for in May and June. These flowers are not very conspicuous; but, as we recall the astonishment of a London friend of ours, who seemed to have thought holly was always in a state of red berries when we said something about its flowers, we feel that they are considerably better than nothing. Though they

are individually small, the dense clusters in which they are found in the axils of the leaves, and their delicate creamy-white colour, tend to make them more noticeable. The corolla is all in one piece, but deeply cut into four lobes; and these, instead of forming a cup, as in the buttercup and many other flowers, are thrown boldly back—a feature which may be very readily noted in our illustration. The calyx has four small teeth, and the stamens, too, are four in number. These are rather large, and with their conspicuous yellow anthers form a noticeable feature in the clustering blossoms. The berries, as we all know, are ordinarily bright scarlet, though they may sometimes be found bright yellow instead; and we remember once to have seen, at a meeting of a botanical society, a spray of holly exhibited with orange-coloured berries, the result of a scion of a yellow-fruited variety grafted on a red-berried stock. This is somewhat curious, for, although an artist mixes red and yellow together, to make an orange tint, it by no means follows that Nature mixes her colours in the same way. Though it is, of course, equally open to any one else to try the same experiment, and very possibly many florists may have done so, we may mention that the only example that ever came under our own notice of this grafting together of the yellow and the red came from Bury St. Edmunds.

The leaves of the holly are evergreen, very thick in texture, and shining. The upper leaves are often entire, and wanting in that formidable armament of prickles that is so marked a feature in the lower and older leaves.

Though ordinarily a deep rich green, we at times find plants in which the foliage is streaked, or blotched with

yellow or white; and in one variety, called the hedgehog holly, not only are the edges of the leaf armed with spines, but its entire upper surface. The holly-tree is not only very ornamental but very useful. Perhaps its most practical service is the making of grand hedges, evergreen and impenetrable; but, though a most durable fence when once established, the great drawback to its use is the slowness of its growth. Evelyn, in his "Sylva," thus breaks out into admiration of its combined utility and beauty:—"Is there," he exclaims, "under heaven a more glorious and refreshing object than such an impenetrable hedge, glittering with its armed and varnished leaves and blushing with natural coral?" and he had good cause in his own experience for his fervent praise, for one of the sights of his own garden at Sayes Court was a holly hedge four hundred feet long, nine feet high, and five feet broad. The ease with which such a hedge can be kept trimmed, compared to privet, hawthorn, or any other substitute, is another great point in its favour. The wood of the holly, from the great evenness of the grain, is very valuable to the carver and turner; it is largely used in inlaying, making the blocks for calico-printing, and many other purposes where its hardness and toughness would prove of service. It is mentioned by Spenser amongst the useful trees under the older name of the holm. We find that it has given a name to several villages near which it formerly abounded. Holmwood, near Evelyn's house, in Surrey, is an illustration that at once occurs to one.

The bark of the holly, after a certain amount of maceration, produces the viscid material called bird-lime. Dr. Rousseau, in an essay on the use of holly—which was published in the "Transactions" of one of

the learned societies—strongly advocated the use of the plant as a febrifuge and as a most efficient substitute for cinchona bark. The berries are violently emetic, though birds eat them with impunity.

The holly is associated with our great Christmas festival, and has from the earliest times been employed to decorate our houses and churches—a survival doubtless of the old Roman custom of decking the houses with green boughs during the Saturnalia. Indeed, such a form of rejoicing seems in any case a most natural one; in the Book of Leviticus, for instance, we find amongst the instructions for the due keeping of the Feast of Tabernacles this command: "Ye shall take you on the first day the boughs of goodly trees, branches of palm-trees, and the boughs of thick trees, and willows of the brook, and ye shall rejoice before the Lord your God." In Germany, Sweden, and Denmark, the holly is called the Christmas thorn, from this association with the festival of the Nativity.

PRIVET.

PRIVET.

Ligustrum vulgare. Nat. Ord., Oleaceæ.

FEW of our readers will fail to recognise the subject of our present illustration, though probably many of them will be more familiar with it as a plant of the gardens than of the woods. Its utility has doubtless been the cause of its wide diffusion throughout England, yet it is a true wilding, and throughout the southern part of our island may be commonly found in woodlands and thickets. Gerarde's description of it is so happy that we cannot forbear to quote it; indeed, many of the old herbalists were masters of terse detail, and in a few lines give one all the essential facts. "Privet is a shrub growing like a hedge-tree, the branches and twigs whereof be straight and covered with soft glistering leaves of a deepe green colour, like those of periwinkle, but yet longer, greater also than the

leaves of the olive-tree: the flowers be white, sweet of smell, very little, growing in clusters; which being faded there succeed clusters of berries, at the first greene, and when they be ripe blacke, like a little cluster of grapes, which yeeld a purple juice. The common privet groweth naturally in every wood and in the hedgerowes of our London gardens." Gerarde wrote during the reign of Queen Elizabeth, and this little side reference to the privet hedgerows of our ancestors is interesting. Another old writer, the author of the "Theatrum Botanicum," published in 1649, refers also to this use of the plant. "It is carryed up with the many slender branches to a reasonable height and breadth to cover arbours, bowres, and banquetting houses, and brought wrought and cut into many formes of men, horses, birdes, &c., as the workman list, supported at the first with timber, poles, and the like, but aftew'd groweth strong of it selfe, sufficient to hold it in the forme it is made into." Several reasons commend it as a hedge-maker: it grows very rapidly, and soon makes a substantial fence; it is evergreen, and so always looks cheerful; it bears clipping admirably well; it is but little disfigured by insects; its roots are fibrous, and rob the ground less than those of many other shrubs; it bears the smoke and dirt of towns better than most other things; and it is not particularly choice as to soil or situation, though it flourishes most in fairly moist ground. It stands sea breezes, too, better than many other plants. It may be raised either by seeds, layers, or cuttings, the last named being most efficacious when it is desired to produce a fencing as quickly as possible.

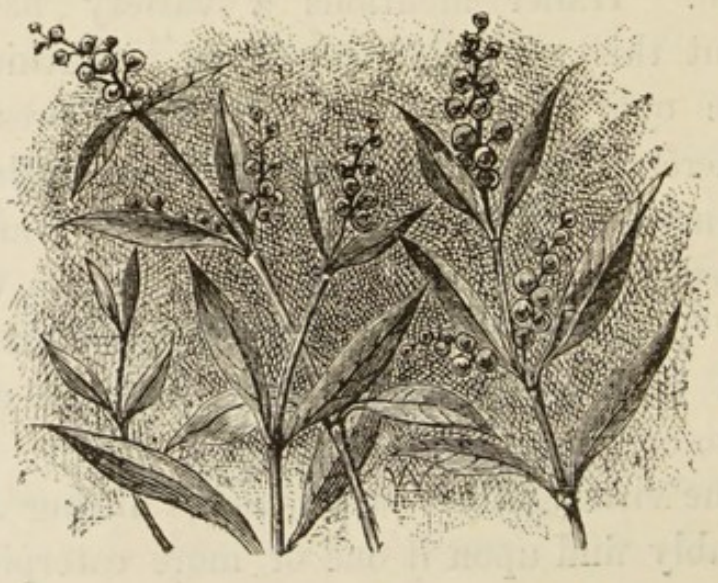
From the berries of the privet a good green dye for woollen materials has been obtained, and it is said to

be less fugitive than most vegetable greens prove to be; but the march of science and the extension of commerce have supplied for a good dye others still better, and the privet, as a tinctorial plant, has been supplanted by other less known but more serviceable shrubs. Curtis mentions that the berries are also used as a colouring for wines—those probably that are described in the multitudinous wine circulars that pour in upon us from every side as "very curious." A more legitimate use for the berries is as one of the items of the winter bill of fare of many of our birds, the bullfinch being especially partial to them. Though we have described the privet as an evergreen we may be allowed to so far qualify this statement as to say that we often noticed in hard winters that the leaves, while retaining their position, frequently turn a purplish brown or chocolate tint; but this feature is by no means unornamental, especially when, as is ordinarily the case, the bunches of black and glossy berries are freely intermixed with the foliage.

When growing in a wild state the privet attains to a height of some six or seven feet, and forms a compact-looking shrub. Haller mentions a variety having white berries, but this we have never seen. Mathiolus affirms that "the oyle that is made of the floures of privet infused therein and set in the Sunne is singular good for the inflammations of wounds," and so forth; and the plant is also used, according to other authors, as a decoction, a gargle, a "plaister," or a "powther," for most of the ills that flesh is heir to, from "the headache comming of choller" to consumption.

Any one visiting their privet-hedge during August will very probably find upon it one or more caterpillars of the

privet hawk-moth, the *Sphinx Ligustri* of the entomologist. As these caterpillars are some three inches long and as thick as one's little finger, they are decidedly conspicuous. In colour they are vivid green, slashed with seven streaks on either side of white and lilac. On turning into the chrysalis or pupa stage they burrow into the ground, and any one turning up the soil beneath their privet-bushes will no doubt find them in this new stage of existence. If they are carefully taken up and re-buried in a box of earth and brought indoors, the perfect insect will emerge in the following June. The moth is a grand insect, being over four inches long from tip to tip of its front wings. The front wings are pale brown, mottled and striped with darker brown and black; the hind wings pink, crossed by three broad black bands. The earth in which the pupa is re-buried should be occasionally damped, as would have been the case had we left our prize to the dews and rains of heaven; failing this the earth would get so hard and dry that the perfect insect could never force its way out and emerge into the sunlight from its living tomb.



SALLOW.

SALLOW.

Salix caprea. *Nat. Ord.,*
Salicaceæ.

EVEN those of our readers who fail to recognise the plant we figure under the name we give it will probably have no difficulty in recalling it under the name of the "palm." After the first few primroses have cast their delicate clustering blossoms upon the hedge-banks, and the golden disks of the colts-foot have lighted up the waste grounds, one of the most welcome signs of the approaching spring is the blossoming of the sallow, and its branches were in earlier times in great request on the annual recurrence of Palm Sunday. These were carried in processions and strewn on the roads on the Sunday next before Easter, in commemoration of the entry of our Saviour into Jerusalem immediately before His death. As the palm itself was not available, it became necessary to find a substitute, and the golden heads of the

sallow appeared the best available, though sometimes the sombre yew or other evergreen trees were used instead. The custom is of great antiquity, and numerous references to it may be found in old writers, though the limited space here at our disposal forbids our quoting any of them.

The sallow, like the other species of the genus, is dicœcious, that is to say, its blossoms, instead of being, like those of the buttercup and many other plants, both pistil and stamen bearing together, are on each tree of one sex alone. The golden yellow clusters of the "palm," the subject of our illustration, are the stamen-bearing catkins; the pistillate are green in colour, somewhat longer, narrower, and less compactly cylindrical. Before flowering the male catkins are of a soft grey colour, and very smooth and silky to the touch; but as the stamens develop the silvery grey is metamorphosed into golden yellow. The heads, we find, will continue to expand if the stems be placed in water; the greyer piece in our figure, in the course of a day or two in our study, turned as yellow as the other, and both of them lasted in perfection for some time, so that its picturesque and quaint-looking sprays are eminently adapted for a place either in ecclesiastical or home decoration. The leaves of the sallow are somewhat more egg-shaped and broadened than in some of the other common species of willow, and the shrub does not seem so entirely a plant of the damp low-lying meadows and edges of streams as many of the willows do, for though, like these, it may be found there, it may perhaps equally commonly be found in woods and thickets on higher ground. The word sallow descends to us from the Anglo-Saxons, and signifies a plant suitable for withes or ties, the flexible character of the stems of this and the other willows marking them out as especially use-

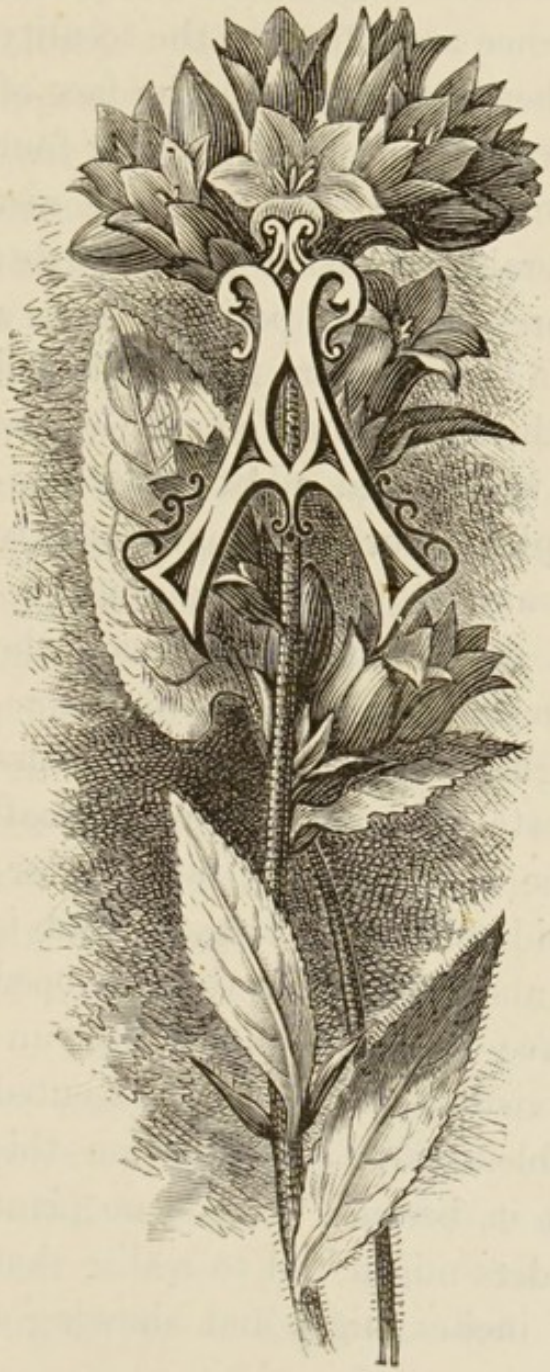
ful for such a purpose, or for weaving into basket-work. The generic name, *Salix*, is the Latin word for a willow tree, while the specific name, *caprea*, bestowed on the plant by the great Linnæus, is also derived from the same language, and signifies a goat. Smith, in his "English Flora," published about the beginning of this century, says, "The name caprea seems to have originated in the reputed fondness of goats for the catkins as exemplified in the wooden cut of the venerable Tragus, their namesake." In the illustration referred to, we see a goat standing on its hind legs and reaching up as high as possible for the sallow catkins, which it is represented as eating. The book was published in 1532, first in German, and then, in 1552, in a Latin edition. Tragus was a Latin travesty of the writer's true name, Jerome Bock. In the same way the real name of the great reformer Melanchthon was Schwarzerd, a name signifying in German black earth, and which, in accordance with general usage, was changed into the compound Greek work of the same significance, Melanchthon. Erasmus, in like manner, was really named Gerard, a name which in German signifies amiable; hence he called himself Desiderius Erasmus, the Latin and Greek equivalents of the German Gerard. In mediæval times it was the almost invariable custom to Latinise or turn into Greek the proper names of illustrious men, and this often led to a little heavy humour, and while in some cases the name of the person merely received a classic termination, as Didoens becoming Didonæus, and Lobel being Lobelius, in others the temptation to take such a name as Fox or Bull, and convert it into Vulpes or Taurus was irresistible.

To entomologists the sallow is especially dear, as its fragrant catkins offer great temptation to many kinds of

butterflies and moths, while its foliage finds their larvæ or caterpillars welcome provender. Should any of our readers find on the sallows about the beginning of June a pale green caterpillar having various yellow lines and stripes on each side, they will do well to take it home and endeavour to rear it. It is the larva of the purple emperor butterfly, the *Apatura Iris* of the entomologist, and one of our most beautiful species, and one which may best be obtained by rearing, as it is by no means an easy insect to capture on the wing.

In the well-known lines of Spenser, dealing with the economic uses of many of our trees, we find "the birch for shafts, the sallow for the mill." It is much less liable to split on sudden strain than many other woods, and is therefore used in mill-work and various rustic purposes where this peculiar property renders it specially suitable.

CLUSTERED BELL-FLOWER.



CLUSTERED BELL-FLOWER.

Campanula glomerata. *Nat. Ord.*, *Campanulaceæ.*

MONGST the different species of British bell-flowers we find a very considerable variety. Of these we shall hope to figure the noble nettled-leaved bell-flower, or *C. Trachelium*, with its large purple bells and general picturesqueness of growth; also the creeping campanula, *C. rapunculoides*, with its long line of purple and pendent flowers. The abundant and ever-charming harebell, *C. rotundifolia*, tossing its delicate blossoms to the free air, has already been figured herein. We now present a further example of the

genus, the *C. glomerata*, or clustered bell-flower, a plant no less beautiful than any of the others, as all will admit who have seen its purple spires amidst the vegetation of the hedgerow. It delights in dry upland country, and seems to have a special liking for the chalk, though we find it scattered over the greater part of England. In Ireland it would appear to be unknown, and in Scotland we only find it in the southern counties. Few plants probably vary more in appearance according to the locality in which they are found. When we see it on the face of the open down, it is often dwarfed to a mere three or four inches in height, and the flowers no less than the rest of the plant share in the general diminution of the parts; but when we find it in a more sheltered position, as in a hedgerow, the plant is often a foot or more in height, and crowded with blossoms. As these blossoms cluster at the tops of the stems, the plant is rendered additionally conspicuous, as the mass of purple colour comes prominently forward, and attracts the eye amidst the surrounding verdure. This clustering head of blossoms has given the plant its popular English name, and also its specific name, *glomerata*, a Latin word, signifying formed into a mass like a ball. The flowers are stalkless, and spring in small bunches from the axils of the upper leaves; but the terminal bunch is always considerably the largest, and is in many cases the only one, and in imperfectly developed specimens, or plants that have had to suffer from untowardly hard conditions of existence, is often represented by only some two or three blossoms. We mention this more particularly, and repeat it, because there is no plant that varies more, and our readers might fail to realise that a puny little plant, say three inches high, and showing a

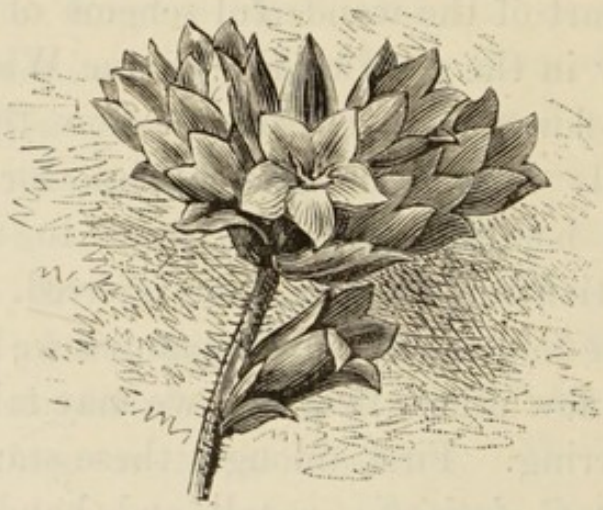
grand total of three small bells, could really be the same thing as the one we have illustrated.

The clustered bell-flower is a perennial, and throws up one or more stems; these are erect in general direction, unbranching, angular in cross section, and varying in degrees of smoothness or hairiness. The leaves that spring immediately from the root or the lower part of the stem are borne on long stalks, but these stalks gradually diminish as we advance up the stems, until we find the upper leaves entirely stalkless, and clasping the stem with their bases. The lower leaves are long, narrow, and deeply serrated, while the upper ones are somewhat more heart-shaped, less toothed, but having their margins a good deal waved. The capsule is short and broad, opening by lateral clefts below the segments of the calyx. We are sometimes told by inquirers into the secrets of nature that the bell-shaped flowers furnish a beautiful example of the adaptation of means to ends, the pendent bells turning from the wind and sheltering the organs within them from all external damage. It is always pleasant to endeavour to comprehend any part of the wonderful scheme of creation, and follow humbly in the steps of the Divine Wisdom, but the clustered bell-flower would seem to show that one must not too hastily indulge in generalities, for its blossoms always stand boldly erect, and seem to need nothing of that protection to which we have referred.

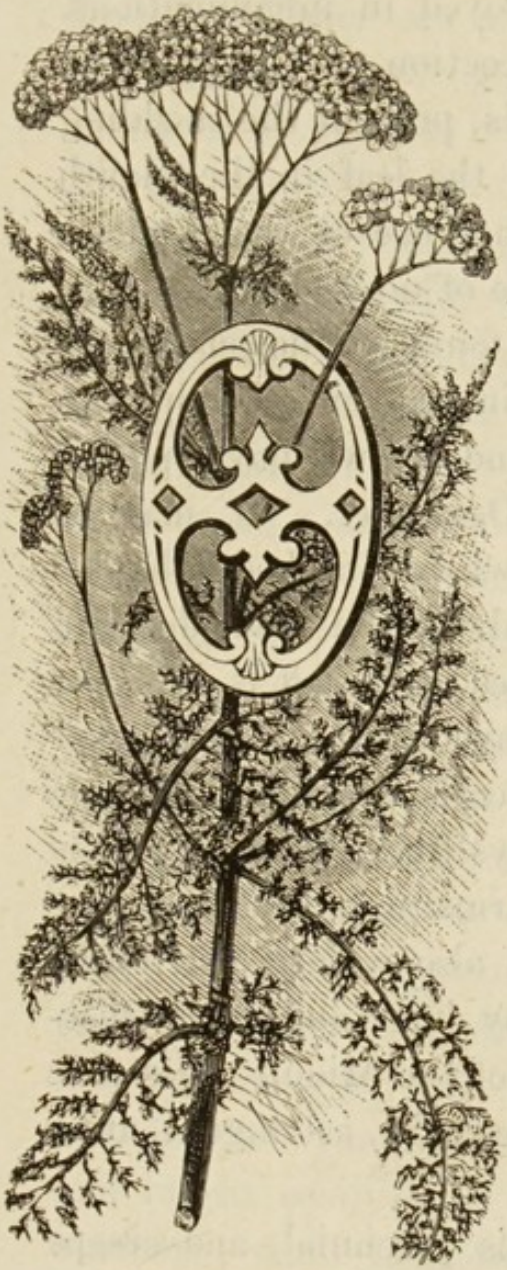
Besides the four species of campanulas we hope to figure, we have some few others to which we may take this opportunity of referring. First amongst these stands the giant bell-flower, or *C. latifolia*, a tall and handsome species, that is more especially found in the Scottish forests and in northern England, but becomes much rarer as we

travel south. The flowers are large and of a rich blue tint ordinarily, but varying to white much more frequently than is the case with any of the other species. The spreading bell-flower, *C. patula*, is a southern plant, and even in the central and south-eastern counties of England is by no means common; it is a light and graceful plant, not unlike a considerably magnified harebell in general appearance, but the bell is of a much more open and distended form, and the purple is considerably deeper in tint.

The next species, the ivy-leaved bell-flower, or *C. hederifolia*, is a particularly delicate and graceful little plant. It should be sought for in moist woods, chiefly in the south and west of England. The stems are very slender and thread-like, supporting small, delicate leaves—sufficiently like those of the ivy to justify its name—and pale lilac-blue blossoms. These flowers, barely half an inch in length, and very tubular in form, are at first pendent, but ultimately assume the erect position.



YARROW.



THE YARROW.

Achillea millefolium. *Nat. Ord.*, *Compositæ.*

ONE of our commonest plants is the yarrow, or milfoil, though, as it is somewhat lacking in attractiveness, it is very possible that it is unknown to many. Its common name, yarrow, is a corruption of the Anglo-Saxon name for it—*gearwe;* while the second popular name, milfoil, is derived from the Latin *mille,* a thousand, and *folium,* a leaf, in evident allusion to the very numerous divisions of the leaf. It is hence in some country districts called thousand-leaf. The botanical name of the yarrow is the *Achillea millefolium;* the same idea is therefore conveyed both in the specific and popular names. The plant was in olden time accredited with many healing virtues. According to an old myth, Achilles was the first to employ the plant medicinally, having been instructed in its properties and uses by Chiron the Centaur, who, as we have seen, also gave his name to the knapweed, or *Centaurea.* In honour

of this benefactor of his species, the plant was called *Achillea*. An ointment of the leaves was employed as a vulnerary; it was also freely employed in inflammations. If the head be bathed with a decoction of the plant, it will, we are told by the old herbalists, prevent the shedding of the hair; while the chewing of the leaf in the mouth is a remedy for toothache. Another use of the plant is sufficiently indicated in its old name of nose-bleed.

The yarrow will ordinarily be found in flower by the beginning of June, and it lasts in blossom all through the summer and autumn, and, indeed, we have picked flowering specimens as late as December. It may be abundantly met with almost everywhere—on hedge-banks, in pastures, on waste ground, and by the roadside. To show not only how widely distributed a plant it is, but how far, too, it is held in repute, we may mention that Hooker affirms that the Highlanders of Scotland make a valuable ointment of it; that Woodville says that a kind of beer is made of it in Sweden, while Sparmann indicates a very similar use of it in Africa. It is also widely distributed over North America. It is said by later and more trustworthy writers than the herbalists of the Middle Ages that the plant really is in some degree sedative, astringent, antispasmodic, and tonic.

The root-stock of the yarrow is perennial, and creeps underground some little distance. From this several small leafy branches, that bear no blossom, are thrown up to a height of some four or six inches, forming a compact-looking mass of verdure, and from this rise the flowering stems, which are sometimes eighteen inches or so high. These stems are often pale grey in colour, from the mass of soft woolly hair with which they are felted. They bear but

few leaves, and do not branch much, if at all, until near their extremities, when the numerous stems that support the inflorescence are given off; these leave the main stem at a rather small angle, so that the general upright character of growth is still in a great measure preserved. All the stems are generally finely furrowed. The inflorescence is corymbose, a term employed to describe this particular variety of flower arrangement. Numerous flower-bearing stems are thrown off at different levels, but, owing to the shortness of the upper and the length of the lower stems, all are so arranged at their upper extremities as to make a flat, or almost flat, mass of blossoms. There is perhaps no better example of the corymb, common as examples of it are, than that presented by the dense flat mass of flowers that crowns the branches of the yarrow. Like the daisy or the dandelion, the sow-thistle or the groundsel, those parts of the plant that we in ordinary parlance call flowers are really compound—aggregations of numerous blossoms in one mass, called a flower-head. In many of the *Compositæ* this fact is sufficiently evident, from the size and distinct character of the individual florets, to strike any one on very slight examination; but in the yarrow the florets of the disk are small, and might easily pass on a cursory view for a group of stamens; while the florets of the ray, the exterior and ray-bearing blossoms, are so few in number—ordinarily five or six—that these rays in like manner might to the novice appear but the petals of some simple flower, like the five of the buttercup. They, however, bear the same relation in this flower that the outer circle of white does to the daisy flower-head, or the yellow rays of the ragwort do to the central portion. These rays in the yarrow are generally

white, but a more or less deep tint of pink is not by any means uncommon; both colours may often be found on the same hedge-bank. The leaves of the yarrow are very long and narrow in general outline, and very deeply divided into a great number of small lateral parts, which are in themselves again sub-divided; hence the name milfoil, or thousand-leaf, that is often applied to the plant. The foliage varies a good deal in appearance from its being sometimes thickly covered with soft white hairs, while at other times it is quite free from them.

The sneeze-wort, *Achillea ptarmica*, an allied species, is common in moist mountainous districts. The inflorescence is white, but the leaves are much simpler in form than those of the milfoil.

CHARLOCK.

CHARLOCK.

Sinapis arvensis. Nat. Ord., Cruciferæ.

WARTON, in one of his poems, on the Spring, has the following lines:—

"O'er the field of waving broom,
Slowly shoots the golden bloom;"

and these lines naturally occur to us when the charlock comes into our thoughts. It is one of the most troublesome weeds with which the farmer has to contend, and as we watch the green cornfields during June slight indications of charlock are first seen, and day by day, as more blossoms expand, the streak of yellow becomes larger and more pronounced, until sometimes the interloper appears at the distance to be some legitimate field-crop, so largely does it take possession of the ground, while the whole expanse glows with its golden yellow. There are three plants that are most especially found in cornfields, that are all fairly common, and that are apt to be indiscriminately called charlock; these are the present plant, the *Sinapis alba*, and the *Raphanus raphanistrum;* the first and

the last are by far the most abundant, but the *Sinapis arvensis*, the plant we here figure, is the true charlock, and the most noxious of the three. The appreciation in which it is held may be seen in the "cornfields, too frequent," of Hooker, and the "one of the most abundant weeds of cultivation through Europe, and but too common all over Britain," of Bentham. Some of the earlier blossoms may be found towards the end of May, but June is the month in which ordinarily it is most abundant, though in some localities specimens may be found in July. Linnæus and others of his time not only considered that it was injurious to the growing corn, but they had an idea, too, that its seeds would get amongst the grain and impart some hurtful effect to the flour; there would appear to be, however, no proof of this: on the other hand, the plant is a favourite with bees, and this means a plentiful yield of honey to their despoilers, and the whole plant, when young, is often eaten by agricultural labourers, and forms a by no means bad substitute for other vegetables.

The charlock varies very much in appearance in different plants and under varying conditions of growth; when found amongst the standing corn it is taller and less branched than when growing on roadside rubbish; it varies too in degrees of hairiness, and the stems are sometimes green, sometimes purple or crimson, but the flowers do not seem subject to any variation of tint. The plant is an annual, and may therefore be comparatively easily eradicated if it be pulled up before seeding-time; hence the farmers are often put to a considerable expense in uprooting it from the growing crops.

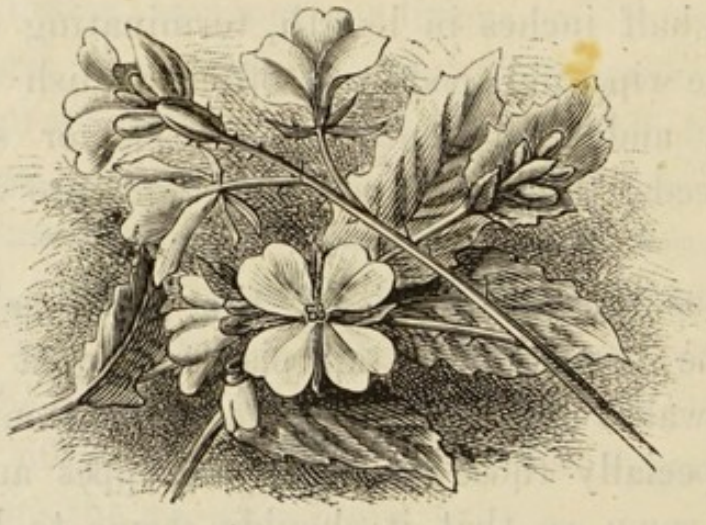
The plant is from one to two feet high, the stems upright, branching, grooved, and clothed often with short

hairs. Our specimen is a young and succulent plant that was grown amongst the sheltering corn; specimens that have grown in more exposed situations are more solid-looking, partially or wholly red in tint, and covered with hairs. The leaves are arranged alternately on the stalks, are borne on short stems, are thrown boldly out from the plant, and are rough to the touch. The veins are conspicuous, and the margins indented or coarsely serrated. The upper leaves, as may be seen in our illustration, are simple in form, while the lower often have one or more lobes at their bases, and present a more irregular outline. The flowers are rather large, the four heart-shaped petals standing boldly out in a cross form. Like all the other cruciferæ, the charlock has six stamens, two being shorter than the other four, but as they are similar in colour to the petals they do not attract attention. The calyx, it will be noticed in our figure, is very spreading, and consists of four sepals. The seed-vessels seen in the drawing are at an early stage of their history; when they reach maturity they form rounded pods, some one and a half inches in length, terminating in a pointed beak. The ripening pods are often reddish or purplish in colour, and each contain some six or seven small blackish seeds. Pigeons and other birds are very fond of these.

Dodonæus discourses about the plant as follows:— "Charlocke growethe in all places alongst the wayes, about old walles and ruynous places, and oftentimes in the fieldes, especially those where as turneppes and Nauewes have been sown, so that it shoulde seeme to be a corrupt and evill weede or enimie to the Nauew. This herbe is called of the later writers *Rapistrum*, and of some also

Synapi; in French, *Velas* or *Tortelle;* in high Douche, *Hederich;* in base Allemaigne, *Herricke.* This herbe of the late physitions is not used in medicine, but some with this seede do make mustarde, the whiche they eate with meate in steede of mustarde, although it be not al thing so good. It was reckoned of Theophrast and Galen amongst those seedes wherewithall men used commonly to prepare and dresse their meates." Another old writer gives amongst "the vertues," the following:—"The seede that growethe naturally wilde is hotter than that which is manured and sowen, and more bitter also, whereof some do make use instead of mustarde seede, or mingle it therewith." He also commends the oil expressed from the seeds as a preferable substitute for "the Traine Oyle which is made of the Whale."

The generic name *Sinapis* is derived from the Greek word for mustard; while the specific title *arvensis* indicates the locality where it flourishes.



FORGET-ME-NOT.

THE FORGET-ME-NOT.

Myosotis palustris. Nat. Ord., Boraginaceæ.

PROBABLY but few of our readers are unacquainted with the beautiful little flower that forms the subject of the present illustration. It is not only a plant that has a considerable amount of legendary and poetical association gathered round it, but its own inherent charms also should, in any case, endear it to all true lovers of nature. Into the pleasant region of legend and poetry connected with the forget-me-not we do not here propose to diverge, interesting though the subject would be; we shall therefore confine our attention purely to going into the botanical side of the question, dwelling on the beauties that are inherent by nature, and foregoing all that is extraneous.

The forget-me-not that we have figured is the com-

monest, and at the same time most strikingly beautiful species of a genus that includes several common and graceful forms. How many species we really have is a point on which considerable difference of opinion exists. One botanist will elevate to the rank of a species what another prefers to consider but a variation more or less permanent from some specific type. Bentham, an authority of no mean weight, admits four definitely, and a fifth dubiously; while Hooker, an authority no less reliable, describes eight species. Of these forms the greater number are common, though one or two are by no means generally distributed.

The plant represented in our illustration is the forget-me-not *par excellence*, the plant which, as it shoots forth its tender green leaves and flowers of purest blue, is so beautiful a feature amidst the rank vegetation that lines the edges of the stream. There is no other flower at all like it in a like situation, so that any error in identification is impossible. The brooklime most resembles it; but anything but the most cursory inspection would at once suffice to distinguish it. We need but mention one point: in the brooklime the corolla is composed of four segments, of which one is considerably smaller than any of the remaining three, while in the forget-me-not the corolla is divided into five similar parts. Many other points of difference are readily apparent, but the distinction we have named in the forms of the blossoms will be amply sufficient to prevent possibility of error.

The *Myosotis palustris*, as our species is termed botanically, is abundantly met with almost everywhere throughout Britain. It begins flowering in June and lasts in blossom all through the summer and autumn. The stem is somewhat weak and succulent, rising generally to about a foot

in height. The leaves and stem are ordinarily very smooth, though at times they may be found thickly covered with small hairs. The lower leaves are much broader and not so long as those of the stem: they are on short stems too, while those that ordinarily meet the eye spring directly from the main stem. The flowers are much larger than in most of the other species. The Chinese ceramic artists have introduced in some of their vases a highly-prized colour, which, in their treatises, they call "the sky after rain." The flowers of the forget-me-not are of this pure and delicate tint—the clear azure of the sky, the delicate colour of the turquoise. The centre of the flower is a clear yellow. The buds and opening flowers of the plant are often distinctly pink, no shade whatever of blue in them, and at times this tint remains even when the blossoms are fully expanded. The bugloss, borage, and several other plants have this same curious difference of colour between their buds and blossoms.

The generic name is derived from two Greek words signifying mouse-ear; the leaves of one of the species, the *M. arvenis*, are somewhat like the ear of a mouse, both in the form and in the soft hairy texture. The leaves of the present species are too long and narrow in form, and too smooth in texture to make the name appropriate in its special case. The specific name is simply an indication of the marshy soil in which it thrives best. All the species are often called scorpion-grass, an old name bestowed upon them from the rolling round of the flower-stem towards its extremity, a form of inflorescence that botanically is said to be scorpoid, the allusion in either case being to the tail of the scorpion, which this manner of growth dimly resembles. The suggestion appears to us decidedly far-fetched and ill-

judged; the beautiful gradation of the buds, and the graceful spiral form of the stem that bears them, have little in common with the poisonous sting of a creature that is as repulsive in general form as these are elegant.

The forget-me-not varies a good deal; three recognised types may be found, and though these run a good deal into each other by a series of intermediate forms, they are by some writers classed as distinct species.

The wood scorpion-grass (*M. sylvatica*) is a very handsome allied species. It is not very common, and only occurs in a wild state in any abundance in Scotland and the north of England. The flowers are large and the plant blossoms very freely, so that it has been somewhat extensively used by gardeners as a plant for the flower-border.

The mouse-ear scorpion-grass, already referred to, is very common throughout Britain in fields, hedges, &c. Though much smaller than the *M. palustris*, it is sufficiently like it to make it easily recognisable as a near relation. It flowers throughout the summer and autumn.

YELLOW LOOSE-STRIFE.

YELLOW LOOSE-STRIFE.

Lysimachia vulgaris. *Nat. Ord.*, *Primulaceæ.*

WE hope in our next series to make the acquaintance of a plant of very similar name, the purple loose-strife, or *Lythrum salicaria*, but we may here state that, except in the habitat in which both are found and the verbal similitude, there are no points in common in the two plants: they are widely separated botanically. The yellow loose-strife is found growing in moist hedgerows and by the sides of streams and water-courses; and the height to which it attains and the brilliant yellow of its flowers tend to make it conspicuous amongst the herbage, rank and lush as that ordinarily is, that surrounds it. Like the purple loose-strife, fond as both are of the water-side, it may be transferred to the garden if the soil be somewhat moist, and it will grow and thrive in its new quarters. Those of our readers who are so fortunate as to have a stream running by or through their grounds, or a piece of water therein, would find a

judicious commingling of the yellow and purple loose-strife along the edge a most ornamental and enjoyable addition to the water-side flora, if they have not already spontaneously appeared.

The root of the yellow loose-strife is creeping and perennial, so that once fairly established it would hold its ground. The stem is erect, branched, and some three feet or so in height; the upper part is often a little hairy or downy, and the lower part, as in most water-plants, quite smooth. The leaves as they approach the flowers become somewhat irregular in arrangement, but the main bulk of the leaves grow either in pairs or in threes. Even in the small piece we are able to figure in our illustration it will be seen that the normal arrangement is beginning to assert itself, the two lowest leaves springing from an almost identical level. It is not always easy to explain why the leaves in some of the plants are in pairs, while others are in threes, as there often seems no special vigour of growth, or lack of it, to account for it. Plants may even sometimes be found in which the leaves are in fours, but this is much less common. Whatever arrangement we find in any given plant, that arrangement holds throughout: we do not find in the same plant some of the leaves in pairs and others in threes. When the leaves are in pairs the stem is quadrangular, and the angles increase as the leaves increase in number, in the same way that we have seen they do in the purple loose-strife. The leaves are without stems, in shape like a very pointed egg, without any cutting or notching at their edges, conspicuously veined, and destitute of hairs. The inflorescence is paniculate, forming a more or less dense head of golden flowers. These masses

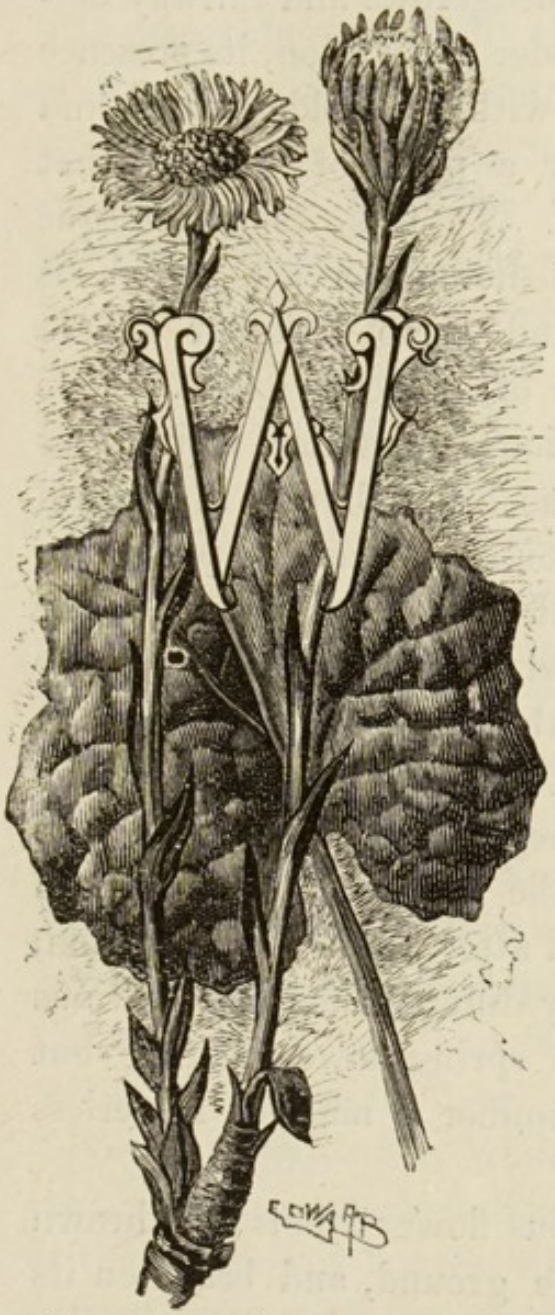
of blossom are at the ends of the shoots, and therefore crown the plants and form a conspicuous terminal, as few of the lower lateral branches develop flowers. The flower-stalks are somewhat viscid or sticky to the touch. The calyx is deeply divided into five segments, and these, as our illustration very clearly shows, are edged and tipped with red. The corolla is monopetalous, or all in one piece, though it is deeply cut into five very distinct-looking segments, and the stamens, too, are five in number, of unequal length, and united for some considerable distance into a tube. The style is not very noticeable during flowering, as it is about the same length as the stamens, but after flowering is over it elongates. The fruit is a globular capsule, and contains numerous seeds; these are very small, as compared to the size of the plant. The yellow loose-strife flowers during the months of July and August

In Wales our plant is the *Trewynyn cyffredin*. Unlike many of our plants, it does not seem to have been known under various names in different parts of the country, but is, wherever we meet with it, the yellow loose-strife. The ordinary rustic does not trouble himself about names at all, while the herbalist or gatherer of simples found an old belief or legend attached to the name handed down, and this was sufficient to keep it from being changed arbitrarily. The botanical name of the yellow loose-strife is *Lysimachia vulgaris*. In all these old points of plant-lore what "Plinie saieth" was always received by the mediæval botanists with the greatest respect; and in the present case Pliny is our authority for the statement that the name *Lysimachia* was given to it in memory of a certain king—or perhaps it would be more

correct to say an uncertain king—Lysimachus, who first used it to his own great advantage, and then introduced it to his people. Even in Pliny's time, however, a second theory was advanced amongst those, probably, who felt dubious as to the existence of such a monarch: these unbelievers affirmed that the name was compounded from the Greek words signifying dissolving strife, and this interpretation we still see literally adhered to in the common English name. It was held that a plant of it put beneath the yokes of the oxen at plough made them quiet; and in the same way restive horses could be subdued.

On turning to the "Theatrum Botanicum" of Parkinson, we find that though Pliny is reverently quoted, our author does not altogether suspend his right of private judgment. He speaks of the plant as reputed "to take away strife or debate betweene beasts, not onely those that are yoked together, but even those that are wild also, by making them tame and quiet, which as they say this herbe will doe, if it be either put about their yokes or their necks, which how true I leave to them shall try, and find it soe."

COLTSFOOT.



COLTSFOOT.

Tussilago Farfara. Nat. Ord., Compositæ.

WHEREVER we find a moist clayey soil, there ordinarily the coltsfoot is only too abundant. It betokens stiff poor ground, and proves itself a very troublesome adjunct to it, as it spreads freely, and can scarcely ever be eradicated when it has once taken possession. Its roots are very long, and, to quote an old writer, "very fat." They are about the thickness of a finger really, creeping freely underground, and as the root-stock is perennial, they propagate themselves freely far and wide. The most vigorous attempts to dispossess them seem of little avail, as the long-spreading fibres break in the ground, and any small portion left behind seems sufficient to reinstate the plant in a short time in all its former luxuriance. At the same time, we hesitate to assert that its influence is wholly bad, for,

nuisance as it may prove itself to the agriculturist, the poor ground in which it grows is perhaps quite as responsible for poor success in the crops as any malign influence of coltsfoot; and where, as in hedgerows and railway embankments, the ground is not under cultivation, its presence is a decided gain, as it spots with its golden stars and clothes with its verdure many a piece of ground that would else look poor and bare. To this, its picturesque aspect, must be added its medicinal service, which is by no means insignificant; and these together should remove it from the category of noxious weeds. The leaves are large and of a curiously angular form, that may be familiarly described as heart-shaped in general outline, but bitten into all round, so as to produce a series of sharp points separated by concave curves. The under surface is thickly covered with a white woolly or downy substance, and a little of the same sort of thing often appears on the upper side, but is easily removable when the hand is passed over it. The greater the amount, the greyer of course the effect of the foliage. The leaves do not ordinarily appear at all until after the flowering season, so that the plant presents a very different aspect at various times of the year, being in the spring flower-bearing but leafless, and throughout the summer a mass of flowerless foliage.

In the early spring numerous flower-stems are thrown up; each rises directly from the ground, and bears on its summit a single flower. These tufts of flowering stems are about six or eight inches high, erect, bear numerous small scales, and are more or less covered with a loose cottony down. When the flowers close, the stem bends downwards, throwing the decaying blossom into a pendant

position, but as the seeds ripen it stiffens again, and re-assumes the erect position, bearing on its summit the globular head of seed, very similar to that of the dandelion, hawkweed, groundsell, and other members of the order. The dispersion of this by the wind aids in the distribution of the plant over the district, though the creeping root-stalks are the most potent agencies in maintaining and increasing it. Both the florets of the disk, the central portion, and the surrounding rays are bright yellow. It is one of the first flowers of the spring, and may be looked for in March and April. We remember seeing some time ago an article in a botanical paper on the production and distribution of seeds, in which a root of the coltsfoot was referred to as having come under observation. The flowers it threw up were all counted, and then the seeds it finally bore duly estimated, and the number, we remember, was 22,500. The struggle for existence is severe, or we might almost expect, after studying such alarming statistics, to find all Britain carpeted with coltsfoot. The plant is so very dissimilar in appearance at different periods that both Gerarde and Parkinson give two illustrations: one being entitled "Tussilago florens, Coltsfoot in floure," and the other "Tussilaginis folia, the leaves of Coltsfoot," or, "Tussilago herba sine flore." "Fole-foot hath many white and long creeping roots, from which rise up naked stalkes about a spanne long, bearing at the top yellow floures, which change into down, and are carried away with the winde; when the stalk and seed is perished, there appeare springing out of the earth many broad leaves, green above, and next the ground of a white, hoarie, or grayish colour. Seldom, or never, shall you find leaves and floures at once, but the floures are past before

the leaves come out of the ground; as may appeare by the first picture, which setteth forth the naked stalkes and floures, and by the second, which portraiteth the leaves onely." Pliny and many of the older botanists thought that the coltsfoot was without flowers, an error that is scarcely excusable, for, notwithstanding the fact that the flowers appear in a general way before the leaves, small leaves often begin to make their appearance before the flowering season is over. Though these diminutive leaves bear no proportion to the size they afterwards attain, they are similar in character and appearance. The custom of smoking the leaves of the plant is of very ancient date. Pliny directs the dried leaves and roots of coltsfoot to be burnt, and the smoke drawn into the mouth through a reed and swallowed, as a remedy for an obstinate cough, the patient sipping a little wine between each inhalation. To derive the full benefit from it, it had to be burnt on cypress charcoal. The leaves were formerly much gathered in rustic districts for the manufacture of "British tobacco," and when mixed with yarrow and rose-leaves were said to be good for asthma. A candied preparation was also made with sugar, for the relief of colds.

STONE-CROP OR WALL-PEPPER.

STONE-CROP, OR WALL-PEPPER.

Sedum acre. *Nat. Ord.*, *Crassulaceæ.*

THE common stone-crop will doubtless be familiar to most of our readers, as it is not only frequently found in a wild state, but is, like the primrose, the foxglove, and many other plants, often transplanted to the garden, where it clothes readily with its verdure any old wall-top or rockwork. Its great fault, indeed, is its too great readiness to make itself at home. We remember once thinking how capital an edging it would make to some flower-borders; its close, compact, evergreen foliage, delighting the eye, to be in the flowering season transformed into a band of golden yellow still more striking. We put our idea into practice, but soon found how encroaching it became, as it spread beyond all reason into the body of the border; but by running a planting cord along each face, we were able with a sharp spade-edge to chop all neat and true again, and to diminish its width to reasonable proportions. "All's well that ends well," and the reverse of this is as true an

axiom; we found that every little piece chopped off, if not carefully removed, would grow, and the task became so onerous that we were glad to root it all up, and be thankful to feel that we had seen the last of it as a garden edging. It is surely, without exception, the easiest thing possible to plant: root, stem, or anything else seems to grow; the top, half an inch or so in length, of one of the stems can be put into a hole made by a small piece of stick—right way up or wrong is immaterial—and in a very short time it will show signs of full vitality; and when put into the interstices of rock-work it will, unless carefully watched, do much more towards clothing the whole than is altogether desirable. Another of our wild borderings was much more successful—a line of the cinquefoil. Both foliage and flowers are beautiful in form and colour, and the plant throws out long suckers and grows with rapidity. Like the stone-crop, it will soon, if not watched, grow out of bounds; but its larger size makes it more amenable to discipline.

The stone-crop should be looked for, in a wild state, on old walls, on rock, and on sandy ground. The old stone or flint walls one sees in many parts of the country furnish, in their rugged sides and uneven tops, many a crevice that gives welcome foothold to the plant; and dry, sandy heaths form another favourite habitat. It flowers some time during June or July, and is then a mass of golden blossom, but the flowering season is ordinarily very soon over. Those who have chanced to come upon an old wall or stone fencing when the hundreds of blossoms are all expanded in the sunlight will realise the meaning of the old name, golden moss, bestowed on it, as the ordinary green appearance is completely lost in the more intense hue of its brilliant stars.

The root of the stone-crop is perennial and very fibrous, its minute threads penetrating into the smallest crevices. The stalks are numerous, growing in tufts, many of them trailing, flowerless, and of no great size, others erect and bearing the clusters of flowers. These latter are ordinarily from one to three inches high; but the plant leads a somewhat hard life, and may often be found much dwarfed in consequence, while at other times, as when amidst other foliage or rockwork, it is drawn up to a considerable height. The stems branch a good deal, and are clothed with numerous leaves. The little, upright, and very succulent leaves that so closely overlap on the flowerless stems form a characteristic in itself sufficient to distinguish the *S. acre* from the other yellow-flowering species in the genus. The foliage has a semi-transparent look, and the leaves are not flat, as in most plants, but so fleshy in substance as to be almost round in cross section. The flowers are of a brilliant yellow tint; the sepals, five in number, are very small and inconspicuous, but the five acutely pointed and spreading petals form a noticeable feature. The stamens are ten in number, and about equal in length to the parts of the corolla, and the anthers at their summits agree in tint with the petals.

The generic name refers to the ready way in which the plant can make itself at home on hard rock or brick, with the slightest possible modicum of soil; it is derived from the Latin verb meaning "to sit." The specific name alludes to the sharp, pungent taste of the leaves. This pungency of flavour has procured for the stone-crop the names of wall-pepper and wall-ginger. The name by which it is known in Germany is equivalent to wall-pepper, while in France it is the "pain d'oiseau." It is curious that in

some parts of England also the stone-crop is called "birds' bread." There would appear to be no special appropriateness in the title. So far as we are aware, the plant is untouched by birds. Prior, in his "Popular Names of British Plants," we see, says "apparently from no better reason than its appearance in blossom when young birds are hatched;" but there is, probably, some old legend or belief that is at the bottom of it, if we only knew where to find it. Lobel called it *vermicularis*, partly, we are told, from the grub-like shape of the leaves—though we may, *en passant*, observe that a grub is not quite the same thing as a *vermis*, or worm, either in name, nature, or appearance—and partly from its medical efficacy, real or reputed, as a vermifuge. The medicinal value of the stone-crop seems to be only vaguely known. Culpepper, we notice, says of it, "It is so harmless an herb that you can scarce use it amiss;" while Curtis says, "According to the account which some medical writers give of this plant, it appears to possess considerable virtues; while others, from the durability of its acrimony and the violence of its operation, have thought it scarce safe to be administered. Applied to the skin, it excoriates and exulcerates it." Linnæus recommended it for the scurvy and dropsy.

FEVERFEW.

FEVERFEW.

Matricaria Parthenium. *Nat. Ord.*, *Compositæ.*

SO many plants present to the untrained eyes features not dissimilar in many respects to those of the present plant that the uninitiated may be excused if they hesitate to affirm offhand that they know the feverfew directly they see it. The composite order comprises in almost every region of the world an enormous number of species. The English plants alone are placed in over forty genera, and some of these in turn, as *Hieracium*, contain many species. However they may differ in minor points, the one great feature in which they agree is the composite flower-head, each so-called flower of the ordinary observer being in reality the aggregation of a considerable number into one head. In many the florets of the disk and of the ray are alike yellow—the hawkweeds, the goat's-beard, and the dandelion are examples of this; and in others, as in the present plant, the centre is yellow, and the surrounding rays are white—the ox-eye and the daisy are

very familiar illustrations of this. Others, as the salsify (*Tragopogon porrifolius*), are purple, or blue, as in the blue sow-thistle (*Mulgedium alpinum*), the chicory (*Cichorium Intybus*), or the corn-flower (*Centaurea Cyanus*); but the greater number of species are either some tint of yellow, or a combination of yellow and white. The tint of the yellow varies a good deal in various species; in some it is almost orange, in others a clear, pure golden yellow, and in others, again, sulphur-coloured. The present plant suggests the idea of a number of daisy-heads that have somehow left their low estate and had a rise in life, though we miss the rich crimson tipping of the under surfaces that we all know so well.

The root-stock of the feverfew is perennial. The stems attain to a height of some two feet, and branch a good deal at the upper extremities, though, as all the branches leave at a slight angle, the general upright look of the plant is preserved. This freedom of branching and the upright effect of the plant as a whole may be very clearly seen in our illustration. The leaves, it will be seen, are of the kind termed pinnate, or feather-like—a central line and lateral portions given off from it—and each larger mass is again cut into, so as to produce the form known botanically as bi-pinnate, or twice pinnate. The upper ones, the only ones that the small size of our page would allow us to show, are simpler in form than those lower down the plant, and do not show either the depth of cutting into or the number of segments seen in the latter. Even in the few we have represented the progression in form is very marked, those nearest the flowers showing a great simplicity of form when contrasted with the one nearest the bottom of the pages. Besides the larger segments and divisions the

leaves have their outlines clearly and sharply toothed. The foliage is of a bright, fresh-green colour, and, if we may be allowed the expression, rather flimsy to the touch. This latter peculiarity causes the plant to quickly assume a withered appearance when gathered and carried in the hand, though a prompt plunging into water will quickly restore matters again. The delicacy of the leaves makes them speedily show either injury or care taken with them. The flower-heads are numerous, from half an inch to an inch in diameter, and as the lower ones are on longer stems than the upper, the general mass of blossom in the plant is all at about the same level. The numerous flowers, with their brilliant golden eyes and pure white rays, give the plant a very bright and cheery look. The whole plant has a somewhat strong smell, and the leaves have a decidedly bitter taste; and it has been suggested that a decoction of it might be efficacious as a tonic. It does not, however, follow that, because tonic medicines are often bitter, we may assume that bitter things are therefore tonic.

The feverfew should be looked for on waste ground and in the hedgerows. It is generally dispersed over Britain, but does not seem to be anywhere very abundant; Bentham suggests that it may not perhaps be truly indigenous. It is one of the later flowers of the year, and should be searched for from July to September. As it has long been held in medicinal repute in rustic practice and precept, it may not uncommonly be found in the cottager's garden, and a very double variety may often be found in gardens of higher pretensions. In the garden variety the only difference is in the compact, almost ball-like, flower-heads; the foliage and general growth resemble that of its hedge-

row brother. The name feverfew, like the monkish febrifuga, testifies to the belief in its remedial powers, for fevers are few, and fly away where this plant is held in proper estimation. With some old writers the name is featherfew, and this suggests some connection between the name and the pinnate character of the leaves; but there is little doubt but that featherfew is only a perversion and corruption of the more ordinary name. Gerarde, we see, gives it as fedderfew.

Feverfew "dryed and made into powder, and two drammes of it taken with honey, or other thing, purgeth by siege Melancholy; wherefore it is very good for such as have the giddinesse and turning in the head or swimming; for them that are purse or troubled with the shortnesse of winde, and for melancholique people, and such as be sadde and pensive and without speach. The greene leaves, with the flowers of feverfew stamped, is good to be layde to the dissease called the wilde fyre, or Saint Anthony's fyre."

YELLOW OR MOUNTAIN POPPY.

THE YELLOW OR MOUNTAIN POPPY.

Meconopsis Cambrica. Nat. Ord., Papaveraceæ.

SOME of our readers may be possibly somewhat startled at the idea of a yellow poppy, having all their lives associated the very name of the poppy with a mass of flaunting flaming scarlet; but the facts are, nevertheless, strictly as we have represented them. Though the comparative rarity of the yellow flower makes it appear strange to us, it is common enough if we can only see it in its chosen habitat. It is a plant of the rocky solitudes, and should be looked for amidst woods and shady nooks in hilly districts: hence we find it on the grand rocks of Cheddar, amongst the mountains of Westmoreland, the highlands of Devon, and abundantly in many parts of North Wales. The plant is a perennial, and, in any case, it would have little difficulty in maintaining itself, as the multitudinous ripened seeds are in autumn freely shed from the numerous

capsules, and guarantee an ample succession for the coming year. We have thus seen it coming up year after year in the same spot. When we speak of the novelty that a brilliant yellow poppy may be to many to whom the plant is unfamiliar, we must not forget that we have already figured another yellow poppy, the Common Horned Poppy (*Glaucium luteum*), to be found on almost every strip of sandy or shingly beach around our shores.

Poppies are emblems of somnolence, and from one species of them opium is obtained; but the following is an interesting instance of a prolonged sleep—a sleep of centuries in the plants themselves. We were so struck by the paragraph as it originally appeared in a medical journal that we make no scruple in quoting it, in the lively hope that others too may find an interest in it. "The mines of Laurium are generally known to be largely encumbered with scoriæ, proceeding from the working of the ancient Greeks, but still containing enough silver to repay extraction by the improved modern methods. Professor Hendreich relates, according to 'L'Union Médicale,' that under these scoriæ, for at least one thousand five hundred years, has slept the seed of a poppy of the species *Glaucium*. After the refuse had been removed to the furnaces, from the whole space which they had covered have sprung up and flowered the pretty yellow corollas of this flower, which was unknown to modern science, but is described by Pliny and Dioscorides. This flower had disappeared for fifteen to twenty centuries, and its reproduction at this interval is a fact parallel to the fertility of the famous mummy-wheat." What the precise species here referred to may be we cannot say, but its relationship to our present plant must, in any case, be a close

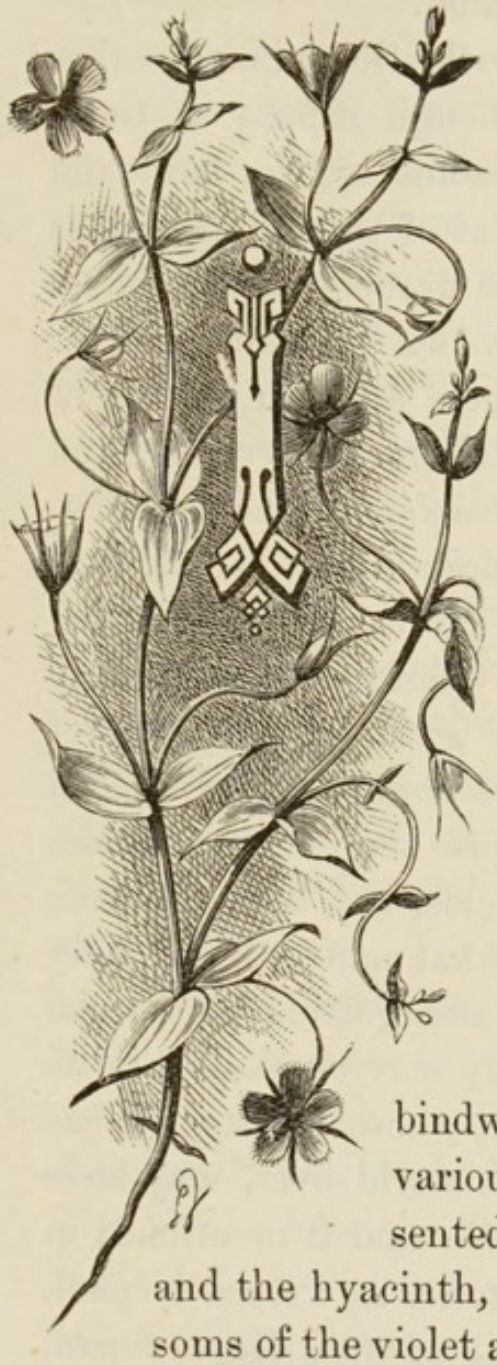
one, and warrants our reference to a fact in natural history which is very interesting in itself.

Our yellow poppy was first discovered in its mountain solitudes, and identified as a true British plant, by the celebrated herbalist and apothecary, Thomas Johnson, in a botanical excursion through Wales. Forsaking the mountain recesses and the haunts of Flora for the more stirring service of Mars, he sacrificed his life to the royal cause, and perished by the sword in the year 1644. Parkinson, in 1640, speaks of this poppy in a very matter-of-course way, and tells us where he found it, without in any way suggesting that he had made any rare discovery. It is, in fact, like many other plants, excessively rare if sought for in the wrong places, but common enough when the right localities are visited. A man might search the hedgerows for years, and never find a water-lily, though its silver chalices floated in hundreds in a pool hard by; and those whose lives are spent chiefly in towns have little idea of the floral wealth of their native land, and imagine, possibly, that some thirty or forty different kinds of plants exhaust the list.

The mountain poppy grows to a height of some eighteen inches, its general character being erect, and the growth delicate and graceful-looking. The foliage is a bright fresh green, and often slightly hairy. The leaves are borne on rather long stalks, and each leaf is of the form termed pinnate, the three or four pairs of lateral segments being again deeply cut at their margins: the total result is a very rich-looking feathery leaf. The flowers are large and handsome, as our illustration may in some degree testify, and are borne singly on long flower-stems, that rise well above the mass of foliage whence they spring.

The sepals of the calyx are two in number, and, as in the other poppies, fall off on the opening of the flower. In our figure it will be seen that one has already fallen, and the expanding bud will rapidly throw off the remaining half. The corolla is composed of four petals; these are very delicate and fragile-looking, and very crumpled in surface, especially when first unrolled from the bud. The whole plant quickly fades when gathered. The flowers, differing in this respect from most of the other poppies, have a pleasant odour. The generic name, *Meconopsis*, of the mountain poppy is derived from two Greek words, signifying poppy and resemblance. The plant differs slightly in botanical structure from the better-known species, and is put, therefore, into another genus; and we find Parkinson giving it the title of the "yellow wild bastard poppy of Wales." The modern specific name, *Cambrica*, clearly indicates the association of the plant with Wales, on the soil of which, as we have seen, it seems best to flourish.

PIMPERNEL.



THE PIMPERNEL.

Anagallis arvensis. Nat. Ord., Primulaceæ.

IN the colour alone of this little flower will be found almost a sufficient guide to its identification, as there is no other indigenous flower, no other wild blossom, just of this tint—a pale scarlet or very deep salmon red. While we have yellow flowers in abundance, as the silverweed, the iris, the buttercup, the cowslip; while we have pink flowers not a few—the campion, the dog-rose, the rest-harrow; while white flowers are common, as the hawthorn, the bindweed, the strawberry; while the various shades of blue are fairly well represented by the forget-me-not, the borage, and the hyacinth, and while purple is seen in the blossoms of the violet and the woody nightshade, purely red flowers are rare indeed. The intense scarlet of the corn-poppy, the duller reds of the other poppies, and the pale scarlet of the pimpernel, are the only examples that can be instanced. Flowers wherein the red inclines towards yellow,

making the tint called orange, are very rare—perhaps the two species of wild balsam are the best examples; while flowers wherein the red inclines towards blue, making the tint called purple, are very common.

The little pimpernel, like the sow-thistle and many other plants, is a weed of cultivation; though it may at times be seen expanding its delicate blossoms by the hard and dusty highway, or on some waste plot of ground, it is more commonly found in corn-fields and in gardens. It is almost cosmopolitan, and is as well known at the Antipodes as in any of our English shires. There are two species of pimpernel—the present plant, or *Anagallis arvensis*, and the bog pimpernel, or *Anagallis tenella* of the botanist. The generic name is a somewhat fanciful one; it is derived from two Greek words signifying "again" and "to adorn," because year after year these little blossoms spring up to beautify the waste places by their grace and delicacy of form and colour. The name appears somewhat far-fetched and slightly inappropriate, not because the little plant does not thus year by year adorn the fields, but because, while doing so, it is, after all, only doing what many other equally welcome flowers are doing no less and getting no especial credit for. Perhaps its universality may be pleaded in its favour, and its attachment to man, whose footsteps it has followed, as we have seen, the wide world over, may have earned for it some little return. We find it mentioned in the lists of plants of places so scattered as Persia, Nepaul, China, New Holland, Mauritius, Cape of Good Hope, Japan, Egypt, Abyssinia, United States, Mexico, and Chili. It is to be found in all the temperate regions in both hemispheres, but shuns the Arctic cold and hardly bears more than sub-tropical heat. In England it is often called the

shepherd's weather-glass, because its blossoms only expand in fine weather, a fact alluded to by several of our poets.

The common pimpernel is one of our smaller plants. Its slight stems rarely attain to more than a height of some six or eight inches, but branch a great deal. These branches are procumbent. The leaves are bold and simple in outline, have no leaf-stalks, but spring at once in pairs from the main stems. On turning them over the under surface will be found to be thickly covered with small dull purple spots. The little stems that rise from the axils of the leaves and bear the blossoms are, during the time of the expansion of the flowers, ascending in direction; but as the capsules that succeed the flowers ripen, these stems roll back, in the quaint way that may be more readily gathered from an inspection of our illustration than by any attempt at verbal explanation. The wood loose-strife, or *Lysimachia nemorum*, a plant that is sometimes called the yellow pimpernel, from its strong general resemblance to the true species of that name, exhibits the same peculiarity. The corolla of the pimpernel is five-cleft, and when fully expanded is an almost flat disk. The stamens also are five in number, and the calyx is deeply cut into five long and narrow segments, their pointed ends being seen between the divisions of the corolla. Though the colour of the flower of the pimpernel is normally red, bright blue flowers are sometimes met with. The plants bearing these have, by some observers, been made into a distinct species, and called *A. cærulea*, while others affirm that they are but a variety. More rarely the pimpernel varies with flesh-coloured or pure white blossoms.

The common pimpernel is an annual; the bog pimpernel, our second British species, is a perennial. The localities that should be searched for this latter species are

sufficiently indicated by its name. It is a very graceful and beautiful little plant, rarely more than four inches long, its stems creeping on the swampy ground; leaves in pairs, small, but closely succeeding each other on the stem; flowers rising up on rather long pedicles; the corolla divided into five lobes, a beautiful rose-colour, bell-shaped, but the widest part uppermost, not drooping, as in the hare-bell and most other campanulate flowers. It blossoms during July and August. Like most bog and aquatic plants, its beauty soon fades when the plant is gathered. It must be viewed *in situ*.

WALL PENNYWORT.

WALL PENNYWORT.

Cotyledon Umbilicus. Nat. Ord., Crassulaceæ.

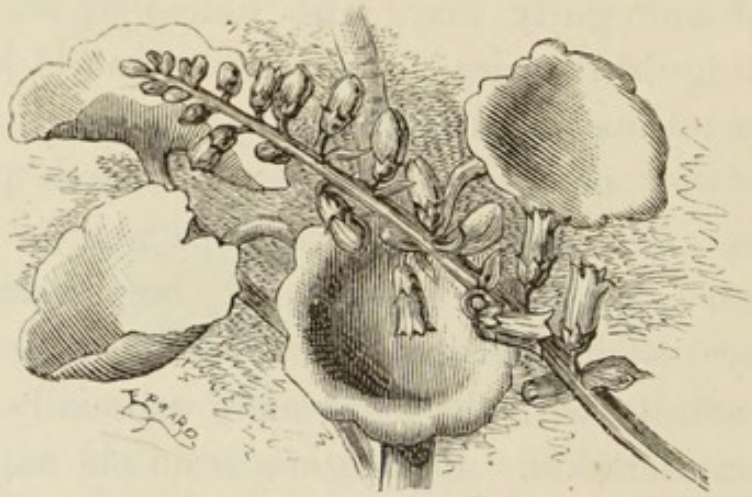
ALL lovers of plants will doubtless recall many a pleasant ramble in spots that to the uninitiated appeared hopelessly unlikely to yield any floral results. It is precisely in such spots that we must search for not a few plants that, commonly enough found in these localities, may be searched for elsewhere in vain. Amidst the rough shingle of the sea-shore or the desolate sand-hills that fringe its margin we find the brilliant yellow horned poppy, the crimson-blossomed thrift, the beautiful stars of the sea-aster, or the quaint foliage of the sea-holly. The marshy and boggy waste in like manner has its special flora—the golden flowers of the asphodel, the pale purple bells of the ivy-leaved campanula, and the pale pink blossoms of the delicate bog pimpernel form a trio not easily surpassed

in beauty. Our present plant, the pennywort, we find on another of the "happy hunting grounds" of the botanist---old walls and roofs. Wherever in our rural walks we come across an old brick wall or stone fence, we may generally expect to find some one or two things at least, the waving fronds of the hart's-tongue fern or some of the more delicate wall-growing ferns, as the black spleenwort or the wall-rue, the mass of golden yellow stars or succulent leaves of the stonecrop, a name in itself suggestive; the fragrant blossoms of the plant pre-eminently called the wallflower, the delicate foliage and blossoms of the cymbalaria or ivy-leafed toad-flax, or perchance the curious plant we have here illustrated. The wall pennywort is not so freely distributed as many of our plants, though in many localities it is abundantly met with. Those of our readers whose idea of a wall is derived from a town experience, will hardly realise how so formal and perpendicular a mass of brickwork could afford much spoil to the lover of plants, nor indeed can it; but those who are familiar with the fences, half natural rock, half built of rough hewn stone, adherent by the roughest cementing or by their own sheer weight, that are so picturesque a feature in some of our country districts, will readily understand how their rugged tops and numerous interstices afford many a resting-place for the plants that grace them. The pennywort is chiefly found in the high-lying districts in the west of England and Scotland, though it may be not uncommonly seen along the southern coast of England and in the midland and eastern counties. Its true home is not in the fertile flats of the cast of England, but where the keen air of the mountain side can fan it and the rocky masses give it a congenial resting-place.

The order to which the pennywort belongs, the *Crassulaceæ*, has not many British representatives. On its more especially technical botanical characteristics it would be altogether foreign to our present purpose to enlarge, but one conspicuous feature we may mention, the thick fleshy leaves of all the species included in it. Of this feature the present plant affords a good illustration, and this may be seen again in the foliage of the common house-leek, the orpine or live-long, and the stone-crop. This succulence enables the plants to thrive in localities where most plants would wither and dry up, and thus causes them to retain their vitality unimpaired for a long period.

The common English name of the plant is clearly derived from the shape of the leaves, their rounded outline being to some extent suggestive possibly of money. The older writers were very great at finding these resemblances, and it is not always easy to feel the same satisfaction in them that they appear to have done. This particular idea has been a good deal worked, and a certain amount of ambiguity may arise unless we are careful to really distinguish species that have in name at least much in common: thus we have the pennycress, the pennygrass, the moneywort or herb-twopence, the marsh pennywort, and others. The moneywort we hope shortly to figure. The marsh pennywort is a small bog plant, and is abundantly distributed throughout Britain, but has no botanical affinity with the plant more especially under our present consideration. Pennygrass is an old name for the yellow rattle, the subject of another of our illustrations, and was bestowed upon it from the form of its ripening seed-vessels. The wall pennywort is by some old writers called navelwort and kidneywort.

But little description of our plant will be needed, as our illustration indicates the more salient points. The leaves, it will be seen, are like those of the Indian cress of the gardens (the plant ordinarily called the nasturtium in seedsmen's catalogues), as the stalk is often united to them near the centre of their under surface. This type is termed botanically peltate or shield-like. The leaves mostly spring direct from the root; their thick and fleshy texture prevents the veining becoming as conspicuous as in most other plants, and each leaf is slightly concave, having a more or less deeply-marked depression in the centre. This feature suggests the generic name Cotyledon, a term derived from the Greek word for cup. The flowering stems are from six inches to a foot high, and bear a long raceme of pendulous flowers. The calyx is small and five-cleft, the corolla bell-shaped and having five small teeth at what we may term the rim of the bell. The plant is a perennial, and flowers during June, July, and August.



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FAMILIAR WILD FLOWERS

FIGURED AND DESCRIBED BY

F. EDWARD HULME, F.L.S., F.S.A.

"There lives and works
A soul in all things, and that soul is God.
The beauties of the wilderness are His,
That make so gay the solitary place.
He sets the bright procession on its way,
And marshals all the order of the year;
And ere one flowering season fades and dies,
Designs the blooming wonders of the next."

COWPER.

Fourth Series

WITH COLOURED PLATES

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LA BELLE SAUVAGE

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SUMMARY.

It should be prefaced that this Summary merely professes to give a brief epitome of each of the plants represented in this volume, and that it is principally a condensation from the writings of Hooker, Lindley, Bentham, or other authorities on the subject.*

CORN MARIGOLD, *CHRYSANTHEMUM SEGETUM. Nat. Ord., Compositæ.*—Calyx adherent, with ovary. Ray-florets conspicuously ligulate. Involucre hemispherical, having imbricated and membranaceous scales. Stamens five; anthers syngenesious. Ovary one. Style one, sheathed by anther-tube, bifid at apex. Stigmas extended on each branch of style. Flower-heads large, on terminal peduncles. Fruit an achene; disk achenes terete. Receptacle without scales. Pappus wanting. Leaves amplexicaul, alternate, glaucous, lobed or serrate, varying in form considerably according to position. Stems branching freely.—Cornfields. June, July, August, September, October. Annual. *p.* 1.

KIDNEY VETCH, *ANTHYLLIS VULNERARIA. Nat. Ord., Leguminosæ.*—Calyx five-toothed, inflated, downy, contracted at mouth. Corolla papilionaceous. Heads of flowers in pairs at end of stems; the flowers numerous and sessile. Stamens ten, monadelphous. Ovary one-celled. Style and stigma one. Legume two-valved, oval, few-seeded, enclosed in calyx. Leaves alternate, stipulate, pinnate. Bracts large and palmate. Whole plant covered with soft hair.—Dry pastures and embankments. June, July, August. Perennial. *p.* 5.

SAINFOIN, *ONOBRYCHIS SATIVA. Nat. Ord., Leguminosæ.*—Calyx five-toothed, the teeth long and slender. Corolla of five petals, papilionaceous, wings short. Stamens ten, diadelphous. Inflorescence

* See Prefatory Note to the Summary, Series I.

racemose, on long axillary peduncles. Ovary one-celled. Style and stigma one. Legume two-valved, indehiscent, sessile, toothed on inner margin, coriaceous, flattened, one-seeded. Leaves stipulate, alternate, pinnate, without tendrils, glabrous; numerous leaflets. Stipules small, finely-pointed.—Open down-land and chalk slopes. June, July. Perennial. *p.* 9.

NIPPLEWORT, *LAPSANA COMMUNIS. Nat. Ord., Compositæ.* —All the florets ligulate and perfect, rather pale yellow, small. Stamens five, their anthers syngenesious. Ovary one. Style one, sheathed by tube of anthers; stigmas in two rows on bifid style. Fruit an achene, slightly compressed, striate. Pappus wanting. Receptacle naked. The involucre small, of about eight or nine nearly equal scales arranged in a single row, and a few much smaller at base, angular. Inflorescence loosely paniculate or corymbose. Leaves few, thin in texture; upper ones small, narrow, sessile, entire or slightly toothed; lower ones large, slightly lobed, stalked, coarsely serrate, lyrate; all somewhat hairy. Stems erect, stiff, slightly branching.—Waste ground and gardens. July, August, September. Annual. *p.* 13.

ROCK ROSE, *HELIANTHEMUM VULGARE. Nat. Ord., Cistaceæ.* —Calyx of five sepals, three large, ribbed, and equal, and two smaller outer ones. Corolla deciduous, five petals, crumpled, broadly spreading. Stamens numerous, hypogynous. Style one, filiform. Stigma simple. Capsule with three valves. Leaves opposite, on short stalks, lanceolate, green above, grey beneath. Stipules linear-lanceolate. Flowers in loose racemes; flower-stems drooping before and after flowering. Stems shrubby, procumbent.—Dry pasturage and hill-sides. July, August, September. Perennial. *p.* 17.

MONEYWORT, *LYSIMACHIA NUMMULARIA. Nat. Ord., Primulaceæ.*—Calyx deeply five-cleft. Corolla regular, deeply five-lobed, cup-like, large, bright yellow. Stamens five. Ovary superior, one celled. Style one. Stigma capitate. Fruit a one-celled capsule opening at the top. Flowers on axillary peduncles. Leaves opposite, shortly stalked, broadly ovate, shining. Stem prostrate, creeping, rooting. —Moist shady banks. June, July. Perennial. *p.* 21.

FIELD SCABIOUS, *KNAUTIA ARVENSIS. Nat. Ord., Dipsaceæ.*—Flowers in dense and flattened heads, on long peduncles. Calyx tube adnate with ovary. Calyx of five bristly sepals, and cup-shaped base. Outer florets large, unequal ; inner florets having equal segments, all lilac, and all four-lobed. Receptacle hairy. Style one. Fruit dry, indehiscent, angular. Radical leaves large, lanceolate, serrate, coarse-looking, hairy. Stem-leaves opposite, small, sessile, slightly-lobed, variable in form.—Pastures and banks. June, July, August. Perennial.
p. 25.

YELLOW WATER-LILY, *NUPHAR LUTEA. Nat. Ord., Nymphaceæ.*—Calyx of a varying number of sepals, five or six, concave, yellow, fleshy, much larger than the petals. Petals numerous, fragrant, inserted on receptacle, yellow. Stamens numerous. Anthers linear, inserted on receptacle, yellow, often passing into more or less petaloid forms. Stigma peltate, rayed. Fruit baccate, globular or flask-like, crowned by disk of stigma. Leaves cordate, floating. Stems thick and succulent.—Lakes, ponds, and gently moving streams. July, August. Perennial.
p. 29.

MEADOW SAXIFRAGE, *SAXIFRAGA GRANULATA. Nat. Ord., Saxifragaceæ.*—Calyx of five teeth, spreading. Petals five, pure white, spreading, lanceolate. Stamens ten, inserted at base of calyx. Styles two. Inflorescence paniculate. Ovary two-celled. Capsule two-celled, beaked, many-seeded. Leaves exstipulate; lower leaves on foot-stalks, reniform, lobed ; upper leaves sessile or nearly so, acutely-lobed, small and few in number. Stem erect, with clustering subterranean tubers at base.—Pastures and downs. May, June. Perennial.
p. 33.

THRIFT, *ARMERIA MARITIMA. Nat. Ord., Plumbaginaceæ.*—Calyx tubular, dry, membranous, teeth short. Corolla regular, of five petals, united at base. Ovary single, one-celled. Stamens inserted on corolla. Styles five, hairy. Stigmas five, filiform. Flowers in dense terminal, globular heads, with bracts, and inverted sheath clothing upper portion of scape. Capsule one-seeded. Leaves long and linear, radical, numerous, one-nerved.—Salt marshes. April, May, June, July, August. Perennial.
p. 37.

BROOM, *SAROTHAMNUS SCOPARIUS. Nat. Ord., Leguminosæ* or *Papilionaceæ.*—Calyx campanulate, two-lipped, minutely toothed, much shorter than corolla. Flowers large, bright yellow, papilionaceous, axillary. Standard broad. Stamens monadelphous. Ovary one-celled. Style one, very long. Stigma one. Pod or legume flat, much longer than calyx, many-seeded, hairy at margin. Lower leaves on short stalks, composed of three small obovate leaflets; upper leaves stalkless, often single. Stems angled, smooth, green, wiry. Large shrub.—Dry hilly wastes, banks. May, June. Perennial. *p.* 41.

CREEPING BELL-FLOWER, *CAMPANULA RAPUNCULOIDES. Nat. Ord., Campanulaceæ.*—Calyx segments five, conspicuous, deeply cut, recurved. Corolla campanulate, with five deeply-cut segments. Flowers unilateral, drooping, axillary, racemose. Æstivation valvular. Stamens five; filaments dilated at base. Anthers distinct, spreading. Stigma three-cleft, recurved. Fruit a capsule, dry, globular, opening by clefts at base. Leaves alternate, exstipulate; lower leaves large, heart-shaped, on long stalks; upper leaves small, acutely pointed, and stalkless. Stem erect, slightly branching. Root-stock creeping.—Woods and shady hedges. July, August. Perennial. *p.* 45.

MELANCHOLY THISTLE, *CNICUS HETEROPHYLLUS. Nat. Ord., Compositæ.*—Flower-heads large, crimson, growing singly on long peduncles. Bracts of involucre glabrous, lanceolate, imbricate, appressed, acuminate. Involucre flask-like. Stems high, much furrowed, covered with a white cottony down. Leaves on under side downy, green above, clasping the stem, bordered with small teeth, undivided, not prickly, not decurrent.—Damp mountain pasturage. July, August. Perennial. *p.* 49.

COW-WHEAT, *MELAMPYRUM PRATENSE. Nat. Ord., Scrophulariaceæ.*—Calyx four-toothed, tubular, persistent; much shorter than corolla. Corolla monopetalous, irregular, deciduous; upper lip laterally compressed; lower lip thrice-cleft. Flowers axillary, in pairs, turned one way. Stamens four, didynamous. Anthers obtuse. Style one. Stigma two-lobed. Capsule two-celled, oblong. Leaves lanceolate, opposite, sessile. Bracts in pairs, toothed at base. Stem slender, with opposite and spreading branches.—Woods. May, June, July, August. Annual. *p.* 53.

BETONY, *BETONICA OFFICINALIS. Nat. Ord., Labiatæ.*—Calyx tubular, ovate, ten-ribbed, five-toothed. Corolla irregular, tubed, upper lip erect, the lower lobed and spreading. Stamens four, in pairs beneath upper lip, two long, two short. Ovary one, four-lobed. Stigma two-lobed. Fruit a smooth nut. Leaves few in number, opposite, lower ones on long stalks, upper ones on short stalks or sessile, coarsely crenate, veining conspicuous. Stem square, hairy. Flowers in dense whorls arranged in a terminal spike. Bract large.—Woods and hedge-rows. June, July, August. Perennial. *p.* 57.

COMFREY, *SYMPHYTUM OFFICINALE. Nat. Ord., Boraginaceæ.*—Calyx five-partite, valvate in bud. Corolla monopetalous, regular, five-cleft, tubular, largest a little below the middle, purple or yellowish-white. Stamens five, inserted in the tube of the corolla; filaments very short. Style slender; stigma capitate. Scales alternating with stamens. Inflorescence a forked scorpoid cyme; flowers pendulous, on small pedicels. Leaves various; radicals broad and large on long-winged petioles; stem-leaves shortly petioled or sessile, ovate, lanceolate, and very decurrent, rough in texture, hairy, dull green. Stem three feet high, freely branching, angular, rough, winged by the decurrent leaves.—River-banks and moist ground. May, June. Perennial. *p.* 61.

HAIRY ST. JOHN'S WORT, *HYPERICUM HIRSUTUM. Nat. Ord., Hypericaceæ.*—Calyx five-partite, inferior, the sepals lanceolate, acute, with glandular serratures. Petals five, unequal-sided. Stamens numerous, triadelphous. Ovary one. Styles three. Flowers numerous, in a pyramidal panicle, yellow. Capsules many-seeded. Stem erect, hairy. Leaves opposite, stalked, slightly downy, ovate, entire, marked with pellucid dots.—Woods and thickets, more particularly on the chalk. July, August. Perennial. *p.* 65.

FOOL'S PARSLEY, *ÆTHUSA CYNAPIUM. Nat. Ord., Umbelliferæ.*—Calyx adherent with ovary, five minute teeth. Corolla white, of five unequal petals, the outer ones the largest; petals obcordate, with inflected points. Stamens five, inserted on fleshy disk. Styles two, short. Flowers in terminal umbels of about twelve equal rays; involucre wanting; partial involucre unilateral, of three linear, conspicuous, pendant leaves. Achenes two, combined, ovate or globose.

Leaves numerous, alternate, sheathing the stem, compound, glossy, giving unpleasant odour when bruised.—Fields, gardens, waste ground, and rubbish-heaps. July, August. Annual. *p.* 69.

HEDGE MUSTARD, *SISYMBRIUM OFFICINALE. Nat. Ord., Cruciferæ.*—Calyx of four sepals, equal at base, slightly spreading. Petals four, minute, yellow. Stamens six, tetradynamous. Ovary one. Style one. Stigma entire. Pods tapering, pubescent, pressed to main stalk, almost sessile, two-valved. Stem erect, rigid, tough, freely branching. Leaves dull green, very variable in form, deeply pinnatifid, terminal portions often much larger than the laterals; upper leaves hastate, but little divided.—Waste places, roadsides. June, July, August. Annual. *p.* 73.

LILY OF THE VALLEY, *CONVALLARIA MAJALIS. Nat. Ord., Liliaceæ.*—Perianth campanulate, six-cleft, segments recurved at extremities, drooping, fragrant, white, deciduous. Stamens six, inserted on sides of perianth. Ovary three-celled. Style one. Stigma one. Inflorescence racemose. Berry three-celled, globular. Bracts at the base of the pedicels. Peduncle radical, leafless, twisted, semi-cylindrical. Root creeping. Leaves two, radical, large, ovate, united at their bases in a scaly sheath, veining prominent.—Woods. May, June, July. Perennial. *p.* 77.

SUCCORY, *CICHORIUM INTYBUS. Nat. Ord., Compositæ.*—All the florets with ligulate corollas, and having both stamens and pistils; light blue. Stamens five. Ovary one. Style one, bifid. Pappus sessile, scaly. Involucre of eight bracts, having at their base a few smaller ones spreading out. Flower-heads in close sessile cluster along the stems. Achenes numerous, slightly ribbed. Leaves very various in form: lower leaves spreading, pinnatifid, runcinate; upper leaves small, embracing stem, entire or slightly serrate. Stems erect, freely branching, rigid, furrowed. Root large.—Dry waste ground, especially on sand or chalk. July, August, September. Perennial. *p.* 81.

DEVIL'S-BIT SCABIOUS, *SCABIOSA SUCCISA. Nat. Ord., Dipsaceæ.*—Calyx surmounted by four bristles, surrounded by membranaceous involucel. Corolla with oblique limb, four-lobed, purple. Stamens four, distinct, nearly equal; anthers large. Ovary one-celled.

Style one, filiform. Flowers collected into a dense, globular head. The involucre many-leaved. Receptacle scaly. Radical leaves, stalked, ovate, entire, stem-leaves few in number, hairy, opposite, narrow, slightly toothed. Root-stock short and abruptly ending.—Meadows. July, August, September, October. Perennial. *p.* 85.

KNOT-GRASS, *POLYGONUM AVICULARE. Nat. Ord., Polygonaceæ.*—Perianth five-partite, single, coloured, persistent. Stamens inserted into base of perianth. Ovary superior, with three styles. Stigmas entire. Flowers axillary. Achene wingless, triquetrous, striate. Leaves with sheathing, two-lobed, scarious, stipules, lanceolate, alternate, entire. Stem jointed and branched, herbaceous, often prostrate; very variable in appearance.—Waste ground and rubbish-heaps. May, June, July, August, September. Annual. *p.* 89.

CROSS-WORT, *GALIUM CRUCIATUM. Nat. Ord., Rubiaceæ.*—Calyx adherent with ovary. Corolla regular, yellow, small, rotate, four-cleft. Flowers polygamous, the fertile flowers sometimes five-cleft, in small axillary corymbs. Stamens four, inserted on corolla. Style one, bi-partite. Ovary one. Stigmas two, capitate. Fruit dry, a two-lobed pericarp, indehiscent. Stems erect, hairy, square, herbaceous, slender. Leaves four in a ring, ovate, hairy on both sides. —Hedges, banks, and copses. April, May. Perennial. *p.* 93.

WOODRUFF, *ASPERULA ODORATA. Nat. Ord., Rubiaceæ.*—Calyx adherent with ovary. Corolla regular, fugacious, infundibuliform, pure white, four-cleft. Style one. Stamens four. Ovary one. Inflorescence paniculate. Fruit dry, globular. Leaves about eight in a whorl, lanceolate, entire. Stem erect. The whole plant very fragrant when dried.—Woods and copses. May, June. Perennial. *p.* 97.

FUMITORY, *FUMARIA OFFICINALIS. Nat. Ord., Fumariaceæ.* —Sepals two, deciduous, small and scale-like, ovate-lanceolate, acute, toothed. Corolla irregular, tubular, of four more or less united petals, one spurred at base. Stamens six, diadelphous, hypogynous. Style filiform. Stigma lobed. Inflorescence racemose. Fruit globose, one-seeded, dry, indehiscent. Stems weak and brittle, glabrous, pale green. Leaves much divided, glabrous, delicate, having twisted petioles.—Roadsides, gardens, amongst field crops. Flowering all the summer. Annual. *p.* 101.

SMALL WILLOW-HERB, *EPILOBIUM MONTANUM. Nat. Ord., Onagraceæ.*—Calyx tube adnate with ovary, deciduous, limb divided nearly to base. Corolla of four petals, regular, pink, deeply notched. Stamens eight, inserted on calyx, erect. Style filiform. Stigma four-lobed. Capsule slender, four-celled, four-valved, many-seeded; seeds tufted. Leaves on short stalks, ovate, toothed, glabrous. Stem erect, simple, or very slightly branched.—Banks, roofs, and walls. June, July. Perennial.

p. 105.

RED VALERIAN, *CENTRANTHUS RUBER. Nat. Ord., Valerianaceæ.*—Calyx adherent to ovary, its border developing with the ripening fruit into a feathery pappus. Corolla five-cleft, spurred, tubular, monopetalous, crimson. Stamen one. Style filiform. Ovary one-celled. Leaves opposite, exstipulate, ovate-lanceolate, entire. Stem smooth, slight bloom on it, and this bloom often extends to the foliage. Plant branching and bushy.—Chalk-pits, old walls, cliffs. June, July, August, September. Perennial.

p. 109.

BOG ASPHODEL, *NARTHECIUM OSSIFRAGUM. Nat. Ord., Juncaceæ.*—Perianth of six sepals, persistent, spreading, lanceolate, pointed, green below and yellow above. Stamens six, having their filaments thickly clothed with a white wool, inserted in base of perianth. Stigma entire. Capsule three-celled, three-valved; seeds numerous. Leaves linear, radical, parallel-veined, much shorter than stems, sheathing at base. Pedicels with numerous bracts, stiff, erect, bearing terminal racemes of flowers.—Bogs and moorlands. July, August. Perennial.

p. 113.

NETTLE-LEAVED BELL-FLOWER, *CAMPANULA TRACHELIUM. Nat. Ord., Campanulaceæ.*—Calyx tube adnate with ovary, five broad, erect, and deeply-cut hairy segments. Corolla campanulate, five-cleft, regular. Æstivation valvular. Stamens five. Style one, its upper half pubescent. Stigma trifid. Flowers variable in inflorescence, sometimes in short axillary racemes, at others solitary. Fruit a dry, turbinate capsule, opening at base by lateral clefts. Leaves alternate, exstipulate: lower leaves large, on long stalks, cordate, coarsely serrate; upper leaves lanceolate, small, almost stalkless. Stem erect, tough, angular.—Woods. July, August, September. Perennial.

p. 117.

BLADDER CAMPION, *SILENE INFLATA. Nat. Ord., Caryophyllaceæ.*—Calyx tubular, monophyllous, five-toothed, persistent, inflated, reticulated. Corolla of five petals, clawed, deeply cleft, white. Stamens ten. Ovary one. Styles three. Inflorescence paniculate, flowers slightly drooping. Capsule three-celled, many-seeded, dry, six-toothed, opening at top. Leaves opposite, entire, exstipulate, ovate-lanceolate, glaucous. Stems tumid and fragile at joints, erect, glaucous, glabrous.—Roadsides, hedgerows, meadows. June, July, August. Perennial. *p.* 121.

REST-HARROW, *ONONIS ARVENSIS. Nat. Ord., Leguminosæ.*—Calyx of five narrow segments. Corolla papilionaceous. Standard large and conspicuous; pink. Flowers solitary, on short stalks. Stamens ten. Style simple. Ovary single, one-celled. Fruit a short pod; but few seeds. Stipules leafy. Leaves ternate, lateral leaflets often wanting, serrate. Branches hairy, often spinous, spreading.—Hedge-banks and poor soils. June, July, August. Perennial. *p.* 125.

DEADLY NIGHTSHADE, *ATROPA BELLADONNA. Nat. Ord., Solonaceæ.*—Calyx deeply five-cleft, cup-shaped. Corolla campanulate, regular, monopetalous, five-lobed, hypogynous, deciduous, dull purple. Flowers axillary on short stems or at the forking of stems. Stamens five, shorter than corolla and inserted in it. Style one. Stigma obtuse. Fruit a berry, two-celled, large, globular, poisonous, black, shining. Leaves large, entire, in pairs of unequal size, ovate, stalked, exstipulate. Stems spreading and branching.—Waste places, ruins. June, July, August. Perennial. *p.* 129.

SELF-HEAL, *PRUNELLA VULGARIS. Nat. Ord., Labiatæ.*—Calyx tubular, ovate, closed on fruit; upper lip three-toothed; lower one two-toothed. Corolla monopetalous, hypogynous, irregular; upper lip nearly entire, and arched; lower one three-lobed. Stamens four, ascending, parallel; filaments divided into two near their summits, and one only bearing anther. Ovary one, four-lobed. Style arising from between the lobes, bifid. Stigma two-lobed. Achenes four, within calyx, a solitary seed in each. Flowers in dense whorls, bractate. Leaves opposite, stalked, ovate, ordinarily entire. Stem square. —Moist pastures. July, August. Perennial. *p.* 133.

FOXGLOVE, *DIGITALIS PURPUREA. Nat. Ord., Scrophulariaceæ.*—Calyx five large, deeply-cut, unequal segments, persistent round fruit, the upper segment much narrower than the others. Corolla pendulous, campanulate, inflated, unequal; upper lip slightly divided, lower ones cut into large rounded lobes, hairy; pink, spotted on inner surface. Stamens four, two longer than the other two. Stigma two-lobed. Capsule ovate, two-celled, many-seeded. Inflorescence an elongate, densely-flowered raceme. Pedicels short, one-flowered; bracts leafy. Stems three to five feet high, occasionally branched in the lower portion.—Woods and dry banks. May, June, July, August. Biennial. *p.* 137.

MUSK-MALLOW, *MALVA MOSCHATA. Nat. Ord., Malvaceæ.*—Calyx divided into five broad lobes; a three-leaved involucre. Petals five, regular, twisted in bud, large, rose-coloured, jagged and concave on outer edge. Flowers on peduncles from axils of the upper leaves, clustering. Stamens indefinite, monadelphous. Ovary one. Stigmas several; style-branches numerous. Fruit a ring of carpels. Stipules simple. Upper leaves deeply divided into three or five wedge-shaped segments, which are again freely subdivided and lobed; lower leaves orbicular, or reniform with broad lobes, serrate. Stem erect, slightly branching; the whole plant hairy.—Hedge-banks and pastures. July, August. Perennial. *p.* 141.

NODDING THISTLE, *CARDUUS NUTANS. Nat. Ord., Compositæ.*—Involucre imbricated with spiny scales, outer ones spreading, globular, large, slightly woolly. Florets equal, tubular; crimson. Flower-heads large, drooping, at times solitary; or inflorescence corymbose. Pappus pilose. Leaves deeply pinnatifid, spinous, prickly, decurrent. Stem firm, erect, very slightly branching, more or less covered with cotton-like hairs. Two to three feet high.—Waste ground, in dry and poor soils. All the summer. Biennial. *p.* 145.

CORN CROWFOOT, *RANUNCULUS ARVENSIS. Nat. Ord., Ranunculaceæ.*—Calyx of five spreading sepals. Petals five, small, pale yellow. Stamens numerous. Carpels few, large, flattened, very prickly. Leaves alternate, three-cleft into long narrow segments; these segments either entire or again triply divided; dull green.

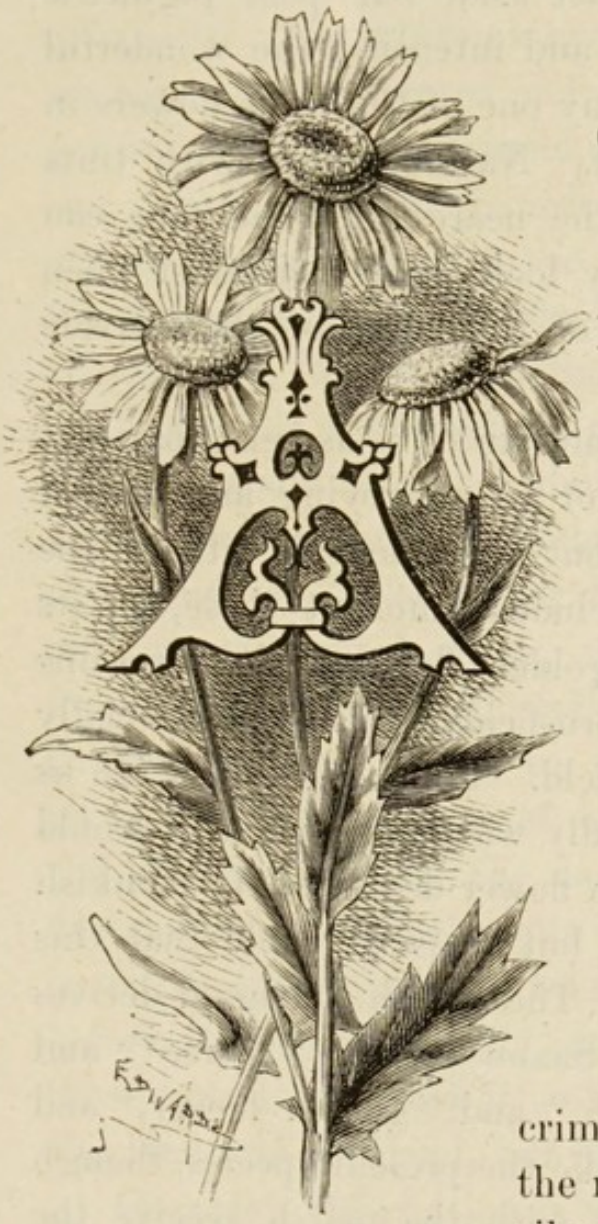
Upper leaves very simple in character, linear. Stem erect, branching, glabrous.—Corn-fields and amongst crops. May, June, July. Annual. *p.* 149.

BROOM RAPE, *OROBANCHE MAJOR. Nat. Ord., Orobanchaceæ.* —Calyx of two or four lanceolate segments, bifid, variously divided, ferruginous, persistent, bract at base. Corolla monopetalous, irregular, ringent, purplish, tube bending downwards, convex; upper lip trifid and curved; lower lip trifid, middle segment the longest. Stamens four, hid under lip, two longer than the others. Style one, downy, purplish, bent downwards. Stigma two-lobed, obtuse. Ovary on a fleshy disk. Seed-vessel a capsule, ovate, oblong, two-valves. Seeds numerous, small, linear, attached to sides of capsule. Inflorescence spicate. Stalk upright, simple, hollow, roundish, channelled, villous, bulbous at base, clothed with dry scales.—Parasitic on leguminous plants. May, June, July. Perennial. *p.* 153.

PURPLE LOOSE-STRIFE, *LYTHRUM SALICARIA. Nat. Ord., Lythraceæ.*—Calyx inferior, tubular, six long and six short segments, persistent. Petals ordinarily six. Flowers in whorls at terminations of branches. Stamens twelve, six long and six short, inserted within tube of calyx. Ovary one. Style one, filiform. Ovary and capsule two-celled. Leaves in pairs or threes, sessile, lanceolate, entire, exstipulate, embracing stem. Bracts conspicuous.—Wet ditches, river-sides. July, August, September. Perennial. *p.* 157.

CORN MARIGOLD.

FAMILIAR WILD FLOWERS.



THE CORN MARIGOLD.

Chrysanthemum segetum. Nat. Ord., Compositæ.

AMONGST all the localities that various plants favour, none bear away the palm for brilliancy from our cornfields. Our hedgerows are gay with the pure white blossoms of the sloe or the delicate pink of the rose; the moorland is dotted over with the golden stars of the asphodel, the white tufts of the cotton grass, the brilliant yellow of the furze, or the rich sheet of crimson of the heather-bells; while the river bears on its surface the silver chalice of the water-lily, or reflects in its waters the clusters of purple blossom of the loose-strife; but the cornfield has an intensity of colour all its own, for here we find in perfection the glorious corn-flower, one of our finest blue flowers, the intensely scarlet poppy, and the great golden discs of the corn marigold. Such a nosegay as a good handful of these three flowers would make should form a good test for the

detection of colour-blindness, and their representation not only taxes the powers of the colour-box to the uttermost, but leads us in despair to cast aside our poor pigments as we revel in the splendour and intensity, the wonderful depth and force of colour of any one of the three flowers in the bunch we have gathered. Nature paints with tints no human art can rival, and the nearest approach one can make to the colour of a poppy looks mere brickdust when laid by the silken splendour of the petals of the wayside weed.

Some botanical names do not strike us as being particularly happy in their choice, or as conveying any special meaning or appropriateness, but the scientific title of the corn marigold cannot be included amongst these, for its generic name signifies the golden flower, and its specific title that which pertains to corn-fields. It is the especially golden flower of the harvest field. Some authorities tell us that the English name is really what a glance at it would suggest—that it is the golden flower dedicated in monkish times to the Virgin Mary; but it is probable that this meaning is an afterthought. The marsh marigold derives its name from the Anglo-Saxon words "mersc" and "gealla;" signifying "marsh" and "golden flower," and other bright yellow flowers, like the present species, though they may have no connection with the marsh, receive the name of marigold. Some old writers call the plant merely the golde, and in Wales it is the "Gold yr yd." There is a rich auriferous look about the first word of this name that, even in one's ignorance of Gaelic, gives justification for including the Welsh title amongst the others, and claiming for it a similar intention and meaning. A local name for the plant is the bigold; which Prior, in his

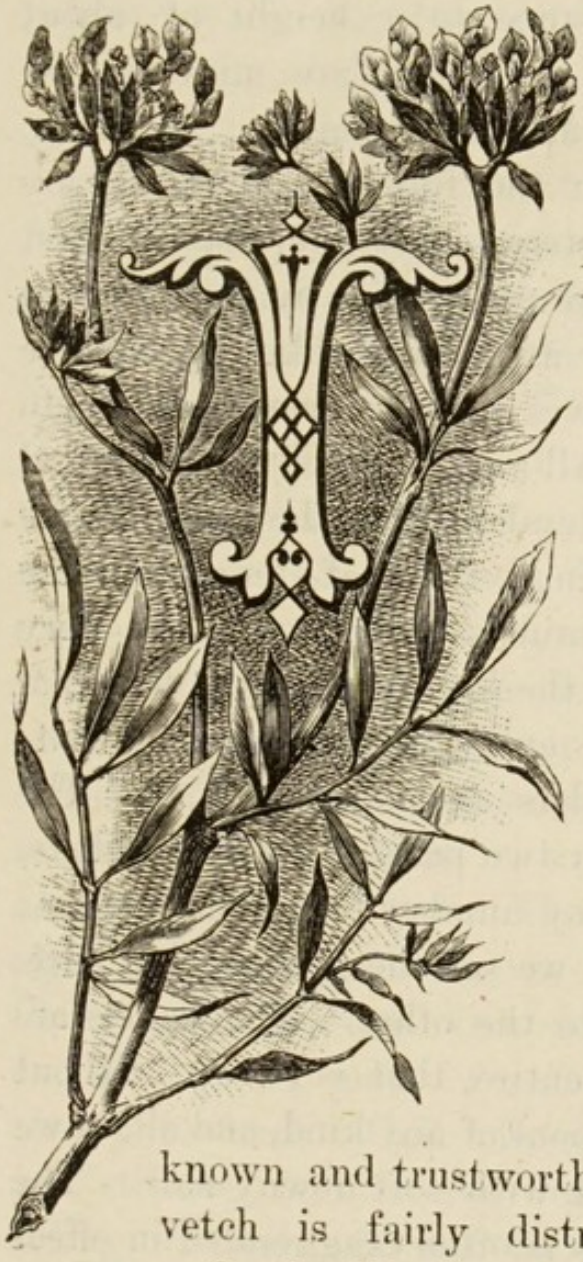
excellent work on the popular names of British plants, tells us signifies tinsel or false gold, applied to the present species because it is not the true golde, or *Calendula officinalis*. The white ox-eye, or *C. leucanthemum*, a plant we have already figured and described, belongs to the same genus, so that our marigold naturally sometimes gets called the yellow ox-eye. Gerarde calls it the golden cornflower, and its association with the true cornflower, or blue-bottle (*Centaurea cyanus*), in the harvest has, in some parts of the country, earned for it the name of yellow-bottle.

The corn marigold is almost everywhere abundant, farmers would say too abundant, and will be found in flower throughout the summer and autumn, until the sharp sickle of the reaper lays it low. On turning over our own botanical notes, we see it recorded that we found a specimen, still well in flower, on December the thirty-first; but June to October, inclusive, would be about the normal state of affairs. Both here and abroad, the strong arm of the law has been invoked for its destruction; Threlkeld tells us that, in Britain, "Mannour courts do amerce careless tennants who do not weed it out before it comes to seed," and we find enactments against those who do not keep it under in their fields, not only in England and Scotland, but in Denmark and Germany.

Gerarde's description is very pithy; it is as follows:— "Corne marigold, or golden corne floure, hath a soft stalke, hollow, and of a greene colour, whereon do grow great leaves, much hackt and cut into divers sections, and placed confusedly, or out of order; vpon the top of the branches stand faire starlike floures, yellow in the middle, and such likewise is the pale or border of leaves that compasseth the soft bal in the middle, of a reasonable

pleasant smel." So many of the composite flowers have a strong and somewhat disagreeable odour, that the fact of our present plant being "reasonable pleasant" is distinctly worth record. Another old writer says of it "Smelling a little sweete;" he again, it will be noticed, being careful not to commit himself too deeply to an expression of approval of its fragrance. Those plants that grow in rich soil assume a soft luxuriance compared to those that by stress of circumstances have had to make a harder fight for existence; the pampered children of fortune having less of the richness of outline that is so pleasant a feature in the foliage of this plant. We have heard of the plant being used as a pot-herb, but have never experimented on it ourselves; it has a soft and succulent look that rather suggests such an application, but, probably, we shall remain content with the suggestion.

KIDNEY-VETCH.



KIDNEY-VETCH.

Anthyllis vulneraria. Nat. Ord., Leguminosæ.

THE genus to which the kidney-vetch belongs is a very small one, and the subject of our illustration is the only British species. What the generic distinctions between this and the bird's-foot trefoil, *Lotus corniculatus*, or other well known pea-flowers, may be, would take us into matters too technical for the present pages to properly elucidate, but all may be found duly set forth in the pages of Hooker and Bentham, and other well-known and trustworthy authorities. The kidney-vetch is fairly distributed throughout Britain, and should be sought for on dry pasturage, railway embankments, and such-like high-lying ground. The plant is more especially common in hilly and mountainous districts, and may there be looked for amongst the rocks that stand exposed to sun and air. It is a perennial, and begins flowering early in June, continuing

in blossom throughout the summer. The stem, unlike that of some of the *Leguminosæ*, such as the meadow vetchling or the tufted vetch, needs no external support, but stands boldly up in sturdy self-reliance to a height of about a foot. Both the stem and the leaves are more or less evidently covered with soft and silky hairs. As these, instead of standing out from the foliage and stems, are closely appressed to the stem, they are not at first sight very obvious, but they are perceptible by their smooth silkiness, and by the grey and bloom-like appearance that strikes the eye. The leaves vary in form according to their position on the plant. All are composed of a terminal leaflet and several pairs of laterals, but in the upper leaves the pairs of leaflets that fringe the leaf-stem are more numerous, and all, both terminals and laterals, are very similar in form and size. In the lower leaves the terminal leaflet is broader, larger, and every way more important-looking than the scanty leaflets associated with it. The lowest of all have only one or two pairs of lateral leaflets, while the highest may have any number from four to eight; and as we examine the plant we see the gradual, but sure, progression from one form to the other. The leaflets are what is termed botanically entire, that is to say, without any marginal lobings or serrations of any kind, and all, as we have already seen, are clothed with soft downy hair. The natural grey tint of the leaves is often exaggerated in effect by the roadside dust that freely covers them. The flower-clusters are ordinarily in pairs on the summit of the stems; this peculiarity may be very well seen in each of the plants we have figured, and each cluster has beneath it a large leaf-like bract, cut into long and numerous segments. The higher of our two figures shows this most clearly, but

we can readily see that were the lower piece turned from us instead of towards us, a similar form would be presented. This form of bract is, in botanical parlance, said to be palmate or digitate, two words of very similar significance. *Palma* is the Latin word for the palm of the hand, while *digitus* is a finger, and the finger-like radiation of the segments from the base of the bract is sufficiently evident. An old country name, suggested, doubtless, by this feature of the plant, is "ladies' fingers."

The flowers are crowded closely together, and are numerous in each bunch. The flower is of the characteristic pea-blossom type, and though ordinarily golden-yellow in tint, it varies at times from a very pale lemon-yellow or cream-colour to a dark red. The rich yellow tint is far the most common and typical, and it has been noticed that when the plant varies from this it is ordinarily in specimens growing near the sea. When they wither the flowers turn a rich reddish-brown; this may be seen in our figure, where several of the blossoms in one of the clusters have faded, and assumed this tint. The calyx is very much inflated about midway, and narrows rapidly above and below, so that it has a cushion-like appearance—an effect greatly increased by the mass of soft grey hairs with which it is closely covered. This soft grey padding is a very curious and striking feature, and one that will go a long way in aiding our readers to identify a doubtful specimen as being truly the flower they are in search of. These delicate downy calyces have been the cause of the bestowal of another common name, the "lamb-toe." On close examination, the five teeth at the mouth of the calyx are readily found. The ten stamens are all united into one sheath, though in most of the pea-flower order we find the following curious

arrangement: nine of the ten united into one brotherhood, and the tenth isolated. The pod is small, only contains some two or three seeds, and is enclosed within the calyx; a little gentle vivisection with a sharp penknife will readily bring it to light when the flowering-time is over, and when we may fairly judge that the plant ought somehow to be in fruit, if we could only find it.

The commonest English name, the kidney-vetch, bears reference to an old belief in the healing-powers of the plant, and in the specific name, *Vulneraria*, from the Latin *vulnus*, a wound, we see an allusion to its supposed vulnerary qualities; probably its soft and downy flower-heads suggested the idea that they might be efficacious in stopping bleeding, and another old name, "staunch," seems to indicate its utility in this direction, but we greatly doubt whether any one ever really used it for such a purpose. The generic name of the kidney-vetch, *Anthyllis*, is Greek in origin, and refers to the down-covered calyces.

SAINFOIN.

SAINFOIN.

Onobrychis sativa. Nat. Ord., Leguminosæ.

SAINFOIN, though it is better known probably to most persons as one of the field-crops of the agriculturist, has a full claim to appear in our pages as a familiar wild flower. It is indigenous to Britain, and should be looked for in its wild state on dry chalky hills, in limestone districts, and on the great open expanses of down so characteristic of some parts of Southern England; while its value to the farmer as a forage-plant has led to its wide distribution almost everywhere, though it thrives to best advantage on dry and high-lying lands, and on soils of similar geological character to those it naturally affects. The plant is a perennial of light and graceful aspect, and those who would seek its pink clusters of pea-like blossoms must search the spots we have indicated during the months of June and July.

The stems of the sainfoin are numerous, at first somewhat

prostrate, but at the flowering-season freely ascending and a good deal branched. The leaves are a very good illustration of what botanists call pinnate or feather-like leaves, where several leaflets are thrown off on either side of a central stem, that bears them all in the same way that the central part of the quill of a feather has its lateral fringing. The leaflets are numerous, six to eight pairs to each leaf being about the average number; all are about equal in size, and the terminal leaflet shows no marked difference in bulk. At the base of each leaf we find small and finely-pointed stipules, but the plant has no tendrils. The flower-stalks are terminal and spring from the axils of the leaves, and being considerably larger than the leaves themselves are at once conspicuous; the cluster of flowers occupies about one-half of their length. The flowers are at first densely packed together, but as the blossoms expand the stalk lengthens and the intervals between them increase considerably. Much of the piece we have figured is yet in the early or bud stage, as it was necessary to show as much as possible of the history of the plant in the limited space available, but even here the elongation and spreading-out of the lower portion is distinctly visible. Where the flower-clusters are thrown out laterally they have often a gentle curvature upwards. The flowers are of a delicate purplish pink tint, the standard being a good deal streaked with a darker tint of the same character.

The sainfoin possesses high economic value as a fodder-plant, and on hard chalky soils no plant can be cultivated to greater advantage; but in rich alluvial valley deposits its near relative, the lucerne, should be substituted, as the sainfoin will not prosper except in dry soils. When once planted it will, if need be, last a dozen years or so. Long

before it was utilised in England the plant was known on the Continent as a valuable one for agricultural purposes; and though it is indigenous the earlier supplies of seed were imported from abroad; hence one of its old names, the French grass, the original sources whence the seed was derived being France and Flanders. It seems to have crept into use by slow degrees about the middle of last century, but not to have been fully established till about its close. In 1640, Parkinson speaks of it as "a singular food for cattle," but it seems to have been little if at all used in England at that date. Henzé asserts that the plant was not introduced into England until the year 1651, and in this same year Hartlib, another writer, blames the English for neglecting it. Two years afterwards, in 1653, we find Blith referring to it as a French grass very little known in England, but as having been sown on some of the chalky uplands of Kent; and later on, in 1671, we find another writer saying that "divers places in England received great benefit from it." Its establishment appears, therefore, to have been very gradual, a fact that may perhaps be accounted for by the fact that though it thrives excellently in the localities that are suitable to it, many districts do not prove adapted to its cultivation, and the wilder uplands where it thrives best are more removed from the influence of new ideas. A small quantity of trefoil should be mixed with the sainfoin seed to assist in making a crop for the first year, as the latter is somewhat thin and feeble at first, but when it is once well cultivated it can well stand alone and rely on its own merits. Its common name is French in its origin, being derived from the words *sain* and *foin*, signifying wholesome hay. It was therefore, by some old writers, called the *Sanum fœnum*, or the *Fœnum*

Burgundiacum. Lyte and some other authors give it as Saintfoin, Hudson as St. Foin, and this was rendered by other old writers as holy hay; but the whole thing is a misconception, that when once started was in harmony with mediæval feeling and usage, and so got readily taken up, though there is no real reason for associating any saintly influences with the plant. *Onobrychis* is from two Greek words signifying the ass and to bray, the idea, of course, being that the animal thus testifies his impatience to partake of so agreeable a provender. Some of the older botanical writers give the sainfoin the sonorous title of *Hedysarum Onobrychis*. The first of these names is from the Greek words for sweet and spice, while the second we have already explained, the grand total signifying that toothsome, sweet, and spicy herb that appeals so strongly to the asinine palate, that the donkey cannot refrain from expressing his feelings and desires, when opportunity offers for their gratification.

NIPPLEWORT.

THE NIPPLEWORT.

Lapsana communis. Nat. Ord., Compositæ.

THOUGH not so attractive as many other plants, the nipplewort, the subject of our present illustration, is so commonly met with that it could scarcely be omitted from our series; and though it cannot compare with the beautiful sprays of wild roses that spread over our hedges in the early summer, or the pure white chalices of the water-lilies as they are gently borne on the surface of some placid stream, it will, in the eyes of the lover of plants, be judged only for what it is, not for what it fails to be. Judged by this standard, by those who consider nothing in all the realm of nature to be beneath their loving regard, the lowly nipplewort will not be found without some beauty of its own, on which the eye may rest with pleasure, either in the delicate branching of its flowering stems, the rich contour of its leaves, or the golden rays of its many blossoms; and as

these pages are probably read by those already appreciative of nature, we make no further apology for introducing the plant, and offer no regret that its commonness forbids its omission.

The nipplewort is the *Lapsana communis*. The generic name is Greek in its origin, and refers to the medicinal effects of the plant, while the specific name emphasises the abundance in which the plant may be found. The common English name points to an old belief in its remedial efficacy, as, indeed, do the names of many other plants, names given at a time when the herbalist's calling was held in high repute, and our wild plants were accounted not only pleasant to the eye, but full of healing virtues. In some cases the value is beyond dispute, while in others the belief had no solid foundation in fact. In arriving at the truth two prejudices must be borne in mind—first, that of the man who sees no use in bringing things over the seas when all kinds of plants are growing almost at our doors; and, secondly, that of the man who thinks but meanly of what can be got with little trouble, but is quite prepared to believe in the efficacy of a remedy that has cost no little pains and expense to procure. When our own plants furnish a potent remedy, there can be no reason for setting it aside; but when the choice of the flora of all the world reveals one still more effectual, it is folly not to avail ourselves of it.

The belief in the medical efficacy of many of our plants may be gathered from the following names, but a few of those that might readily be culled from old herbals—throat-wort, all-heal, eye-bright, fever-few, live-long, mad-wort, tooth-wort, sneeze-wort, self-heal, and wormwood. To these might readily be added many of the old botanical

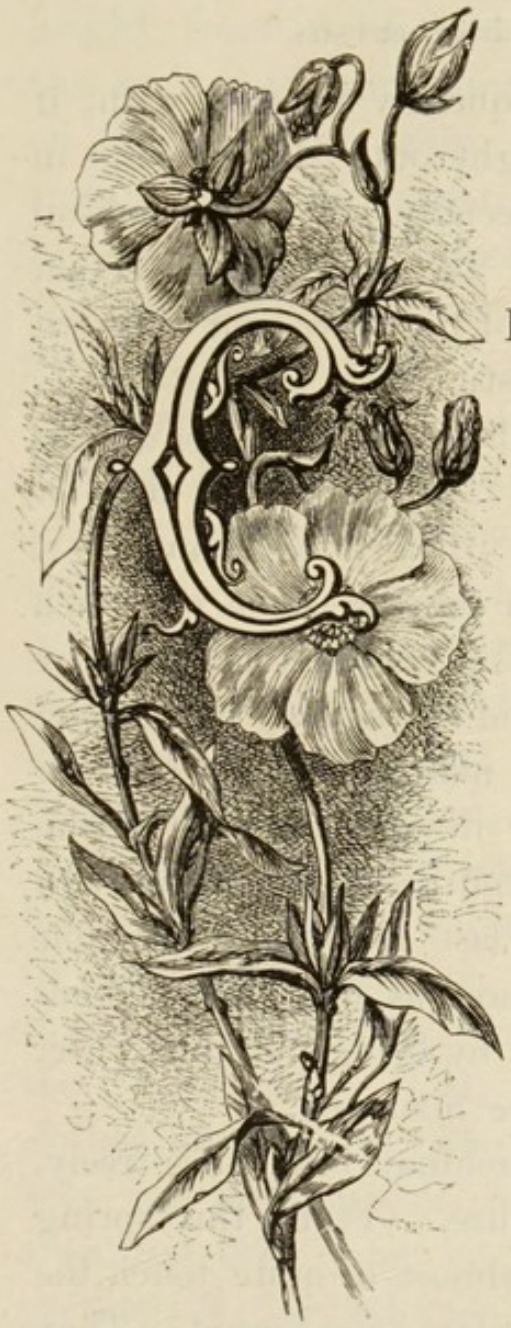
names, such as *pulmonaria* and *sanicula*, but as it would be necessary to analyse these, and reduce them to the vernacular, it seems scarcely worth while to do more than make the assertion, leaving it to others to work the subject out at more length for themselves, should they care to do so.

The nipplewort is very commonly distributed throughout the whole of Britain. It should be looked for either on patches of waste ground, or in fields, or carelessly-kept gardens. It flowers during June, July, August, and September. The plant is an annual, and in its earlier state appears as a ring of leaves lying close to the ground, and some six or eight inches in diameter. Should this escape the hoe, a stem gradually rises from the midst of this circle of leaves until it reaches a height of some two or three feet. The stem is quite smooth, and in its upper portion branches off very freely into numerous smaller branches, bearing the flower-stalks that carry the flower-heads. The stems have but few leaves, and those of much simpler form than the radical leaves; a gradual progression of form and approximation to the radical foliage may be seen as the leaves are traced downwards; there is no abrupt transition from simple stem-leaves to deeply-divided root-leaves, but a delicate gradation from simplicity to richness of form. The leaves are rather soft and thin to the touch, and generally slightly hairy; the surface has little or no gloss on it. The inflorescence is paniculate or corymbose. The peduncles are very slender, and the flowering heads small, and bright yellow. The involucre is composed of a single row of green scales, ordinarily about eight, and the angles made by their juxtaposition are somewhat clearly defined, thus throwing the involucre rather into a polygonal than

circular form in cross-section. At the base of these larger segments, and exterior to them, are a few much smaller ones.

Though it is questioned by some observers, a second species is ordinarily recognised. It is called the dwarf nipplewort, or *Lapsana pusilla*. The specific name is a Latin word, and signifies little, or mean. The plant only grows to a height of some six or seven inches, its flower-heads are bright yellow, and share in the general diminutive character of the parts. We do not remember to have ever specially noticed the plant, though nippleworts, little and big, have been familiar enough to us for many a long year. Mere smallness is scarcely sufficient to pay much regard to, and the specific features given by those writers that admit it, all appear unimportant. As we do not ourselves know the plant we offer no opinion on the matter, for in such a case nothing but familiarity with the natural form is of any value.

COMMON ROCK ROSE.



COMMON ROCK ROSE.

Helianthemum vulgare. Nat. Ord., Cistaceæ.

CHAUCER, in one of his poems, dwells lovingly on the bright little daisy unfolding its flowers to the vivifying rays of the sun, calling it the "Day's-eye;" and the subject of our present illustration presents us with another striking example of the great law that connects the well-being of the commonest flowers with the glorious sunlight. So markedly does the rock rose open its petals, and display its beauties to the genial light and warmth, that it was by many of the older writers called *par excellence* the sun-flower; and we see the same idea conveyed in the name that science, in the person of M. Tournefort, has bestowed on it, *Helianthemum*, a word compounded from the two Greek words signifying "sun" and "flower." It has, of course, no relationship with the sun-flower of the garden.

"The flower, enamoured of the sun,
At his departure hangs her head and weeps,
And shrouds her sweetness up, and keeps
Sad vigils, like a cloistered nun,
Till his reviving ray appears,
Waking her beauty as he dries her tears."

The rock rose may very frequently be met with, if only its natural habitat be sought out. It delights in high and dry pastures, and especially when the subsoil is chalky or gravelly, and may be seen in perfection on the great breezy chalk-downs of Southern and Western England, dotting the short elastic turf over with its fragile-looking blossoms. It will be found in flower during the summer and early autumn. So promptly does it close after being gathered, that though we brought it home time after time with other flowers, some of which lasted for days before we had leisure to sketch them, we were always foiled in our hopes, and it was only by keeping it in strong light that we at last managed to get a flower sketched in. The flowers in our illustration were begun and finished at once, before we ventured to even draw a stem, a bud, or a leaf. These last are more amenable to artistic requirements, and behave as one expects buds and leaves to do if fairly treated by being put into water as promptly as may reasonably be managed.

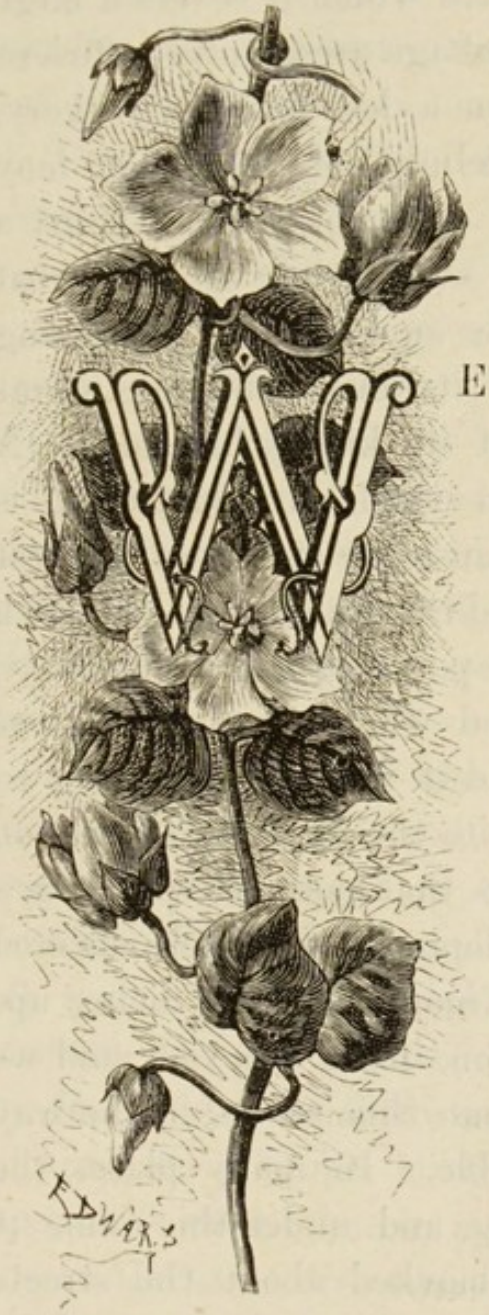
The root of the rock rose is perennial, branching freely, and of a somewhat woody nature. From this spring numerous flowering stalks, that almost or quite touch the ground for some little distance before they ascend. They are, in botanical language, procumbent. The lower part of these stems is smooth, the upper part being frequently hairy, and the colour is often more or less reddish: these points may all be very clearly seen in our figure. The

general growth is diffuse and branching, the whole plant being fragile-looking, though as a matter of fact it bears in safety gusts of wind on the open downs against which a man can scarcely stand. The flowering stems vary in height from about four to nine inches. The leaves of the rock rose, sun-flower, or dwarf cistus, are arranged on the stems in pairs. On a first glance at our illustration it would appear that this is hardly the case, as in some instances they seem to be single, and in others an agglomeration of several together. The leaves, however, in a great many plants—and this is one of them—grow irregular in arrangement as they approach the blossoms, and are often smaller and simpler in shape, until they pass at length into what the botanist calls floral leaves, or bracts. The smaller leaf-like bodies that cluster round the bases of the larger leaves are the stipules. The leaves of the rock rose are on very short footstalks, and are oblong-ovate in shape; the margins are often slightly rolled back and curved under. The upper side of the leaf is green, and either smooth or—more frequently—a little hairy, and the lower surface is ordinarily somewhat greyer in colour, from the fine down-like hairs with which it is covered. The stipules are prominent, often almost half the length of the leaf, erect, lanceolate in form, and clothed with hairs. The flowers are arranged in a very loose and open raceme, and the flower-stalks or pedicels are often bent more or less downwards, both before the opening of the bud and on the withering of the blossom; this gives a curious drooping effect that is very characteristic of the plant. The calyx is rather peculiar in its form, from the great irregularity of the parts. It is composed of five sepals, three being large and very pro-

minently ribbed, the space between the ribs being membraneous and semi-transparent, and the whole sepal very concave in form; and between these two others, very small and inconspicuous. The entire thing may be very well seen in the flower that has its back to us in our figure; and we may see again this compound of large and small parts clearly in the buds. The corolla consists of five broadly-spreading and bright-yellow petals, the outer edge being slightly notched, and the texture very suggestive of a soft and silky kind of tissue-paper. The stamens are very numerous, and form a rather compact-looking mass in the centre of the flower.

Those who have any rock-work or a dry sloping bank in their gardens will find the rock rose a very efficient decoration, though it will be necessary, as far as possible, to assimilate the conditions of the soil, with an open sunny aspect, to those enjoyed by the plant in its wild state. The plant varies in the colour of its blossoms more than many wild flowers do, some being almost lemon-colour, while in others the petals have a darker-yellow blotch at their base.

MONEYWORT.



MONEYWORT.

Lysimachia Nummularia. Nat. Ord., Primulaceæ.

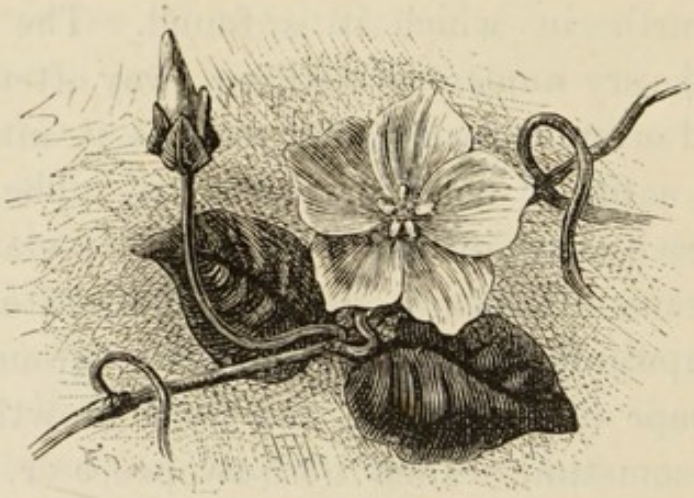
WE have already made acquaintance with the yellow loose-strife, or *L. vulgaris*, and the botanical name of the present species will at once show us that it is a near relative of that beautiful and graceful plant. The money-wort does not tower above the other plants that surround it in the way that its sister species does, but trails along the ground; yet it is by no means inconspicuous, for it often covers a large surface, and in a situation suitable to its well-being the turf is gay with its profusion of golden blossoms. The money-wort should be looked for in rather damp meadows, or near the edges of ditches and water-courses, and under hedges in moist situations. It is very common in most parts of England, but seems to be a comparatively rare plant both in Scotland and Ireland. In a damp situation no plant thrives better in a garden, or requires less trouble to be taken with it. It lasts a

long time in flower, and even when not in blossom its bright green leaves and the way in which it covers a large area with its trailing masses of foliage are amply sufficient to recommend it. It does best on a low bank or rockery, but those who have not the delight of a garden may cultivate it to great advantage as a pot-plant. Many a window-sill in the smoky and stifling air of our great towns is brightened, amidst the squalor and depressing dinginess, by the living green of its long pendulous stems and foliage, and the rich gold of its kindly blossoms. A friend who saw the drawing from which our illustration is taken was very much puzzled because the stem was thickest at the top, and yet when he turned the drawing upside down all the flowers then seemed to be pointing the wrong way; but his difficulties were at an end when we explained the trailing nature of the plant; and it is very interesting to notice how in all such cases, despite the downward direction of the stem, the leaves and flowers that clothe it will always aspire towards the light. A sloping bank well covered with the blossoms of the little moneywort all facing upwards to the sun is a constellation to be enjoyed, and we strongly advise our readers to put themselves in the way of enjoying it as soon as possible. In many places the plant is called the creeping Jenny, and under this name it is sold in Covent Garden and hawked about the streets of London. Far away from the coster's barrow or the salesman's stall slowly runs a river through the rich green meadows; those who would skirt its banks must not be too nervous about damp boots, for great hills rise on either side, and the valley is often more or less flooded. As we pursue our way the water-rat that we have startled plunges with a sudden dash into the stream and breaks

for a moment its calmly-flowing surface, and the kingfisher flashes by us a living gem. We are in a floral paradise, the fragrant meadow-sweet and the pink willow-leaf fringe the stream, and at their feet the turquoise-blue of the forget-me-not and the golden stars of the ragwort blend into perfect beauty. The pure white chalice of the water-lily is absent, but the yellow flowers and great leaves of the other species float on the gently-moving stream, and the leaves of the iris rise abruptly from its depth and slowly wave to and fro as they feel the pressure of the current. All around us, as we tread it, the ground is glowing with the stars of the moneywort, and here, far from the busy flower-market, or the flower-decked window-sill of some pale-faced weaver's lodging, we select from the wealth around us the subject of our illustration.

Commencing with the root of the moneywort, we find that it is perennial and very fibrous; these fibres are simple in character, long, and strike boldly downward—a provision no doubt to enable it to retain firm hold in the soft moist earth in which it is found. The stems are prostrate and very numerous, trailing away often to almost two feet, and often throwing out rootlets at intervals that in turn give a firmer hold for the plant. The leaves are opposite to each other in pairs all along the stalk, and all face in the same direction—outwards if the stem be trailing down, upwards if running along the ground. From the round shape of the leaves, and their growth in pairs, the plant is sometimes called herb-twopence or twopenny-grass. In one of the earliest herbals, that of Turner, A.D. 1548, we find this latter name given, as he says, from the leaves all "standyng together of ech syde of the stalke lyke pence;" and our familiar name moneywort, it

will at once be seen, is based on the same idea. The flower-stalks spring from the axils of the leaves, and are therefore, like the leaves themselves, in pairs: each bears one flower. The corolla is cup-shaped, and deeply divided into five somewhat pointed segments, or lobes. The calyx is cut down almost to its base into five broadly egg-shaped but pointed portions: this may be very well seen in the upper flower and in the bud in our illustration. The stamens, five in number, stand boldly up in the centre of the flower, the anthers being somewhat arrow-headed in shape. The seed-vessel rarely comes to perfection; it frequently happens that plants which increase much in other ways, as by underground stems, suckers, or runners, seldom produce ripe seeds. One may examine a great number of specimens of the moneywort without finding anything approaching to a ripening seed-vessel.



FIELD SCABIOUS.

THE FIELD SCABIOUS.

Knautia arvensis. Nat. Ord., Dipsacaceæ.

SEVERAL species of scabious are more or less abundant almost everywhere; some, as the field scabious, our present plant, are more especially at home in corn-fields and meadows, while not a few are herbs of cultivation, and grace the garden by their beautiful forms and tints. The *Scabiosa succisa*, or devil's-bit scabious, finds a place in our series, and has already been described at length: it is a plant of the open meadows and commons. The *S. Columbaria*, or small scabious, is not so common a species. Its flowers are of a pale purplish blue, and should be searched for in pasture-lands and waste ground.

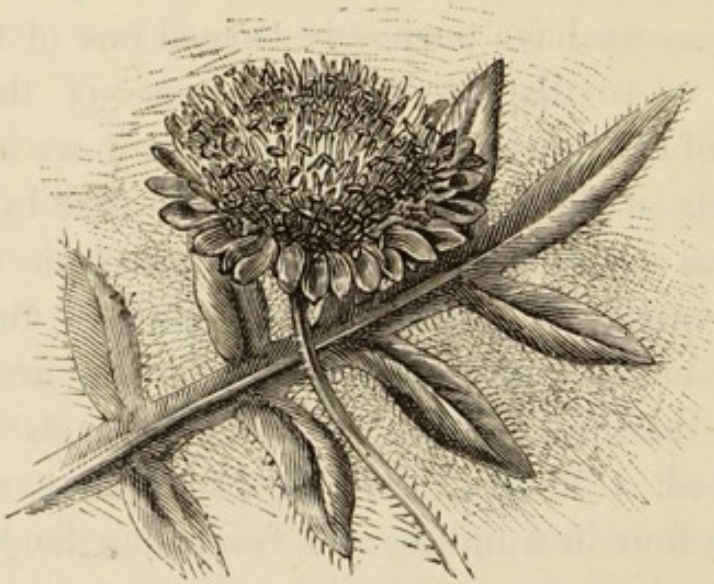
The species we have here figured is abundant throughout Britain, though we occasionally find districts where it does not occur; and it seems, so far as our experience goes, to flourish best on the chalk. It should be looked for in meadows, in the tangled mass of floral beauty that

bedecks the hedgerows, or amidst the standing corn. The last of these localities is especially characteristic. The field scabious is a perennial, and should be sought in flower towards the end of June and during July and August. Its large blossoms and general habit of growth tend to make the plant one of the more conspicuous denizens of the pasture or the harvest-field, while the delicate beauty of the tint of its flower-heads always renders it one of the most attractive. The general look of the flower-head is very suggestive of the structure of the composite order; and the order to which it really belongs, the Dipsacaceæ, is closely allied to the composite.

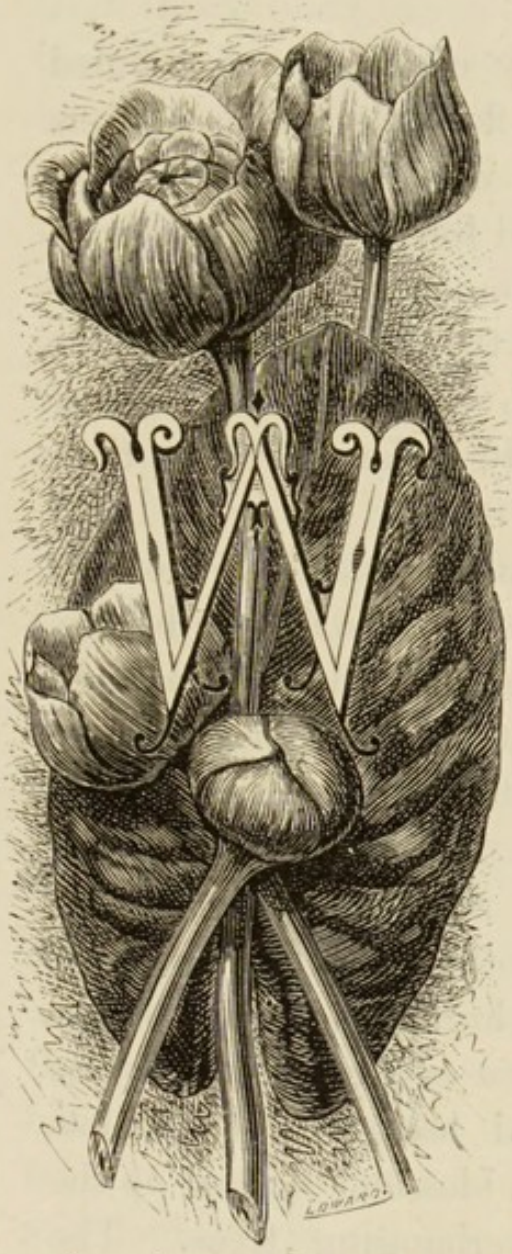
The root of the field scabious is perennial, dark in colour, somewhat woody in texture, and by its subordinate rootlets takes such a hold of the ground that it is with great difficulty eradicated. The plant is ordinarily some two or three feet in height. The stems are round in section generally, but slightly branched. They are somewhat coarse to the touch, a good deal clothed with short whitish hairs, and somewhat bare of leaves except near their bases. The leaves vary much in character in different plants, and in different parts of the same plant, some being much more finely divided than others, though there is a quite sufficient general resemblance amongst them to prevent any real difficulty arising in identifying the plant wherever we see it, even when we have not its grand flower-heads to make assurance doubly sure. The leaves grow in pairs on the stems, and share fully in the general hairiness of the plant. The radical leaves, the lowest of all, are stalked, very simple in character; they are lanceolate or lance-headed in shape (a form that may be perhaps better known to our readers in the foliage of the well-

known privet), about five inches long and barely one inch broad, and their margins cut on either side into some seven or eight bold serrations. The leaves that immediately succeed them are of about the same length, but possess the character shown in our illustration, though in many cases the intervals between the lateral lobes are not so great, and in some instances the terminal lobe is decidedly larger than any of the others. The flowers of the field scabious are all terminal, and borne on long stalks. The heads are large, and in general outline convex. The outer florets in the flower-head are large, and have very unequal segments. The inner florets are much smaller, but all are cut into four lobes or segments, those of the inner florets being equal in each floret. The buds—packed tightly yet with beautiful regularity before any of them have expanded—form a very quaint and interesting feature. The character of the supporting ring of floral leaves or bracts beneath the flower-head, which in botanical language is called the involucre, can be very clearly seen in our illustration, as we have purposely turned one of the flower-heads from us to display the appearance of the back or under part of the flower-head. In this view we see only the radiate bracts of the involucre, the form that by the older botanists was in such cases called the common calyx, and the larger segments of the outer ring of florets. In the devil's-bit scabious, the outer florets are scarcely larger than the inner, and in the small scabious the florets are five-lobed. The stamens of each floret of the field scabious are four in number, and, from their length and the size of the anthers, form a conspicuous feature. The fruit is rather large, somewhat four-cornered, and crowned by several short bristly hairs, that radiate fan-like from its

summit. Botanically the plant is either the *Scabiosa arvensis* or the *Knautia arvensis*, the second name being selected by some writers to form a new genus, as the plant, in some few and slight respects, which we need not here discuss, differs from the other scabious flowers in structure. The first generic name has reference to the old belief in the efficacy of the plant in cutaneous affections, while the second, bestowed by Linnæus, is in honourable memory of Christian Knaut, a Saxon botanist of considerable eminence, who flourished in the latter half of the seventeenth century, and died in the year 1716. The field scabious (or field Knautia if we desire to be very accurate indeed), seems to possess no great store of familiar names; the only deviation from the accepted title that we have been able to find is blue-caps, and this cannot be considered a very happy name, as there is nothing cap-like in the form, while in colour it is certainly not blue.



YELLOW WATER-LILY.



YELLOW WATER-LILY.

Nuphar lutea. Nat. Ord., Nymphaceæ.

WHEN it was known by our friends and others that we were engaged upon this series of wild flowers, various tastes came very prominently forward. One hoped that we would early include the beautiful blue "corn-flower," while another was enamoured of the brilliant crimson of the pæony, and hoped that that would shortly make its appearance, though as a matter of fact this is only found on an island called Steep Holm, near the mouth of the Severn. The plant that commanded the greatest number of suffrages was the white lily, but we have not the heart to crowd so glorious a thing into the somewhat limited space that our illustrations give us.

The most bigoted admirer of the present plant—and we can hardly imagine any one who enjoys its charms more than ourselves—must perforce admit that the grace and delicacy of the white water-lily are even more attractive;

but when this formidable rival is out of the way, the golden *Nuphar* reigns supreme in the midst of her graceful surroundings.

The yellow water-lily is very commonly distributed throughout Britain. It begins to flower as the haymakers are in the meadows, and continues in blossom all through the summer. It should be looked for in lakes or slowly-running streams, and it may be found, too, in canals, the locking arrangements giving just the conditions both the white and yellow water-lilies like, either swiftly-moving waters or stagnation being equally unfavourable to their well-being.

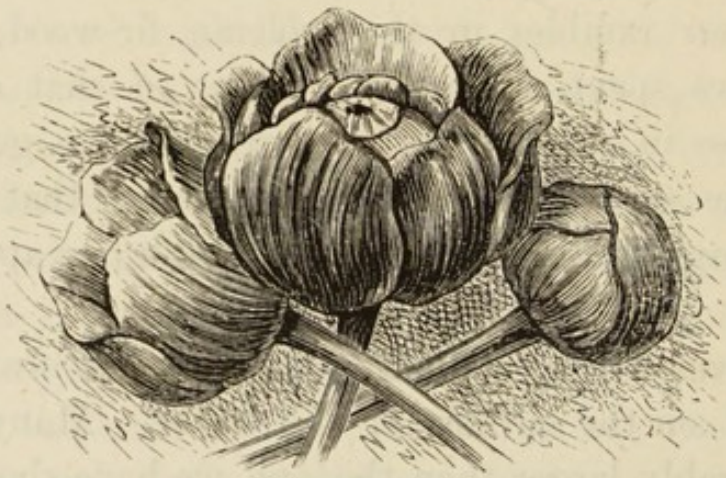
As we were, on a certain occasion, plodding along a country road, knapsack on back, we came to a little bridge, and found that a small stream ran beneath the roadway, and we well remember what a picture at once met our delighted eyes. Instead of the straight white road and its high and dusty hedges on either hand, we looked up stream, and saw the clear and gently-moving river running between high grassy banks. These were clothed with ash and other trees that met overhead and soon shut out our view of the streamlet's course, but as far as we could track it it was profusely covered with the broad leaves of the yellow water-lily, and scores of the golden blossoms lighted up the verdant shade made by the overhanging trees. The particular flowers we have figured in our sketch came from a still more interesting locality. Our readers must picture to themselves a stream only navigable by one's almost lying down full length in the boat to escape the far-reaching branches of the trees that fringe its banks; in places so deep that the pole finds no bottom—and we can then but drift, for rowing is out of the question in this tangled mass

of vegetation—and in others so shallow that we are in momentary expectation of grounding. Presently we emerge from this verdant tunnel, and find that both the stream and the view have opened out. On our right is a broad belt of luscious-looking meadow dotted over with cattle lazily quiescent in the July sunshine, while others have come to the shallow edge of the stream and stand knee-deep in its cooling flow. In the distance, beyond the far-reaching meadow is a long belt of plantation, and above this and far beyond it is a line of blue hills. On our left the banks are higher, and as soon as they have risen above the line of bulrushes and reeds are clothed with fern and crowned with a wood of fir, the dark red trunks and heavy masses of foliage seeming almost black against the summer sky. At intervals we catch sight of an old priory, little more now than a mere mass of flint wall; but its high grey gable attracts the eye, and as we force our way up a narrow side-stream that fed the still-existing fishponds of the old monks we find ourselves all at once in a sort of lake-like expansion, and the water bears on its tranquil bosom countless lily-flowers, both yellow and white. It was from thence the flowers of our illustration were taken. Many have been our rambles in that solemn fir-wood, many an hour have we spent amongst the ruins of that old abbey, and doubtless in our case old associations have gone far to beautify the scene, but we are persuaded that few who could accompany us thither would think our appreciation excessive.

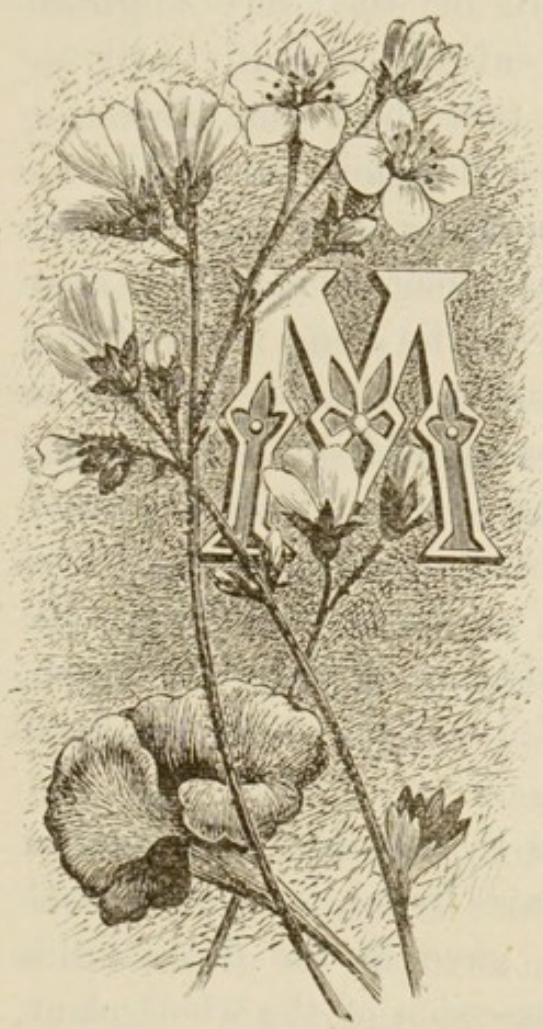
The leaves of the yellow lily are somewhat heart-shaped, and lie flat on the surface of the water. Many of them are considerably larger than the one we have shown in our sketch. The flowers do not rest on the water, as in the case

of the white lily, but are raised by their stems some two or three inches above it. The petals are convex and give the flower a very globular look. The large rayed stigma in the centre of the flower is very conspicuous, and around it stand numerous stamens. The scent of the blossoms is rich and aromatic. In country places the plant is called *can-dock* and *brandy-bottle*—its broad leaves suggesting to the not very exacting rural mind the idea of the dock, while the can is the flagon-shaped seed-vessel. Some persons profess to detect a slight brandy-like odour in the flower, and this, added to the can or flagon-like form, will explain the second name. In Wales it is the "Lili melyn y dwr," and in Ireland the "Cohinih Auhun."

The order to which our water-lilies belong contains many beautiful and interesting species; the famous lotus of the Nile and the perhaps equally renowned Victoria regia of the Amazon are conspicuous examples. Some are white, others a delicate sulphur yellow, azure blue, or glowing crimson; but few exceed in beauty the silver chalice of our own white water-lily.



MEADOW SAXIFRAGE.



MEADOW SAXIFRAGE.

Saxifraga granulata. Nat. Ord., Saxifragaceæ.

MEADOW saxifrage is abundant in many parts of Britain on hedge-banks and in the meadows and pastures, especially where the soil is of a gravelly nature, though some large districts of England and Ireland are without it, and in Scotland it seems almost confined to the southern half of the country. The plant is a perennial. The root-stock has adherent to it a number of clustering, subterranean bulbs and tubers; these are often of a bright red colour, though they are more or less covered with brownish-white scales. When cut open they are found to be hard and solid. Internally they are white in colour, and have an astringent and disagreeable taste, a point that it may at first sight appear no one would take the trouble to ascertain; but the plant, as we shall shortly see, enjoyed at one time a considerable medicinal reputation, and it was on these little granules, or bulbous bodies, that its efficacy was supposed to depend. They give the specific name, too, to

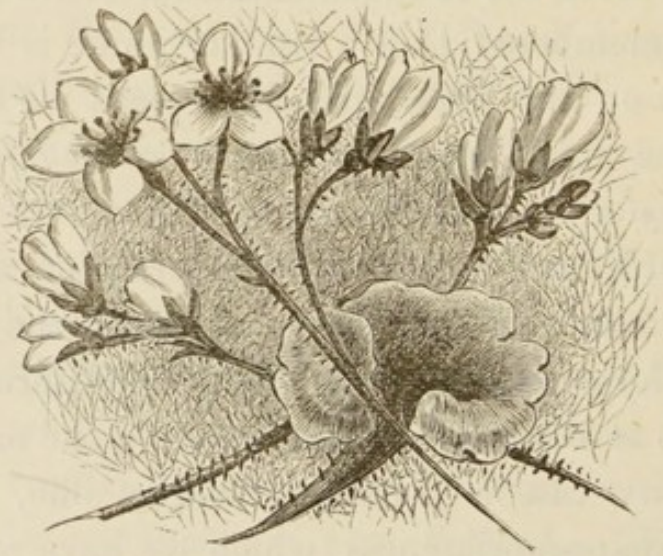
the plant, the title *granulata* being bestowed on the plant from this peculiarity of growth. The stems are few in number and very simple in character, any branching there may be being ordinarily of the very slightest extent, and very frequently entirely absent until we reach the divergent stems that bear the clustering blossoms. The stems of the meadow saxifrage are about a foot in height, and more or less covered with short but closely-set hairs. This hirsute character is more especially marked near the base of the stems: as we travel upwards and near the blossoms the hairiness changes in appearance somewhat, and becomes reddish in colour and glandular in character. The stems look longer than they really are on account of their bare appearance, the leaves being only very sparsely placed on them, and by far the greater part near the base, that part of the plant which, amidst the general verdure of the hedge-bank, is least striking.

The meadow saxifrage seems to have but a very slight attachment to the soil; we have found time after time that the gentle tug that we gave at the flower-heads has sufficed to put us into possession of the whole plant. The leaves which grow near the root spring from long footstalks having broad and sheathing bases; they are what is termed botanically reniform or kidney-shaped, hairy, and divided into numerous blunt-looking lobes. One of these lower leaves we have plucked and introduced in our drawing: it will readily be seen how different in character it is to the stem-leaves that are also figured. The stems are frequently reddish in colour, and very often most of the leaves have a certain tinting of red on their margins. The upper leaves are very small and few in number; as they ascend

the stalk we find their stems getting shorter and shorter in gradual and progressive diminution, until the uppermost are seen to be entirely stemless. The lobes or fingerings into which they are cut are often very acute. The calyx is covered with the glandular hairs that we have also seen are characteristic of the upper part of the stem, and the fine lobes into which its extremity is cleft spread boldly out. These lobes share the reddish tinge we find in the upper part of the stem, and the whole calyx is somewhat viscid to the touch. The corolla is composed of five white spreading petals, their bases and veining being slightly yellowish. The stamens are ten in number, five shedding their pollen before the alternating five: styles two in number, terminating in two expanding and diverging stigmas. The capsule is of a pale brown colour, oval in shape, terminating in two peaks, and filled with numerous black and very minute seeds. Bauhin, one of the older botanists, called the meadow saxifrage the *Saxifraga rotundifolia*, from the rounded character of its lower leaves. It will be remembered that a similar name is bestowed for a like reason on the little harebell, a plant we have already figured. The name of *Campanula rotundifolia* at first glance seems a peculiarly inappropriate one, as all the leaves that ordinarily come under observation are very long and narrow, and it is only as we approach the root we find the rotund form of leaf. As the rotundiform leaves are to the others as about one to half a dozen, the name does not appear in any case a peculiarly happy one, so that the feeling of inappropriateness which we have mentioned as the result of a first glance may possibly continue in some degree after a more lengthy inspection. Clusius, another ancient botanical authority, calls the meadow saxifrage the

Saxifraga tuberosa radice; this name, which clearly refers to the tuberous root, a very marked feature in the plant, is not by any means a bad one. The various species of saxifrage are chiefly dwellers amongst the rocks, and ordinarily flourish in greatest perfection on the high mountain-ranges of Europe, only two or three of the numerous species being found elsewhere; those, therefore, who would seek them in Britain must visit the high mountain regions of Cumberland and Westmoreland, the Welsh mountains, or the Scottish ranges for the greater part of them, and many of them are well worth the seeking.

The word saxifrage is derived from the Latin words signifying a rock, and to break, for it was believed that the penetrating roots of the plants disintegrated the rocks, hence in some old herbals it is called breakstone, and its names in French, German, and Dutch carry a like significance.



THRIFT

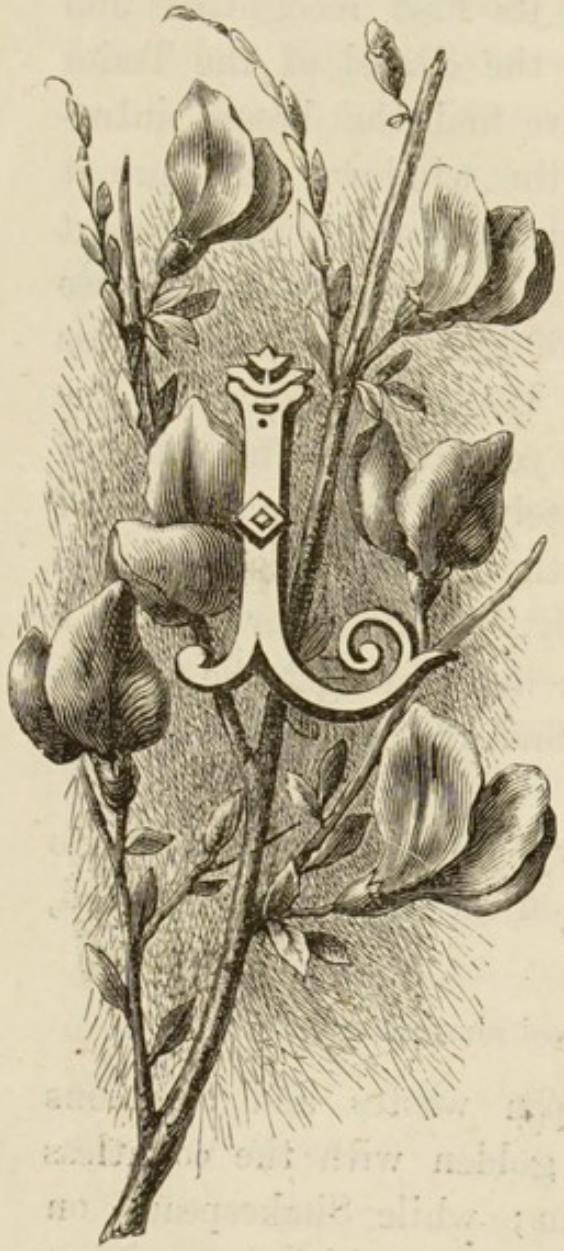
THRIFT.

Armeria maritima. Nat. Ord., Plumbaginaceæ.

WHEREVER we get a piece of muddy sea-shore, there we may feel little doubt of finding any quantity of the thrift, or sea-pink. By far the best place to look for it is where some river, after many a devious curve through the lowlands, brings its tribute of muddy water to the clear and bright salt water of our encircling sea. On the shores of such a river large banks of sediment are formed, often creating salt marshes for some distance inland, into which at high tide the sea penetrates by many a winding channel. We remember to have seen such spots on the Sussex Adur, the mouth of the Ribble, in Lancashire, and where the sluggish Axe and Parret bear in the west their contributions of mud and water to the estuary of the Severn; and in all these river deposits the ground was thickly covered with the verdure of the thrift—so covered, indeed; that at a little distance the effect was that of a meadow by the water-side.

verdure. On each plant they are very numerous, and as the thrift blooms from May to September, a constant succession of them is thrown up. They vary somewhat in height, and would ordinarily be a little longer than those we have figured, in some cases half as long again. In some cases these stems are only three or four inches in height, but ordinarily the blossoms appear to be well lifted above the mass of foliage from which they spring. Each stem bears on its summit a globular head of bright pink flowers, having a curious inverted cylindrical sheath beneath, a peculiarity that can be readily noted in the figure. The blossoms vary occasionally in strength of colour, and are sometimes found pure white. As the flowers die they fade into a pale brown, and the harsh, paper-like scales that are intermixed with the flowers in the head become conspicuous. The corolla is formed of five regular petals; the calyx tubular, terminating in five short teeth; the styles and stamens each five in number.

BROOM.



THE BROOM.

Sarothamnus scoparius. *Nat. Ord.*, *Papilionaceæ.*

LIKE a subsequent flower, the sweet-briar, the subject of our present illustration is one that is not only dear to all lovers of natural beauty, but is also enshrined in the memory of all students of our history and literature. While the sweet-briar suggests to our minds the national emblem, the rose of England, the badge of Yorkist and Lancastrian, and the device of the Tudors at the close of the desolating wars that bore its name, the broom no less recalls to our mind the line of Plantagenet. While we find the praises of the briar sung by our greatest poets, we find, too, that the golden broom shares almost equally their regard.

As a device, the broom was from a very early period the chosen plant of Bretagne. Fulke of Anjou bore it as his personal cognisance; and Henry II. of England, his grandson, as a claimant of that province, also adopted it,

and it was henceforth borne by the rest of his race, its mediæval name, *planta genista*, giving the family title, Plantagenet. It may be seen on the great seal of Richard I., this being what we may term its first recognised and official heraldic appearance. In the chapel of the Tudor Henry VII., at Westminster, we find the broom introduced in the stained glass of the windows, but here it would probably be employed simply from its beauty, apart from any symbolic significance. Another interesting use of it may be seen in the order of knighthood, the "Cosse de Genest," established by St. Louis of France, on the occasion of his marriage, in the year 1234. The collar of the order was composed alternately of the *fleur-de-lys* of France and the broom-flower, the motto being *Exaltat humiles*—"He exalteth the lowly." This order was for a long time held in high esteem; and amongst the foreign potentates who received it we find the name of our own Richard II.

Turning now to the literary side of our subject, to see what measure of appreciation the broom has received, we find in Chaucer the line—

"Amid the broom he basked him in the sun,"

a suggestion of the great open wastes and commons glowing in the sunlight, and golden with the countless blossoms of the gorse and broom; while Shakespeare, on the other hand, finds in the tangled thicket a retreat for shade and solitude, and writes of the

"Broom groves,
Whose shadow the dismisséd bachelor loves."

The delicate odour of the blossom has naturally not escaped notice. Spenser writes, "Sweet is the broom flowre;" and

Wilson, again, dwells on "the fragrance of the yellow broom."

The vigour of its growth on the open moorland, or amidst the rocks of the bleak mountain-side, is often referred to. It is "the thick entangled broom" of Thomson; and we find it again in the graphic descriptions of Scott—

> "And now to issue from the glen
> No pathway meets the wanderer's ken,
> Unless he climb, with footing nice,
> A far projecting precipice.
> The broom's tough roots his ladder made,
> The hazel saplings lent their aid;
> And thus an airy point he won,
> Where, gleaming with the setting sun,
> One burnished sheet of living gold,
> Loch Katrine lay beneath him rolled."

The broom is invariably found on dry situations, such as railway-embankments, high-lying moorland, or hilly and mountainous slopes. Its fondness for high land is noticed by Wordsworth, in the lines—

> "The broom
> Full-flowered, and visible on every steep,
> Along the copses runs in veins of gold."

And Mary Howitt associates the "yellow broom blowing" with "the mountain-side wilds." The image used by Wordsworth, "veins of gold," recalls the lines of Cowper, where he speaks of

> "The broom,
> Yellow and bright as bullion unalloyed."

This richness of colour and the large size of the blossom make it a very conspicuous feature in the wild moorland landscape. It flowers early in the year; Wharton gives its flowering as one of the indications of opening summer—

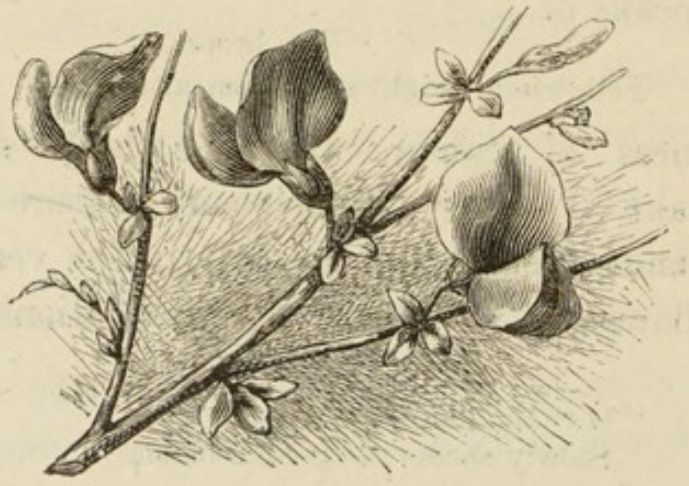
> "O'er the field of waving broom
> Slowly shoots the golden bloom."

The plant bears a profusion of blossoms, and these, in turn, are followed by the large black pods. All who have enjoyed a day of brilliant sunshine on the heathy wastes soon after the broom has finished flowering cannot have failed to hear the mimic artillery all around them as the genial warmth caused the broom-pods to open. After they have shed their seeds they curl up. The blossoms yield an abundant supply of honey: the bees have, indeed, no finer field for their industry than what we ordinarily call waste land, their richest supplies being gathered from the wide expanses covered with broom, heather, and thyme.

Culpepper says of the broom—"To spend time in writing a description hereof is altogether needless, it being so generally used by all the good housewives almost throughout this land to sweep their houses with, and therefore very well known to all sorts of people."

> "The vagrant artist oft at eve reclines,
> And broom's green shoots in besoms neat combines."

The results of the vagrant's art, we need scarcely remind our readers, are often called brooms, from the material of which they are made; and its generic name, *Sarothamnus*, points out this use of the plant, as it is compounded from the Greek words signifying "to sweep," and "a shrub."



CREEPING BELL-FLOWER.

CREEPING BELL-FLOWER.

Campanula rapunculoides. Nat. Ord., Campanulaceæ.

THOUGH the creeping bell-flower is not often met with in a wild state, and some may therefore hardly hold it to be a legitimate addition to our present series, we claim the indulgence of such readers, and base our claim on the fact that the creeping bell-flower, though rarely seen in the hedgerow, is not uncommonly to be met with in the gardens of cottagers, and those who see and admire it there will be interested to know that it claims relationship with its fellow bell-flowers of the meadow and the heath. We have ourselves in Surrey found it growing amongst the dense vegetation of the old-fashioned hedgerows—the old wasteful type that we sometimes meet with—a confused mass of maple, bramble, hawthorn, black bryony, guelder-rose, and twenty other things, in some places two feet high and in others ten, and in thickness almost equally variable.

Such a hedge is, and quite legitimately, the horror of the methodical cultivator with whose balance-sheets such a state of things is in direct antagonism, but it is equally legitimately the delight of the botanist and the artist, who find in its rich confusion a perfect wealth of interest and beauty. The true home of the creeping bell-flower is in the open glades of woods, and in fields that are to some extent shaded by surrounding foliage. When it is once established amidst congenial surroundings, either in the woodland recesses or in the rural garden, its creeping root and general vitality enable it to hold its ground, and as the plant is a perennial, it may with confidence be looked for year after year. An author to whose pages we turned on this subject says that the plant is "difficult of extirpation," but we could hardly imagine any one testing the point practically, as the graceful beauty of the plant renders it a very desirable acquisition, either to the many charms of woodland scenery or to the glowing flower border. The long lines and borderings of scarlet geraniums, calceolarias, and the like, that are made up of dozens or hundreds of similar plants, are a floral heresy that the cottager has hitherto escaped, and which all of botanical tastes and an eye for the picturesque will carefully eschew; and we certainly shall not extirpate our treasured specimen of creeping bell-flower in our own garden to make room for any number of circles in blue, diamonds in red, or zig-zags in yellow, whether compounded of Countess of Ellesmere petunias, Amy Hogg zonate pelargoniums, Prince of Orange calceolarias, or Beauty of Ravensbourne lobelias. Even with those who are snared by an attractive name, our plant again may put in a plea for non-extirpation, for those who find Amy

Hogg poetic or Victor Verdier suggestive of beauty should surely derive some satisfaction from the sonorous roll of *Campanula rapunculoides*.

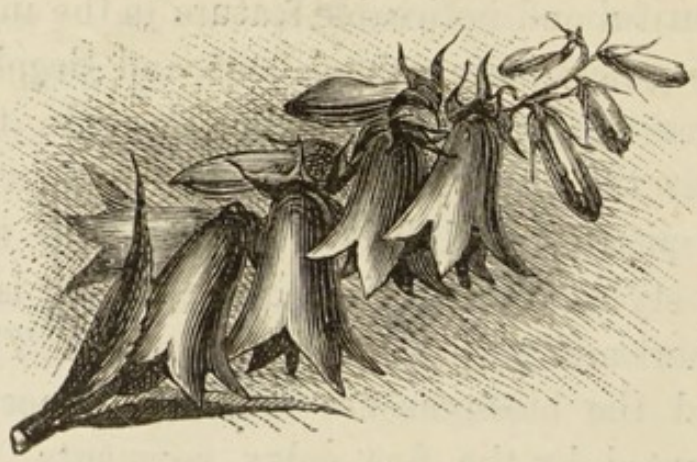
The creeping bell-flower calls for but little description, as our illustration will convey a very fair idea of its general appearance. One point that will at once strike every one is the depth to which the segments of the bell are cut in, as compared with the harebell (*C. rotundifolia*), or most of our other species. The stem is either simple or very slightly branched, and rises to a height of some two feet. It derives its familiar name of creeping campanula from the character of the root. The lower leaves of the plant are somewhat heart-shaped, but more elongated than such typical heart-shaped leaves as those of the violet, and they are placed on long stalks, while the upper leaves are stalkless, and what is termed lanceolate in form—*i.e.*, like a lance-head. All are toothed on the edges, the lower ones coarsely, the upper more finely. The flowers point downwards and grow singly along the stalk, a small leaf being given off at each springing point. All the flowers spring from the same side of the stalk, and make a bevy of blossoms all pointing in one direction, the gradual tapering from the fully expanded flowers to the small terminal buds being a beautiful and noticeable feature in the inflorescence. The calyx segments are conspicuous and deeply cut, and as the flower expands are turned back. In the interior of the flower the stigma, with its three recurving lobes, is very conspicuous, and below this the five anthers encircling the style may be seen. Each anther is supported on a very short and slight-looking filament. The capsules that succeed the blossoms are roundish, almost globular, and surmounted by the five calyx segments. The seeds

are emitted from small lateral clefts; the seeds themselves are small and very numerous.

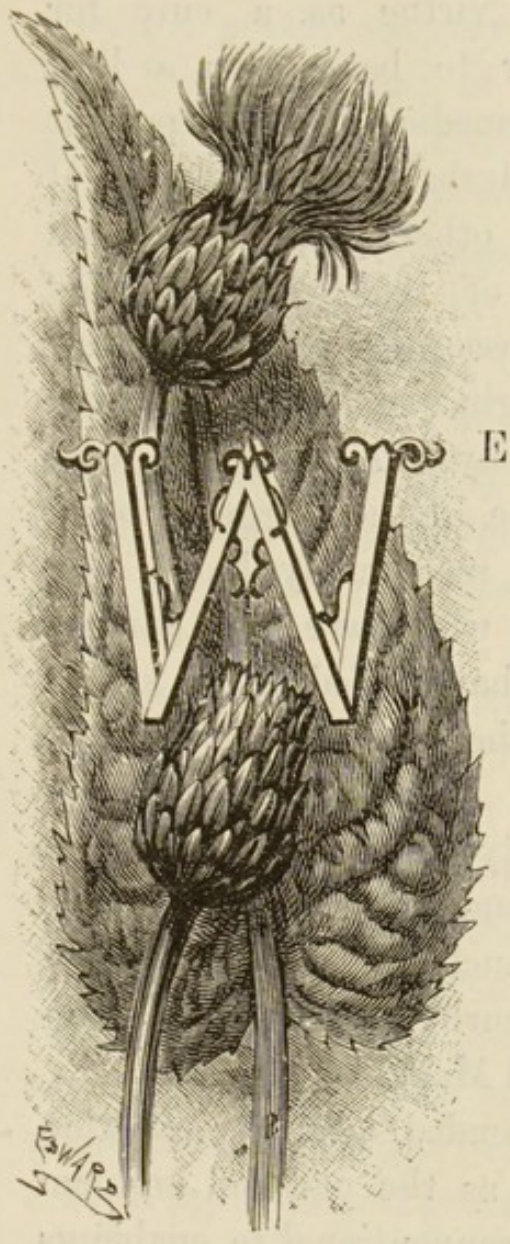
Ten species of campanula are recognised as British, and several other members of the genus, as the well-known Canterbury-bell (*C. medium*), are familiar garden flowers. Of the wild ones we have already figured the harebell—the "azured harebell" of Shakespeare, the "blue harebell" of Ben Jonson, and a favourite with many others from whose works we must now forbear to quote; also the clustered bell-flower. In addition to the present species, we shall hope to introduce to our readers the nettle-leaved bell-flower, which though common also belongs to this attractive and interesting species.

The generic name, as we have already pointed out—though we may here be allowed the repetition, to save reference to a former description—signifies a little bell, and its appropriateness we need scarcely stay to dwell upon, especially as we see the resemblance again insisted on in our common English names for all the species—bell-flowers.

Both Gerarde and Parkinson describe the plant as of a "watchet colour." "Watchet" probably means "of the colour of woad"—that is, bluish.



MELANCHOLY THISTLE.



THE MELANCHOLY THISTLE.

Cnicus heterophyllus. Nat. Ord., Compositæ.

WE are so accustomed to the idea that a thistle must necessarily be fully armed with sharp and piercing spines, and altogether deserving of the motto of the Order of the Thistle, *Nemo me impune lacessit*—which may be freely translated as, "Nobody meddles with me without regretting it," or as the Scots more freely and tersely have it, "Ye daurna meddle wi' me"—that a thistle without this armature seems a thing contrary to nature. The subject of our plate is nevertheless a true thistle, though, as may be readily seen, it altogether lacks so essential a characteristic of its fellow-thistles. It has always appeared to us that its name, the melancholy thistle, is open to misconception, for it seems to cast somewhat of a slur on the plant, implying that it would be as disagreeably poignant as the others if it could, and that it regrets with unavailing grief that it is wanting in the power of making itself unpleasant. This is

not, however, the origin of the name, as the plant is so called from a belief in its virtue as a cure for melancholy. There would appear to have been a lack of the usual faith in these remedies in the present case; for Parkinson, in his Herbal, in speaking of the plant, says, "There are no other properties found out or knowne whereunto any of these thistles may be applyed than such which Dioscorides setteth downe, taken from Andreas, who brought in many figments and untruthes to bee used in physicke, that the roote thereof being bound into the veine in the legge or other parts of the body swollen with melancholy blood, doth quickly helpe and heale it." All who have ever studied our older literature will scarcely have failed to be struck with the frequent mention of "the melancholy" in the good old times of merrie England. In the Herbal to which we have just referred we find forty-one plants mentioned as "good against melancholy, and to purge it," while three plants suffice to "breede melancholy," so rarely does it seem to have been necessary to curb inveterate and irrepressible good spirits and mediæval Mark-Tapleyism.

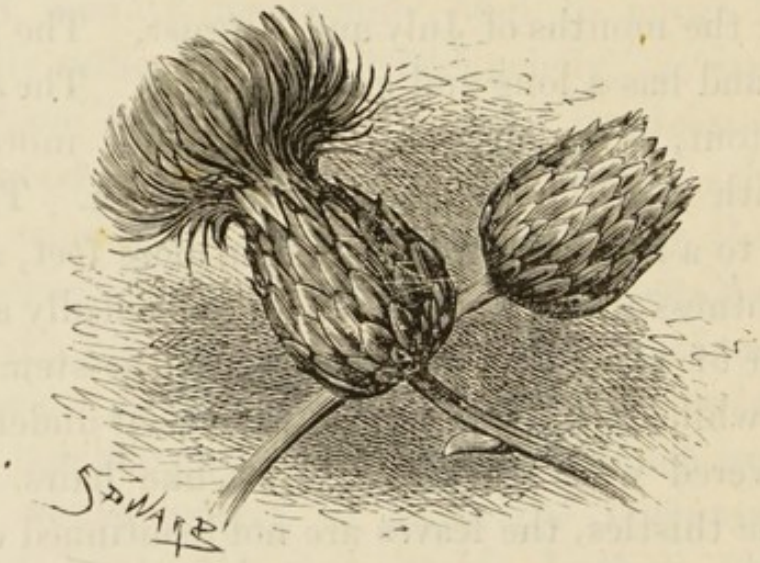
Much scholarship has been expended over the question of the species of thistle adopted as the national emblem of Scotland; but the form is too conventional to enable us now to assign any species in particular as the type. The first real heraldic use of the plant to which we find any reference would appear to be in the inventory of the property of James III. made at his death in 1458, where a hanging embroidered "with thrissils" is mentioned; and as this same drapery has the unicorn, an undoubted emblem of Scotland, introduced, we may fairly assume that the thistles, too, carry a symbolic significance. It was

undoubtedly a national badge in 1503, as in that year Dunbar wrote a poetic allegory entitled, "The Thrissill and the Rois," on the union of James IV. and the Princess Margaret of England. The expressive motto was not added till 1579, when we find it surrounding the thistle that occupies the centre of the coinage of James VI. About the middle of the fifteenth century, in the dawning light of the Reformation, the Town Council of Edinburgh substituted the thistle on their banner for their old patron saint, St. Giles. The melancholy thistle, our present species, was one of the personal badges of the ill-fated House of Stuart. They at other times bore the cotton thistle (*Onopordum Acanthium*).

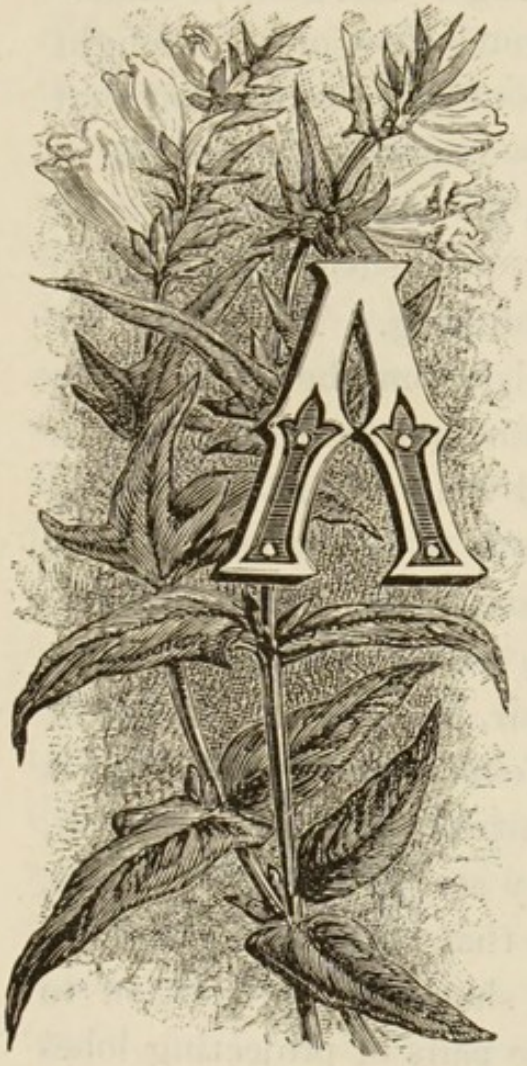
The melancholy thistle is a plant of the North. It is abundantly met with in moist mountain pastures in Scotland and Northern England, but comes no farther south than the northern counties of Wales. It flowers throughout the months of July and August. The plant is a perennial, and has a long and creeping root. The stems are tall and stout, often deeply furrowed, and more or less covered with a white and cotton-like down. The whole plant rises to a height of some three or more feet, and has a certain lightness and grace that render it decidedly attractive to the lover of plants. The leaves clasp the stem at their bases, and while dark-green above, have their under-surfaces thickly covered with white and down-like hairs. Unlike most of the thistles, the leaves are not continued down the stem at all, and they are very much simpler in form than the ordinary type of thistle-foliage. The edges of the leaves have small bristle-like teeth. The flower-heads are borne singly on long stalks; and the bracts that form the involucre, the cup-like form whence the blossoms spring,

are closely oppressed, but quite destitute of the hard prickly extremities so characteristic of the other kinds of thistle.

In an old botanico-astrological book we find that the plant is considered to be under Capricorn, and therefore beneath the influence of both Saturn and Mars, one, it is held, ridding melancholy by sympathy, and the other by antipathy, though we should have thought that in the latter case the Jovian influence would have been invoked. The author prescribes a decoction of the thistle in wine, adding that it makes a man as merry as a cricket. How far this effect may be produced by the wine, and how far by the thistle, is possibly an open question. Solomon prescribes a very similar remedy, only without the thistle.



COW-WHEAT OR MELAMPYRE.



COW-WHEAT.

Melampyrum pratense. Nat. Ord., Scrophulariaceæ.

ALTHOUGH the specific name, *pratense*, of our present plant would lead to the idea that the cow-wheat was a plant of the meadows, its true home is in the woods. The specific name was bestowed upon the plant by the Swedish botanist Linnæus, and it may possibly be that he may have found its *habitat* in his own country somewhat different from that common in Britain; or we can, without great disrespect to his illustrious memory, conclude that amidst the enormous amount of plant nomenclature for which he is responsible, some few errors would naturally creep in, and set this down as probably being one of these slips. Whichever theory we may adopt, the fact remains that with us the cow-wheat must be searched for in the forest, or in copse-land and thickets. We might, perhaps with advantage, replace "must be searched for" by the expression "will be found," for there are few suitable localities for the plant that will

not furnish numerous specimens. Any one wandering in the open spaces in the woodlands any time between the beginning of June and the end of August will scarcely fail to see its yellow blossoms amongst the general undergrowth. As the stem is only about a foot or so in height it does not force itself on the eyes of the unobservant, but a very slight search for it will scarcely fail to furnish as many examples as one could wish, for when met with at all it seems to be always found freely. The cow-wheat is an annual, but the supply seems unfailing. The stems are slender and erect, and at intervals, from the axils of the lower leaves, slender straggling branches are thrown out in pairs. These lateral shoots spread widely from the central stem, and the whole plant is smooth to the touch, and has not the hairy or downy covering so commonly seen in many plants. The leaves grow in pairs, with a considerable portion of bare stem between each pair, and each of these is at right angles to those that are next to it. The foliage is long and pointed in character, entirely without serration, and each leaf, as we may clearly see in our illustration, stands boldly out from the stem that bears it. The floral leaves are much smaller, much shorter in proportion to their length, and have one or more pairs of projecting lobes or points at their bases. A glance at the figure will show this difference of form far better than any lengthened verbal description.

A variety, which was at one time elevated to specific rank under the title of *Melampyrum montanum*, is found in some mountainous districts of the north; in this variety the plant, as a whole, is smaller, and these floral leaves are what is termed in botanical language entire, that is to say, they show none of the lobing or toothing that is so cha-

racteristic a feature in those parts in the typical plant. The flowers are a bright pure yellow in colour that may be defined as pale gold. It is about intermediate in tint between the delicate colour of the primrose and the full rich yellow of the buttercup. The flowers always spring in pairs from the bases of the leaves, and all are turned in one direction. This curious feature may be readily noticed in the figure, where the two pairs on the one piece and the three pairs on the other all rigidly point in their own direction. The blossoms are somewhat quaint in form, and show the irregularity that is so marked a feature in all the plants of the order; the lower lip, it will be seen, stands sharply out instead of hanging downwards, as we find to be the case in most flowers of like structure. The great majority of our flowers, when attentively considered, will be found to be either multi-symmetrical and composed of several similar parts, as the dog-rose or the apple, or else bi-symmetrical, and only divisible into similar halves. Of this latter the pansy is a good example, and this bi-symmetrical character is a marked feature in the Scrophulariaceæ, as we may very well see by examining the flowers of the speedwells, the mulleins, snapdragon, foxglove, bartsia, eyebright, rattle, or the present plant. Several examples of the order will be found amongst our figures, and our readers will have no difficulty in seeing the point to which we refer. It must not, however, be supposed that this feature is an exclusive distinction appertaining to this order. All flowers that belong to the Scrophulariaceæ show this structure, but all flowers that show this structure are not Scrophulariaceæ. We see it again in the Labiates, for example, the dead nettle, the stachys, the self-heal, and the ground ivy being ready illustrations.

The cow-wheat owes the origin of its generic title to two Greek words signifying "black" and "wheat"; the seeds bearing some little resemblance to that grain. An old name for the plant was the *Triticum vaccinium*, and another English name for the plant that we find in the herbals is the "horse-floure." In Flemish it is the "peerd-bloeme." Linnæus tells us that in fields where this plant is abundant, the butter is peculiarly rich, and in the Middle Ages the somewhat extraordinary belief was held that the small seeds as they fell were turned into wheat. This belief could so readily be disproved that one finds it difficult to imagine how it could ever have obtained credence. Dodonæus tells us that "the seede of this herbe taken in meate or drinke troubleth the braynes, causing headache and dronkennesse;" and certainly those who started the harvest theory troubled their "braynes" with the plant to very little good.

BETONY.

BETONY.

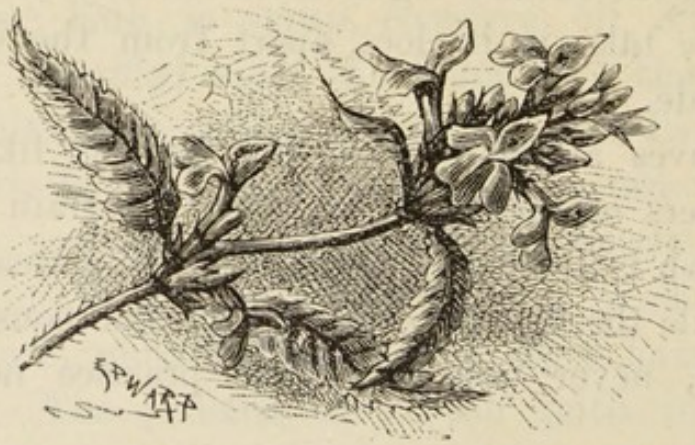
Betonica officinalis. Nat. Ord., Labiatæ.

OUR plant is in some works called the wood betony, to distinguish it from another plant, the water betony. This latter, however, the *Scrophularia aquatica*, is only so called from the similarity in form of the leaves of the two plants; it has no real relationship to the subject of our illustration, which is for all practical purposes the betony pure and simple. It is in Wales the *Cribau St. Fraid*.

The betony is very abundantly met with throughout England, but appears to be by no means so common in Scotland. It should be searched for in woods and copses during June and July, and it may occasionally be met with in more open situations, as amongst the tangled growths sometimes found on heath and moorland. It was held in high repute in the Middle Ages, from its value corporally and spiritually, being largely cultivated in the herb gardens of the monasteries, and pieces of it were worn round the neck as a charm and protection against

The derivation of the botanical name is uncertain. While some see in it a compound of two Celtic words signifying head and good, suggestive of cephalic qualities, others turn to a passage in Pliny—"The Vettones, a people of Spain, were the original discoverers of the plant known as the Vettonica"—and find the transition from this to Betonica a very easy one. The specific name refers to its officinal use.

Betony "helpeth that cannot digest their meate." It was also given in the jaundice, palsy, convulsions, "the goute," dropsy, pain in the head, "yea, although it turn to frenzie." Mixed with honey, it was given for coughs and colds, "shortenesse of breathe," and consumption. For "stitches and pains in the sides and back" there seems to have been nothing better. A decoction with wine eased toothache, and rendered harmless the bite of venomous serpent or rabid dog. Taken beforehand, it hindered drunkenness; taken afterwards, it cleared the head. A little powder of it refreshed those overwearied with labour, and with a little "hogges larde" was a specific for "biles" and wounds. Many other wonderful properties were ascribed to it, but what has been said will suffice to show the value in which it was held.



COMFREY.

THE COMFREY.

Symphytum officinale. *Nat. Ord.*, *Boraginaceæ.*

WHILE not so attractive as many of our wild plants, the subject of our present plate nevertheless possesses many features of interest that amply repay a closer examination than it would, we fear, ordinarily get bestowed upon it, while its commonness would, in any case, fairly entitle it to a place in our pages, for though we have endeavoured, as far as may be, to introduce plants of an attractive character, we do not cease to bear in mind that our real aim is not to subordinate general distribution to mere attractiveness; we therefore neither insert a plant for its beauty merely, nor refuse it admission, common as it may be, because it may not hope to compete with more attractive flowers.

The comfrey is the *Symphytum officinale* of botanical science. The first, or generic, name is derived from the Greek verb to unite, from the supposed vulnerary qualities of the plant. The only other species in the genus that

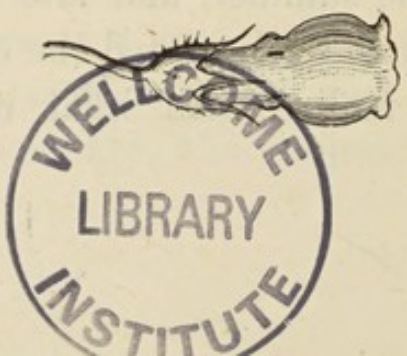
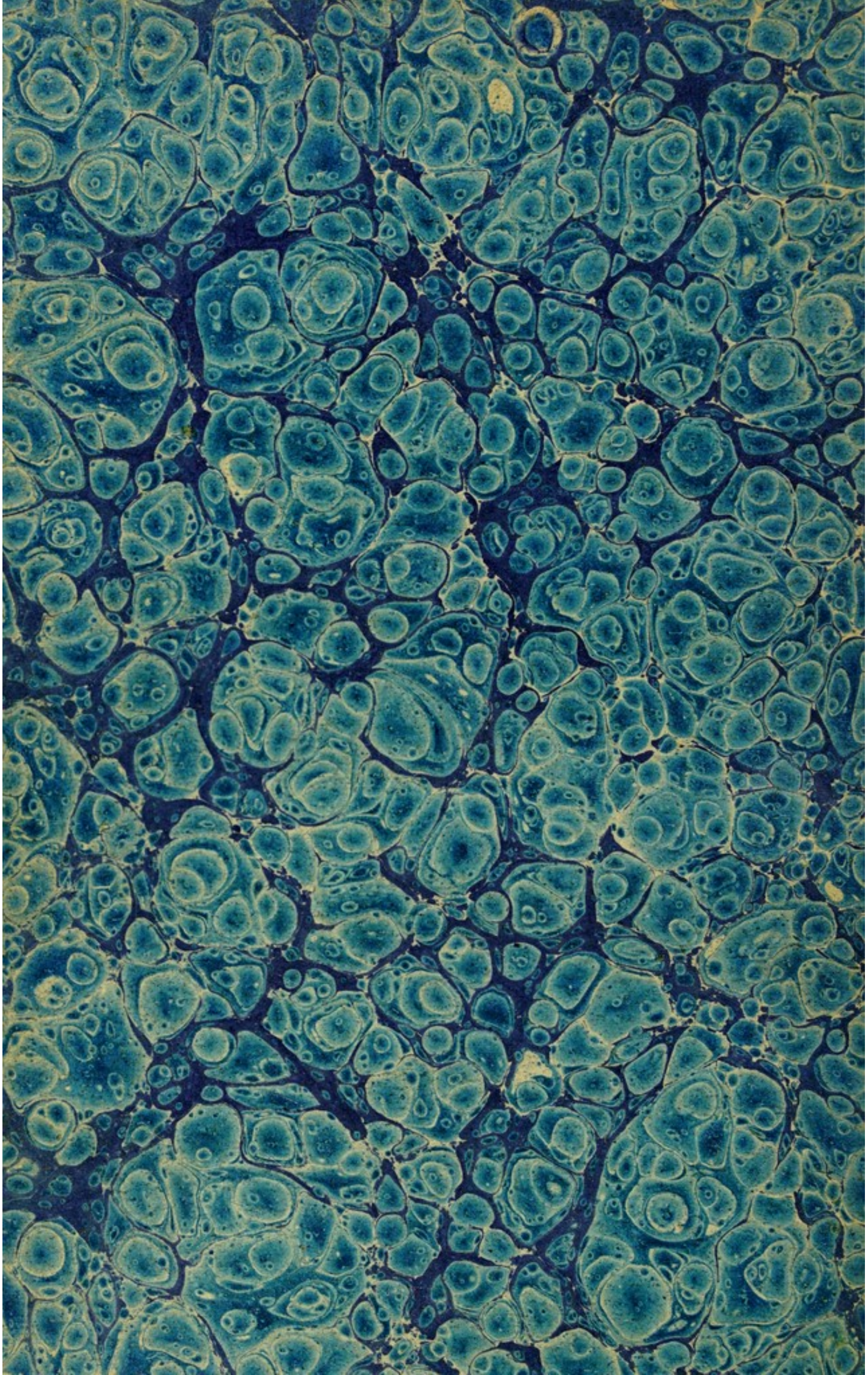
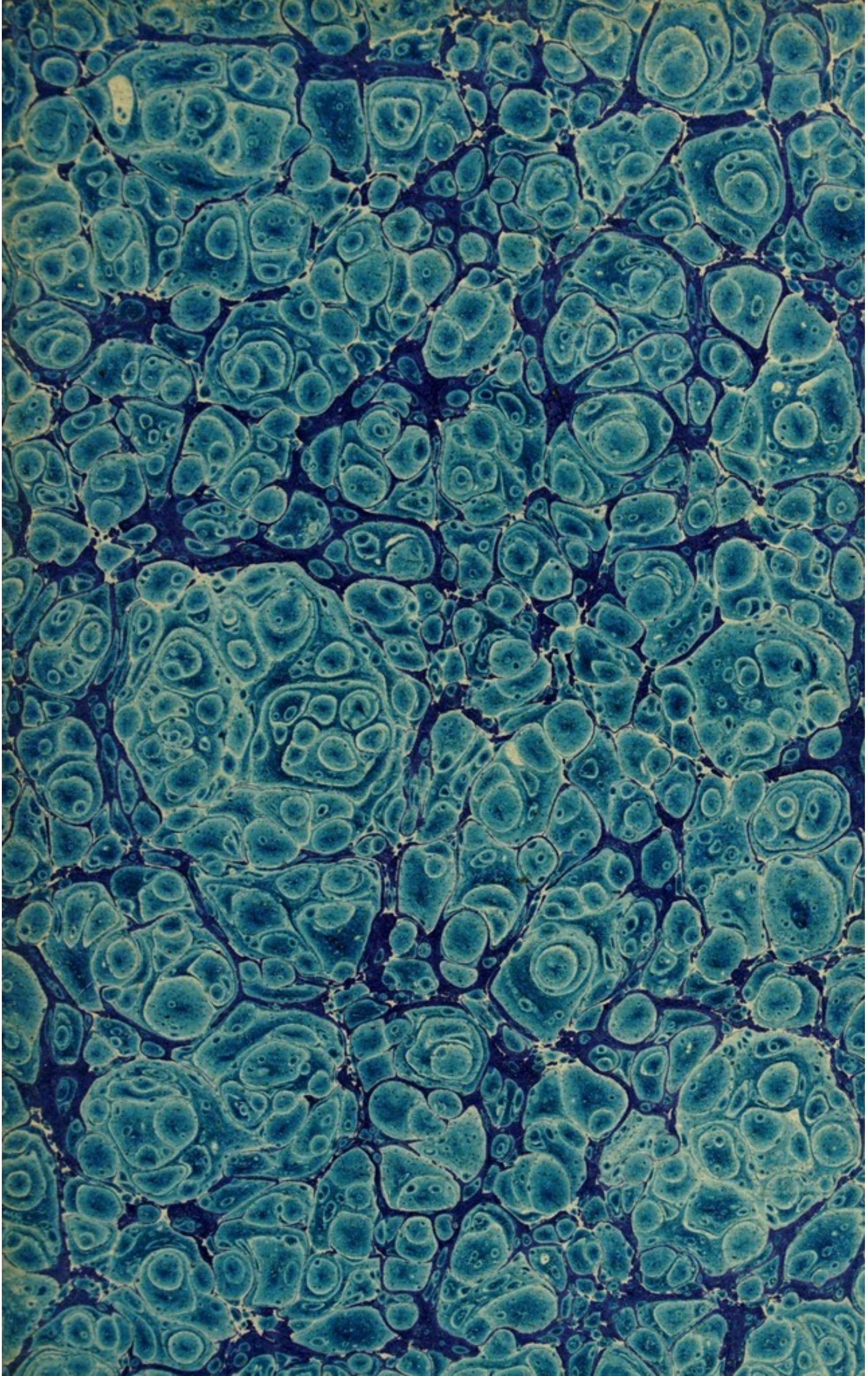
is indigenous in the British Isles is the tuberous comfrey, or *S. tuberosum*. This latter plant, though to some extent resembling the common comfrey, is, in several respects, very distinct; it is seldom more than a foot high, not branching out, and the flowers, though about the same size individually as those of the *S. officinale*, are in much smaller masses. The common comfrey attains to a height of three feet or even more, and branches very freely. Its leaves are broadly lanceolate in form; the lower ones, which are somewhat like the tobacco plant in shape, are on long stalks, while the upper and more visible and conspicuous are stalkless, and are what is botanically termed decurrent, *i.e.*, a portion of them runs down the stem, the body of the leaf being continued beyond its base and point of attachment with the stem. This very conspicuous feature is one not often met with in plants, and will greatly tend to aid its identification with those unacquainted with it. It may be very well seen in the various species of thistles, but the spiny nature of these is sufficiently decidedly marked to render any hesitation between them and the present plant impossible in any attempt at identification of the comfrey, by means of this feature of its growth. The racemes of flowers are given off in pairs, and are what is known as scorpoid in form, the curve they always assume suggesting, as the word implies, the curve of the tail of the scorpion. The flowers are all placed on one side of the stem, and the gradual tapering from the fully expanded blossom to the final and almost imperceptible bud at the extremity of the curve is a very curious and beautiful point to be noted. This scorpoid form may be very well seen again in the forget-me-not, the subject of another of our

illustrations. The large tubular flowers of the comfrey are generally of a yellowish or creamy white, but they may often be found purple in colour, as represented in our illustration. In some districts the one colour, in others the other, is predominant, but very often the two may be found growing side by side, and it is therefore difficult to assign any satisfactory reason for the variation in colour. It does not arise from greater development or superior advantages of position, nor from geological influences of soil, potent as these often are; the contiguity of the two plants to each other, and the facility thus afforded for comparison, renders any of these theories untenable. The common comfrey is abundantly met with in England, but is rare in Scotland; the tuberous comfrey is commonly found in Scotland, but is seldom met with in England; the one is rarely found above Aberdeen, while the northern counties of England are the extreme southern limit of the other. Except in the narrow zone of country common to both there will, therefore, be no possibility of mistaking the one species for the other.

The southern or common comfrey is the species whose supposed medicinal, or rather surgical, effects have given the name to the genus, and its specific appellation *officinale*, as the word officinal is a further testimony to the old belief in its powers of healing.

The comfrey delights in rich moist ground; it is therefore often met with in the mass of vegetation fringing the sides of our rivers, or in damp, low-lying meadows. The flowers first appear about the fourth week in April, and the plant may after this date be found in blossom throughout the whole of the summer, and late into the autumn. Except those who have really tested the question for themselves few persons realise with what regularity all the

operations of nature are carried on. "He appointeth the moon for seasons; the sun knoweth his going down," and what is true of great things is not less true, though less obvious, in small. All lovers of plants will have noticed how regularly each falls into its appointed time and sequence. The comfrey, we have said, may be expected in the fourth week of April; we have gone over the data of the Marlborough College Natural History Society, and find in the nine years, from 1865 to 1873 inclusive, the following dates of first appearance. All are in April, we need therefore only give the day of the month, viz.:—30th, 28th, 29th, 27th, 16th, 21st, 23rd, 24th, and 20th. These observations, though not absolutely reliable, as it is quite possible the plant may have been in blossom a day or two before being noticed, are, nevertheless, the result of the careful watching of a considerable number of observers, and are at least sufficiently accurate to illustrate the matter referred to. We find that the requisites of our space forbid our saying anything of the medicinal qualities of the comfrey; but as these are now discredited, it is the less necessary to regret the omission. It suffices, therefore, to say that as "an herb of Saturn," it was deemed cold in quality, and applied in consequence to all inflammatory ailments. This division of plants into warm and cold by old writers is exceedingly arbitrary. Probably, in the case of the comfrey, the damp, low-lying localities in which it is found influenced its position in the strange mixture of astrology and botany that was current in the Middle Ages.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