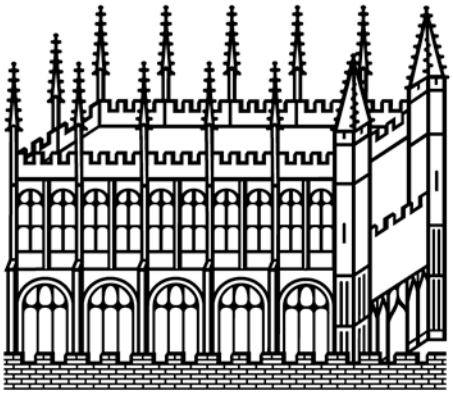

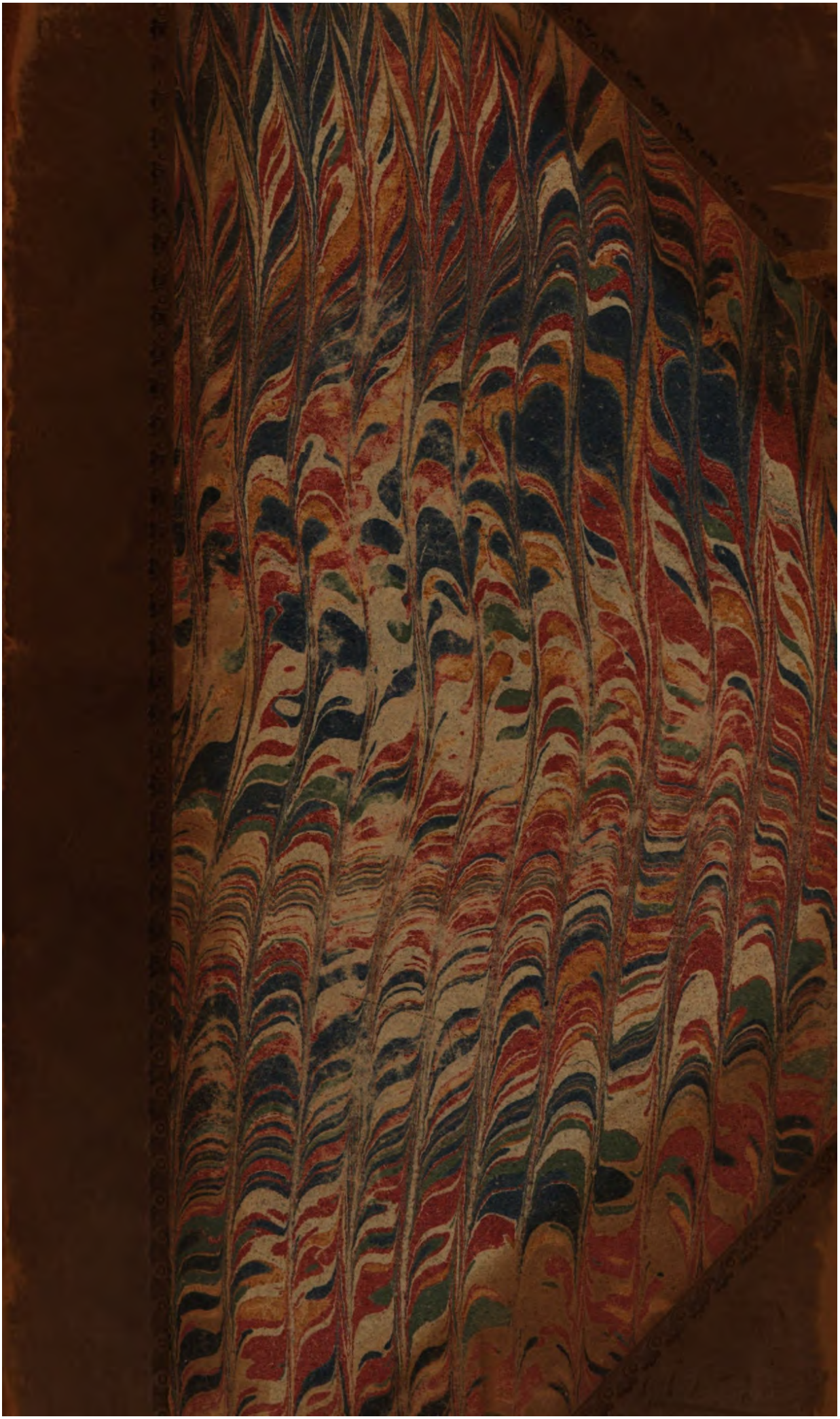

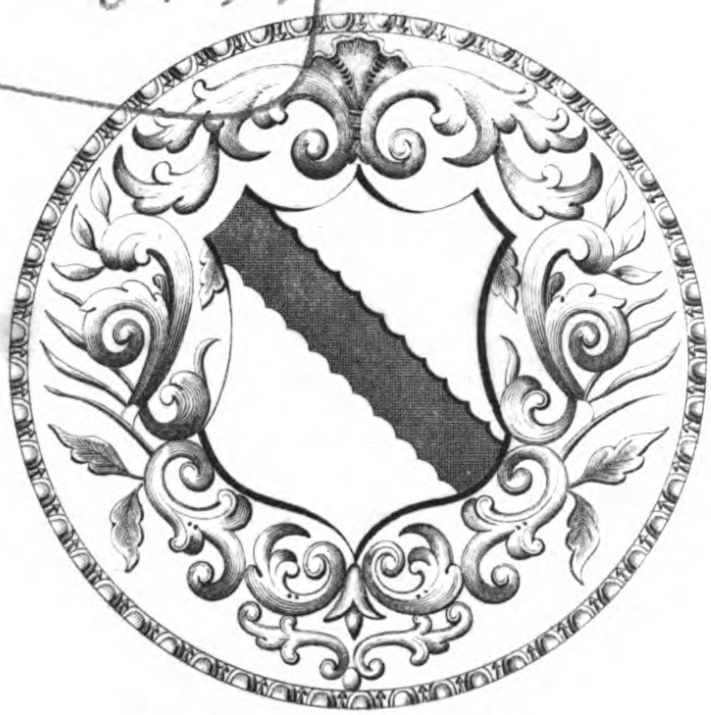

LUZULA SUDETICA.

Lazars Sculp.

A

FLORA

OF

BERWICK-UPON-TWEED.

BY

GEORGE JOHNSTON, M. D.

FELLOW OF THE ROYAL COLLEGE OF SURGEONS; EXTRAORDINARY MEMBER OF THE ROYAL MEDICAL, AND CORRESPONDING MEMBER OF THE MEDICO-CHIRURGICAL SOCIETIES OF EDINBURGH; AND CORRESPONDING MEMBER OF THE ZOOLOGICAL SOCIETY OF LONDON.

VOL. I.

PHÆNOGAMOUS PLANTS.

J. CARFRAE & SON, EDINBURGH; AND
LONGMAN, REES, ORME, BROWN, & GREEN,
LONDON.

MDCCCXXIX.

P. NEILL, PRINTER.

TO

NATHANIEL J. WINCH, Esq.

HONORARY MEMBER OF THE GEOLOGICAL SOCIETY OF LONDON, &c.

THIS WORK IS DEDICATED,

AS A

MARK OF THE RESPECT AND GRATITUDE

OF THE

AUTHOR.

—" Si delectamur cum scribimus, quis est tam invidus, qui ab eo nos abducat? sin laboramus, quis est, qui alienæ modum statuat industriæ."——CICERO.

PREFACE.

It will be obvious, on a cursory examination, that this Work has been the amusement of its Author. Having, on his entrance into business, much unoccupied time, a portion of it could not, he thought, be better employed, than in enlarging that knowledge of Natural History, which, when a student, it had been his duty to acquire, and which has always, and never more so than at the present time, been deemed a necessary part of the education of a physician. For this purpose he began to examine, with some care, the indigenous plants of the neighbourhood, and the catalogue made of his discoveries gradually assumed a form which, he perhaps too fondly believes, may without presumption be submitted to the friends of Botany.

The chief object of the book is to give such a description of the plants growing wild in the vicinity of Berwick, as may enable any one acquainted with the elements of the science, to ascertain the names by which they are known; and it will likewise serve as a guide to conduct the inquirer to the places where the rarer species are to be found. The utility of a work of this kind, consists in its facilitating the investigation of species to those resident within the limits of which it treats, by lessening the objects of comparison; while others may find in it some facts illustrative of the geographical distribution of our

native plants, and of the influence which particular situations exert in producing changes in their appearances.

To relieve, however, the dryness of mere descriptive detail, and to point out the manner in which this study may be made most conducive to our amusement, if not to our instruction, various particulars have been added relative to the uses of our plants in agriculture, in the arts, and in medicine. And, in the Flora of a river, so celebrated as the Tweed in pastoral poetry, and "where flowers of fairy blow," it seemed allowable to notice, at greater length than is usual in works of science, the purposes to which superstition has applied them in former times; and the illustrations which they have afforded to the poets of our own day. A few facts relative to the physiology of vegetable life have been also given; but of what I had collected, by far the greater portion has been cancelled, lest our work should have exceeded its proper limits. I cannot, however, but strongly recommend to the young botanist the attentive observation of such phenomena;—it will add greatly to the pleasure of the walks which he must take in search of the objects of his study, and will remove from him the reproach which has sometimes been cast upon us, of being mere collectors of vegetable curiosities, of which we seemed anxious to know nothing beyond the barbarous name that some dull systematist may have given them. I indeed cannot praise the botanist, who has no other object in his excursions than to add a specimen to his herbarium, and who confines his examination of it to those characters by which he ascertains its name in the system. I know well that such investigations are not void of interest,—it is akin to that which the mathematician feels in the solution of a problem,—but Botany has other

pleasures. There is not a flower which blows but has some beauty only unveiled to the minute inquirer,—some peculiarity in structure fitting it for its destined place and purpose, and yet not patent to a casual glance. Many are full of remembrances and associations, in which it is good for us to indulge. To the student "a yellow primrose on the brim" should be something more than a yellow primrose. He should, to borrow the words of the author of the "Sketch Book," be continually coming upon some little document of poetry in the blossomed hawthorn, the daisy, the cowslip, the primrose, or some other simple object that has received a supernatural value from the muse. And, as his pursuit leads him into the most wild and beautiful scenes of nature, so his knowledge enables him to enjoy them with a higher relish than others. They are full of his "familiar friends," with whom he holds a kind of intellectual communion; he can analyse the landscape, and assign to every individual its share in the general effect.

The district, whose native vegetable productions I have attempted to describe, is bounded on the south by a ridge of basaltic rocks, which take their rise at Buddle, and run in a westerly direction to Belford. From this we suppose a line drawn across the elevated moor, until it reaches the river Till, which forms the western boundary, until it joins the Tweed. To the north of this river the political bounds of Berwickshire* are considered those of this Flora; and the sea bounds the whole district on the east.

* It is necessary, however, to remark, that I have had few opportunities of botanizing in the west of Berwickshire. The plants of the Fern Islands, Bamborough Castle, and Cheviot, though a little beyond our limits, are included, as these places are often visited from curiosity.

Within these limits we find soils of every kind and quality The sea-shore to the south of the river is flat and sandy, interrupted in some places by elevated banks of sandstone, in others by a muddy soil, deposited by the rivulets which terminate there. It is bounded by a narrow stripe of links, formed of sand-knolls, fixed by means of the bent and other plants with creeping roots; and, though barren and waste in an agricultural view, it is rich to the botanist in flowers of great beauty, and not of such commonness as to render them uninteresting. External to this stripe the country is flat, highly cultivated, and, in general, of a productive soil, until we reach, at the distance of three miles or more, the elevated moors which occupy such a large space in the heart of the district. Beyond these the ground rapidly declines, to form the fertile and beautiful vale, through which the Till winds its sluggish course. No part rises to an elevation exceeding 400 feet; nor is it intersected by any river, but a few *burns* run in the ravines, which are numerous and rich in plants. The largest, and indeed the only sheet of water, is the Lough on Holy Island, a place than which no one will more amply gratify the naturalist.

This, the southern half of our district, abounds in coal and lime, which are indeed the prevailing minerals. There is, comparatively speaking, little sandstone; and the chain of rocks which take their rise near Bamborough, and terminate at Kyloe, are trap-rocks, at some places covered with a shallow verdant soil, at others bare, and forming "lofty picturesque cliffs, in their struture approaching the columnar," with more or less of debris at their base*. Such a ridge, as we might anticipate

* For an account of the Geology of Northumberland, I refer to Mr WINCH's Essay on that subject, and to a paper by Mr TREVELYAN, on the Geognosy of the Coast near Bamborough, in Wernerian Memoirs, vol. iv. p. 253.

affords much interesting scenery, and is favourable to the growth of plants which love a rocky and somewhat alpine situation. There, in particular, we find the Dwarf Cistus evolving its brilliant blossoms in the utmost profusion;—it is the only station in Northumberland for the not less beautiful Spring Cinquefoil,—the Sea Campion, far from its shore, occasionally reappears here,—and, to omit many enumerated in the subsequent pages, the Ivy and Honeysuckle climb up the columnar rocks, decorating them with verdure and beauty, in return for the shelter and support they receive.

Let us now turn to Berwickshire;—and of it I feel happy in being able to lay before my readers a very interesting and valuable geological outline, the essay of a much esteemed friend, and the first attempt which has been made to sketch the structure of this county *.

* As an Introduction to this Essay, my friend has remarked, that "the geographical distribution of plants, their characters, habits, appearances, &c. at different elevations, and the general relation which these bear to the soil, the mineral substances, and general rock formations of the county, or district where they grow, are undoubtedly to be regarded as among the most interesting, as well as important, researches connected with the study of Botany. But until lately, these are views which have been but little attended to; botanists having been, and still being, too apt to have their thoughts entirely confined to an acquaintance with the plant itself, to the exclusion of any information connected with it,—to content themselves with merely knowing names, number of species, the place these hold in the system, &c.—and to flatter themselves, that if they have succeeded thus far, this is all that is necessary to form a botanist. Whereas, did they view the matter rightly, they would find, that so far from these summing up all that is necessary to be known in botany, they form, in fact, by far the least interesting and important parts of it,—they are little better than the mere elements of the science,—the mere stepping-stones by which to arrive at its real usefulness and importance,—the rude materials (very necessary, indeed, to possess), but which, un-

" Berwickshire is naturally divided into two great districts, well marked by their difference of external character and surface,—the High and the Low ;—the former comprehending the subalpine districts of Lammermuir and Lauderdale, the latter, which, in an economical point of view at least, is by far the most valuable, as well as beautiful, being named the Merse. The former division forms part of that great hilly range, extending in a S. W. direction from St Abb's Head to the Solway Frith,—a range which, in different parts of its course, is known under different names, but every where marked by the same great features,—the round-backed shape of the hills, their smooth and unbroken outline, and the thick covering of verdure, which in general reaches to their summits. The latter division again extends from the base of this hilly tract to the banks of the Tweed, which forms the southern boundary, being generally a level, smooth, unvarying extent of country, without any very marked or striking features, save those peculiar to a fertile and well cultivated district.

" Conformably to this great natural division into high and low country, the geology of Berwickshire, in a general point of view, may, in like manner, be regarded as possessed of only two grand features, and as consisting (principally at least) of only two great rock formations, of very different eras, however, and characters. These are the transition and secondary classes of rocks, the former being those which predominate in the districts of Lauderdale and Lammermuir; the latter, under the form of the second, or *new red sandstone* formation, being those of which by far the greater part of the Merse is composed. We

less made proper use of, will never lead to any results, either generally interesting, or generally valuable."

have said that these are the *principal* rocks which we meet with in Berwickshire, for we may now remark, that they are not the only ones,—another distinct formation making its appearance in several different places. This, the first, or *old red sandstone* formation, forming the usual connecting link between the transition and secondary rocks, we meet with in the south-west corner of the county, as at Dryburgh, Merton, &c. There it succeeds immediately to transition-rocks on the west, and is again succeeded in its turn by the second or new red sandstone in the vicinity of Kelso. This formation, however, occurring in small quantity, and so much out of the range of the following Flora, we shall not again refer to it particularly, but proceed, without farther remark, to give a very general description of the two others, noticing, as we go along, as many names of interest as possible, that, by glancing at the habitats assigned to the plants, in another part of these pages, we may at once be able to recognize these spots again, whether as belonging to the one or to the other class of rocks, and at the same time know what are the particular mineral substances which there predominate.

"Of those parishes within which *habitats* most frequently occur, we remark the following as belonging to the oldest of the two formations, the transition class, viz.: The northern division of the parish of Dunse, the parishes of Abbey St Bathan's, Buncle, Cockburnspath, Coldingham, Eyemouth, the greater part of Ayton, and part of Mordington. To the latter division, again, belongs the mouth of the Tweed, and neighbourhood of Berwick, the remaining parts of the parishes of Dunse, Ayton, and Mordington, nearly the whole of Foulden, and the whole of Hutton, Ladykirk, Chirnside, Whitsome, Swinton, Coldstream and Eccles.

" I shall begin with the first of these, and proceed nearly in the order now mentioned. The northern part of the parish of Dunse extends into the outskirts of the Lammermuirs. These hills, as already mentioned, belong to the transition series, the characterizing rocks of which are greywacke, and greywacke slate *. It is difficult to ascertain whether or not the old red sandstone forms the connecting link between these rocks and the new red sandstone of the Merse; but it is probable, that with minute attention it may be observable †. In this part of our survey, the most striking and important feature of the scenery is Cockburn Law, a beautiful hill about 900 feet above the level of the sea, and equally interesting in an antiquarian, geological, and botanical point of view. The Whiteadder washes the base of this hill, on the northern bank of which, embowered in wood, lies the Retreat, a summer residence of much sweetness and beauty. The fundamental rocks here, as seen on the banks, and in the bed of the Whiteadder, are the greywacke and greywacke slate, but the greater part of the hill itself consists of transition granite, trap, and porphyry. The whole of Abbey St Bathan's, the adjacent parish towards the north, we believe to consist of the ordinary greywacke, and its accompanying slate, as also the parish of Buncle, towards the east, where copper has been wrought to a considerable extent, although, we believe, with very little profit to those engaged in the concern. In this part of our course the most interesting

* Greywacke has a basis of clay-slate, and in it imbedded portions of clay-slate, grey quartz, and felspar. Generally, too, there is a good deal of mica in it, especially in the neighbourhood of that part of these hills now noticed. The slate is the same rock, only smaller grained, and having more clayslate.

† The old red sandstone occurs in this manner farther towards the west at Longformacus, and in the neighbourhood of Greenlaw. At the former of these places, it forms the bed of the small river Dye.

botanical habitat is Buncle wood, a tract of ground about 100 acres in extent, and finely varied for the Botanist by smooth green turf, wild moor, and marsh.

" Proceeding still towards the east by Edincraw and Reston we arrive, after a mile or two, at the beautiful valley, extending, in a northerly direction, from Houndwood to Cockburnspath. The greater part of this valley is watered by the small river Eye ; the whole bed of which, from its rise to its fall, appears to consist of greywacke, and its accompanying greywacke slate, with subordinate rocks of trap. Beds of peat, too, of considerable thickness, occur in the bottom of this hollow, and extend for several miles beyond Houndwood and Renton Inns. The sides of the valley now noticed are lofty, and beautifully adorned, especially on its eastern side, by natural woods and extensive plantations. The rocks are all transition. Towards the northern end we come to the Pease or Peath's Burn, along whose steep banks, and underneath the magnificent arch of whose bridge we pass, till we arrive, in a short time, at its mouth, and the shores of the German Ocean.

" From this our course is naturally directed eastward along the coast, the whole line of which, for many miles, is very lofty, naked, and precipitous. Not having examined the whole of it with any thing like minute attention, it may be simply sufficient to mention, that, throughout the greater part of its extent, from this point to the promontory of St Abb's, the rocks appear to be still greywacke and greywacke slate, the former being frequently broken in pyramids and insulated masses by the violence of the waves, and often exhibiting very curious and singular distortions in position and in stratification. The most interesting and striking object between the two points now al-

luded to, is the ruin of Fast Castle, built on a magnificent cliff overhanging the waves. A little eastward from this, we reach the mouth of a naked, deep, and savage glen, equally interesting to the botanist and geologist; and, after a few additional miles, arrive at the magnificent mountain promontory of St Ebba.

"Few parts of the kingdom can exhibit a finer and more splendid piece of coast scenery than St Abb's, to him especially who surveys it from the sea beneath, whether it be in the summer season, when in calmness and security he sails over the peaceful and pellucid waters, amid gloomy caverns, rocky archways, and majestic cliffs, half shattered by the storm or lightning, and shooting up aloft their giant greatness to the skies; or whether he visit it when the myriads of sea-fowl are clothing the lofty cliffs, or darkening with their multitudes the noon-day sun, or filling all the surrounding echoes with their dissonant voices; or whether, when the elements of sea and sky are mingled together, and the waves are lashed up to foam, he sits securely on its mountain-top, and eyes the maddening strife.

"But it is not for its mere natural scenery that St Abb's is so interesting—it is, if possible, still more so, in a geological point of view. In a sketch of this description, it may be sufficient to describe St Abb's as a huge insulated mass of trap rocks, of which the principal are, trap-tuffa, amygdaloid, and felspar porphyry. In the first of these rocks there is generally a basis of clay, with imbedded portions of basalt, amygdaloid and porphyry. In the second rock there is also a distinct basis or ground, generally of a greenish coloured clay, containing amygdaloidal shaped cavities filled with calcareous spar, zeolite, quartz nodules and agates. In the last rock the basis is generally fel-

spar, with imbedded crystals of the same. When these rocks occur in the manner, and with the characters now described, it is usual to consider them as subordinate to the old red sandstone; but where no formation of this kind is observable, and where the rocks within a few yards are evidently greywacke, as they are in the situation now before us, there seems no other way of describing the trap rocks of St Abb's but as subordinate to the transition greywacke and greywacke-slate. We have described St Abb's as an insulated mountain mass, it being completely cut off from the wide extent of high ground towards the west by a deep valley, in the centre of which is a marsh of considerable botanical interest.

"There are probably few places where the contrast, both in external aspect and in botanical phenomena, as well as in structure, is so remarkable, as it is between the two sides of this valley, especially at the little inlet termed Pettycurwick. Standing by the sea-side at this small creek, and looking westward, we perceive, for many miles along the lofty coast, the most splendid displays of stratification, the strata being of all forms, and in all positions, curved, zigzag, vertical, horizontal, &c.; but the outline both of the summits and the slope of the precipices, we observe, in general, to be smooth and unbroken, and more like a vast sloping wall or mural defence, than a natural piece of rock-scenery. Looking towards the east again, which consists of the high ground of St Abb's, the outline is rugged, broken, and highly picturesque, the sea in that direction being ranged with beetling crags and overhanging cliffs, in one place hollowed out into magnificent caves and natural arches, and, in another, broken into wild and insulated pinnacles. In the botany of the two sides of the valley, we have

also mentioned that there is a difference, and this sufficient to attract the notice even of the most superficial observer. For instance, the *Arenaria verna* grows among the unstratified trap rocks of " the head " in the most beautiful luxuriance, while, on the opposite side of the valley, though the distance in one place be not more than a few yards, not a specimen is to be seen. The *Hypericum humifusum*, again, we observe in considerable abundance on the stratified side, while, on the other, we do not meet with it,—and the same remark I have made in similar situations elsewhere. It may be curious also to observe, that the *Primula elatior*,* as well as the common Cowslip, although abundant among the rocks on the greywacke side, are not met with among those of the opposite side,—a remark which holds good in other parts of the district comprehended in the following Flora.

" Two additional remarks shall conclude our notice of St Abb's. To the most trivial observer, it must be evident that originally St Abb's Head has been an island of the sea, similar to the Bass in the Frith of Forth, or to the rock of Ailsa in the Frith of Clyde; it being quite clear, that the sea, at one time, has flowed through the narrow valley, but has gradually been excluded by the debris falling from each side, which has thus elevated its bottom at either end, and united at length St Abb's to the mainland.

" The other remark relates to the probable origin of that great mass of trap rocks which forms this lofty promontory. It is impossible, we conceive, for any man who knows any thing about rocks at all, to remark the singular position of the greywacke at the little inlet already mentioned, where the two

* Rather a variety of *Primula vulgaris*. See p. 54.

sides of the valley approach nearest (and almost without taking into account any of the other appearances equally conclusive, although not quite so evident), without coming at once to the conclusion, that some prodigious violence must have been necessary to cause the present very singular and distorted aspect of these strata—that this violence must have proceeded from beneath—that these rocks in this manner must have been projected in a liquid form, as lavas—and that thus St Abb's is neither more nor less than an extinct volcano.

"About a mile and a half south from St Abb's lies the village of Coldingham,—northward and westward from which extends the wide moor of the same name, consisting still of greywacke, as far at least as can be determined from its loose rocks and general outline, for few or no fixed rocks make their appearance. It is a wide and desolate region, but far from being uninteresting, especially in cryptogamous botany. The most striking object in this tract is Coldingham Loch, a very curious and beautiful piece of water, about a mile and a half in circumference, and occupying a very deep hollow in the hills. Coldingham is about a mile distant from the sea, to whose banks we shall again proceed, as it is there that the geology of Berwickshire is both the most interesting and the most apparent. Here, and for several miles, the coast appears to consist of alternations of trap rocks, trap-tuff being the most abundant, and the outline of the coast we find accordingly to be considerably broken and rugged. This rock, very similar to that forming the great central mass of Arthur's Seat, is particularly abundant a little to the north of Eyemouth. Very near this, and forming the bold and projecting point named the Fort, is a very singular and immense bed of conglomerate·

It rests on a rock, which, from its decayed surface, and from being almost always covered with the sea, it is difficult to name, but which has all the appearance of a porphyry, or, at all events, of a trap rock. This conglomerate is composed of rolled masses, generally of a considerable size, and from the neighbouring rocks, cemented by calcareous spar. From the appearances at one or two parts of this headland, it would seem that this immense bed is to be considered as the rudiments of the old red sandstone formation, there being in these parts several rude, but distinct, attempts at stratification, the rock being there of a much smaller texture; and we believe that a coarse conglomerate of this nature is almost always found accompanying the first formation of old red sandstone.

"This projecting mass forms one side of the small Bay of Eyemouth, which has evidently been formed by the river Eye, which here empties itself into the sea. On the opposite or eastern side of this bay, the greywacke and greywacke slate again commence, and continue several miles, till we reach the fishing-station of Burnmouth. The greywacke, we may remark, is here very fine grained, being almost entirely felspar. Trap, we may also remark, is here rare, never occurring in greater abundance than as an occasional vein, or thin dike, intersecting the strata; and wherever this takes place, we almost invariably behold either a distortion or dislocation of these strata.

"From Burnmouth to Berwick, the sea-banks exhibit a very different set of rocks from any we have hitherto examined. These are the rocks which form the Second or New Red Sandstone Formation, which here present themselves very

unexpectedly, and resting apparently without any link or connection whatever, immediately on the greywacke. Of these rocks we shall give a very rapid sketch; but previously to doing so, it may perhaps be as well to diverge for a few moments a very little towards the interior, to notice the Hill and Moor of Lamberton, which commence less than half a mile from Burnmouth, and which we remark as the last tract of any consequence, in this direction, appertaining to the Transition series. The high ground now noticed rises almost immediately from the shore to the height of about 300 feet above the sea's level. Generally speaking, it presents a smooth, green outline, with very few projecting rocks. Several small streams produce a variation on its surface, in some places forming narrow ravines, in others marshes.* As far as a very moderate examination has gone, it seems fundamentally to be greywacke, with subordinate beds of porphyry and transition granite or sienite; but from the thick verdure, and the want of naked rocks, it would be very difficult, without most minute inspection, to give any thing like a satisfactory account of the geology of this hill. Looking from the slope of these heights, which overlooks the ocean, we observe far below a broad flat terrace, or table-land, presenting a very abrupt face to the sea. This is part of the New Red Sandstone Formation, which, as we have already said, extends along the whole coast from Burnmouth to Berwick,—a narrow stripe at first, but gradually increasing in

* RAY seems to have found *Tofieldia palustris* by the side of that stream which rises on this hill, and runs by the Shields. The ravine above Burnmouth is one of the most interesting botanical resorts in the neighbourhood. The hill itself is rich in plants; and the vast profusion of *Funaria hygrometrica* and *Didymodon purpureum* in particular places, is worth remarking.

breadth as we approach the mouth of the Tweed. The principal rocks of this Formation (as it occurs in Berwickshire at least) are sandstone and sandstone slate, indurated marl, a coarse kind of limestone, and thick beds of conglomerate. In general appearance, it bears some resemblance, at first sight, to the Coal Formation; but is evidently more recent in its date, and more mechanical in its structure. The predominating and characterizing rock is the sandstone, which is soft, friable, and variegated in its colour. The town of Berwick is built on this formation, and, we believe, what are called the Liberties of Berwick, are all included in it. At the mouth of the Tweed, near Berwick Pier, we have an excellent opportunity of noticing the characters of this formation, the succession of its rocks, and the disposition of its strata. The principal rock there is still the sandstone, containing numerous impressions, principally of tropical plants.* This formation is continued southward under the bed of the Tweed: at a short distance from which, it is succeeded by the Coal Formation of Northumberland.——Ascending the course of the Tweed, we behold, for many miles, on each side of the river, a display of nearly the same rocks as those observed at its mouth, sandstone still being the predominating substance. The sandstone almost always is found forming the bed of the river, the rest of the banks being generally alternations of sandstone slate, indurated marl and conglomerate, the last being of a very recent and mechanical aspect (consisting of the same substances which still compose the channel of the river), and usually oc-

* The coarse limestone, however, consists almost entirely of bivalve shells, echini, and corallines.

curring highest, although frequently this situation is held by the sandstone. In this sandstone numerous vegetable remains occur, and these occasionally of a great size. In quarrying it, the workmen often come to a harder variety, which they term *Bastard Whin;* and numerous circular masses of this description every where present themselves, which seem very like rolled masses of an older date, which have become accidentally imbedded in their present situation, when the sandstone was forming. Calc sinter is the only other substance worth mentioning as accompanying this formation, and that both of an ancient and of a modern date.

" At the distance of a mile or two from Berwick, we notice the mouth of the Whiteadder, a tributary of the Tweed, the banks of which, for nearly half its course, by Edrington, Foulden, Hutton, Allanton, and Chirnside, exhibit a succession of the self same rocks, except on the banks at Hutton Hall, where we meet with a mineral different from any now noticed, but which, in other parts of the world, sometimes occurs in great abundance in this formation. This is the fibrous gypsum, both the red and white varieties of which occur in the form of numerous thin beds, alternating with the sandstone and marl. Still ascending the Tweed, we pass the fine domain of Paxton, the well-known Chain-bridge a little above it, Norham Castle, Ladykirk, mouth of the Till, and Coldstream—regarding all which places it is unnecessary, in an outline of this description, to say more, than that the self-same rocks, with almost the same characters, and nearly in the same succession, still continue to present themselves.

" Leaving such details, we conclude the present outline with one or two general remarks. The first regards the situa-

tion which this formation holds, and the relation which it bears to those by which it is bounded. On the N. and NE., as already mentioned, it is bounded by the rocks of the transition series; and on the S., a short way beyond the Tweed, by those of the coal formation. It thus occupies a great hollow or basin between these two formations, lying above coal on the south, and apparently resting immediately on greywacke on the north. On the west it is bounded by rocks belonging to the Old Red Sandstone.

"The second remark regards the probable date or era of this formation. Lying above the coal formation, it is natural to suppose that it must have been formed at a period subsequent to that formation, and this conclusion will be strengthened by an examination of the rocks themselves—their more simple, rude and mechanical aspect—their greater softness and looseness—the similarity of many of them to deposits still forming, together with the difference of contained organic remains—all tending to show that they are newer than the coal formation—that they have been formed more rapidly than the rocks of that series, and when the energies of nature do not appear to have been so high.

"Our last remark regards the probability of coal being found in Berwickshire. Various attempts have been made in different parts of the county to discover this important mineral, but hitherto without success, although the bores in several places, we believe, have exceeded sixty fathoms. Nor is this surprising. Coal, or at least coal fit for use, is not a member of the New Red Sandstone Formation; and although it is a fact, that, in many parts of England, coal is apparently wrought to a great extent in this formation, yet it is not in any part of

it, but in the real coal formation, which lies under, that the coal is found. We do not say, therefore, that coal is not to be found in Berwickshire, as long as we know that it rests towards the south on the coal formation of Northumberland; but the facts now mentioned, should convince those interested in its discovery, that it is in vain to look for it in any part of that formation which covers the low part of Berwickshire—that this formation must previously be completely dug through—that then it must be ascertained whether the next rock be, or be not, an undoubted member of the coal formation; and that until all this be done, the occurrence of coal in Berwickshire must be considered, as of all uncertain things, the most uncertain, and the most problematical."

The Nomenclature which I have adopted, unless when the contrary is specified, is the same as that of the "English Flora" of Sir J. E. SMITH,—a work which stands unrivalled in this country for the purity and accuracy of its descriptions, and for the interest of its botanical discussions. The *Arrangement of British Plants* by Dr WITHERING, the *Flora Scotica* of LIGHTFOOT and of Professor HOOKER, the *Flora Lapponica*, the *Flora Edinensis* of Dr GREVILLE, the *Botanist's Guide through Northumberland and Durham*, and the *Catalogue of Plants growing in the vicinity of Berwick* by Mr THOMPSON, have been regularly consulted, and whatever information they contained suitable to my purpose, has been borrowed without reserve. A considerable number of extracts has been made

from GERARDE's *Historie of Plants*, a book in which the botanical student will find much matter of amusement, and sometimes an excellence of description rare even in modern works, though expressed in a quaint manner and antiquated style. Various other works have been resorted to, and if not particularly quoted, the circumstance of their being in common use would rebut the charge of any intentional plagiarism.

To Mr WINCH of Newcastle I am greatly indebted for his communications, and for the liberal manner in which he permitted me to submit to his inspection every species concerning which I could entertain a doubt. I was thus enabled to correct several errors into which I had fallen. In common with all who have attempted to illustrate the natural history of Scotland, I have experienced the kindness of Mr NEILL, of whose remarks I have had frequent occasion to avail myself. To my friends Dr JAMES THOMPSON, now of Jamaica, and WILLIAM BAIRD, Esq. surgeon, my grateful acknowledgments are due for their communications; but in a particular manner they are due to the Rev. A. BAIRD, whose contributions have been numerous and interesting, and with whose company I was favoured in several excursions made from "the love of Nature's works," and in quest of them,—and which, when I see them spread out in the Herbarium, what are they but proofs,

> "That man, immur'd in cities, still retains
> His inborn inextinguishable thirst
> Of rural scenes, compensating his loss
> By supplemental shifts, the best he may."

VERONICA FILIFORMIS.

Lizars Sculp.

CLASS I.

MONANDRIA.

—"Thy desire, which tends to know
The works of God, thereby to glorify
The great Workmaster, leads to no excess
That reaches blame, but rather merits praise
The more it seems excess; * * *
* * * * * * * * * * *
For wonderful indeed are all His works,
Pleasant to know, and worthiest to be all
Had in remembrance always with delight."

MILTON.

I. MONOGYNIA.

1. SALICORNIA. *Calyx* tumid, undivided; *corolla* none; *stamens* 1 or 2; *seed* single, invested with the calyx. (Plant leafless, much branched and jointed.)

2. ZOSTERA. *Flowers* aggregate; *spadix* flat, many-flowered; *drupa*; *nut* with one kernel; *stigmas* 2. (Grass-like; the flowers all on one side of the spadix, which is contained in the sheaths of the leaves.)

3. CHARA. *Berry* with many seeds; *style* none. (No calyx no corolla. Aquatic herbs with whorled branches; no leaves.)

II. DIGYNIA.

4. CALLITRICHE. *Calyx* none; *petals* 2, inferior; *seeds* 4, naked, compressed; some flowers separated. (Inundated or floating herbs, with minute axillary white flowers.)

I. MONOGYNIA.

1. SALICORNIA.

1. *S. herbacea*, stem herbaceous, erect; joints compressed, notched; interstices inversely conical; spikes tapering upward. *Common Jointed-glasswort.*

Hab. Muddy sea-shores. Between Goswick Links and Fenham, Thomp. Holy Island. Aug. Sept. ⊙

Makes a good pickle, and for this purpose a small quantity is annually sold in our market.

2. ZOSTERA.

1. *Z. marina*, leaves entire, obscurely three-ribbed, grass-like; stems lightly compressed. *Common Grass-wrack.*

Hab. Salt water ditches. Between Goswick Links and the Old Law, Thomp. On the road from Goswick to Holy Island. Aug. ♃.

Said to be excellent for packing glass-bottles and other brittle ware. In some northern parts of Europe, as in Iceland, used for bedding; and of late has been imported in large quantities from the Continent, and is now prepared in this country, for stuffing mattresses, and for the other purposes to which horse-hair is in general applied.

3. CHARA.

1. *C. vulgaris*, striated, without prickles; whorled branches tapering, with internal partitions; bracteas four together. *Common Chara.*

Hab. Muddy stagnant ditches, common. July. ⊙

Plant nauseously fetid, and incrusted more or less with calcareous earth, which is not accidental, as many have supposed, but an essential and integral part of its constitution. Dr Brewster has ascertained that each group or mass of the calcareous matter is held to the stem of the plant by a very fine transparent membrane; and that the minute particles of which each group consists, possess double refraction, and have regular neutral and depolarizing axes. He also found that the plants were phosphorescent when laid upon heated iron, so as to display their entire outlines in the dark.

2. *C. hispida*, furrowed; whorled branches tapering, with internal partitions; bracteas whorled; prickles on the stem bristly, deflexed. *Prickly Chara.*

Hab. Lough in Holy Island. July, Aug. ⊙

Mr THOMPSON says, that the *Chara flexilis* grows abundantly at the "mouth of the rivulet at Goswick," but we could never find there any other than *C. vulgaris* less incrusted than usual.

II. DIGYNIA.

4. CALLITRICHE.

1. *C. verna*, leaves triple-ribbed, the uppermost crowded, obovate; margin of the seeds obtuse. *Vernal Water-starwort.*

Hab. Ditches and ponds common. May. ⊙

The upper leaves are crowded into a star-like form, and float on the surface; but sometimes all the leaves are linear, distant and immersed, a state in which it approaches *C. autumnalis.* It produces seed most profusely when left dry.

2. *C. autumnalis*, leaves linear, abrupt, single-ribbed, uniform; margin of the seeds membranous. *Autumnal Water-starwort.*

Hab. Pools of water in the Vale below Langleyford, with the preceding. June—October. ⊙

Grows in a very bushy or cespitose manner. Stems slender, branched. Leaves very narrow, perfectly linear, emarginate at the point, cellular. The upper ones become crowded as they rise to the surface, and somewhat ovate, but, even under a high magnifier, they are all single-ribbed, and notched at the apex.

CLASS II.

DIANDRIA.

—"With wise intent
The hand of Nature on peculiar minds
Imprints a different bias, and to each
Decrees its province in the common toil.
* * * * * * * * * *
* * * * * * some by the hand
She led o'er vales and mountains to explore
What healing virtue swells the tender veins
Of herbs and flowers." AIKENSIDE.

I. MONOGYNIA.

* *Flowers inferior, monopetalous, regular.*

5. LIGUSTRUM. *Corolla* four cleft; *berry* with 4 seeds.

6. FRAXINUS. *Corolla* none, or deeply four-cleft; *capsule* compressed, with 1 or 2 seeds; some flowers without stamens.

* * *Flowers inferior, monopetalous, irregular, with seed-vessels.*

8. VERONICA. *Corolla* wheel-shaped, deeply four-cleft; *capsule* of 2 cells. (Herbaceous; leaves opposite; flowers alternate, mostly blue.)

9. PINGUICULA. *Corolla* ringent, spurred; *capsule* of 1 cell; *calyx* five-cleft. (Marsh herbs. Leaves and flower-stalks radical, simple.)

10. UTRICULARIA. *Corolla* ringent, spurred; *capsule* of 1 cell; *calyx* of 2 leaves. (Aquatic herbs. Leaves finely divided, bearing bladders.)

* * * *Flowers inferior, monopetalous, irregular, with naked seeds.*

12. SALVIA. *Corolla* ringent; *stamens* with a lateral stalk. (Stem square; flowers in whorled spikes.)

* * * * *Flowers superior (racemose.)*

7. CIRCÆA. *Corolla* of 2 petals; *calyx* in 2 segments; *capsule* of 2 cells; *seeds* solitary.

* * * * * *Flowers apetalous.*

11. LEMNA. *Corolla* none; *calyx* of 1 leaf; *capsule* with 1 seed. (A simple frond floating on water, with a central root of one or more fibres, each tipped with a cylindrical cap.)

II. DIGYNIA.

13. ANTHOXANTHUM. *Calyx* glume of 2 valves, one-flowered; *corolla* glume of 2 valves, awned; *seed* 1. (A grass.)

I. MONOGYNIA.

5. LIGUSTRUM.

1. *L. vulgare*, leaves elliptic-lanceolate, obtuse, with a small point; flowers in dense panicles, white; berries black. *Privet.*

Hab. Hedges occasionally, and, according to Mr WINCH, indigenous on the magnesian limestone in the county of Durham. July.

Makes a neat hedge in gardens, for which this shrub is peculiarly well fitted; since, as RAY observes, "inter omnes frutices, arbores et herbas nihil est quod in tot figuras et elegantias, effingi, flecti, aut formari tondendo queat ac Ligustrum."

6. FRAXINUS.

1. *F. excelsior*, leaves pinnate, leaflets serrated; flowers without calyx or corolla. *Common Ash.*

Hab. Woods and hedges. May.

A fine tree "far stretching his umbrageous arm," and remarkable for the manner in which the lower branches curve up at their extremities. When growing near water, it sometimes hangs down its boughs like the weeping-willow. No tree is so often met with in ruins and upon ancient

walls, probably on account of the readiness with which its winged seeds (the *culverkeys* of our pastoral poets) are borne by the wind. It insinuates its roots far into the crevices of these old buildings, and thereby becomes an instrument of the destruction of what affords it support. In like manner it fastens upon loose slaty rocks, and decorates them with its verdure. It is one of the latest trees in coming into leaf, and loses its leaves early in autumn. These are greedily eaten by cattle; and it ought not to be planted in parks or lawns intended for the pasture of milch cows, for they communicate a disagreeable taste to the butter. The wood is tough and valuable, being applicable to a great variety of purposes; and it possesses the very singular property of being in perfection even in infancy,—a pole three inches in diameter being as valuable and durable, for any purpose to which it can be applied, as the timber of the largest tree.

7. CIRCÆA.

1. *C. lutetiana*, stem erect; leaves ovate, slightly toothed, opaque and downy; clusters one or more, of many small white or reddish flowers. *Common Enchanter's-nightshade.*

Hab. Moist shady woods or hedges. Near the Carding-mill at Wooler, Dr J. Thompson. Wooded banks below Langleyford. July. ♃

8. VERONICA.

* *Spikes terminal. Root perennial.*

1. *V. serpyllifolia*, cluster terminal, somewhat spiked; flowers pale blue or white, with dark streaks; leaves ovate, slightly crenate, three-ribbed, smooth; capsule inversely heart-shaped, shorter than the style. *Smooth Speedwell.*

Hab. Pastures and road sides, particularly on a clay soil, common. May, June.

* * *Clusters or spikes lateral. Root perennial.*

2. *V. Beccabunga*, leaves elliptical, flat, obtuse; stem creeping, smooth; flowers blue. *Brooklime.*

Hab. Ditches and water-courses, common. June July.

3. *V. Anagallis*, clusters opposite, flowers light blue; leaves lanceolate, serrated, acute; stem erect, smooth. *Water Speedwell.*

Hab. Ditches, frequent. July.

We have gathered specimens upwards of two feet in height, with leaves five inches long and an inch in breadth; while others do not exceed two inches, and have leaves proportionally short and narrow.

4. *V. scutellata*, clusters alternate, flowers pale flesh-colour, streaked; fruit-stalks reflexed; leaves linear, slightly indented; stem slender. *Marsh Speedwell.*

Hab. Bogs and sides of ditches, rare. "Below Calf-hill plentiful," Thomp. Near Mains, Berwickshire, Rev. A. Baird. July, August.

5. *V. officinalis*, flowers light blue, streaked, their stalks shorter than the bracteas; stigma capitate; leaves elliptical, serrated; stem procumbent; plant rough with short hairs. *Common Speedwell.*

Hab. Dry banks, heaths and pastures, common. May, June.

In Sweden, an infusion of the leaves is much used in place of tea; but it is a sorry substitute, notwithstanding that an old Danish botanist has contended for its being the identical tea of China.

6. *V. Chamædrys*, stem diffuse, with a hairy line at each side; leaves ovate, sessile, rugged, deeply serrated; calyx four-cleft, lanceolate; flowers large, bright blue, very beautiful. *Germander Speedwell.*

Hab. Meadows, pastures and hedges, common. May, June.

* * * *Flowers axillary, solitary. Root annual.*

7. *V. agrestis*, stem spreading, branched; leaves ovate, deeply serrated, shorter than the flower-stalks; segments of the calyx ovate; flowers small, bright blue; seeds cupped. *Field Speedwell.*

Hab. Cultivated fields, very common. May—Sept.

8. *V. arvensis*, stem erect; leaves ovate, deeply serrated, the floral ones sessile, lanceolate, entire, longer than the flower-stalks; flowers small, light blue; seeds flat. *Wall Speedwell.*

Hab. On dikes capped with earth, and in dry fields, common. May.

9. *V. hederifolia*, stem procumbent; leaves heart-shaped, flat, five-lobed; segments of the calyx heart-shaped, acute; flowers

pale blue, streaked; seeds cupped, wrinkled. *Ivy-leaved Speedwell.*

Hab. Cultivated fields, very common. May.

The "Mother-of-Wheat" of our husbandmen, a name expressive of a prevalent opinion that this weed will grow freely only on soils well fitted for the cultivation of that grain.

9. PINGUICULA.

1. *P. vulgaris*, nectary cylindrical, acute, as long as the very irregular petal; segments of the calyx oblong; capsule ovate. (Leaves ovate, with involute margins; flowers drooping, purple, palate hairy.) *Butterwort.*

Hab. Marshy places, particularly on moors, common. June. ♃

"The husbandmen's wives of Yorkshire," saith GERARDE, "do vse to anoint the dugs of their kine with the fat and oilous iuyce of the herbe Butterwort, when they are bitten with any venomous worme, or chapped, rifted, and hurt by any other meanes." The Laplanders use the leaves to make their *Tætmioelk*, a preparation of milk in common use amongst them. Some fresh leaves are laid upon a filter, and milk, yet warm from the rein-deer, is poured over them. After passing quickly through the filter, this is allowed to rest for one or two days, until it becomes ascescent, when it is found not to have separated from the whey, and yet to have attained much greater tenacity and consistence than otherwise it would have done.

10. UTRICULARIA.

1. *U. vulgaris*, spur conical, upper lip of the corolla the length of the palate, reflexed at the sides; flowers somewhat corymbose, 6 or 8, large, yellow. *Greater Bladderwort.*

Hab. Ditches; in the pond-field above Spindlestone. June, July. ♃

A very curious and interesting plant. The stems, about a foot long, lie prostrate in the water, and are beset, at regular intervals, with divided capillary leaves of a vascular structure, and armed with distant minute spines. Attached to the leaves are numerous crested vesicles of a green purple or pink colour, with an aperture closed by a valve, and having its margin armed with a few long spines. These vesicles are filled with water till it is necessary the

plant should rise to the surface, and expand its blossoms in the air. They are then found to contain only air, which again gives place to water when the plant descends to ripen its seeds at the bottom.

11. LEMNA.

1. *L. trisulca*, fronds stalked, proliferous, elliptic-lanceolate, thin, serrate towards the point; roots solitary. *Ivy-leaved Duckweed.*

Hab. Clear still waters, as in the pond at the Grieve's House. June. ⊙

2. *L. minor*, fronds obovate, flattish above and beneath; roots solitary. *Lesser Duckweed.*

Hab. Ponds and ditches, common. June. ⊙

12. SALVIA.

1. *S. verbenaca*, leaves serrated, sinuated, rugose, the lower ones stalked; bracteas heart-shaped; corrolla narrower than the calyx, violet blue. *Wild Clary.*

Hab. Grassy banks. Castle-banks, plentiful, Thomp. The same species, and not *S. pratensis*, as stated by WALLIS, grows sparingly near the ruin of the Abbey in Holy Island, and at Norham Castle. June. ⊙

It is remarkable that when the ripe seeds are immersed in water, they speedily swell out to the size of peas or frog-spawn.

II. DIGYNIA.

13. ANTHOXANTHUM.

1. *A. odoratum*, panicle spiked, ovate-oblong, (yellow in age); flowers longer than their awns, on short partial stalks. *Sweet Vernal Grass.*

Hab. Meadows and pastures, very common. May, June. ♃

In drying, this grass exhales the odour of Woodruff, and is one of the chief causes of the fragrance of new mead o w-hay.

CLASS III.

TRIANDRIA.

—" The penetrative Sun,
His force deep-darting to the dark retreat
Of vegetation, sets the steaming power
At large, to wander o'er the vernant earth,
In various hues; but chiefly thee, gay Green!
Thou smiling Nature's universal robe!
United light and shade! where the sight dwells
With growing strength, and ever-new delight."

THOMSON.

I. MONOGYNIA.

* *Flowers superior.*

14. VALERIANA. *Corolla* 5-cleft, protuberant at the base; *seed* 1, with a feathery radiating crown.

15. FEDIA. *Corolla* 5-cleft, protuberant at the base; *capsule* crowned with the toothed calyx, without valves, of 1–3 fertile cells; *seeds* solitary.

16. IRIS. *Corolla* in six deep unequal segments, alternately reflexed; *stigmas* two-lipped, like petals. (Leaves sheathing, sword-shaped.)

* * *Flowers inferior, chaffy. Seed* 1. (*Rush or grass like plants.*)

17. SCHŒNUS. *Corolla* none; *spike* of very few flowers; *glumes* 2-ranked, with many smaller empty external ones; *style* simple at the base, deciduous.

18. SCIRPUS. *Corolla* none; *glumes* imbricated all round, uniform, concave, expanded; *style* simple at the base, deciduous.

19. ELEOCHARIS. *Corolla* none; *glumes* imbricated all round, uniform, expanded; *seed* crowned and articulated with the dilated hardened base of the style.

20. ERIOPHORUM. *Corolla* none; *glumes* imbricated all round, uniform, expanded; *seed* subtended by numerous very long hairs.

21. NARDUS. *Corolla* of 2 valves; *calyx* none.

II. DIGYNIA.

(TRUE GRASSES.)

* *Flowers dispersed. Calyx of 2 or 3 valves, with a solitary floret.*

24. ALOPECURUS. *Calyx* of 2 valves; *corolla* of 1 valve, simple at the summit, awned at the base; *styles* combined.

23. PHLEUM. *Calyx* of 2 close parallel pointed valves, concealing the *corolla* of 2 awnless valves; *seed* loose.

22. PHALARIS. *Calyx* of 2 close parallel valves, concealing the double *corolla* of 3 or 4 valves, 2 innermost downy, subsequently hardened, investing the seed.

25. AGROSTIS. *Calyx* of 2 acute valves shorter than the *corolla*, which is membranous, tufted with hairs at the base, unchanged; *seed* loose.

* * *Flowers dispersed. Calyx of 2 valves containing 2 or 3 florets.*

26. AIRA. *Florets* 2, without any intermediate rudiment; *seed* loose; *corolla* unchanged.

28. MELICA. *Florets* 1 or 2, with the rudiments of 1 or 2 intermediate ones; *seed* coated with the hardened *corolla*.

27. HOLCUS. One *floret* barren; *corolla* awned; *seed* coated with the hardened corolla; *calyx* keeled.

* * * *Flowers dispersed. Calyx containing many florets.*

32. Briza. *Corolla* awnless, tumid, expanded, concave, without a keel; *seed* depressed, united to the corolla.

30. Poa. *Corolla* awnless, compressed, keeled, ovate, acute; *seed* loose, elliptic-oblong.

29. Glyceria. *Corolla* awnless, cylindrical, furrowed, ribbed, abrupt, not keeled; *seed* loose, cylindric-oblong.

31. Triodia. *Corolla* orbicular, expanded, obscurely ribbed, deeply cloven with an intermediate point; both valves concave; *seed* loose, depressed.

33. Dactylis. *Corolla* awned at the summit, lanceolate, keeled, compressed, inner valve folded, 2-ribbed; *seed* loose, oblong; *calyx* compressed, taper-pointed, unequal.

35. Festuca. *Corolla* awned at the summit, or pointed, keeled, nearly cylindrical, concave, inner valve flat, 2-ribbed, downy at the ribs; *seed* loose, oblong; *calyx* concave, acute, very unequal.

34. Cynosurus. *Corolla* awned at the summit, lanceolate, keeled, concave, inner valve flat, 2-ribbed; *seed* loose, elliptic-oblong; *calyx* awned, equal; *spikelets* in pairs, 1 entirely neuter.

36. Bromus. *Corolla* awned at the back, cloven, concave, inner valve flat, 2-ribbed, bristly at the ribs; *seed* elliptic-oblong, united to the inner valve.

37. Avena. *Corolla* awned at the back, cloven, nearly cylindrical, inner valve flat, ovate; *seed* elliptic-oblong, united to the hard outer valve.

38. Arundo. *Corolla* surrounded with long permanent hairs; *florets* 1 or many.

* * * * *Flowers aggregate, on a jointed or toothed common stalk with lateral excavations.*

39. Lolium. *Calyx* of 1 principal valve opposite to the stalk, fixed, many-flowered.

41. TRITICUM. *Calyx* of 2 transverse opposite valves, solitary, many-flowered.

40. HORDEUM. *Calyx* of 2 parallel valves, aggregate, ternate, with 1 floret; central *flower* only perfect.

III. TRIGYNIA.

42. MONTIA. *Calyx* of 2 leaves; *corolla* monopetalous; *capsule* with 3 valves and 3 seeds.

I. MONOGYNIA.

14. VALERIANA.

1. *V. dioica*, radical leaves ovate; stem a span high, its leaves pinnatifid; flowers dicœcious, flesh-coloured. *Marsh Valerian.*

Hab. Marshy meadows, frequent. June. ♃

2. *V. officinalis*, stem 3 or 4 feet high; leaves all pinnate, leaflets lanceolate, nearly uniform, serrated; flowers blush-coloured, in large corymbose panicles. *Wild Valerian.*

Hab. Sides of water-courses and marshy places, frequent. July. ♃

The root, particularly when the plant grows in dry places, has a very peculiar disagreeable odour, and affords a medicine of considerable value. Cats are so fond of it as to be almost intoxicated by it into outrageous playfulness.

15. FEDIA.

1. *F. olitoria*, stems a span high, dichotomous; leaves linear-tongue-shaped, blunt; flowers capitate, pale blue; capsule inflated, two-lobed. *Lamb's Lettuce.*

Hab. Light rather sandy soils. Castle-hills. Ravine at Burnmouth; but most abundant below the Union Bridge, and about Warren. May. ☉

Has been long known and used as a salad herb, and lately as an excellent vegetable dish for the table, dressed in the manner of spinage. A small bed of rich garden-earth sown with the seeds in August, or in the end of July, will supply an excellent portion of salad throughout the winter until April, the season when other salads are not to be had.

16. IRIS.

1. *I. pseudacorus*, corolla beardless, inner segments smaller than the stigmas; seeds angular. *Yellow Iris.*

Hab. Sides of ponds and marshes, common. July. ♃

The roots, in Arran, are used to dye black; in Jura, boiled with copperas to make ink. They are strongly purgative, and said to be particularly useful in dropsical complaints. Formerly recommended as a cure for toothache. "But above all," says ETTMULLER, "which I have hitherto known, the juice of the root of the *Iris lutea* rubbed upon the tooth that is painful, or the root itself chewed in the mouth, in an instant, as if by a charm, drives away the pain of the teeth arising from what cause soever. He that communicated it to me, affirms that he had tried it forty times at least, with like success: I myself also have various times tried it, and a great many others have done the same by my persuasion, and I hardly ever knew it fail."—The seeds roasted make excellent coffee, superior to any other substitute.

17. SCHŒNUS.

1. *S. nigricans*, stem a foot high, round, naked; head roundish, abrupt, overtopped by one of the two floral leaves. *Black Bog-rush.*

Hab. Moors and boggy places, frequent. Field west of the Steps-of-Grace farm-house, Thomp. Below the Old Lamberton toll. Lamberton Moor, &c. June. ♃

18. SCIRPUS.

* *Spikes solitary, terminal.*

1. *S. cæspitosus*, stems tufted, 6 inches high, round, striated, sheathed and invested with numerous scales at the base; spike small, brown; outer glumes as long as the spike, pointed. *Scaly-stalked Club-rush.*

Hab. Abundant on all our moors, and in spring a principal food of Highland sheep. July. ♃

2. *S. pauciflorus*, stem round, with a tight leafless sheath at the base; spike ovate, naked; glumes obtuse, with membranous

edges, the two outer the largest, but shorter than the spike. *Chocolate-headed Club-rush.*

Hab. In a bog in the field adjoining Spring Gardens. Aug. ♃

3. *S. fluitans*, stem branched, leafy, pliant and floating; flower-stalks alternate, naked; spikes of few flowers, with obtuse greenish glumes; stigmas 2. *Floating Club-rush.*

Hab. Pools and ditches. "Moor west of Belford plentiful," Thomp. July. ♃

* * *Stem round, with several spikes.*

4. *S. lacustris*, stem 4 to 6 feet high, naked; pannicle cymose, twice compound, terminal; spikes ovate; bracteas generally much shorter than the panicle. *Bull-rush.*

Hab. Sides of rivers and ponds. Whiteadder, particularly near its junction with the Tweed, Thomp. July. ♃

The stems are much used for making mats, chair-bottoms, and for thatching.

5. *S. setaceus*, stems tufted, 3 inches high, bristle-shaped, leafy at the base; spikes about 2, sessile, surmounted by a leafy bractea; seed furrowed, without bristles. *Bristle-stalked Club-rush.*

Hab. Wet gravelly places, frequent on moors. Bog below Shoreswood-hall. Haidendean, Dr Thompson. Lamberton Moor, &c. July, August. ☉

6. *S. caricinus*, stem roundish, leafy at the bottom; spikes aggregate, two-ranked, many-flowered; leaves flat, with rough edges and keel; seed with six bristles at the base. *Compressed Club-rush.*

Hab. Boggy meadows. "Links near Bamburgh," Winch. Near the style below Gallowshill, Thomp. Above the Coves in Holy Island. July. ♃

Root creeping. Stems from 4 inches to upwards of a foot in height, simple, smooth, rounded until within an inch or two of the spikes, when it becomes suddenly triangular. Leaves grass-green, shorter than the stem, sheathing, channelled, the upper frequently plane, smooth and unkeeled on their lower part, becoming keeled and triangular upwards; the keel and edges rough. Lower bracteas foliaceous, shorter or longer than the spikes, which are 2-ranked, of a brown colour. The seed is triangular, with a long slender beak, and several long hairs at the base.

** * * Stem triangular. Panicle leafy.*

7. *S. maritimus*, stem 1 to 3 feet high; panicle terminal; spikes conglomerate; glumes torn, with an intermediate point; stigmas 3. *Marsh Club-rush.*

Hab. Salt marshes. Mouth of the Whiteadder; Yarrow Haugh; below Brock's Mill; "Coast near Beal," Thomp. July, Aug. ♃

8. *S. sylvaticus*, stem about 3 feet high, leafy throughout; panicle terminal, cymose, repeatedly compound; flower-stalks sheathed at the base; spikes aggregate, small. *Wood Club-rush.*

Hab. River sides above the Union Bridge, plentiful. July. ♃

19. ELEOCHARIS.

1. *E. palustris*, root creeping; stems round, leafless, sheathed at the base, a span high; spike oblong, naked; stigmas 2; seed lenticular, most convex at one side. *Creeping Spike-rush.*

Hab. Marshy places, and at the sides of rivers and ponds, common. June, July. ♃

20. ERIOPHORUM.

** Spike solitary.*

1. *E. vaginatum*, stem triangular above, round below with a swelling sheath; spike ovate; glumes membranous. *Hare's-tail Cotton-grass.*

Hab. Turfy boggy heaths. Below Shoreswood Hall, Dr Thompson. Murton Craigs; and common on our more elevated moors. April. ♃

** * Spikes several.*

2. *E. polystachion*, stem round; leaves flat, lanceolate, with a triangular point; stalks of the spikes smooth; hairs thrice the length of the spike. *Broad-leaved Cotton-grass.*

Hab. Boggy meadows, not common. Below Allerton Mill, plentiful; in a field east of Easington House, below Belford, now ploughed out. April. ♃

Root fibrous. Stem 2 feet high, soft, smooth, leafy, round, obtusely triangular upwards, sometimes much compressed.

Radical leaves numerous, longer than the stem when in flower, and very little shorter even when in seed, broad, with a long triangular roughish point. Stem leaves several, very long, with smooth sheaths. Spikes numerous, on long flattened smooth stalks, drooping, overtopped by a long foliaceous bractea.—The stem may be said to be often branched, that is, in many specimens 1 or 2 long stalks arise out of the sheaths of the leaves, and bear each a spike of flowers.

3. *E. pubescens*, stems angular; leaves flat, lanceolate, with a triangular point; stalks of the spikes downy; hairs twice the length of the spike. *Downy-stalked Cotton-grass.* (*E. polystachion*, Winch. Guide, i. 6; Greville, Flor. Edin. 13.)

Hab. Bogs and marshes, frequent; Castle-hills; field below the Old Lamberton Toll; Lamberton Moor, &c. June. ♃

Root fibrous. Stem 12–18 inches high, smooth, striate, hollow, obtusely triangular at the base, more acute upwards. Leaves all short, broad, rough on the edges and keel, with a short triangular point; the radical ones tufted, decaying soon; the cauline from 2 to 4, alternate, 2 or 3 inches long, with smooth sheaths as long as themselves. Stipula very minute, rounded, entire. Lower bractea shorter than the spikes when in seed, blackish at the base, many-ribbed, with a brown triangular point. Spikes 5 or 6, the central one largest and sessile, the others on furrowed stalks, covered with a short rough down. Glumes blackish, greenish-yellow at the base, ovate-lanceolate, 1 or 3-ribbed, membranous at the margins. Seed obovate, triangular, brown. Hairs very white and silky.

4. *E. angustifolium*, stem nearly round; leaves linear, triangular, channelled towards the base; stalks of the spikes smooth; hairs four times the length of the spike. *Common Cotton-grass.*

Hab. Bogs, particularly on moors, very common. April. ♃

There has existed much confusion relative to these three species, and yet no plants can be more distinct. The latter may always be known by its numerous very narrow leaves, as long as the flowering stem, which in fruit, however, rises considerably above them; and the stem-leaves are few and short. In the *E. polystachion* they are much broader, those of the stem much longer, and the plant itself more succulent, robust, and leafy; while its more numerous spikes are pendant on longer, sometimes branched,

stalks. As for *E. pubescens*, it can never be mistaken, if we attend to the short rather broad leaves, and to the furrowed downy flower-stalks.

21. NARDUS.

1. *N. stricta*, spike bristle-shaped, straight, the florets all pointing one way. (A rigid wiry grass growing in tufts.) *Common Mat-grass.*

Hab. Moors and heaths abundant. July. ♃

II. DIGYNIA.

22. PHALARIS.

1. *P. canariensis*, panicle ovate, resembling a spike; calyx glumes boat-shaped, entire at the summit; outer corolla of two naked valves. *Canary-grass.*

Hab. Cultivated and waste grounds, certainly not indigenous, and in no fixed station. July. ☉

One to 2 feet high, glaucous; spike variegated with green and white,—a beautiful grass, often cultivated in gardens for the sake of the seeds, which are given to Canary birds.

2. *P. arundinacea*, panicle upright with spreading branches; flowers crowded, unilateral; outer corolla of two bearded valves. *Reed Canary-grass.*

Hab. Margins of rivulets and ponds frequent. July, Aug. ♃

Stem 4 feet high, reed-like. Common in gardens, with variegated leaves, and known by the popular name of Gardeners' Garters.

23. PHLEUM.

1. *P. pratense*, cluster spiked, cylindrical; calyx abrupt, fringed at the keel, longer than its awns. (1 to 2 feet high; spike 1–5 inches long, compact.) *Common Cat's-tail-grass.*

Hab. Moist meadows and pastures, common, June–Oct. ♃

Hares are remarkably fond of this grass, and it is eaten without reserve by cattle in general. It produces early in

spring an abundance of fine foliage; but, though once celebrated for its agricultural merits, under the name of Timothy-grass, is now comparatively neglected.

2. *P. arenarium*, spike slightly panicled, ovate-lanceolate, obtuse; calyx-glumes lanceolate, fringed, thrice the length of the abrupt notched corolla. Stems several, 3–6 inches high. *Sea Cat's-tail-grass.*

Hab. Common on the sandy sea coast, Winch. Holy Island. May. ⊙

24. ALOPECURUS.

1. *A. pratensis*, stem erect, smooth, 1½ to 2½ feet high; spike somewhat panicled, 2 inches long, thick, soft; calyx-glumes acute, hairy, combined at the base, shorter than the awn of the corolla. *Meadow Fox-tail-grass.*

Hab. Meadows and pastures common. May. ♃

An early and very productive grass. It grows naturally in a moist soil, and is hence best adapted to improve very wet ground, that may be drained of superfluous moisture, or to form or ameliorate meadows that have a moist bottom, and are not apt to be burnt up in dry summers. CURTIS.

2. *A. geniculatus*, stem ascending, bent at the joints; spike cylindrical, slightly panicled; calyx-glumes combined at the base, abrupt, fringed; corolla notched, its awn twice the length of the calyx. *Floating Fox-tail-grass.*

Hab. Wet meadows and marshy places. July, Aug. ♃

25. AGROSTIS.

1. *A. vulgaris*, stem erect, 12–18 inches high; stipula abrupt, very short; panicle purplish, spreading, with divaricated capillary branches; corolla with or without a dorsal awn; calyx-valves nearly equal. *Fine Bent-grass.*

Hab. Meadows and pastures. July, Aug. ♃

Forms the turf of Murton Moor, and similar sheep-walks. For grass-plats and lawns considered by CURTIS the best of our English species, being of ready growth, bearing the scythe well, producing fine foliage, and resisting drought better than most.

2. *A. alba*, stem spreading, creeping; stipula oblong, ribbed; panicle condensed at the base of the main divisions, stalks rough; calyx-valves lanceolate, bristly at the keel; corolla rarely with a short awn. *Marsh Bent-grass.*

Hab. Moist meadows and road sides. At the side of the canal below New-water Haugh, and in other inland situations, the specimens answer exactly to the description of the *A. alba* in *Flor. Brit.*; but along our shores, where it grows abundantly in wet clayey spots, the panicle is more dense, the branches being not at all spread out, a variety which constitutes the *A. stolonifera* of the same work. July, Aug. ♃

This is the *Fiorin-grass* of Dr Richardson, and the Irish agriculturists, but has never been cultivated to any extent in this country. To be in perfection, it requires a moist climate or a wet soil, and it grows luxuriantly in cold clays unfitted for other grasses. In light sands, and in dry situations, the produce is much inferior both as to quantity and quality.

26. AIRA.

* *Corolla awnless.*

1. *A. cristata*, panicle spiked, lanceolate; calyx longer than its flower-stalk, shorter than the florets; glumes all pointed. (A span high.) *Crested Hair-grass.*

Hab. Dry elevated pastures not uncommon. About Genesis Gull-hole, Thomp. Links at Holy Island, Winch, Banks beyond Spittal, and opposite Spring Gardens, &c. July. ♃

2. *A. aquatica*, panicle spreading; florets even, obtuse, longer than the calyx; leaves flat, stipula oblong; stems floating. *Water Hair-grass.*

Hab. Ditches and watery places not uncommon. In a ditch below Calf-Hill, Thomp. Common about Ord; Tweedmouth Fields; Banks beyond Spittal. June. ♃

* * *Corolla awned.*

3. *A. cæspitosa*, panicle spreading, very large; florets about the length of the calyx, abrupt, hairy at the base, one of them on a

hairy stalk; awn short, from the base of the outer valve; leaves flat; stems 3 feet high. *Turfy Hair-grass.*

Hab. Rough bogs and moist shady places, common. July. ♃

4. *A. flexuosa*, panicle spreading, triple-forked, with wavy branches; florets about the length of the calyx, acute; awn from the middle of the outer valve, longer than the calyx, twisted; leaves bristle-shaped; stems 12–18 inches high. *Waved Hair-grass.*

Hab. Heaths and hilly places common. July. ♃

5. *A. præcox*, panicle close, erect; florets the length of the calyx, both sessile; awn nearly twice as long, from the base of the valve; leaves bristle-shaped, with angular sheaths; stems 2 or 3 inches high. *Early Hair-grass.*

Hab. Dikes capped with earth, and barren heaths, common. May, June. ☉

6. *A. caryophyllea*, panicle spreading, triple-forked, silvery grey; florets not longer than the calyx, both sessile; awn twice as long, from above the middle of the valve; leaves bristle-shaped with ribbed close sheaths; stems a span high. *Silver Hair-grass.*

Hab. Gravelly hills and pastures frequent. June, July. ♃

None of the *Airæ* are cultivated, and they contribute but little to the verdure of meadows or pastures. Some of them (2, 3, 4,) possess a considerable degree of elegance, and are often gathered for the purpose of ornamenting fire-places during the summer.

27. HOLCUS.

1. *H. lanatus*, root fibrous; stem about 2 feet high; leaves downy on both sides; calyx wooly; lower floret perfect, awnless; upper with an arched awn. *Meadow Soft-grass.*

Hab. Meadows and pastures abundant, but apparently not agreeable to cattle. June, July. ♃

2. *H. mollis*, root creeping; stem 2 feet high; leaves slightly downy; calyx partly naked; lower floret perfect, awnless; upper with a sharply bent prominent awn. *Creeping Soft-grass.*

Hab. Hedges and shady places; occasionally amongst corn. Redpath Fields, Dodd's Well, &c. Thomp. July, Aug. ♃

3. *H. avenaceus*, root knotty; stem 3 feet high; leaves rather harsh; calyx smooth; barren floret lowest, with a sharply bent prominent awn; fertile one slightly elevated, scarcely awned. *Oat-like Soft-grass.*

Hab. Sides of ditches, and in moist corn-fields: a troublesome weed in many farms in this neighbourhood. July. ♃

28. MELICA.

1. *M. uniflora*, petals beardless; panicles branched, drooping toward one side; flowers erect; spikelet with only one perfect floret. Stem 18 inches high. *Wood Melic-grass.*

Hab. "Ash-wood, Belford." Thomp. June. ♃

2. *M. cærulea*, petals beardless, acute; panicle close, erect, compound; flowers upright, cylindrical. *Purple Melic-grass.*

Hab. Bogs, and on moors, common. Aug. ♃

A hard coarse reedy grass, 1 to 2 feet high, remarkable from its purple panicle. In some parts of England brooms are made of the stems; and the fishermen in Skye make ropes of them, which they find, by experience, will bear the water well, without rotting.

29. GLYCERIA.

1. *G. fluitans*, panicle oblong, branched, divaricating; spikelets close-pressed; florets numerous, obtuse, seven-ribbed, with short intermediate ribs at the base; nectary obtuse, tumid. *Floating Sweet-grass.*

Hab. Ditches and stagnant waters, common. July, Aug. ♃

A large thick and succulent grass, with long leaves; when not in flower, floating on the surface of the water, but the flowering stems are erect. The seeds, under the name of Manna croup, are sold in our shops, and employed occasionally as a nourishing mild diet. They are said to be very sweet, especially before arriving at maturity.

2. *G. maritima*, panicle branched, rather close, erect after flowering; florets about 5, somewhat pointed, slightly 5-ribbed; root creeping. *Sea Sweet-grass.*

Hab. (1.) Sides of the Tweed above the Bridge; shores of Holy Island, abundant. (2.) St Abb's Head, and on the sea-shore from that to Redheugh. July. ♃

It appears to me that there are two very distinct varieties of this plant. When it grows in wet situations, (1.) The *root is fibrous*, and the foliage is large, soft, straight, and only slightly glaucous. This is well described in RAY's Syn. 409–10, No. 6.; and is the state of it which may have induced LIGHTFOOT to believe it a variety of the *G. fluitans*, for, like that species, the stems, in autumn, often extend to upwards of a foot in length, and float upon the water. When, on the contrary, it grows on dry stony situations, (2.) The root becomes creeping, the leaves are rigid, generally curved, and very glaucous. HOOKER's description is very characteristic of this state, Fl. Scot. i. 23, which is clearly the "*gramen caninum maritimum paniculatum*" of RAY, Syn. 410. No. 7. The species has cost me some trouble, and had it not been for the guidance of Mr WINCH, I would have considered the first as *G. procumbens*, and the second as the true *maritima*.

3. *G. procumbens*, panicle lanceolate, unilateral, 2-ranked, close, with rough stalks, the main one cylindrical; florets about 5, bluntish, 5-ribbed; (root fibrous, plant glaucous and rigid.) *Procumbent Sweet-grass.*

Hab. "Some of the larger islets (Farn Islands) are covered with vegetable mould, producing a plentiful crop of *Poa* (*Glyceria*) *maritima* and *procumbens*," P. J. SELBY, Esq. Zool. Journ. ii. 454. July, Aug. ⊙

4. *G. rigida*, panicle lanceolate, unilateral, two-ranked, close, with smooth stalks, the main one bordered; florets about seven, acute, scarcely ribbed. *Hard Sweet-grass.*

Hab. "Heugh, Holy Island, plentiful," Thomp. June. ♃

Stems several, 3–5 inches high, peculiarly rigid and wiry, as is also the not inelegant panicle.

30. POA.

1. *P. trivialis*, panicle spreading; spikelets 3-flowered; florets lanceolate, 5-ribbed, connected by a web; stipula oblong; stem and leaves roughish; root fibrous. *Roughish Meadow-grass.*

Hab. Meadows and pastures. June–Oct. ♃

In moist rich soils one of the most valuable grasses, whether for pasturage or hay; its produce and nutritive powers being both very great.

2. *P. pratensis*, panicle spreading; spikelets 4-flowered; florets lanceolate, 5-ribbed, connected by a web; stipula short and obtuse; stem and leaves smooth; root creeping. *Smooth Meadow-grass.*

Hab. Meadows and pastures. The *P. subcœrulea* of Eng. Botany, a variety of the present species remarkable for the glaucous hue of its whole herbage, grows abundantly in Yarrow Haugh, and on the Farn Isles, according to my friend Dr Thompson. June, July. ♃

As an object of agriculture this is not less valuable than the preceding. It is earlier in leaf, and will thrive with less moisture, but is said to exhaust the soil in a much greater degree. The roots are numerous and creeping, and become in two or three years, especially in a dry soil, so matted together, that the ingress of nourishment is hindered, and the produce gradually diminished.

3. *P. annua*, panicle widely spreading; spikelets ovate, 5-flowered; florets a little remote, 5-ribbed, without a web; stems oblique, compressed; root fibrous. *Annual Meadow-grass.*

Hab. Meadows and pastures, waste and cultivated ground, very common. April–Nov.

31. TRIODIA.

1. *T. decumbens*, panicle nearly simple, close, erect; florets 4, their middle tooth shortest; calyx smooth; stipula hairy. (One foot long, procumbent, flowering stem only erect; leaves linear, rigid, acuminate, hairy as well as the sheaths.) *Decumbent Heath-grass.*

Hab. Dry mountain pastures, frequent. Sea-banks from the Burgesses' Cove northward; banks beyond Spittal; Murton Craigs, Thomp. July. ♃

32. BRIZA.

1. *B. media*, spikelets ovate, about 7-flowered; calyx shorter than the florets; stipula very short and blunt. *Common Quaking-grass.*

Hab. Barren fields, heaths and bogs, common. June. ♃

33. DACTYLIS.

1. *D. glomerata*, panicle distantly branched; flowers in dense globular tufts, unilateral; corolla somewhat awned, 5-ribbed, taper-pointed. *Rough Cock's-foot-grass.*

Hab. Meadows and shady places, common. June, Aug. ♃

A coarse grass growing in tufts, yet has been recommended as a substitute for rye-grass, and tried, apparently with great success, by Mr Coke of Holkham. To reap the benefit of its merits, it must be sown on dry open land, and kept closely cropped either with the scythe or by means of cattle.

34. CYNOSURUS.

1. *C. cristatus*, spike simple, linear, unilateral, about 2 inches long, with a wavy rough stalk; neuter spikelets without awns; stems slender, 12–18 inches high. *Crested Dog's-tail-grass.*

Hab. Dry pastures very common, and valuable. June, July.

35. FESTUCA.

1. *F. ovina*, stem square, 6 to 12 inches high; leaves folded, bristle-shaped, with a short obtuse stipula; panicle unilateral, rather close; florets cylindrical, pointed or awned, smooth at the base and at the edges of the inner valve. *Sheep's Fescue-grass.*

Hab. Forms the finest turf of our dry hilly pastures, and is seldom or never found intimately mixed with other grasses. June. ♃

2. *F. vivipara*, stem square; leaves folded, bristle-shaped, smooth; panicle unilateral, rather close; florets compressed, keeled, awnless, somewhat downy, as well as the edges of their inner valve and the calyx. *Viviparous Fescue-grass.*

Hab. Summit of Cheviot, Dr Thompson. July. ♃

Considered by many a mere variety of the preceding, and, if so, it affords a good example of the provident economy of Nature in modifying her productions, so as to fit them to their peculiarities of situation. For when the Sheep's Fescue-grass grows in a vale, or upon a plain, its seeds ripen, fall and vegetate in the manner of other plants; but when it grows upon the tops of mountains, where it finds a difficulty in ripening its seeds, it becomes a viviparous plant. The germ shoots into blade in the cup, falls to the ground, takes root, and becomes the mother of others, having the same remarkable property.

3. *F. duriuscula*, root fibrous; stem round, 1 to 2 feet high; upper leaves flat; panicle unilateral, spreading; florets longer than their awns. ***Hard Fescue-grass.***

Hab. Common in waste grounds, in pastures and dry meadows, where it yields a good and early crop, acceptable to all kinds of cattle. June, July. ♃

4. *F. rubra*, root extensively creeping; leaves downy on the upper side, more or less involute; panicle unilateral, spreading (compact when in flower); florets longer than their awns. (Whole plant glaucous green, and more or less tinged with brown.)

Hab. On the coasts of Holy Island, Winch. Spittal Sands, Thomp. July. ♃

5. *F. bromoides*, panicle nearly erect, racemose; florets tapering, shorter than their awns, rough at the top; leaves tapering, shorter than their sheaths; upper half of the stem naked, 4 to 8 inches high. ***Barren Fescue-grass.***

Hab. Walls and dry pastures, not uncommon. On the dike near Ramsay's barn; about Ord Moor, and in many other similar places. June. ☉

6. *F. loliacea*, spike 2-ranked, drooping; spikelets nearly sessile, linear-oblong; florets cylindrical, awnless, pointed, with five slight ribs at the top; stem 2 feet high. ***Spiked Fescue-grass.***

Hab. Moist meadows, rare. Side of the Tweed a little above Yarrowhaugh. June, July. ♃

Bears a great resemblance to the Rye-grass; but it has excellencies, says Mr Sinclair, which make it greatly superior to that grass for the purposes of either hay or permanent pasture. It seems to improve in produce in pro-

portion to its age, which is directly the reverse of the Rye-grass.

7. *F. pratensis*, panicle nearly upright, branched, spreading, turned to one side; spikelets linear, compressed; florets numerous, cylindrical, obscurely ribbed; nectary 4-cleft; root fibrous; stem 2 feet high; leaves linear. *Meadow Fescue-grass.*

Hab. Meadows and pastures. June, July. ♃

Mr CURTIS recommends this as in many respects superior to Rye-grass, at least for the purpose of forming or improving meadows. It is larger and more productive of foliage; it is strictly perennial, is very hardy, and will thrive not only in very wet, but also in dry ground. Its seeds are very abundant, easily gathered, and grow readily.

8. *F. elatior*, panicle somewhat drooping, much branched, spreading loosely every way; spikelets ovate-lanceolate; florets numerous, cylindrical, somewhat awned, obscurely ribbed; nectary four-cleft; root creeping: stem about 4 feet high; leaves linear-lanceolate. *Tall Fescue-grass.*

Hab. Moist meadows, and the banks of rivers, not uncommon. Dodd's Well, and other places on our seabanks, Thomp. River side above Yarrowhaugh. July. ♃

9. *F. sylvatica*, spike simple, drooping; spikelets nearly cylindrical, turned to one side; awns longer than their glumes; leaves hairy; stems 2 feet high, slender; root fibrous. *Wood Fescue-grass.*

Hab. Woods and moist meadows, frequent. July, Aug. ♃

36. BROMUS.

1. *B. mollis*, panicle erect, rather close, compound; spikelets ovate, downy; florets imbricated, depressed, ribbed; awns as long as the glumes; leaves and sheaths very soft and downy; stems 1 to 2 feet high. *Soft Brome-grass.*

Hab. Fields and road-sides, common. June. ♂

2. *B. asper*, panicle drooping, branched; spikelets linear-oblong, compressed; florets about 8, rather distant, lanceolate, compressed, downy, longer than the straight awn; leaves uni-

form, broad, the lower ones hairy; stem 4 to 6 feet high. *Hairy Brome-grass.*

Hab. Moist woods. Wooded banks above the Union Bridge, plentiful. July, Aug.

3. *B. sterilis*, panicle drooping, mostly simple; spikelets linear lanceolate; florets about 7, lanceolate, compressed, 7-ribbed, furrowed, shorter than the straight awn; leaves downy, narrow: stem about 2 feet high. *Barren Brome-grass.*

Hab. In hedges and by road sides. June, July. ⊙

37. AVENA.

1. *A. fatua*, panicle erect, compound; spikelets pendulous: florets about 3, shorter than the calyx, bristly at the base, with an oblique scar, all awned. *Wild Oat.*

Hab. Corn fields—

—"A detested weed
That wildly grows in them, but yields a crop
As if it had been sow'd."

June, July. ⊙

The Wild Oat is seldom found but on clays and stiff gravels; on all loose soils, on dryish turnip land, on sandy soils, and on fen and marsh land it is seldom seen. It is very difficult to eradicate, since, in spring, it cannot be sufficiently distinguished from the plants of other corn, to be selected and weeded out; and it has ripened and scattered its seeds before the corn has arrived at maturity.—The twisted awn makes an excellent hygrometer.

2. *A. pubescens*, panicle erect, nearly simple; florets about 3, longer than the calyx; partial stalk-bearded; leaves flat, downy; stem 1½ or 2 feet high; root somewhat creeping. *Downy Oat-grass.*

Hab. Dry limestone pastures, not uncommon in this neighbourhood. Sea and river banks. June. ♃

3. *A. pratensis*, panicle erect, with very short simple branches; florets about 5, longer than the calyx; partial stalk all over hairy; leaves involute, finely serrated, naked, with smooth sheaths; stem 12 or 18 inches high. *Narrow-leaved Oat-grass.*

Hab. By pastures. Over the Burgesses' Cove: near Spittal Gull-hole, Thomp. River banks. July. ♃

4. *A. flavescens*, panicle much branched, spreading, erect; florets about 3, longer than the very unequal calyx; leaves flat, a little downy; stem 1 foot high; root somewhat creeping. *Yellow Oat-grass.*

Hab. Meadows and pastures, common. July. ♃

The straw of this grass, according to Mr COBBETT, affords the finest plat of any for making bonnets. He has tried for this purpose the greater number of our common kinds, and besides this recommends the Sweet-scented Vernal-grass, the Rye-grass, and the Crested Dog's-tail-grass, as most worthy of attention.

38. ARUNDO.

1. *A. phragmites*, florets about 5, awnless, longer than the calyx; panicle loose. *Common Reed.*

Hab. Banks of rivers, and in ponds and ditches, frequent. July. ♃

The Reed is much used for fences and thatching, for which purpose it is superior to common straw; and in several of the fenny counties in England, not only cottages, but houses of a better description, are covered with it. In most parts of the kingdom it is annually cut; and in the fenny parts of Lincolnshire forms a valuable harvest. PENNANT says, he saw a stock of reeds, the property of a single farmer, which was worth L. 200 or L. 300. In Holland, the panicles of flowers are extensively used for making hearth-besoms; and in Lapland, for dyeing coarse cloths of a yellowish green colour. The internal membrane of the stem, according to Mr ADIE, makes a hygrometer exceeding, in point of sensibility, every other substance that he has met with.

2. *A. arenaria*, calyx single flowered, longer than the corolla; panicle spiked; flowers erect, slightly awned; leaves involute, sharp-pointed. *Sea-Reed*, or *Bent.*

Hab. Sandy sea-coast from Spittal southward. July. ♃

This is one of the most valuable grasses for binding the sand of the sea-shore, and raising those banks which, in Norfolk, on our own coast, and especially in Holland, are the chief defence of the country against the encroachments of the ocean. For some interesting illustrations of its utility in this respect, the reader is referred to CUVIER'S Essay on the Theory of the Earth. At Aberdeen and at

Anglesey it is manufactured into door-mats. It also makes excellent floor-brushes. In the Outer Hebrides it serves many purposes in rural and domestic economy, being made into ropes for various uses, mats for pack-saddles, bags, mats, and vessels for preparing and keeping grain and meal; and, lastly, into hats.—*Edin. Phil. Journ.* vi. 155.

39. LOLIUM.

1. *L. perenne*, corolla very slightly awned; spikelets longer than the calyx; florets lanceolate. (Smooth; stem 1 foot high, bent at the base.) *Rye-grass.*

Hab. Meadows and pastures. June. ♃

Generally sown with clovers, and the chief grass which enters into the composition of hay. It is not very lasting, except on a rich soil; and many intelligent cultivators consider it a very severe crop, and allege that wheat does not succeed well after the herbage with which it is intermixed in any considerable quantity.

2. *L. temulentum*, awns longer than the corolla; spikelets shorter than the calyx; florets elliptical; stem rough in the upper part, 2 feet high, erect. *Bearded Darnel.*

Hab. Corn fields, very rare. Near Shoreswood Hall, Dr Thompson. July. ☉

The seeds of this species possess deleterious properties when mixed with bread, corn or malt; and malignant epidemic fevers have been attributed to their operation. In this country it is so rare that it can seldom be productive of any mischief, but it is asserted to have been cultivated in the vicinity of London for the use of the brewer, who communicates to the beer an intoxicating quality by its means. It is the "infelix lolium" of VIRGIL:

—"interque nitentia culta
Infelix lolium et steriles dominantur avenæ.

3. *L. arvense*, corolla slightly awned; spikelets as long as the calyx; florets elliptical; stem very smooth. *Short-awned Darnel.*

Hab. Corn fields at Easington, rare. July. ☉

40. HORDEUM.

1. *H. murinum*, lateral flowers barren; calyx valves of the intermediate one lanceolate, fringed; stem a foot high, decumbent at the base. *Wall Barley.*

Hab. Road sides and waste grounds. July. ⊙

2. *H. pratense*, lateral flowers imperfect, with shorter awns; all the calyx valves bristle-shaped and rough; stem 1½ or 2 feet high, erect, slender. *Meadow Barley.*

Hab. Moist pastures, rare. Yarrow-haugh; and side of the river below the mouth of the Whiteadder, Dr Thompson. July. ♃

Mr THOMPSON seems to have found *H. maritimum* on Holy Island opposite St Cuthbert's; but our specimens from that station belong to *H. murinum*.

41. TRITICUM.

1. *T. junceum*, calyx-valves blunt, many-ribbed; florets about 5, awnless; main stalk smooth; leaves involute, sharp-pointed; stem 12 or 18 inches high, tinged with violet below; root creeping. Whole plant glaucous, rigid, smooth. *Sea Wheat-grass.*

Hab. Sandy sea-coast from Spittal southward, not very common. Holy Island. July. ♃

2. *T. repens*, calyx valves pointed or awned, lanceolate, many-ribbed; flowers about 5, sharp-pointed or awned; leaves flat; root creeping; stem 2 feet high. *Couch-grass.*

Hab. Cultivated fields. July. ♃

The *Quicken* of the farmer, and too well known as the most troublesome weed that infests his fields. At Naples, and in some parts of France, the roots are collected for feeding horses. "Upon the banks of the Garonne I met women," says Mr A. YOUNG, "loaded with the roots of this plant, going to sell it at market; and they informed me it was bought to feed horses with."—"As," says Mr GRAY, "it is very saccharine, and may be had at the cheapest rate, if not for nothing, it is recommended to be brewed for a table-beer."

3. *T. caninum*, calyx-valves somewhat awned, with 3 or 5 ribs; florets 4, awned; leaves flat; root fibrous. *Fibrous-rooted Wheat-grass.*

Hab. "Ashwood, Belford," Thomp. July. ♃

III. TRIGYNIA.

42. MONTIA.

1. *M. fontana*, herb smooth, succulent; leaves opposite, small, spathulate; flowers small, white, on curved stalks. *Water Blinks.*

Hab. By springs and streams, particularly on heathy ground, frequent; very luxuriant and plentiful on Cheviot, not far from the summit. June, July. ☉

In general, this plant is low, diffused, and much branched; sometimes, however, the stems rise to a height of 6 inches, and are only distantly branched, while a few radicle fibres spring from beneath each joint.

CLASS IV.

TETRANDRIA.

"Can it be believed, that Nature bestowed beauty on the foliage of a flower but with a view to please? The fruit might be produced, in the same process, without any richness and diversity of colour. No other animals are sensible of their grace but the human; and yet the austere man of business, or the vain man of pleasure, will arraign another with a face of importance for his admiration of a flower. He calls the taste trifling and useless. But is not a refusal to be pleased with such appearances, like the malignant unthankfulness of a sullen guest, who refuses to taste the most delicious dainties prepared for his entertainment?"——Dr V. KNOX.

I. MONOGYNIA.

* *Flowers monopetalous, superior, single-seeded.*

43. DIPSACUS. *Common calyx* of many leaves; *proper calyx* single, superior, of 1 leaf, cup-shaped, crowning the *seed.* (Flowers capitate.)

44. SCABIOSA. *Common calyx* of many leaves; *proper calyx* double, superior, crowning the seed. (Flowers capitate.)

* * *Flowers monopetalous, superior, 2-seeded.*

47. GALIUM. *Corolla* flat; *fruit* dry. (Flowers corymbose or panicled, lateral or terminal.)

46. ASPERULA. *Corolla* tubular; *fruit* without a crown. (Flowers terminal, panicled.)

45. SHERARDIA. *Corolla* tubular; *fruit* crowned with the calyx, each *seed* with 3 teeth. (Flowers umbellate.)

* * * *Flowers monopetalous, inferior.*

48. PLANTAGO. *Corolla* reflexed; *stamens* very long; *capsule* bursting all round, of 2 or 4 cells. (Flowers in simple dense spikes.)

* * * * *Petals* 4.

49. CORNUS. *Nectary* 0; *drupa* inferior; *nut* of 2 cells. (Flowers cymose or umbellate.)

* * * * * *Petals wanting.*

50. PARIETARIA. *Calyx* 4-cleft, inferior; *stamens* elastic; *seed* invested with the elongated calyx; some flowers without stamens, their *calyx* remaining unaltered.

51. ALCHEMILLA. *Calyx* 8-cleft, inferior; *seed* 1 or 2, naked.

II. TETRAGYNIA.

52. ILEX. *Corolla* wheel-shaped, of 1 or 4 petals; *berry* with 4 seeds; *styles* 0; some flowers barren.

54. SAGINA. *Petals* 4; *capsule* of 1 cell and 4 valves: *calyx* 4-leaved.

55. RADIOLA. *Petals* 4; *capsule* of 8 cells and 8 valves; *calyx* of 1 leaf, in 12 segments.

53. POTAMOGETON. *Petals* 4; *calyx* 0; *seeds* 4, naked, sessile. (Aquatic. Flowers spiked, greenish, raised above the water.)

I. MONOGYNIA.

43. DIPSACUS.

1. *D. sylvestris*, leaves opposite, serrated; scales of the receptacle straight; common calyx inflexed, longer than the head. *Wild Teasel.*

Hab. Road sides very rare. Near Shoreswood, Dr Thompson. July. ♂

44. SCABIOSA.

1. *S. succisa*, corolla in 4 equal segments; heads of dark purplish blue flowers nearly globular; stem-leaves distantly toothed. *Devil's-bit Scabious.*

Hab. Moist meadows and pastures, common. August—October. ♃

At one time the root (which is as it were bitten off) is supposed to have possessed an almost specific virtue against every kind of scaly eruptions, whence the generic name; but as "the superstitious people hold opinion," afraid of being deprived by its means of this method of tormenting poor mortal man, "the divel did bite it for envie, because it is an herbe that hath so many good vertues, and is so beneficial to mankinde." And in very verity the malice of the devil, as SMITH observes, "has unhappily been so successful, that no virtues can now be found in the remainder of the root or herb."

2. *S. arvensis*, corolla in 4 segments, the marginal flowers radiant; heads large, convex, pale purple; leaves pinnatifid, cut; stem bristly. *Field Scabious.*

Hab. Corn fields and pastures, common. July. ♃

3. *S. columbaria*, corolla in 5 unequal segments; flowers pale purple; radical leaves ovate or lyrate, notched, the rest pinnatifid with linear segments. *Small Scabious.*

Hab. Dry pastures, frequent in this neighbourhood. Banks of the Tweed below West Ordhouse, Dr Thompson. Castle hills. Sides of the ravine above Newfarm. Spindlestone Hills. July, August. ♃

45. SHERARDIA.

1. *S. arvensis*, stems spreading, branched; leaves 6 in a whorl; flowers terminal, pale blue. *Blue Sherardia.*

Hab. Dry corn fields and waste places, common. ☉

46. ASPERULA.

1. *A. odorata*, stems erect, simple; leaves 8 in a whorl, lanceolate; panicles stalked, of few white flowers. *Sweet Woodruff.*

Hab. Woods and shady places. Ashwood, Belford, Thomp. Fenwick Wood, and hedge sides between it and Detchint. June. ♃

47. GALIUM.

* *Fruit smooth; flowers yellow.*

1. *G. verum*, leaves 8 in a whorl, linear, channelled, entire, rough; flowers in dense panicles. *Yellow Bed-straw.*

Hab. Dry banks, and edges of corn fields. July, Aug. ♃

GERARDE tells us that "the people in Cheshire, especially about Namptwich, where the best cheese is made, do vse it in their rennet, esteeming greatly of that cheese aboue other made without it." The Highlanders also use a strong decoction of the herb as a rennet to curdle milk; and of the roots to dye red, boiling them with the yarn, and adding alum to fix the colour, which, according to Mr CURTIS, is superior to that of madder. The whole plant dies a good yellow.

2. *G. cruciatum*, leaves ovate, hairy, 4 in a whorl; stem hairy, simple above; flowers polygamous, clustered, lateral, with 2 leaves on their stalks. *Crosswort.*

Hab. Thickets and hedges, common. May, June. ♃

** *Fruit smooth; flowers white.*

3. *G. palustre*, leaves obovate, obtuse, the upper ones 4 in a whorl, unequal in size; stem weak, branched in the upper part, branches patent. *Water Bed-straw.*

Hab. Boggy places and ditches. July. ♃

SMITH says the stems are smooth, but we have never seen them otherwise than rough with deflexed prickles.

4. *G. Witheringii*, leaves about 5 in a whorl, widely spreading, lanceolate, fringed with bristles; stem upright, slightly branched, rough with reversed hooks.

Hab. In moist spots in the vale below Langley-Ford, plentiful. July. ♃

There are only 4 nearly equal leaves on the branches, rough on the keel and margins, with reverted prickles, and gangrened at the apex, which is not pointed either with a bristle or hair. Flower-buds pink.—Our specimens were verified by Mr WINCH, and they appear to me more nearly allied to *G. uliginosum* than to the *palustre*, yet distinct from both.

5. *G. uliginosum*, leaves 6 in a whorl, obovate-lanceolate, rigid, bristle-pointed, their edges rough, like the stem, with recurved prickles; fruit smooth, smaller than the corolla. *Marsh Bed-straw.*

Hab. Watery places, not uncommon. Castle-hills. Boggy field west of the Steps-of-Grace Farm-house, Thomp. Aug. ♃

6. *G. saxatile*, leaves 6 in a whorl, obovate, obtuse with a small point; stem much branched, prostrate, smooth; fruit granulated. *Heath Bed-straw.*

Hab. Dry heaths and hilly ground, common. June–Aug. ♃

* * * *Fruit bristly.*

7. *G. Aparine*, leaves 6 or 8 in a whorl, lanceolate, keeled, rough, fringed with reflexed prickles; stem weak; fruit a double globe. *Goose-grass*, or *Robin-run-the-Hedge*, a name very expressive of its habits, and by which it is best known in this neighbourhood.

Hab. Hedges very common. July, Aug. ☉

"The roasted seeds are said to be no bad substitute for coffee, to which they are botanically related; and, if raised for a crop, they might, perhaps, have the additional recommendation, to some people, of being very much dearer."—SM.

48. PLANTAGO.

1. *P. major*, leaves ovate, smoothish, somewhat toothed, on longish footstalks; flower-stalks round; spike tapering, long; seeds numerous. *Greater Plantain.*

Hab. Meadows, pastures, and road-sides. June, July. ♃

The seeds are eaten by small birds, and are frequently given to those kept in cages. An important plant in the pharmacopœia of the village doctress,

> " ———————— well skill'd
> In every virtuous plant, and healing herb,
> That spreads her verdant leaf to the morning ray."

3. *P. media*, leaves ovate, downy, with very short footstalks; flowerstalks round; spike cylindrical, thick, and rather short; seeds solitary. *Hoary Plantain.*

Hab. Dry pastures common. June–Aug. ♃

3. *P. lanceolata*, leaves lanceolate, entire, tapering at each end, wooly at the base; flower-stalks angular; spike ovate. *Ribwort Plantain.*

Hab. Meadows and pastures. June, July. ♃

The " Wabret-leaf" of Teviotdale. See LEYDEN's Scenes of Infancy. The Rib-grass of the farmer, and cultivated to a considerable extent on light moorish land. We have a specimen in which the stalk bears several spikes, some sessile, others pendent on partial stalks, and the whole intermixed with leaves disposed in a rose-like manner; and my friend Dr THOMPSON found in Haiden Dean the rarer monstrosity of several perfect heads on the summit of one stalk.

4. *P. maritima*, leaves linear, channelled, nearly entire; flower-stalks round, longer than the leaves; spike cylindrical. *Sea Plantain.*

Hab. Sea and river banks. Lamberton Moor. Aug. ♃

5. *P. coronopus*, leaves in many pinnate linear segments; flower-stalks round. *Buck's-horn Plantain.*

Hab. Sea and river banks, common. June–Aug. ☉

The spikes of this and the preceding droop before the flowers are evolved, when they become erect. The variety β of the English Flora, with leaves scarcely divided, and a small round head, may be found about the Needle-Eye, and on the Farn Isles.

49. CORNUS.

1. *C. suecica*, stem herbaceous, 4 to 6 inches high; leaves opposite, ovate, smooth, ribbed; flowers few, umbellate, surrounded by a 4-leaved involucre, and springing from the axil of the forked extremity of the stem. *Dwarf Cornel.*

Hab. "In Northumbriæ montibus Chevioticis dictis, in latere occidentali septentrionalis partis montis altissimi copiosissime," Ray. It remained unobserved in this station, until I rediscovered it in the summer of 1828. It grows close to the spring, where those ascending generally rest themselves; and though limited to a small space, is still abundant. July, Aug. ♃

50. PARIETARIA.

1. *P. officinalis*, stem ascending, reddish; leaves lanceolate, ovate, without lateral ribs at the base; involucrum 3-flowered, with 7 ovate segments. *Pellitory-of-the-Wall.*

Hab. Old walls. Ramparts. Old Castle, Thomp. Dike below the Chain Bridge. June. ♃

51. ALCHEMILLA.

1. *A. vulgaris*, leaves lobed, plaited, uniform, serrated, flowers yellowish-green, in terminal corymbose clusters. *Common Lady's-mantle.*

Hab. Pastures and road-sides common. Near the top of Cheviot with little variation in character. June, July. ♃

2. *A. arvensis*, leaves flat, 3-lobed, cut, pubescent; flowers green, sessile, axillary. *Field Lady's-mantle.*

Hab. Sandy or gravelly fields, and on dikes capped with earth, common. May, &c. ♃

II. TETRAGYNIA.

52. ILEX.

1. *I. Aquifolium*, leaves ovate, acute, spinous and wavy; flowers axillary, somewhat cymose. *Common Holly.*

Hab. Hedges and woods; apparently quite wild on the basaltic rocks above Kyloe. June.

The holly, when full grown, is one of the most ornamental trees, and late in autumn or in winter, when its scarlet berries contrast well with the lively evergreen foliage, it never fails to attract attention and to please. It makes good hedges. "Is there," says EVELYN, "under heaven a more glorious and refreshing object of the kind, than an impregnable hedge of about 400 feet in length, 9 feet high, and 5 in diameter, which I can now shew in my now ruined gardens at Say's Court, at any time of the year, glittering with its armed and varnished leaves; the taller standards, orderly distances, blushing with their natural coral." The lower leaves are very spinous, while the upper ones are entire, a fact which has not escaped the notice of our poet SOUTHEY:

"O Reader! hast thou ever stood to see
The Holly Tree?
The eye that contemplates it well perceives
Its glossy leaves,
Order'd by an Intelligence so wise,
As might confound the Atheist's sophistries.

Below, a circling fence, its leaves are seen
Wrinkled and keen;
No grazing cattle through their prickly round
Can reach to wound;
But as they grow where nothing is to fear,
Smooth and unarm'd the pointless leaves appear.

I love to view these things with curious eyes,
And moralize:
And in this wisdom of the Holly tree
Can emblems see,
Wherewith perchance to make a pleasant rhyme,
One which may profit in the after-time.

Thus, though abroad perchance I might appear
Harsh and austere,
To those who on my leisure would intrude
Reserved and rude,
Gentle at home amid my friends I'd be
Like the high leaves upon the Holly tree."

Bird-lime is made from the mucilaginous bark; and the wood, white, hard, and close-grained, is used in inlaying and veneering, and by turners. Houses and churches are adorned at Christmas with the leaves and berries, a relic probably of Druidism, during the prevalence of which,

according to Dr CHANDLER, " houses were decked with them, that the sylvan spirits might repair to them unnipped by frost and cold winds, until a milder season had renewed the foliage of their darling abodes."

53. POTAMOGETON.

1. *P. natans*, upper leaves oblong-ovate, stalked, floating, coriaceous; lower ones linear, membranous, sessile. *Broad-leaved Pond-weed.*

Hab. Ponds and rivulets, common. July. ♃

2. *P. perfoliatum*, leaves heart-shaped, clasping the stem, uniform, all submersed. *Perfoliate Pond-weed.*

Hab. In the Tweed and Whiteadder, and in large ponds, common. July. ♃

3. *P. heterophyllum*, upper leaves elliptical, stalked, floating, slightly coriaceous; lower ones lanceolate, membranous, sessile; flower-stalks swelling upward. *Various-leaved Pond-weed.*

Hab. Coldingham Lough. July–Sept. ♃

Our specimens were imperfect, but the species was determined by Mr WINCH. The stems are long, slender, round, sparingly and distantly branched. Lower leaves alternate, distant, pointed, with spinous serrated edges. They are beautifully ribbed, the ribs being connected by regular parallel side-branches.

4. *P. lucens*, leaves elliptic-lanceolate, very large, pointed, membranous, stalked, repeatedly triple-ribbed, all submersed; spike dense, many-flowered. *Shining Pond-weed.*

Hab. In the Tweed, above the Union Bridge, plentiful. June, July. ♃

5. *P. crispum*, leaves lanceolate, waved, serrated, alternate, the upper ones opposite; flowers in loose spikes. *Curled Pond-weed.*

Hab. Ponds, common. July. ♃

6. *P. pusillum*, leaves linear, pointed, opposite or alternate, 3-ribbed; stem compressed on one side; flower-stalks axillary, mostly lateral, many times longer than their spikes. *Small Pond-weed.*

Hab. Ponds and slow streams, frequent. In the Tweed and Whiteadder. Loch in Holy Island, and at Coldingham. July. ♃

Stems a foot long, slender, wavy, smooth, striated, compressed on one side, more rounded on the other. Leaves alternate or opposite, 1½ inch long, about 1-16th of an inch broad, grass-like, pointed, often dilated at the base, with slightly revolute margins. Each leaf has 3 ribs, the lateral half-way between the mid-rib and margin, distinct and joining the mid-rib at some distance below the point, and rarely opposite to one another. Stipulas long, membranous, linear, pointed, many-nerved, beautifully cellular. Flower-stalks terminal and lateral, from between 2 broader and shorter stipulas, much longer than the loose spike. Flowers brown, few. Seeds large, oblique, beaked.

Influenced by the character of the stem (always evidently compressed), I at first considered our plant the *P. compressum* of SMITH; but the specimens submitted to Mr WINCH were referred by him to *P. pusillum*, and in this opinion I concur, after a re-examination of the subject. There is indeed some discrepancy in our descriptions, which I do not pretend to reconcile. The fig. of Petiver, *Hort. Brit.* t. 5. f. 11, quoted by SMITH, is a good representation of our species; while fig. 10, usually considered as representative of *P. compressum*, is not so, being much too large. I have had no opportunity of consulting his other references. It is singular that so common a plant should not have occurred either to Dr GREVILLE (see *Fl. Edin.*), or HOOKER (*Fl. Scot.*) May it not be the *P. compressum* of the latter very eminent botanist?

7. *P. pectinatum*, leaves bristle-shaped, single-ribbed, parallel, thickly set in two ranks, sheathing at the base; spikes interrupted. *Fennel-leaved Pond-weed.*

Hab. Plentiful in the Tweed and Whiteadder. Holy Island Loch. Coldingham Loch. July. ♃

54. SAGINA.

1. *S. procumbens*, stems procumbent, smooth; leaves minutely pointed; petals half as long as the calyx. *Procumbent Pearl-wort.*

Hab. Sandy and gravelly soils, and sides of shady walls, very common. May–Aug. ♃

2. *S. maritima*, stems nearly upright, divaricated, smooth; leaves obtuse, without bristles; petals none. *Sea Pearl-wort.*

Hab. By the side of the canal below New-water Haugh. On rocks in Holy Island, between the Heugh and the Castle. June, July. ☉

3. *S. apetala*, stems nearly upright, hairy; leaves bristle-pointed, fringed; petals very small, or wanting. *Annual Pearl-wort.*

Hab. Dry barren places, rare. On the parapet of the Walls at Fisher's Fort, plentiful. May, June.

55. RADIOLA.

1. *R. millegrana*, 1–2 inches high, repeatedly dichotomous, bushy; leaves sessile, opposite, ovate, smooth; flowers axillary, solitary, stalked, numerous, white. *All-seed.*

Hab. Wet sandy ground rare. Ancroft Moor. July, Aug. ⊙

CLASS V.

PENTANDRIA.

——" In the train of Spring, arrive
Sweet flowers;—what living eye hath viewed
Their myriads?—endlessly renewed,
Wherever strikes the sun's glad ray;
Where'er the joyous waters stray;
Wherever sportive zephyrs bend
Their course, or genial showers descend!"

WORDSWORTH.

I. MONOGYNIA.

* *Flowers monopetalous, inferior, with* 2 *or* 4 *naked seeds.* Asperifoliæ.

64. ECHIUM. Throat of the *corolla* dilated, naked; *limb* irregular; *stigma* deeply cloven.

57. LITHOSPERMUM. *Corolla* naked in the throat, funnel-shaped; *calyx* in 5 deep segments.

60. SYMPHYTUM. *Corolla* closed with awl-shaped converging valves; limb bell-shaped.

61. BORAGO. *Corolla* closed with awl-shaped or notched valves; limb wheel-shaped.

63. LYCOPSIS. *Corolla* closed with concave obtuse valves, funnel-shaped, with a doubly bent tube; *seeds* concave at the base.

58. Anchusa. *Corolla* closed with concave obtuse valves, funnel-shaped; *tube* straight, tumid below; *seeds* concave at the base.

62. Asperugo. *Corolla* closed with concave obtuse valves, salver-shaped; *calyx* of the fruit compressed, with jagged parallel lobes.

56. Myosotis. *Corolla* half closed with rounded valves, salver-shaped, lobes obtuse; *seeds* perforated at the base, borne by the calyx.

59. Cynoglossum. *Corolla* half closed with rounded valves, funnel-shaped; *seeds* depressed, imperforate, borne by a central column.

* * *Flowers monopetalous, inferior, with numerous covered seeds.*

68. Anagallis. *Capsule* of 1 cell bursting all round; *corolla* wheel-shaped; *stamens* hairy.

67. Lysimachia. *Capsule* of 1 cell with 10 valves; *corolla* wheel-shaped.

65. Primula. *Capsule* of 1 cell opening with 10 teeth; *corolla* salver-shaped, tube cylindrical, throat open; *stigma* globular.

66. Menyanthes. *Capsule* of 1 cell; *corolla* hairy; *stigma* divided.

76. Erythræa. *Capsule* of 2 incomplete cells; *corolla* salver-shaped; *anthers* finally spiral.

73. Hyoscyamus. *Capsule* of 2 cells with a lid; *corolla* funnel-shaped; *stigma* capitate.

72. Verbascum. *Capsule* of 2 cells; *corolla* wheel-shaped, irregular; *stigma* obtuse; *stamens* declining.

69. Convolvulus. *Capsule* of 2 or 3 cells, with 2 seeds in each; *corolla* bell-shaped, plaited; *stigmas* 2.

75. Solanum. *Berry* of 2 cells; *corolla* wheel-shaped; *anthers* with 2 pores.

74. ATROPA. *Berry* of 2 cells; *corolla* bell-shaped; *stamens* distant, incurved; *anthers* heart-shaped.

* * * *Flowers monopetalous, superior.*

77. SAMOLUS. *Capsule* of 1 cell with 5 recurved valves; *corolla* funnel-shaped, 5-cleft, with intermediate scales.

70. CAMPANULA. *Capsule* of 2 or 3 cells, with torn fissures at the base; *corolla* bell-shaped; *stigma* 2 or 3 cleft, revolute.

73. LONICERA. *Berry* of 1 or more cells, with many seeds; *corolla* irregular.

* * * * *Flowers of 5 or 4 petals, inferior.*

79. EUONYMUS. *Capsule* of 4 or 5 cells; *seeds* with a fleshy tunic; *calyx* flat.

71. VIOLA. *Capsule* of 1 cell and 3 valves; *calyx* of 5 leaves extended at the base; *corolla* irregular, spurred.

* * * * * *Flowers of 5 petals, superior.*

80. RIBES. *Berry* with many seeds; *calyx* bearing the petals; *style* divided.

81. HEDERA. *Berry* with 3–5 seeds; *calyx* surrounding the germen; *style* simple; *petals* broadish at the base.

* * * * * * *Petals wanting.*

82. GLAUX. *Capsule* superior with 5 seeds; *calyx* coloured, of 1 leaf.

II. DIGYNIA.

* *Flowers monopetalous, inferior.*

86. GENTIANA. *Capsule* of 1 cell; *corolla* tubular at the base, destitute of nectariferous pores.

* * *Petals wanting; seed solitary.*

83. CHENOPODIUM. *Seed* lenticular, tunicated, superior.

84. SALSOLA. *Capsule* closed, imbedded in the fleshy *calyx; seed* with a spiral *embryo.*

85. ULMUS. *Capsule* closed, membranous, compressed, bordered, superior.

* * * *Flowers of 5 petals, superior; seeds 2.*

(UMBELLIFEROUS PLANTS.)

A. *Fruit beaked.*

91. SCANDIX. *Beak* much longer than the seeds; *fruit* somewhat bristly; *calyx* none; *petals* unequal, undivided: *floral receptacle* 5-lobed, coloured.

90. ANTHRISCUS. *Beak* shorter than the seeds, even; *fruit* rough, with scattered prominent bristles; *calyx* none; *petals* equal, inversely heart-shaped; *fl. recept.* slightly bordered.

92. CHÆROPHYLLUM. *Beak* shorter than the seeds, angular: *fruit* smooth, without ribs; *calyx* none; *petals* inversely heart-shaped, rather unequal; *fl. recept.* wavy.

B. *Fruit solid, prickly, without a beak.*

87. SANICULA. *Fruit* ovate, clothed with hooked bristles; *calyx* acute; *petals* lanceolate, inflexed, nearly equal; *flowers* separated, dissimilar.

88. DAUCUS. *Fruit* elliptic-oblong, compressed transversely; *seeds* with 4 rows of flat prickles, and rough intermediate ribs; *calyx* obsolete; *petals* inversely heart-shaped, unequal; *flowers* separated.

89. TORILIS. *Fruit* ovate, slightly compressed laterally; *seeds* ribless, rough, with scattered prominent ascending rigid

prickles; *calyx* short, broad, acute, nearly equal; *petals* inversely heart-shaped, nearly equal; *flowers* united.

C. *Fruit solid, nearly round, unarmed, without wings.*

93. Myrrhis. *Fruit* deeply furrowed; *calyx* none; *petals* inversely heart-shaped, rather unequal; *fl. recept.* none; *flowers* imperfectly separated.

94. Bunium. *Fruit* slightly ribbed; *calyx* small, acute, unequal; *petals* inversely heart-shaped, equal; *fl. recept.* none; *flowers* imperfectly separated.

98. Œnanthe. *Fruit* ribbed, somewhat spongy; *calyx* large, lanceolate, acute, spreading, unequal; *petals* inversely heart-shaped, radiant, very unequal; *fl. recept.* dilated, depressed; *flowers* separated.

103. Pimpinella. *Fruit* ovate, ribbed, with convex interstices; *styles* capillary, as long as the fruit; *calyx* none; *petals* inversely heart-shaped, nearly equal; *fl. recept.* none; *flowers* either united or dicœcious.

D. *Fruit solid, unarmed, without wings, compressed laterally, its transverse diameter being at least twice the breadth of the juncture.*

95. Sium. *Fruit* ovate or orbicular, ribbed, furrowed; *calyx* small, acute, unequal or obsolete; *petals* inversely heart-shaped or obovate, equal; *styles* cylindrical, shorter than the petals; *fl. recept.* none; *flowers* uniform, united.

97. Conium. *Fruit* ovate, with 10 acute ribs, wavy in an unripe state; *calyx* obsolete; *petals* inversely heart-shaped, slightly unequal; *styles* a little tumid at the base; *fl. recept.* dilated, depressed, wavy, permanent; *flowers* slightly irregular, united.

99. Smyrnium. *Fruit* broader than long, concave at each side, with 6 acute dorsal ribs, interstices convex; *calyx* very small, acute; *petals* equal, lanceolate, incurved, or in-

versely heart-shaped; *styles* tumid and depressed at the base; *fl. recept.* none; *flowers* nearly regular, partly barren or abortive.

100. ÆGOPODIUM. *Fruit* elliptic-oblong, with equidistant ribs, interstices flattish; *calyx* none; *petals* inversely heart-shaped, broad, a little unequal; *styles* ovate at the base; *fl. recept.* none; *flowers* united, all perfect, slightly radiant.

104. CNIDIUM. *Fruit* ovate, acute, with equidistant very sharp ribs, interstices deep, concave, juncture contracted; *calyx* none; *petals* equal, obovate or inversely heart-shaped; *styles* hemispherical at the base, subsequently elongated, spreading, cylindrical; *fl. recept.* annular, thin, undulated, erect, afterwards depressed; *flowers* imperfectly separated, nearly regular.

105. HYDROCOTYLE. *Fruit* nearly orbicular, rather broader than long, angular, much compressed, juncture very narrow; *calyx* none; *petals* equal, ovate, spreading, undivided; *styles* cylindrical, shorter than the stamens, tumid at the base; *fl. recept.* none; *flowers* all perfect and regular.

E. *Fruit solid, unarmed, compressed transversely, the juncture being broader than the transverse diameter.*

96. ÆTHUSA. *Seeds* ovate, convex, with 5 tumid rounded acutely keeled ribs, interstices deep, acute-angular, border none; *calyx* pointed, very minute; *petals* inversely heart-shaped, rather irregular; *fl. recept.* none; *flowers* all perfect, slightly radiant.

101. ANGELICA. *Seeds* elliptic-oblong, convex, with 3 dorsal wings, and a narrow flat even border; *calyx* none; *petals* lanceolate, flattish, undivided, contracted at each end, equal; *fl. recept.* thin, wavy, narrow, permanent; *flowers* all perfect, regular.

102. LIGUSTICUM. *Seeds* oblong, convex, with 3 dorsal and 2 marginal equal wings; *calyx* small, pointed, erect, broad at the base; *petals* elliptical, flattish, undivided, contracted at each end, equal; *fl. recept.* none; *flowers* all perfect, regular.

F. *Fruit thin and almost flat, compressed transversely, without dorsal wings.*

106. HERACLEUM. *Seeds* inversely heart-shaped, with a notch at the summit, very nearly flat, with 3 slender dorsal ribs, 2 distant marginal ones, and 4 intermediate coloured depressed abrupt lines from the top; border narrow, slightly tumid, smooth, even and entire; *calyx* of 5 small acute evanescent teeth; *petals* inversely heart-shaped, radiant; *fl. recept.* wavy, crenate, obtuse; *flowers* separated.

III. TRIGYNIA.

* *Flower superior.*

107. VIBURNUM. *Corolla* 5-cleft; *berry* with 1 *seed.*

108. SAMBUCUS. *Corolla* 5-cleft; *berry* with 3 *seeds.*

IV. TETRAGYNIA.

109. PARNASSIA. *Nectaries* fringed with bristles bearing globes; *capsule* of 4 valves.

V. PENTAGYNIA.

111. LINUM. *Petals* 5; *capsule* of 10 cells.

110. STATICE. *Petals* 5; *seed* 1, clothed with the base of the funnel-shaped calyx.

VI. HEXAGYNIA.

112. DROSERA. *Petals* 5; *capsule* of 3 valves with many seeds.

I. MONOGYNIA.

56. MYOSOTIS.

* *Roots perennial, or perhaps biennial.*

1. *M. palustris*, root creeping; leaves oblong-lanceolate, roughish, with close bristles; clusters leafless; flowers large, on divergent stalks twice as long as the 5-toothed patent calyx; limb of the corolla horizontal, longer than the tube; seeds smooth. *Forget-me-not.*

Hab. Sides of ponds and rivulets, frequent. June—Aug.

This very beautiful flower is considered as the emblem of friendship in almost every country in civilized Europe. The following tale of the origin of the name is given in MILL's History of Chivalry, vol. i. p. 315, to whom it was communicated by Dr A. T. THOMSON. "Two lovers were loitering on the margin of a lake, on a fine summer's evening, when the maiden espied some of the flowers of Myosotis growing on the water, close to the bank of an island, at some distance from the shore. She expressed a desire to possess them, when the knight, in the true spirit of chivalry, plunged into the water, and swimming to the spot, cropped the wished-for plant, but his strength was unable to fulfil the object of his achievement, and feeling that he could not regain the shore, although very near it, he threw the flowers upon the bank, and casting a last affectionate look upon his lady-love, he cried, 'Forget-me-not,' and was buried in the waters."

2. *M. cæspitosa*, root fibrous, or slightly creeping; herb covered with closely appressed bristles; leaves oblong-lanceolate; clusters leafy at the base; flowers small; calyx funnel-shaped, with broad spreading teeth; limb of the corolla the length of the tube; seeds smooth.

Hab. Watery places not uncommon. In the lane below Unthank Colliery. June, July.

Our plant, Mr WINCH informs me, agrees with specimens from Mr FORSTER. It appears to be a good species. It is, as SMITH remarks, "of a weaker, paler, more lax habit than the foregoing, having always a leaf or two at the

base of each cluster." The flowers are not larger than those of *M. arvensis;* while the bristles on the calyx, and on the herb in general, are more widely set. The specific name is a bad one, and calculated to mislead—for, though the plant does often grow in a very crowded manner, it is certainly never cespitose or tufted. It is perhaps the *M. repens* of Don. See Hooker, Fl. Scot. i. 67.

3. *M. sylvatica*, root fibrous; stems erect, hairy; leaves oblong-lanceolate, with soft hairs; clusters with a leaf at the base; flowers large; tube of the calyx clothed with hooked bristles, segments with straight upright hairs. *Wood Scorpion-grass.*

Hab. Woods. Horncliff-dean. June, July.

* * *Roots annual.*

4. *M. arvensis*, root fibrous; leaves oblong-lanceolate, hairy: flowers small, their stalks (in fruit) patent, twice the length of the closed hairy calyx, the hairs of the tube hooked; seeds smooth. *Field Scorpion-grass.*

Hab. Dry sandy fields, &c. common. June—Aug.

5. *M. versicolor*, root fibrous; leaves oblong-lanceolate, hairy; flowers very small, yellow and blue; their stalks erect-patent, shorter than the closed calyx, the hairs of the tube hooked; seeds smooth. *Yellow and Blue Scorpion-grass.*

Hab. Heaths, sandy fields, on earth-capt dikes, and sometimes in moist meadows. April—June.

57. LITHOSPERMUM.

1. *L. arvense*, stem erect, branched; leaves lanceolate, acute, hairy; corolla white, not much longer than the calyx; seeds wrinkled. *Corn Gromwell.*

Hab. Corn fields frequent. May, June. ⊙

The *L. maritimum* grew, in the time of Ray, "at Scrammerston Mill, between the Salt-pans and Berwick on the sea-beach, about a mile and a half from Berwick," but, we believe, it will now be sought for in vain.

58. ANCHUSA.

1. *A. sempervirens*, leaves ovate, nearly entire, the lower ones upon long footstalks; flower-stalks axillary, each bearing two dense spikes, with an intermediate flower, and two principal ovate bracteas; flowers bright sky-blue. *Evergreen Alkanet.*

Hab. Waste ground, probably an outcast from the garden. In a hedge behind Ramsay's Barn, Dr Thompson. Bank in front of Netherbyres House, Mr Baird. Near the Grieve's House. June. ♃

59. CYNOGLOSSUM.

1. *C. officinale*, stem-leaves lanceolate, sessile, the radical ones stalked; herb downy; stamens shorter than the corolla; flowers without bracteas, dull crimson. *Common Hound's-tongue.*

Hab. Waste grounds. Wind-mill-hole, and Castle banks. Links from Scrammerston southward, Thomp. Holy Island. July. ♂

60. SYMPHYTUM.

1. *S. tuberosum*, stem simple; leaves ovate-oblong, slightly decurrent, rather harsh, upper ones opposite; flowers drooping, yellowish white. *Tuberous-rooted Comfrey.*

Hab. Side of the Whiteadder, half-way between its mouth and the bridge, rare. May, June. ♃

61. BORAGO.

1. *B. officinalis*, plant bristly; leaves alternate, the lower ones obovate, stalked, the upper sessile; segments of the large brilliant blue corolla ovate, acute, spreading. *Common Borage.*

Hab. Waste grounds. Fields at Halidown, Mr A. Baird. About Lamberton House. July. ♂

"Ego Borago gaudia semper ago."—"Those of our time," says GERARDE, "do vse the flowres in sallads, to exhilarate and make the mind glad. There be also many things made of them, vsed euery where for the comfort of the heart, for the driuing away of sorrow, and encreasing the ioy of the minde." It undoubtedly answered these purposes best when put, as was customary, into wine.

62. ASPERUGO.

1. *A. procumbens*, stems prostrate, square, rough; leaves elliptic-lanceolate, rough; flowers small, blue, axillary, solitary, on short stalks; calyx when in fruit deflexed, much enlarged. *German Madwort.*

Hab. "In the Holy Island," Ray. "On Bamburgh Castle, confined to a small spot," Miss Nivison. June, July. ☉

63. LYCOPSIS.

1. *L. arvensis*, herb bristly; leaves lanceolate, wavy, somewhat toothed, very bristly; stalks of the bright blue flowers and fruit erect; limb of the corolla slightly unequal. *Small Bugloss.*

Hab. Corn fields frequent. June, July. ☉

64. ECHIUM.

1. *E. vulgare*, stem bristly and warty; stem-leaves lanceolate, bristly, single ribbed; spikes lateral, deflexed, hairy; flowers most beautiful, at first reddish purple, then brilliant blue. *Viper's Bugloss.*

Hab. Waste grounds, and occasionally in dry corn fields. Banks of the Whiteadder, from its mouth to Edrington; Holy Island Links; Wooler, Thomp. North side of the Tweed above the Union Bridge, &c. July. ♂

65. PRIMULA.

1. *P. vulgaris*, leaves obovate-oblong, toothed, wrinkled; stalks single-flowered; limb of the corolla flat. *Common Primrose.*

Hab. Grassy banks towards the sea, and in deans, common. April, May. ♃

We have gathered a variety with purplish flowers in Longridge Dean; and the variety with the flowers in an umbel is abundant in the ravine above Burnmouth, and, according to my friend Mr Baird, on the banks of the Eye, &c. The latter is a very remarkable monstrosity, distinguished for its size and beauty. The common stalk is strong, 4 or 6 inches long, bearing an umbel of about 9 flowers, each supported on a partial stalk with lanceolate bracteas at their bases. The flowers are rather less than the single ones, but the limb is equally expanded. In

one of our specimens there are two umbels on one stalk, the first placed half-way up, the second on the top; but the partial stalks of the lower one are sufficiently long to elevate the flowers to a level with the upper ones. This variety is the *P. elatior* of Dr HOOKER's Fl. Lond., according to SMITH; and probably also of Dr GREVILLE, Fl. Edin. 48, though the description is somewhat confused.

The root of this favourite flower is said to be a safe and effectual emetic; but the poet has made more use of the plant than the physician. We present our readers with a sonnet of CLARE.

"How sweet thy modest unaffected pride
Glows on the sunny bank and woods' warm side!
And where thy fairy flowers in groups are found,
The school-boy roams enchantedly along,
Plucking the fairest with a rude delight:
While the meek shepherd stops his simple song,
To gaze a moment on the pleasing sight;
O'erjoyed to see the flowers that truly bring
The welcome news of sweet returning Spring."

2. *P. veris*, leaves toothed, wrinkled, contracted towards the middle; stalk many flowered; limb of the corolla concave. *Cowslip.*

Hab. Meadows and deans, common. April, May. ♃

A beautiful and well known plant, in whose bells the fancy of SHAKSPEARE has found 'a fitting bower' for the Fairy Queen, and which she has ornamented as a favourite residence.

"The Cowslips tall her pensioners be;
In their gold coats spots you see;
Those be rubies, fairy favours.
In those freckles live their savours.
I must go seek some dew-drops here,
And hang a pearl in every cowslip's ear."

66. MENYANTHES.

1. *M. trifoliata*, leaves ternate; flowers spiked, white dashed with pink, the disk of the corolla densely shaggy. *Buckbean.*

Hab. Marshes and bogs, frequent. June, July. ♃

This is perhaps the most beautiful of our native plants, equal, in the opinion of Mr Curtis, to the Kalmias, the Rhododendrons, and the Ericas of foreign climates, "which are purchased at an extravagant price, and kept up with much pains and expense, while this delicate native, which might be procured without any expense, and cultivated without any trouble, blossoms unseen, and wastes its beauty in the desert air."—An infusion of the root and leaves is much used by the common people in this neighbourhood in dyspeptic complaints. Formerly its virtues were highly extolled by many medical practitioners, and though now little used, it is apparently fully equal in strength to other bitters, and may hereafter lessen our dependence on foreign drugs. In West Bothland, in times of scarcity, the roots are ground and mixed with the corn to make bread, "qui admodum amarus est et detestabilis;" while, in other districts of Lapland and in Norway, they are given to domestic cattle, which devour them fresh, notwithstanding their bitterness.

67. LYSIMACHIA.

* *Stalks many-flowered.*

1. *L. vulgaris*, stem erect, 3 or 4 feet high; leaves ovate-lanceolate, opposite, 2–4 together; clusters panicled, terminal; flowers yellow. *Yellow Loose-strife.*

Hab. Sow-mire near Swinton, Berwickshire, Mr W. Baird. July, Aug. ♃

* * *Stalks single flowered.*

2. *L. nemorum*, stem creeping; leaves ovate, acute; flowers solitary, yellow; stamens smooth. *Wood Loose-strife.*

Hab. Moist woods and watery places. Haidendean, Dr Thompson. Common in the wooded banks below Langley Ford, and in the bogs at the base of the Cheviot Hills. June—Sept. ♃

68. ANAGALLIS.

1. *A. arvensis*, stem procumbent; leaves ovate, sessile, dotted beneath; corolla minutely notched, scarlet. *Scarlet Pimpernel.*

Hab. Corn fields, not common in the immediate vicinity; but it seems to have selected Holy Island as a favourite

residence, for there it grows in a profusion and beauty not to be surpassed, and elsewhere rarely equalled. July—Sept. ☉

Lord BACON, who calls this plant the "Wincopipe," says, that the country people believe, if its flowers open in the morning, a fair day is sure to follow; and as the belief still continues, it seems reasonable to conclude that it is founded on fact. They open at 8 A. M. and close about noon; but so sensible are they to the approach of rain, that they close even if a shower passes over.

"Such is the science to the peasant dear,
Which guides his labour through the varied year:
While he, ambitious 'mid his brother swains,
To shine, the pride and wonder of the plains,
Can in the Pimpernel's red-tinted flowers,
As close their petals, read the measured hours." LEYDEN.

2. *A. tenella*, stem creeping; leaves roundish, somewhat pointed, stalked; stigma acute; flowers rose-coloured. *Bog Pimpernel.*

Hab. Mossy bogs rare. "Point near Bamborough," Thomp. Haidendean, Dr Thompson. July, Aug. ♃

69. CONVOLVULUS.

1. *C. arvensis*, stem climbing; leaves arrow-shaped, acute at each end; stalks mostly single-flowered; bracteas minute, remote from the flower, which is rose-coloured. *Small Bindweed.*

Hab. Dry banks and fields. Ramparts; near the Shore Lime-kiln; fields opposite Spring Gardens, Thomp. Plentiful about Bamborough. June, July. ♃

2. *C. sepium*, stem climbing; leaves arrow-shaped, abrupt at the posterior lobes; stalks square, single-flowered; bracteas heart-shaped, close to the white flower. *Great Bindweed.*

Hab. In hedges west of Ladykirk House, but said to have been planted there as an ornamental flower. July, Aug. ♃

The roots of this elegant climber afford a good purgative extract.

70. CAMPANULA.

1. *C. rotundifolia*, radical leaves heart or kidney shaped, crenate; stem-leaves linear, entire; flowers blue, sometimes white, drooping. *Blue Bells.*

Hab. Dry banks and heaths. July, Aug. ♃

71. VIOLA.

1. *V. hirta*, stem none; leaves heart-shaped, rough with hairs as well as their foot-stalks; calyx-leaves obtuse; lateral petals with a hairy central line. *Hairy Violet.*

Hab. Grassy banks. New-mill banks, Thomp. Ravine above Burnmouth. April. ♃

2. *V. palustris*, root creeping; stem none; leaves kidney-shaped, smooth; lateral petals with a hairy central line; flowers very pale, with a very short spur. *Marsh Violet.*

Hab. Mossy bogs. Near Murton Craigs, Thomp. Below Shoreswood Hall, Dr Thompson. Allerton Mill-dean. May, June. ♃

3. *V. canina*, stem at length ascending, channelled; leaves oblong-heart-shaped; stipulas serrated; bracteas awl-shaped, entire; calyx acute. *Dog's Violet.*

Hab. Woods and by hedges common. April, May. ♃

4. *V. tricolor*, stem angular, diffuse, divided; leaves oblong, deeply crenate; stipulas lyrate, pinnatifid; bracteas obsolete. *Pansy Violet.*

Hab. Hedges and cultivated fields. The *V. arvensis* of some botanists, now generally considered a variety of the *tricolor*, is common in gravelly corn fields. May—Sept. ☉

This well-known flower has many synonyms in the English language, such as *Heart's-ease*, from its being imagined to possess the medicinal virtue of raising the spirits and comforting the heart; *Pansy*, from being, in the symbolical representation of flowers, expressive of the thoughts, —"There's Pansies, that's for thoughts," says poor Ophelia: *Love-in-idleness*, a very poetic account of the

origin of which we have in the following complimentary lines of SHAKSPEARE to our good Queen BESS.

—"I saw
Flying between the cold moon and the earth
Cupid all armed: a certain aim he took
At a fair vestal, throned by the west;
And loosed his love-shaft smartly from his bow,
As it would pierce a hundred thousand hearts:
But I might see young Cupid's fiery shaft
Quench'd in the chaste beams of the wat'ry moon;
And the imperial votress passed on,
In maiden meditation, fancy-free.
Yet marked I where the bolt of Cupid fell:
It fell upon a little western flower,—
Before milk-white; now purple with love's wound,—
And maidens call it Love-in-idleness.
Fetch me that flower; the herb I shew'd thee once;
The juice of it on sleeping eye-lids laid,
Will make or man or woman madly doat
Upon the next live creature that it sees."

5. *V. lutea*, stem triangular, unbranched; leaves ovate-oblong, crenate, fringed; stipulas lobed, palmate; bracteas minute, scarcely toothed; spur the length of the calyx. *Yellow Pansy.*

Hab. "About two miles south of Fastcastle," Lightfoot. Plentiful on the banks just above Fastcastle. May—Sept. ♃

72. VERBASCUM.

1. *V. Thapsus*, stem simple; leaves decurrent, crenate, woolly on both sides; flowers in a dense cylindrical cluster, almost sessile, golden yellow. *Great Mullein.*

Hab. "On the bed of Till, near Wooler," Winch. July, Aug. ♂

2. *V. nigrum*, leaves oblong-heart-shaped, stalked, waved and crenate, slightly downy; flowers in a long mostly solitary cluster, bright yellow, the filaments densely clothed with violet-coloured hairs. *Black Mullein.*

Hab. Waste ground at Ord, probably an outcast of the garden, but observed there for many successive years. July, Aug. ♃

73. HYOSCYAMUS.

1. *H. niger*, herb downy and viscid; leaves sinuated, clasping the stem; flowers sessile, of a straw-colour, pencilled with dark-purple veins. *Henbane.*

Hab. Waste grounds surrounding the town, plentiful, Thomp. Holy Island. July. ☉

The roots strung in the form of beads are the anodyne necklaces tied round the necks of children to facilitate the growth of their teeth. The leaves afford a very valuable medicine, in its general action approaching nearer to opium than any other known article. The smoke from its seeds, when applied by a funnel to a carious tooth, is recommended in severe fits of toothache. The whole herb is poisonous, but there is no danger of its being eaten. If it is the "hebenon" of SHAKSPEARE, as the commentators assert, the effects he attributes to its operation are altogether fictitious. Hamlet, Act i. sc. 5.

74. ATROPA.

1. *A. belladonna*, stem herbaceous; leaves ovate, undivided; flowers solitary, drooping, lurid purple; berries black. *Deadly Nightshade.*

Hab. "On the banks of Wooler Water, near Wooler," Winch. June. ♃

The root is presumed to be "the insane root" of SHAKSPEARE, which seems to have taken "prisoner" the reason of many of his commentators. An extract prepared from the leaves is occasionally used in medicine, and, when applied near the eye, has the remarkable property of dilating the pupils; and the still more remarkable property, if we are to credit some German physicians, of rendering those who take it insusceptible of the contagion of scarlet fever. Every part of the plant is poisonous; and numerous instances have occurred where children, and the ignorant, allured by the tempting appearance of the berries, have fallen victims to their deadly power. BUCHANAN relates that the Scots, in the reign of DUNCAN I., during an amnesty, sent to SUENO and his army a great quantity of bread, together with wine and ale, into which had been infused the juice of this herb, which then grew abundantly in Scotland. The Danes, suspecting no guile, partook liberally of the gift, and when intoxicated by the noxious juice, easily fell a prey to those they had invaded.

75. SOLANUM.

1. *S. dulcamara*, stem climbing, shrubby, zigzag, without thorns; lower leaves heart-shaped, upper ones hastate; clusters cymose, opposite the leaves or terminal, drooping; flowers purple, with two green spots at the base of each segment; berries oval, scarlet. *Woody Nightshade.*

Hab. Moist hedges and thickets not uncommon. Near the mouth of the Whiteadder; turnpike at Haggerston, and beyond Lowlin, Thomp. Allerton Milldean, &c. June, July. ♃

The berries are tempting to children and poisonous, though not so powerful as those of Atropa. A decoction of the leaves and twigs is one of the most effectual remedies for leprosy.

76. ERYTHRÆA.

1. *E. centaurium*, stem nearly simple; leaves ovate-lanceolate; flowers rose-coloured, nearly sessile, in a forked corymbose panicle; calyx half the length of the tube, its segments partly combined by a membrane. *Common Centaury.*

Hab. Dry pastures not uncommon. Sea-banks from Dodd's Well to Lamberton Shields; Newmill banks, Thomp. July, Aug. ☉

Once celebrated for its medicinal virtues, and thus, through JOANNES POSTIUS, it speaketh—

"Flos mihi suave rubet, sed inest quoque succus amarus,
Qui juvat obsessum bile, aperitque jecur."

A distich which, with not inferior elegance, GERARDE thus englishes—

"My floure is sweet in smell, bitter my iuyce in taste,
Which purge choler, and helps liver, that else would waste."

GERARDE tells us somewhere he was "no graduate, but a countrey scholler," and we acquit the honest man of leasing!

2. *E. littoralis*, stem simple or much branched, 2 or 3 inches high; leaves linear-obovate, obscurely three-ribbed; flowers

densely corymbose, nearly sessile; calyx as long as the tube, its segments combined below. *Sea Centaury.*

Hab. On the Links south of Bamborough Castle, and on Holy Island plentiful, Winch. June, July. ⊙

77. SAMOLUS.

1. *S. Valerandi*, stem 8 or 10 inches high, smooth; leaves obovate, obtuse; clusters corymbose, many-flowered; flowers small, white; bracteas solitary, in the middle of each partial stalk. *Common Brook-weed.*

Hab. Marshy places. "On the coast at Bamborough," Winch. Low moist spots on Holy Island Links, Thomp. "Wet rocks on the sea banks near Gunsgreen," Mr A. Baird. July. ♃

78. LONICERA.

1. *L. Periclymenum*, leaves all separate, deciduous; heads of flowers ovate, imbricated, terminal; flowers ringent. *Common Honeysuckle.*

Hab. Hedges and thickets, common, intertwining with other shrubs, and

"Recompensing well
The strength it borrows with the grace it lends."

July. ♃

The woodbine of the poets, though likewise the "twisted eglantine" of MILTON. The phenomena observed in its growth have been adduced in favour of the existence of a "perceptive power" in vegetables. They are certainly curious. The branches shoot out longitudinally, till they become unable to bear their own weight; and then strengthen themselves by changing their form into a spiral. When they meet with other living branches of the same kind, they coalesce for mutual support, and one spiral turns to the right, and the other to the left, thus seeking, by an instinctive impulse, some body on which to climb, and increasing the probability of finding one by the diversity of their course: for, if the auxiliary branch be dead, the other uniformly winds itself round from the right to the left."—Dr PERCIVAL.

79. EUONYMUS.

1. *E. europæus*, branches smooth and even; leaves ovate-lanceolate, on short stalks; peduncles compressed, many-flowered; flowers mostly 4-cleft and tetrandrous. *Spindle-tree.*

Hab. "Ash-wood, Belford," Thomp. May. ♄

80. RIBES.

1. *R. grossularia*, branches prickly; leaves rounded and lobed; stalks single-flowered; bracteas close together; segments of the calyx reflexed, shorter than the tube. *Gooseberry.*

Hab. Frequent in woods and hedges, where it may have been planted. In a deep glen about one mile south of Fastcastle, Rev. A. Baird. Banks of the Tweed at Horncliffe. April. ♄

81. HEDERA.

1. *H. helix*, leaves some ovate, some lobed. *Ivy.*

Hab. In deans on rocks and trees. Oct.

It is generally believed that the ivy is extremely injurious to those trees which it entwines and clothes with a verdure more beautiful than their own. Hence Prospero, in the "Tempest," says of his brother,

> ——————"He was
> The Ivy, which had hid my princely trunk
> An' suck'd my verdure out on't."

But there is reason to think that the evil effects have been exaggerated, for in general it seldom invests the tree closely until, from age or disease, its vigour has begun to languish. No plant has been a more fertile source to the poet of beautiful imagery or of illustrative similes, but these we need not particularize, since they must be familiar to every reader of English poetry. We may, however, transfer to our page the following verses addressed by B. Barton to Mrs Hemans, who also has an excellent Ode to the Ivy, since they are correct and descriptive:

> "And can those flowers, that bloom to fade,
> For thee a fitting wreath appear?
> No! wear thou, then, the ivy-braid,
> Whose leaves are never sere!

It is not gloomy; brightly play
The sunbeams on its glossy green;
And softly on it sleeps the ray
Of moonlight, all serene.

It changes not, as seasons flow
In changeful, silent course along;
Spring finds it verdant, leaves it so;
It outlives summer's song;
Autumn no wan, or russet stain
Upon its fadeless glory flings;
And winter o'er it sweeps in vain,
With tempest on his wings."

* * * * * * * *

"Hast thou seen in winter's stormiest day
The trunk of a blighted oak,
Not dead, but sinking in slow decay
Beneath time's resistless stroke,
Round which a luxuriant Ivy had grown,
And wreathed it with verdure no longer its own?

Perchance thou hast seen this sight, and then,
As I at thy years might do,
Passed carelessly by, nor turned again
That scathed wreck to view.
But now I can draw from that perishing tree
Thoughts which are soothing and dear to me.

O smile not! nor think it a worthless thing
If it be with instruction fraught;
That which will closest and longest cling
Is alone worth a serious thought!
Should aught be unlovely which thus can shed
Grace on the dying, and leaves on the dead?"

82. GLAUX.

1. *G. maritima. Sea Milkwort.*

Hab. Muddy places on the sea-coast to the southward; and sides of the Tweed above the Bridge. June, July. ♃

Root long, jointed, with fibres proceeding from the articulations. Herb smooth, succulent. Stems decumbent at the base, then erect, round, green, generally coloured below, from 2 to 6 inches high. Leaves opposite, sometimes becoming alternate, sessile, ovate, marked with impressed punctures on the upper surface. Flowers axillary, subsessile, prettily speckled with reddish spots.

II. DIGYNIA.

83. CHENOPODIUM.

1. *Ch. Bonus Henricus*, leaves triangular arrow-shaped, entire; spikes compound, terminal and axillary, erect, leafless. *Mercury Goosefoot.*

Hab. Waste grounds about villages. Aug. ♃

While young and tender, the leaves are used as a substitute for spinage, for which purpose, CURTIS observes, it is cultivated in Lincolnshire, in preference to the garden sort. WITHERING observes, that the young shoots, peeled and boiled, may be eaten as asparagus, which they resemble in flavour.

2. *Ch. rubrum*, leaves triangular, somewhat rhomboid, deeply toothed and sinuated; spikes erect, compound, leafy; seed very minute. *Red Goosefoot.*

Hab. Waste grounds frequent. Aug. Sept. ☉

3. *Ch. murale*, leaves ovate, acute, many-toothed, shining; spikes aggregate, panicled, cymose, leafless. *Nettle-leaved Goosefoot.*

Hab. Waste ground. "Holy Island, between the town and castle," Thomp. Aug. Sept. ☉

4. *Ch. album*, leaves rhomboid-ovate, jagged, mealy, entire towards the base, upper ones oblong, entire; seed quite smooth; spikes interrupted, partly leafy, not much branched. *White Goosefoot.*

Hab. Cultivated fields, common. Aug. ☉

5. *Ch. maritimum*, leaves entire, awl-shaped, semi-cylindrical, fleshy; flowers axillary, sessile. *Sea Goosefoot.*

Hab Sea-shore. "Coast beyond Beal," Thomp. Holy Island. July, Aug.

84. SALSOLA.

1. *S. Kali*, herbaceous, decumbent, and very bushy; leaves awl-shaped, spinous-pointed, rough; calyx with a dilated margin. *Prickly Saltwort.*

Hab. Sandy sea-shores frequent. July. ⊙

One of the plants from which, in Spain, barilla is manufactured.

85. ULMUS.

1. *U. montana*, leaves broadly elliptical, pointed, rough, doubly serrated; flowers stalked, loosely tufted, 5 or 6-cleft; capsule somewhat orbicular, slightly cloven, naked; branches drooping, their bark even. *Broad-leaved Elm.*

Hab. Woods and hedges. April.

86. GENTIANA.

1. *G. Amarella*, stem flowering from top to bottom, with short axillary branches; corolla purplish, salver-shaped, 5-cleft, bearded in the throat; segments of the calyx nearly equal. *Autumnal Gentian.*

Hab. "Links below Scrammerston, and on Holy Island; Links south of Bamborough," Thomp. Ancroft Moor. Aug. ⊙

2. *G. campestris*, stem somewhat corymbose; corolla purplish, salver-shaped, 4-cleft, bearded in the throat; two outer segments of the calyx ovate, very large. *Field Gentian.*

Hab. Green pastures. Near Genesis Gull-hole; banks beyond Spittal; Links at Goswick, and "below Budle," Thomp. Ancroft Moor, and very plentiful on Cheviot and the adjacent hills. Aug. ⊙

87. SANICULA.

1. *S. Europæa*, radical leaves simple, deeply lobed; flowers all nearly sessile, cream-coloured, in little capitate umbels. *Wood Sanicle.*

Hab. Woods frequent. Longridge Dean. Fenwick Wood, and hedges between it and Detchant. June. ♃

88. DAUCUS.

1. *D. carota*, stem hispid; leaves 2 or 3 pinnate, leaflets pinnatifid with linear-lanceolate acute segments; fruit-bearing umbel concave; bristles of the seeds slender. *Wild Carrot.*

Hab. Borders of fields and roads. July. ♂

The root is frequently eaten by the Highlanders, who consider it wholesome and nutritious. A comparison of it in the wild and cultivated state is a good illustration of the powers of cultivation, in rendering a useless weed one of our most esteemed culinary vegetables, for the garden carrot is merely a variety of the wild.

89. TORILIS.

1. *T. Anthriscus*, stem erect, with nearly upright branches; leaves bipinnate, leaflets pinnatifid; umbels of many close rays, with numerous general bracteas. *Upright Hedge-parsley.*

Hab. Hedges and borders of fields. Aug. ⊙

2. *T. nodosa*, stem prostrate, rough; umbels lateral, simple, nearly sessile; fruit partly granulated. *Knotted Hedge-parsley.*

Hab. Gravelly fields near Oxford, plentiful. Holy Island, on the Heugh and Castle rock. June. ⊙

90. ANTHRISCUS.

1. *A. vulgaris*, stem smooth, swelled under each joint; leaves triply pinnate, pinnatifid, light green, hairy; fruit ovate, twice the length of its beak. *Common Beaked-parsley.*

Hab. Road sides common. June. ⊙

91. SCANDIX.

1. *S. pecten-veneris*, leaves triply pinnatifid, with linear acute smooth segments; umbels small, simple, solitary, or in pairs; bracteas jagged; petals inflexed at the point; fruit nearly smooth, with a very long bristly-edged beak. *Shepherd's-needle.*

Hab. Corn-fields, common. June–Sept. ⊙

92. CHÆROPHYLLUM.

1. *C. sylvestre*, stem striated, smooth, 3 feet high, somewhat swelled below the joints; leaves triply pinnate, leaflets pinnatifid; umbels terminal, stalked; bracteas ovate, membranous. *Smooth Cow-parsley.*

Hab. Under hedges and woods. May, June. ♃

93. MYRRHIS.

1. *M. temulenta*, stem rough, spotted, swelled under each joint; leaves bipinnate, leaflets pinnatifid, hairy; umbels drooping before flowering, the rays hairy; seeds furrowed, nearly smooth. *Rough Cicely.*

Hab. Hedges common. June, July. ♃

94. BUNIUM.

1. *B. flexuosum*, stem tapering and zigzag at the base, smooth; leaves tripinnate, smooth, with linear entire segments; general bracteas scarcely 3; fruit somewhat beaked. *Earth-nut.*

Hab. Pastures and corn-fields. June. ♃

The roots are bulbous, and taste like a chesnut. Many persons are fond of them, and in some parts of England, says LIGHTFOOT, they boil them in broth, and serve them up to table. Children only eat them in this neighbourhood, though perhaps they are not inferior to the chesnut. In Sweden they are an article of commerce.

95. SIUM.

(*Acrid and dangerous herbs, smooth in every part, aquatic and perennial.*)

1. *S. angustifolium*, stem erect, striated; leaves pinnate, leaflets unequally lobed and serrated; umbels stalked, opposite to the leaves. *Narrow-leaved Water-parsnip.*

Hab. Ditches and rivulets, rare. In a small bog near Netherbyres, Rev. A. Baird. Near the Carding-Mill at Wooler. July, Aug.

2. *S. nodiflorum*, stem procumbent; leaves pinnate, leaflets ovate, equally serrated; umbels nearly sessile, opposite to the leaves. *Procumbent Water-parsnip.*

Hab. Ditches and rivulets, frequent. Aug.

3. *S. inundatum*, stem procumbent or floating; leaves pinnate, cut, the lowermost in many compound capillary segments; umbels 5-flowered, in pairs. *Least Water-parsnip.*

Hab. Ponds. Below Calf-hill, plentiful, Thomp. On St. Abb's Head; and in small ponds on Coldingham Moor. June, July.

96. ÆTHUSA.

1. *Æ. cynapium*, smooth, erect, branched; leaves uniform, leaflets wedge-shaped, decurrent, with lanceolate segments. *Fool's-parsley.*

Hab. Corn fields and meadows. July, Aug. ☉

This is easily distinguished from all its tribe by the few long pendulous bracteas under each partial umbel; and it is of consequence to distinguish it from parsley, as it is of a "naughty smell," and considered poisonous.

97. CONIUM.

1. *C. maculatum*, stem polished and spotted, much branched. *Common Hemlock.*

Hab. Hedges and waste grounds. July. ♂.

A valuable medicinal plant, but frequently rendered inert from want of attention to the proper period of collecting it, or from errors in its preparation. GERARDE hath a horror of it, positively forbidding its use, "for it is one of the deadly poysons which killeth by his cold qualitie." The poison which SOCRATES was condemned to drink is generally said to have been the juice of the hemlock, but this is very doubtful.

98. ŒNANTHE.

1. *Œ. crocata*, herb smooth; stem branched, furrowed, 2 to 5 feet high; leaves doubly pinnate, leaflets all wedge-shaped, many-cleft, nearly uniform; umbels rather large, terminal; fruit

linear-oblong, with slender intermediate ribs. *Hemlock Water-dropwort.*

Hab. Watery places, frequent. July. ♃

One of the most virulent poisons we possess in our fields; and many instances are recorded of fatal effects having followed the eating of its roots. "Beware and take good heed of this, and such like simples; for there is no physitian that will give it, because there be many other excellent good simples which God hath bestowed vpon vs, for the preventing and curing of diseases." Despite this advice of the pious Gerarde, modern physicians have given an infusion of the leaves, or the juice of the roots, in leprosy, with benefit. Goats eat the plant with impunity.

99. SMYRNIUM.

1. *S. olusatrum*, smooth; stem 2 or 3 feet high, furrowed; stem-leaves ternate, stalked, serrated; flowers yellow-green, in dense numerous rounded umbels. *Alexanders.*

Hab. "In Scotiæ littoreis rupibus non procul Bervico," Ray. "Upon the sea-coast at Dungloss, on the edge of Berwickshire," Dr Parsons. May, June. ♂

100. ÆGOPODIUM.

1. *Æ. podograria*, root creeping; stem 1–2 feet high, smooth, furrowed; lower leaves twice ternate, upper simply ternate; leaflets ovate, large, serrated. *Gout-weed.*

Hab. Under hedges in moist situations; frequent in this neighbourhood. June. ♃

101. ANGELICA.

1. *A. sylvestris*, stem smooth, purplish; leaves doubly pinnate; leaflets ovate, equal, serrated; rays of the umbels downy. *Wild Angelica.*

Hab. Moist meadows and bogs, common. July. ♃

102. LIGUSTICUM.

1. *L. Scoticum*, stem 1 foot high, smooth, striated; lower leaves twice ternate, uppermost simply ternate; leaflets broadly ovate,

serrated; umbels terminal, smooth, not very large. *Scottish Lovage.*

Hab. "Sea-shore at Lamberton Shields," Thomp. Shore at Eyemouth. Mr A. Baird. On rocks between Fastcastle and Redheugh. July. ♃

The leaves when bruised have the smell of parsley. "The herb is eaten, either crude or boiled, by the natives of Shetland and its isles. The flavour is highly acrid, and though aromatic, and perhaps not unwholesome, very nauseous to those who are unaccustomed to such food." Sm. The root is considered a good carminative, and is said to have proved very beneficial in abdominal swellings.

103. PIMPINELLA.

1. *P. saxifraga*, stems a foot high, striated; leaves pinnate, leaflets of the radical ones roundish, of the uppermost in various linear segments; umbels drooping when young. *Common Burnet-saxifrage.*

Hab. Dry pastures, common. July, Aug. ♃

A variety with the radical leaves doubly pinnatifid, is common in shaded places.

104. CNIDIUM.

1. *C. silaus*, smooth, dark-green; stem erect, branched; leaves doubly pinnate; leaflets deeply pinnatifid, their segments opposite, decurrent; general bracteas 1 or 2; umbellules small, distant; flowers yellowish. *Meadow Pepper-saxifrage.*

Hab. Sides of roads and borders of fields, in rather moist places, common in Berwickshire; and not rare in the north of Durham. Aug. Sept. ♃

105. HYDROCOTYLE.

1. *H. vulgaris*, stems creeping; leaves orbicular, peltate, smooth, cloven at the base; umbels very small, somewhat aggregate; flowers nearly sessile. *Common White-rot.*

Hab. Bogs and marshy places, frequent. Murton Craigs, Thomp. Below Shoreswood Hall; Haiden Dean, Dr Thompson. Holy Island Loch, &c. June, July. ♃

106. HERACLEUM.

1. *H. sphondylium*, rough, hairy; stem 3 or 4 feet high, furrowed; leaves large, pinnate; leaflets pinnatifid, cut, and serrated. *Common Cow-parsnip.*

Hab. Borders of fields and moist meadows. July. ♂

"I have fed," says Mr COBBETT, "working-horses, six or eight in number, upon this plant for weeks together. Hogs, cows, and horses, are equally fond of it. Many a half-starved pig have I seen within a few yards of cart-loads of this pig-meat! This arises from want of the early habit of attention to such matters."

III. TRIGYNIA.

107. VIBURNUM.

1. *V. opulus*, leaves smooth, 3-lobed, unequally serrated footstalks beset with glands; flowers white in terminal cymes. *Common Guelder-rose.*

Hab. Moist woods and hedges. Fenwick Wood. On the road to Norham, about five miles from Berwick. June. ♄

The *Snow-ball* tree is a cultivated variety, commonly planted in shrubberies, along with the Lilac and Laburnum, grouping elegantly with the various purple hues of the former, and the "golden chain" of the latter; but they are all mere summer beauties, nor does any thing profitable or ornamental follow. *Sm.*

108. SAMBUCUS.

1. *S. nigra*, stem arboreous; leaflets ovate; stipulas obsolete; cymes with 5 main branches. *Common Elder.*

Hab. Hedges and woods. June. ♄

BOERHAAVE asserts, that the expressed juice of the Common Elder, from a drachm to half an ounce at a dose, is the most valuable of all hydrogogue medicines, where the viscera are sound. GERARDE had said the same thing

before, and the assertion is, in a great measure, confirmed by SYDENHAM. It has fallen into disuse. Elder flowers make an agreeable light wine, and they are peculiarly excellent for giving flavour to white currant wine, being added at the time of a slight fermentation, which takes place in April of the year following that of the manufacture.—NEILL. The berries are esteemed by the good housewives of the south for making elder-rob, good for quinzies, colds, and so forth; and the village quack still works wonders with his elder salve. The cluster of flower-buds is said to make a delicious pickle to eat with boiled mutton.

IV. TETRAGYNIA.

109. PARNASSIA.

1. *P. palustris*, stem 1-flowered; leaves heart-shaped; flowers white, with pellucid veins; bristles of each nectary numerous. *Grass of Parnassus.*

Hab. "Mr William Broad observed it to grow plentifully in the Castle-fields of Berwicke-vpon-Tweed," Gerarde; and there it still grows. Holy Island Links, Winch. Common in this neighbourhood, particularly on moors, making glad the desert and the waste. Aug. Sept. ♃

V. PENTAGYNIA.

110. STATICE.

1. *S. Armeria*, leaves linear; stalks simple, bearing a round head of flowers; awns of the calyx minute. *Thrift.*

Hab. The sea-shore, common. July, Aug. ♃

The flowers are usually rose-coloured, but a white variety grows in abundance at the Needle-Eye. We have found a specimen in which the stalk was terminated with two bunches of leaves similar to those of the root, but shorter. Mr NEILL says that the thick tuberous roots, sliced and

boiled with milk, were formerly highly prized in Orkney, as a remedy in pulmonary consumption.

2. *S. limonium*, stalks panicled, round; spikes level-topped; flowers fine blue; leaves elliptic-oblong, single-ribbed, smooth, with a small point. *Sea Lavender.*

Hab. St Cuthbert's, Holy Island, plentiful, Thomp. Aug. ♃

111. LINUM.

1. *L. catharticum*, leaves opposite, obovate-lanceolate; stem slender, dichotomous above; flowers gracefully drooping before expansion, white, small; the petals acute. *Purging-flax.*

Hab. Dry pastures, common. June, July. ☉

"Two ounces of this plant, infused in a pint of water, forms an infusion, which we frequently administer to delicate subjects as a valuable indigenous tonic purgative. A wine-glassful, taken twice a-day, generally succeeds in keeping the bowels in a soluble condition."—*Medical Botany.*

VI. HEXAGYNIA.

112. DROSERA.

1. *D. rotundifolia*, leaves depressed, nearly orbicular, covered with red glandular hairs, on hairy footstalks; flower-stalks radical, racemose; flowers white, unilateral. *Round-leaved Sun-dew.*

Hab. Turfy bogs on moors. Lamberton Moor, Haiden Dean, &c. July, Aug. ♃

The leaves, when irritated on the upper surface by an insect settling on them, or any similar cause, immediately fold themselves up, and entrap their prey. I have not witnessed this curious phenomenon; but the facts detailed by Dr WITHERING satisfactorily prove its existence, though probably the plant may possess the capability of doing so only at particular hours, or in the height of its vigour.

CLASS VI.

HEXANDRIA.

" He, when young Spring protrudes the bursting gems,
Marks the first bud, and sucks the healthful gale
Into his freshen'd soul; her genial hours
He full enjoys; and not a beauty blows,
And not an opening blossom breathes in vain."

THOMSON.

" Abundant and diversified above
All number, were the sources of delight;

* * * * * * * * * * *

One made acquaintanceship with plants and flowers,
And happy grew in telling all their names."

POLLOCK.

I. MONOGYNIA.

* *Flower with both calyx and corolla.*

119. BERBERIS. *Corolla* of 6 petals; *calyx* of 6 leaves, inferior; *berry* with 2 seeds.

* * *Flower without a calyx, inferior.*

116. CONVALLARIA. *Corolla* inferior, deciduous, the limb in 6 segments; *berry* of 3 cells; *stigma* triangular.

113. ALLIUM. *Corolla* inferior, of 6 ovate petals; *stamens* awl-shaped, flattened; *stigma* acute; *seeds* angular.

115. NARTHECIUM. *Corolla* inferior, of 6 linear-lanceolate petals, spreading; *stamens* wooly; *seeds* tunicated, tapering at each end.

114. SCILLA. *Corolla* inferior, of 6 ovate oblong petals, spreading, deciduous; *stamens* all thread-shaped.

* * * *Flower without petals.*

117. JUNCUS. *Calyx* of 6 leaves; *capsule* of 3 cells and 3 valves; *seeds* numerous, horizontal.

118. LUCIOLA. *Calyx* of 6 leaves; *capsule* of 1 cell and 3 valves; *seeds* 3, erect.

II. TRIGYNIA.

121. TRIGLOCHIN. *Calyx* of 3 leaves; *petals* 3; *capsule* opening at the base, with 3 valves. (Marsh herbs, with copious radical linear leaves, and a stalked oblong cluster of numerous small green flowers.)

120. RUMEX. *Calyx* of 3 leaves; *petals* 3; *seed* 1, naked, triangular. (Flowers numerous, green, in whorled clusters.)

III. POLYGYNIA.

122. ALISMA. *Calyx* of 3 leaves; *petals* 3; *capsules* 6, or more, aggregate; *seeds* 1 or 2.

I. MONOGYNIA.

113. ALLIUM.

* *Stem leafy; leaves flat.*

1. *A. arenarium*, stem 2 or 3 feet high; leaves with cylindrical sheaths; bracteas obtuse; flowers deep red, in a globose bulbiferous umbel; keel of the petals roughish; 3 alternate stamens dilated, 3-cleft. *Sand Garlick.*

Hab. Mouth of the Whiteadder, plentiful. July. 2

** *Stem leafy; leaves somewhat cylindrical.*

2. *A. oleracium*, stem 2 feet high, slender; leaves semi-cylindrical, tubular, rough, channelled above, ribbed beneath; bracteas pointed, longer than the lax bulbiferous umbel; stamens simple, awl-shaped. *Field Garlick.*

Hab. On the Heugh, Holy Island, Winch. On the rocks at Spindlestone. July. ♃

3. *A. vineale*, stem slender, 1 or 2 feet high; leaves cylindrical, smooth; umbel spherical, bearing bulbs; 3 alternate stamens deeply 3-cleft. *Crow Garlick.*

Hab. Dry pastures. Wind-mill Bastion, and other parts of the Ramparts, Thomp. Castle-hills. Dikes in the Magdalen Fields. July. ♃

*** *Stalk radical, naked.*

4. *A. ursinum*, stalk semicylindrical; leaves elliptic-lanceolate, stalked: flowers pure-white, in a level-topped umbel; stamens simple. *Broad-leaved Garlick.*

Hab. Moist woods. Banks of the Whiteadder between Edrington and Mackay's Mill, Dr Thompson. Fenwick Wood. June. ♃

5. *A. schœnoprasum*, stalk round, the height of the foliage; leaves cylindrical, somewhat tapering at the point; flowers purplish, in a dense umbel; stamens simple. *Chive Garlick.*

Hab. "By Fastcastle," Dr Parsons. June. ♃

A rare plant in a wild state, but common in gardens. Used in sallads, but, says GERARDE, "they cause troublesome dreames."

114. SCILLA.

1. *S. verna*, bulb coated; leaves linear, channelled; coromb hemispherical, of few deep blue flowers; bracteas lanceolate, obtuse. *Vernal Squill.*

Hab. Sea banks at Gunsgreen, plentiful, an interesting discovery of my friend Mr A. Baird. April. ♃

2. *S. nutans*, leaves linear; cluster drooping; flowers blue, pendulous, cylindrical-bell-shaped, the points of their petals reflexed; bracteas in pairs. *Wild Hyacinth.*

Hab. In woods and deans, common. May. ♃

115. NARTHECIUM.

1. *N. ossifragum*, stem simple, leafy; leaves sword-shaped; cluster terminal, erect, many-flowered; flowers yellow. *Bog-asphodel.*

Hab. Turfy bogs on moors, frequent. Murton Craigs; Moors west of Belford, Thomp. Haiden Dean, &c. July, Aug. ♃

116. CONVALLARIA.

1. *C. polygonatum*, leaves alternate, clasping the angular stem; stalks axillary, mostly single-flowered; flowers pendulous, green and white, sweet-scented, the segments bearded; stamens smooth. *Angular Solomon's Seal.*

Hab. "On Kyloe Rocks, a few miles south of Berwick," Mr A. Bruce. May, June. ♃

117. JUNCUS.

* *Leaves none.*

1. *J. glaucus*, stem straight, glaucous, rigid, striated; panicle much branched, lax, erect, far below the summit; capsule elliptical, pointed, rather shorter than the calyx. *Hard Rush.*

Hab. Wet pastures, and by road-sides. July. ♃

2. *J. conglomeratus*, stem straight, faintly striated, soft; panicle much branched, dense, globular, far below the summit; capsule abrupt; stamens 3. *Common Rush.*

Hab. Wet pastures, meadows, and by ditches, July. ♃

3. *J. effusus*, stem straight, faintly striated, soft; panicle loose, repeatedly compound, very far below the summit; capsule obtuse. *Soft Rush.*

Hab. Wet pastures, by road-sides and rivulets. July. ♃

In the olden time, it was customary, at ceremonial entertainments, to strew the floor with rushes. Chambers, in the houses of the great, were formerly strewed in this manner. As our ancestors rarely washed their floors, disguises of uncleanness became necessary things. They were, in subsequent times, formed into mats and chair-bottoms; but their use has been superseded by the knowledge of better materials. Our fishermen and labourers, in many parts of the country, carefully peel the stalk, and use the pith as a wick for their candles, or for the lamp. Mr WHITE, in his Natural History of Selborne, has given a long account of the manner of preparing them in Hampshire; and he recommends that two ribs of the rind should be left to support the pith instead of *one*, as is the case with those prepared for rush-lights. Made, as he directs, these rushes give a good clear light, while watch-lights only render "darkness visible."

** *Herb leafy.*

4. *J. squarrosus*, stem naked; leaves numerous, radical, rigid, linear, channelled; panicle terminal, compound, with cymose branches. *Moss Rush.*

Hab. Moorish heathy ground, common. July. ♃

5. *J. cænosus*, stem simple, leafy; leaves linear, channelled; panicle cymose, terminal, longer than the bractea; capsule obovate, the length of the rather obtuse calyx. *Mud Rush.*

Hab. Muddy places towards the sea. River sides from the bridge upwards; mouth of the rivulet at Goswick; coast beyond Goswick, Thomp. July, Aug. ♃

In our specimens, neither the calyx nor capsule are of the dark-brown colour mentioned by SMITH; and the capsule, in the same plant, is sometimes as long as the calyx, but more often rather longer. In these characters, then, they approximate nearer to the *J. compressus*; but the stem inclines to triangular on the upper part, the leaves are striated externally, and the panicle is longer than, and not overtopped by the bractea, while the peculiar habitat leaves no doubt concerning the species to which they ought to be referred. Dr HOOKER is surely right in considering *J. compressus* and *cænosus* as varieties.

6. *J. bufonius*, stem leafy; leaves linear, angular, channelled panicle forked, racemose, longer than the bracteas; flowers soli-

tary, unilateral, mostly sessile; calyx-leaves lanceolate, taper-pointed, membranous, 2-ribbed, longer than the oblong capsule. *Toad Rush.*

Hab. Abundant on all moist gravelly places, covered with water during winter, and at the sides of ponds, July, Aug. ⊙

7. *J. uliginosus*, stem leafy, bulbous at the base; leaves bristle-shaped, channelled; flowers usually 3 together, in small lateral or terminal heads, with leafy bracteas; capsule obtuse, rather longer than the calyx. *Little Bulbous Rush.*

Hab. Boggy places in moors, common. Lamberton Moor. Bog below Shoreswood-Hall. Haiden and Allerton-Mill Deans, &c. June, July. ♃

Almost uniformly viviparous, whether the stems be erect or decumbent. A very distinct species.

8. *J. acutiflorus*, leaves slightly compressed, divided internally by numerous transverse partitions; panicle repeatedly compound, forked; calyx-leaves all bristle-pointed, shorter than the taper beak of the capsule. *Sharp-flowered Rush.*

Hab. Watery places, common. July. ♃

9. *J. lampocarpus*, leaves compressed, with numerous internal partitions; panicle erect, compound, forked; inner calyx-leaves bordered; capsule ovate, of a dark chocolate colour, highly polished, longer than the calyx. *Shining-fruited Rush.*

Hab. Boggy meadows, frequent. In the field below the Old Lamberton Toll. Lamberton Moor. Ancroft Moor, &c. July, Aug. ♃

118. LUCIOLA.

1. *L. pilosa*, stem a span high, leafy; leaves hairy; panicle cymose, widely spreading and reflexed; flowers solitary; capsule pointless; crest of the seeds hooked. *Hairy Wood-rush.*

Hab. Deans, on grassy banks, common. Banks beyond Hudshead. Longridge Dean, &c. April. ♃

2. *L. sylvatica*, stems 12 or 18 inches high, leafy; leaves hairy; panicle cymose, doubly compound; flowers and bracteas aggre-

gate; capsule pointed: crest of the seeds obsolete. *Great Wood-rush.*

Hab. Woods, deans, and heaths, common. May, June. ♃

3. *L. campestris*, stem 3–10 inches high, leafy; leaves hairy; panicle of 3 or 4 ovate, dense, partly stalked clusters; capsule obovate, obtuse, with a small point, shorter than the calyx; seeds stalked, without a crest. *Field Wood-rush.*

Hab. Dry barren pastures. April, May. ♃

In pastures, this species does not exceed three or four inches in height; but in bogs it rises a foot or more. Sometimes the heads of flowers are collected into a dense head; in other specimens two or more of them are elevated on short stalks; but, in all, the segments of the calyx are much longer than the capsule, and less mucronate than in the following:—

4. *L. sudetica*, leaves smooth, with hairy sheaths; clusters stalked, umbellate, the middle one sessile; segments of the calyx mucronate, as long as the capsule. "*Juncus sudeticus*, Willdenow, Sp. Pl. ii. 221." *J. liniger*, Purton Mid. Fl. iii. 352, t. 9.

Hab. Rough bogs. In the field below the Old Lamberton Toll. June. ♃

Stem a foot high, slender, leafy, smooth; leafs flat, smooth, the margins near the base loosely fringed with long white hairs, of which there is also a dense tuft at the top of the sheaths, which are otherwise smooth. Clusters 7, oblong, spreading; one on a stalk two inches long, and equal to the foliaceous bractea, the rest on stalks about an inch long, except the centre one which is sessile. Segments of the calyx ovate-lanceolate, pointed, dark-brown, with membranous edges. Capsules obtuse, glossy-brown, as long as the calyx.

Mr Winch, to whom I am indebted for the character and synonym of Willdenow, says, my specimen is similar to specimens purchased of Schleicher, for *L. sudetica*. He has gathered it in various places in the north of England and in Scotland. It is certainly the *L. congesta* of Smith, Eng. Fl. ii. 181, who quotes with merited approbation the figure of Purton.

119. BERBERIS.

1. *B. vulgaris*, leaves obovate-oblong, with bristly serratures; thorns 3-cleft; clusters pendulous, flowers yellow; petals entire. *Common Barberry.*

Hab. Hedges occasionally. Between Richardson's-stead and Scrammerston. Near Gainslaw. June. ♄

The leaves are in general more or less covered with a small orange-coloured fungus, whence seems to have originated an opinion, entertained by many practical farmers, that the barberry is injurious to corn, by infecting it with the mildew. To determine the accuracy of this opinion, it should first be proved that the mildew of the barberry and of corn is owing to the same species of fungus.

The flowers are worthy the attention of the student. The inner part of each filament, near the bottom, is so irritable, that, when touched by any extraneous body, it immediately contracts, and strikes its anther, full of pollen, against the stigma. A fuller account of this curious circumstance the student will find in SMITH's Introduction, p. 248; and the reflections which it is calculated to raise would be misplaced here.

II. TRIGYNIA.

120. RUMEX.

* *Flowers all perfect.*

1. *R. sanguineus*, leaves lanceolate, acute, (veined with red), the radical ones heart-shaped at the base; permanent petals entire, oblong, one of them at least tuberculated. *Bloody-veined Dock.*

Hab. Woods at Netherbyres, Berwickshire, plentiful, Rev. A. Baird. July. ♃

2. *R. crispus*, leaves lanceolate, acute, undulated and crisped at the edges; permanent petals ovate, entire, all tuberculated. *Curled Dock.*

Hab. Waste ground and road sides. July. ♃

3. *R. acutus*, leaves oblong-heart-shaped, pointed; clusters leafy; permanent petals oblong, obscurely toothed, all tuberculated. *Sharp Dock.*

Hab. Watery places. Sides of the pond below Calf-hill; and of the footpath above the Old Castle. July. ♃

4. *R. obtusifolius*, stem roughish; radical leaves heart-shaped, obtuse; permanent petals toothed, one principally tuberculated. *Common Dock.*

Hab. Waste ground and pastures. July, Aug. ♃

* * *Flowers separated.*

5. *R. acetosa*, leaves oblong, arrow-shaped; flowers dicœcious; permanent petals tuberculated. *Common Sorrel.*

Hab. Meadows and pastures. June. ♃

The leaves are an agreeable acid; and in France the plant is commonly cultivated for use at the table. The Laplanders mix a strong decoction of the leaves with their rein-deer milk, which is then capable of being preserved for use from autumn till the ensuing summer, and esteemed as an agreeable and wholesome food.

6. *R. acetosella*, leaves lanceolate, hastate; flowers dicœcious; permanent petals without tubercles. *Sheep's Sorrel.*

Hab. Barren pastures and on heaths. June, July. ♃

TOFIELDIA *palustris* was found by RAY "juxta rivulum non procul *Bervico* in Scotia." Syn. 375. We have sought for it in vain, and, perhaps, by the "Bervico in Scotia," North-Berwick may be intended.

121. TRIGLOCHIN.

1. *T. palustre*, capsule nearly linear, of 3 cells, tapering at the base; root fibrous. *Marsh Arrow-grass.*

Hab. Bogs and marshy places. July, Aug. ♃

2. *T. maritimum*, capsule ovate, of 6 cells. *Sea Arrow-grass.*

Hab. Abundant on marshy spots on all our coasts, and at the sides of the river within the influence of the tide. May, August. ♃

Cattle and sheep are fond of the herbage of these plants, which are probably very salutary to them from the salt they contain.

III. POLYGYNIA.

122. ALISMA.

1. *A. plantago*, leaves ovate, acute; capsules obtusely triangular; flower-stalk naked, 2 or 3 feet high, panicled with whorled compound bracteated branches; flowers pale purple. *Great Water-plaintain.*

Hab. Ponds and ditches common. July. ♃

Of established reputation in America as a specific for the bite of the rattlesnake. In the north of Europe has for some ages been a popular remedy for hydrophobia; and we are told, that it still retains its popular sway and reputation over a great part of the Russian empire; and that, in the government of Isola, it has never failed of effecting a cure for the last twenty-five years. The preparation is simple: the root is reduced to a powder, and the powder is to be eaten by being spread over bread and butter. Two or three doses are said to be sufficient in the worst cases; and will be found to cure mad dogs themselves. Dr Good.—This also is vanity!

2. *A. ranunculoides*, leaves linear-lanceolate; capsules angular, acute, numerous, in a globular head; stem none; flower-stalks from 3 to 10 inches high, bearing 1 or 2 whorls of light purple flowers. *Lesser Water-plaintain.*

Hab. Bogs and ditches. In the ditch at the foot of St Abb's Head, Rev. A. Baird. Holy Island Lough; and in the pond above Spindlestone. Aug. ♃

CLASS VIII.

OCTANDRIA.

" Yet happier, in my judgment,
The wandering Herbalist, who, clear alike
From vain, and, that worse evil, vexing thoughts,
Casts on these uncouth forms a slight regard
Of transitory interest, and peeps round
For some rare floweret of the hills, or plant
Of craggy fountain; what he hopes for wins,
Or learns, at least, that 'tis not to be won:
Then, keen and eager, as a fine nos'd hound
By soul-engrossing instinct driven along
Through wood or open field, the harmless man
Departs, intent upon his onward quest!
No floweret blooms
Throughout the lofty range of these rough hills,
Or in the woods, that could from him conceal
Its birth-place." WORDSWORTH.

I. MONOGYNIA.

* *Flowers complete.*

123. EPILOBIUM. *Petals* 4; *calyx* 4-cleft, superior; *capsule* of 4 cells; *seeds* bearded.

124. VACCINIUM. *Corolla* of 1 petal; *calyx* 4-cleft; *berry* inferior.

126. ERICA. *Corolla* of 1 petal; *calyx* of 4 leaves; *capsule* superior, partitions simple, from the centre of each valve.

125. CALLUNA. *Corolla* of 1 petal; *calyx* double, each of 4 leaves; *capsule* superior, partitions from the column alternate with the valves.

* * *Flowers apetalous.*

127. DAPHNE. *Calyx* coloured, 4-cleft, inferior; *berry* with 1 seed.

II. TRIGYNIA.

128. POLYGONUM. *Calyx* coloured, in several deep segments, inferior; *corolla* 0; *seed* 1, naked.

I. MONOGYNIA.

123. EPILOBIUM.

* *Flowers irregular.*

1. *E. angustifolium*, leaves scattered, linear-lanceolate, veiny, smooth; flowers crimson, in long terminal clusters; stamens declining. *French Willow.*

Hab. "By a rocky rivulet above Langley-ford, near Cheviot," Winch. "In a very deep and savage glen about one mile south of Fastcastle," Rev. A. Baird. Common in gardens. July, Aug. ♃

* * *Flowers regular; stigma deeply 4-cleft.*

2. *E. hirsutum*, root creeping; stem copiously branched, downy; leaves half-clasping the stem, ovate-lanceolate, hairy; flowers corymbose, large, rose-coloured. *Great Hairy Willow-herb.*

Hab. Ditches, sides of ponds and rivers common. July. ♃

3. *E. parviflorum*, root fibrous; stem nearly simple, woolly; leaves sessile, lanceolate, downy; flowers in long leafy clusters, small. *Small-flowered Willow-herb.*

Hab. Watery places frequent. July. ♃

4. *E. montanum*, stem round, smooth or minutely downy; leaves stalked, ovate, toothed, broad and smooth. *Broad-leaved Willow-herb.*

Hab. In stony places, and under hedges frequent. July. ♃

* * *Flowers regular; stigma undivided.*

5. *E. tetragonum*, stem erect, roundish with 4 angular ribs; leaves lanceolate, sessile, minutely toothed; herb nearly or quite smooth. *Square stalked Willow-herb.*

Hab. Watery marshy places. In the vale below Langley-ford. July. ♃

6. *E. palustre*, stem erect, round; leaves sessile, linear-lanceolate, slightly toothed; herb nearly or quite smooth. *Marsh Willow-herb.*

Hab. Bogs frequent. July. ♃

7. *E. alsinefolium*, root creeping; stem decumbent, obtusely quadrangular; leaves stalked, ovate, acute, toothed. *Chickweed-leaved Willow-herb.*

Hab. In rivulets on the sides of the Cheviot Hills, as mentioned by Ray; Winch. July. ♃

"In winter it is not deciduous, but forms widely spreading matted tufts of small leaves, among which fibrous roots shoot out, as in proliferous plants. The flower-stems are partially decumbent, cylindrical, at first simple, afterwards much branched, and furnished with numerous elliptical, slightly toothed soft leaves. The flowers are few, and the style undivided." Winch, Guide ii. pref. v.

124. VACCINIUM.

1. *V. myrtillus*, stem acutely angular; leaves ovate, serrated, membranous, smooth, deciduous; stalks solitary, single-flowered; flowers drooping, reddish; calyx wavy, nearly entire. *Blaeberry.*

Hab. Heaths and woods. May. ♄

The bluish-black berries are said by Smith to be neither agreeable nor wholesome, an opinion contradicted by our own experience and that of others. They are good plucked from the bush, better when eaten with cream in

the manner of strawberries; and they make tolerable tarts and jellies.

2. *V. vitis idæa*, clusters terminal, drooping, with ovate concave bracteas longer than the flower-stalks; leaves obovate, dotted beneath, revolute, minutely toothed; corolla bell-shaped, flesh-coloured. *Cow-berry.*

Hab. Higher parts of Cheviot, Winch. June. ♄

The berries are deep red, astringent and acid, with much bitterness, which they lose by immersion, for some hours, in water before they are made into pies, rob or jelly. In the latter state this fruit is excellent for colds and sore throats; as well as for eating with venison, or other roast meat, as is practised generally in Sweden.—Sm.

3. *V. oxycoccus*, stems creeping, thread-shaped, smooth; leaves ovate, entire, smooth, revolute, acute; flowers terminal, bright rose-colour, drooping; corolla deeply 4-cleft. *Cranberry.*

Hab. Peat-bogs amongst moss. "Moors between Belford and Wooler plentiful," Thomp. Haiden Dean; bog below Shoreswood Hall, Dr Thompson. June. ♄

The berries are spotted in an early state, but become deep red in maturity. At Longtown, on the borders of Cumberland, they are made so considerable an article of commerce, that, at the season when they are ripe, not less than L. 20 or L. 30 worth are sold by the poor people, each market day, for five or six weeks together, which are afterwards dispersed over different parts of the kingdom, for making the well-known cranberry tarts. Lightfoot.

125. CALLUNA.

1. *C. vulgaris*, stems bushy; leaves small, opposite, imbricated, ever-green; flowers drooping, in longish unilateral clusters. *Common Ling.*

Hab. The principal covering of our moors, and not uncommon on the sea-coast. The flowers are commonly rose-coloured, but a variety with them white is not rare. July, Aug. ♄

Ling, or Heather, is extensively used for thatching cottages and making besoms; and the Highlanders frequently make their beds with it, laying the roots downwards, and

the top upwards. "In this manner," says BUCHANAN, "they form a bed so pleasant, that it may vie in softness with the finest down, while in salubrity it far exceeds it; for heath, naturally possessing the power of absorption, drinks up the superfluous moisture, and restores strength to the fatigued nerves, so that those who lie down languid and weary in the evening, arise in the morning vigorous and sprightly."

126. ERICA.

1. *E. tetralix*, leaves fringed, four in a whorl; flowers in round tufts; corolla ovate; style nearly concealed; anthers horned. *Cross-leaved Heath.*

Hab. Boggy places on moors. July, Aug. ♄

2. *E. cinerea*, leaves three in a whorl, smooth; flowers in rather long whorled clusters; corolla ovate; style a little prominent; anthers crested; stigma capitate. *Fine-leaved Heath.*

Hab. Dry heaths abundant. July, Aug. ♄

"In the deserts and moors of this realm," says BOETHIUS, "grows an herb named Heather, very nutritive to beasts, birds, and especially to bees. In the month of June it produces a flower of purple hue, as sweet as honey. Of this flower the Picts made a delicious and wholesome liquor. The manner of making it has perished with the extermination of the Picts, as they never showed the craft of making it, except to their own blood."

"Sweet, modest flower, in lonely deserts dun,
Retiring still for converse with the sun,
Whose sweets invite the soaring lark to stoop,
And from thy cells the honied dew-bells scoop!
Though unobtrusive all thy beauties shine,
Yet boast, thou rival of the purpling vine!
For once thy mantling juice was seen to laugh
In pearly cups, which monarchs loved to quaff;
And frequent wake the wild inspired lay,
On Teviot's hills, beneath the Pictish sway."

LEYDEN.

137. DAPHNE.

1. *D. laureola*, clusters axillary, simple, each of about 5 yellowish-green drooping flowers, shorter than the smooth, obovate-lanceolate, evergreen leaves; calyx obtuse. *Spurge-laurel.*

Hab. Banks of the Eye above Netherbyres, quite wild, Rev. A. Baird. Common in shrubberies. March. ♄

II. TRIGYNIA.

138. POLYGONUM.

* *Styles usually but* 2.

1. *P. amphibium*, leaves stalked, ovate-lanceolate, slightly heart-shaped at the base; flowers rose-coloured, in ovate dense terminal spikes; stamens 5; styles united half way up. *Amphibious Persicaria.*

(1) *aquaticum*, leaves floating, broadly lanceolate, smooth.

(2) *terrestre*, nearly erect; leaves narrow lanceolate, rough with short rigid appressed hairs.

Hab. (1) Ponds, ditches and slow streams. (2) Sides of ditches, and in moist corn fields. July, Aug. ♃

2. *P. persicaria*, stem erect; leaves lanceolate, often spotted; stipulas fringed; flowers rose-coloured, in dense ovate-oblong erect spikes, on smooth stalks; stamens 6; styles united half way up. *Spotted Persicaria.*

Hab. Moist ground and waste places, common. Aug. ☉

3. *P. lapathifolium*, stem spreading; leaves ovate-lanceolate, sprinkled at the back with glandular dots; stipulas beardless; flowers greenish-white, in oblong erect spikes on rough stalks; stamens 6; styles distinct. *Pale-flowered Persicaria.*

Hab. Road sides and cultivated grounds, rather rare. Aug. ☉

4. *P. hydropiper*, stem erect; leaves lanceolate, wavy, without spots; clusters lax, interrupted, drooping; stamens 6; styles united half way up. *Biting Persicaria.*

Hab. Ditches and watery places, frequent. Sept. ⊙

* * *Styles* 3.

5. *P. aviculare*, stem procumbent, herbaceous; leaves elliptic-lanceolate, rough-edged; ribs of the stipulas distant; flowers axillary, 2 or 3 together, small. *Common Knot-grass.*

Hab. Cultivated fields, &c. very common. April—Oct. ⊙

6. *P. convolvulus*, stem twining, angular; leaves heart-arrow-shaped; segments of the calyx bluntly keeled. *Climbing Buck-wheat.*

Hab. Cultivated fields common. June—Sept. ⊙

CLASS X.

DECANDRIA.

" Those who think nothing useful which does not yield some palpable and direct advantage, have, indeed, scornfully rejected such inquiries as frivolous and useless. But this disdain has not repressed such discussions; and it is fortunate that it has not. Amusement is itself an advantage. The vigour which the understanding derives from exercise on every subject, is a great advantage."—EDIN. REVIEW.

I. MONOGYNIA.

129. PYROLA. *Petals* 5; *anthers* of 2 cells, with 2 pores.

II. DIGYNIA.

132. SCLERANTHUS. *Corolla* 0; *calyx* of 1 leaf; *seeds* 2.

130. CHRYSOSPLENIUM. *Corolla* 0; *calyx* coloured; *capsule* with 2 beaks; *seeds* numerous.

131. SAXIFRAGA. *Petals* 5; *calyx* in 5 deep segments; *capsule* with 2 beaks; *seeds* numerous.

133. DIANTHUS. *Petals* 5; *calyx* tubular, of 1 leaf, with scales at the base; *capsule* oblong.

III. TRIGYNIA.

136. ARENARIA. *Capsule* of 1 cell; *petals* undivided, spreading.

135. STELLARIA. *Capsule* of 1 cell; *petals* deeply cloven, spreading.

134. SILENE. *Capsule* of 3 incomplete cells; *petals* with claws, limb cloven; *calyx* of 1 leaf.

IV. PENTAGYNIA.

137. SEDUM. *Capsules* 5, each with a scale at the base; *corolla* of 5 petals.

138. OXALIS. *Capsule* of 5 cells, angular; *seeds* 2, tunicated; *petals* connected at the base.

139. LYCHNIS. *Capsule* of 5 cells, or of 1, with many seeds; *calyx* tubular, membranous.

140. AGROSTEMMA. *Capsule* of 1 cell; *calyx* tubular, coriaceous.

141. CERASTIUM. *Capsule* of 1 cell; *calyx* of 5 leaves; *petals* cloven.

142. SPERGULA. *Capsule* of 1 cell; *calyx* of 5 leaves; *petals* undivided.

I. MONOGYNIA.

129. PYROLA.

1. *P. rotundifolia*, cluster many-flowered; calyx as long as the stamens; stamens ascending; style twice as long, declining and recurved. *Round-leaved Winter-green.*

Hab. In the Dean below Allerton Mill, plentiful, about midway between the mill and the lime road. July, Aug. ♃

Root creeping. Leaves roundish, smooth, the margins set round with callous points at the termination of the veins, on long triangular stalks, which are slightly bordered. Flower-stalk a foot high, smooth, triangular, twisted, bearing 2 or 3 brown membranous scales. Flowers white, drooping, very beautiful, on short recurved stalks, each with a membranous bractea, sometimes shorter, and sometimes as long as itself. Stamens all turned upwards, and crowded together, with tubular anthers, at first white, but soon becoming of an uniform orange-yellow. Style twice as long as the stamens, curved like letter *f*, pink, tipped with darker red.

2. *P. media*, stamens regularly inflexed; style twice as long, deflexed; cluster of many pendulous flowers; calyx shorter than the stamens. *Intermediate Winter-green.*

Hab. Deans. Ancroft Dean, Mr J. Manners. Haiden-Dean; Longridge Dean, sparingly. July, Aug. ♃

Rather less than the preceding, from which the student will readily distinguish it by attention to the specific characters.

II. DIGYNIA.

130. CHRYSOSPLENIUM.

1. *C. oppositifolium*, stem angular, succulent; leaves opposite, roundish-heart-shaped; flowers small, yellow, corymbose, terminal. *Common Golden-saxifrage.*

Hab. Watery shady places frequent. Sea-banks beyond the Sandy Beds, Thomp. Ord Mill, &c. May. ♃

131. SAXIFRAGA.

1. *S. stellaris*, leaves elliptic-wedge-shaped, coarsely serrated, tapering and entire at the base; panicle corymbose, of few flowers, white with 2 yellow spots at the base of each petal; calyx reflexed, inferior. *Starry Saxifrage.*

Hab. In bogs, and by the sides of rivulets on and about Cheviot, plentiful. June, July. ♃

2. *S. granulata*, root granulated; stem panicled, erect, leafy; leaves kidney-shaped, lobed; flowers large, white; calyx spreading; germen half-inferior; stigmas downy. *Meadow Saxifrage.*

Hab. Banks on a gravelly or sandy soil, not uncommon. Wooler-Haughhead, Winch. Alderson's Dean, and sea-banks near Marshall-meadows; Tweed banks between Yarrowhaugh and Ord Mill; Heugh, Holy Island; Chapel-hill, Belford, Thomp. In the wood above the Union Bridge. May. ♃

In conformity to the doctrine of Signatures, which attributes to any substance having a semblance to any organ of the body, sovereign virtues in removing the diseases of that organ, this plant was pronounced very useful in calculous complaints, because the roots somewhat resemble small gravel-stones. And because it is "governed by the moon," its credit remained undiminished with the astrologers, or those herbalists who imagined that the stars

—"shed down
Their stellar virtue on all plants that grow
On earth, made hereby apter to receive
Perfection from the sun's more potent ray."

132. SCLERANTHUS.

1. *S. annuus*, stems spreading, branched dichotomously; leaves linear, opposite; flowers small, green, in axillary and terminal nearly sessile clusters; calyx of the fruit with spreading taper-acute segments. *Annual Knawel.*

Hab. Dry sandy fields, and on walls. July. ⊙

133. DIANTHUS.

1. *D. deltoides*, leaves linear-lanceolate, somewhat downy; flowers solitary, rose-coloured with a deeper circle in the middle; scales of the calyx ovate-lanceolate, acute, seldom more than 2; petals notched, smooth. *Maiden Pink.*

Hab. Dry gravelly banks. Hedge banks between Wooler and Earl, Winch. Chapel-hill, Belford; and craigs by Craig-mill, Thomp. Frequent in the vicinity of Wooler. July—Oct. ♃

III. TRIGYNIA.

134. SILENE.

1. *S. inflata*, stem erect, forked; leaves ovate, acute; flowers copiously panicled, drooping, white; petals cloven half way down, mostly without scales; calyx smooth, inflated, reticulated. *Bladder Campion.*

Hab. Corn fields, by hedges and road sides. July. ♃

The plant is in general very smooth; but a variety, densely covered with short hairs, is occasionally to be found in this neighbourhood. The leaves boiled have something of the flavour of pease, and proved of great use to the inhabitants of the Island of Minorca, in the year 1685, when a swarm of locusts had destroyed the harvest. WITHERING. It has been recommended for cultivation by BRYANT, who observes, that our kitchen-gardens scarcely afford a better flavoured vegetable than the young shoots when boiled. They ought to be gathered when not above two inches long.

2. *S. maritima*, stem recumbent; leaves lanceolate; flowers slightly panicled or solitary, terminal, white; petals cloven, each with a cloven acute scale; calyx smooth, inflated, reticulated. *Sea Campion.*

Hab. Sea coast common. Aug., Sept. ♃

No observation of our own leads us to believe this to be a variety of the preceding.

135. STELLARIA.

1. *S. media*, stems procumbent with a hairy alternate line on one side; leaves ovate, single-ribbed; stamens from 5 to 10. *Common Chickweed.*

Hab. Waste and cultivated grounds. March—Nov. ☉

2. *S. holostea*, stem nearly erect, rigid; leaves lanceolate, finely serrated; flowers large, white; petals inversely heart-shaped, twice as long as the ribless calyx. *Greater Stitchwort.*

Hab. Woods, deans and hedge banks common. May. ♃

3. *S. graminea*, stem nearly erect; leaves linear-lanceolate, entire; flowers, small, white, in a terminal spreading panicle, their petals nearly as long as the 3-ribbed calyx. *Lesser Stitchwort.*

Hab. Heathy pastures and bushy places, common. May. ♃

3. *S. glauca*, stems nearly erect, smooth; leaves linear-lanceolate, entire, glaucous; flowers white, on erect partly scattered stalks, their petals much longer than the 3-ribbed calyx. *Glaucous Stitchwort.*

Hab. Wet marshy places, rare. Side of the pond above Spindlestone. June, July. ♃

5. *S. uliginosa*, stem weak; leaves elliptic-lanceolate, entire, with a callous tip; flowers small, white, irregularly panicled, lateral or terminal, their petals shorter than the calyx. *Bog Stitchwort.*

Hab. Ditches and watery spots frequent. June. ⊙

136. ARENARIA.

* *Stipulas none.*

1. *A. peploides*, herb smooth, succulent; stem much branched; leaves ovate, acute, fleshy; flowers in the axils of the upper leaves, nearly sessile, small, white; calyx obtuse, without ribs. *Sandwort.*

Hab. Sandy sea-coast. Lamberton Shields; Spittal sands and coast to the southward, Thomp. June, July. ♃

2. *A. trinervis*, stems weak, branching, downy; leaves ovate, acute, stalked, 3, or rarely 5-ribbed; flowers small, white; calyx obscurely 3-ribbed, with a rough keel. *Plantain-leaved Sandwort.*

Hab. Shady bushy places. On the wooded part of Spindlestone Hills. May, June. ⊙

It is surely an error to describe this plant as having no bracteas. See SMITH's Eng. Fl. ii. 307.

3. *A. serpyllifolia*, stem much branched, rough, spreading; leaves small, ovate, nearly sessile, rough; flowers small, white; calyx hairy, three outermost of its leaves 5-ribbed. *Thyme-leaved Sandwort.*

Hab. On walls and sandy ground, common. July. ⊙

4. *A. verna*, tufted; stem panicled; leaves awl-shaped, bluntish, smooth; flowers white, the petals longer than the 3-ribbed calyx. *Vernal Sandwort.*

Hab. On St Abb's-head plentiful; and in a deep glen about a mile south of Fastcastle, Rev. A. Baird. May —Aug. ♃

* * *Stipulas membranous.*

5. *A. rubra*, stems prostrate; leaves linear, plane, somewhat fleshy, tipped with a minute bristle; stipulas sheathing; flowers purplish red; seeds compressed, angular, roughish. *Purple Sandwort.*

Hab. Sandy fields, frequent. July, Aug. ⊙

6. *A. marina*, stems prostrate; leaves semicylindrical, fleshy, pointless; stipulas sheathing; flowers purplish-red; seeds compressed, bordered, smooth. *Sea Sandwort.*

Hab. Sea-coast in marshy places. Sides of the Tweed above the bridge, plentiful, Thomp. July. ⊙

IV. PENTAGYNIA.

137. SEDUM.

* *Leaves flat.*

1. *S. Telephium*, stem erect; leaves flattish, serrated; flowers purple, in a terminal leafy corymb. *Orpine.*

Hab. Borders of fields near the sea, a mile north of Eyemouth, sparingly, Rev. A. Baird. Aug. Sept. ♃

* * *Leaves tumid or somewhat cylindrical.*

2. *S. anglicum*, stems tufted, much branched, 2 or 3 inches high; leaves ovate, thick, mostly alternate, spurred at the base; cyme of 2 smooth branches; flowers white, speckled with red. *English Stonecrop.*

Hab. Heugh, Holy Island, and about the Castle, Thomp. July. ☉

This species is said to be annual, but Mr Neill finds it will endure for two years, though no more, in a flower-pot.

3. *S. acre*, stems tufted, branched; leaves alternate, nearly ovate, thick, tumid, spurred at the base; cyme of 3 smooth branches, leafy; flowers golden yellow. *Biting Stonecrop.*

Hab. On walls and rocks, common. June. ♃

4. *S. villosum*, pubescent, viscid; stem erect, spotted with red; leaves alternate, linear, flattened; flowers corymbose, rose-coloured. *Hairy Stonecrop.*

Hab. Bogs and moist rocks. By rivulets (and in bogs) at the foot of Cheviot, Winch. Basaltic heights between Belford and Bamborough, Thomp. June. ♃

5. *S. reflexum*, leaves awl-shaped, scattered, spurred at the base, the lowermost recurved; flowers cymose, yellow; segments of the calyx ovate. *Yellow Stonecrop.*

Hab. On walls rare. On a dike near Kyloe Manse; and at Easington. July. ♃

The tenacity with which this species retains life is illustrated by the following fact. I pressed strongly between dry papers a specimen without radicles, and the flowers of which were not in the least expanded. The papers were changed every three or four days; but at the end of as many weeks, so far was life from being extinct, that it had protruded many white radicle fibres from one to two inches long, and the flowers had fully expanded themselves.

138. OXALIS.

1. *O. Acetosella*, root of many scaly joints; leaves ternate, inversely heart-shaped, hairy; stalks radical, single-flowered;

flower white, streaked; stamens all simple. *Common Wood-sorrel.*

Hab. Woods and deans, common. April, May. ♃

The leaves of this pretty unobtrusive flower droop at night, and close against rain. They are powerfully and most agreeably acid, making a refreshing and wholesome conserve with fine sugar, its flavour resembling green tea. Boiled with milk they make an agreeable whey, which may be used in inflammatory diseases, in which vegetable acids are beneficial. They also afford the "essential salt of lemons," used to take iron-moulds out of linen.

139. LYCHNIS.

1. *L. Flos-Cuculi*, stem quandrangular, rough with deflexed bristles; leaves lanceolate; flowers rose-coloured, loosely paniculed; petals in four linear segments; capsule roundish, of one cell. *Meadow Lychnis.*

Hab. Moist meadows, frequent. June. ♃

2. *L. diurna*, stem round, pubescent; leaves ovate, acute; flowers in a terminal many-forked panicle, rose-coloured, dioecious; the petals cloven, crowned with four teeth; capsule one-celled, roundish. *Red Campion.*—(*L. dioica*, α. SMITH.)

Hab. Very abundant on our sea-banks, and frequent in bushy deans, where it proves highly ornamental. May, June. ♃

3. *L. vespertina*, stem round, pubescent; leaves ovate-lanceolate; flowers in a terminal forked panicle, white; capsule one-celled, conical. *White Campion.*—(*L. dioica*, β. SMITH.)

Hab. Hedge sides and cultivated fields, common. July—Oct. ♃

It may be difficult, or impossible, to find a technical specific character between this and the preceding; but I would rather consider this a proof of the occasional non-existence of *such* distinctive characters, than believe the plants to be merely varieties. The one flowers from four to six weeks earlier than the other; they affect different localities, and are never found intermixed; they are not altered by cultivation; and their general habit is not alike, the red being a stouter and fuller flowered plant, its blossoms ex-

panding during the day, and at all times scentless,—while the white opens freely in the evening only, and is then sweet-scented.

140. AGROSTEMMA.

1. *A. Githago*, hairy; stem erect; leaves linear-lanceolate; calyx-teeth rising above the purple corolla; petals undivided, without teeth. *Corn Cockle.*

Hab. Corn-fields. June, July. ⊙

"What hurt it doth among corne, the spoyle vnto bread, as well in colour, taste, and vnwholesomnes, is better known than desired."

141. CERASTIUM.

1. *C. vulgatum*, hairy, viscid, tufted; leaves ovate; petals as long as the calyx; flowers longer than their stalks, subcapitate, white. *Broad-leaved Mouse-ear Chickweed.*

Hab. Road-sides and waste ground. "Bed of Wooler Water; dikes about Earl," Thomp. Road-sides between Blackhouse and Buncle, Berwickshire, plentiful. Sides of the road leading through the plantations near Blackadder. It seems a rare plant in this neighbourhood. May—Sept. ⊙

2. *C. viscosum*, hairy, viscid, recumbent; leaves lanceolate-oblong; flowers white, somewhat panicled, shorter than their stalks. *Narrow-leaved Mouse-ear Chickweed.*

Hab. Fields and road-sides very common. May, Sept. ♃

3. *C. semidecandrum*, hairy and viscid, suberect; leaves ovate-oblong; flowers somewhat panicled, shorter than their stalks; stamens 5; petals slightly cloven. *Little Mouse-ear Chickweed.*

Hab. On walls and waste ground, very common. March, April. ⊙

4. *C. tetrandrum*, hairy and somewhat viscid; flowers 4-cleft, with 4 stamens; petals inversely heart-shaped, shorter than the taper-pointed calyx, which is nearly as long as the capsule. *Four-cleft Mouse-ear Chickweed.*

Hab. Sandy sea-coast. On the Links "at Bamborough," and Holy Island, Winch. Spittal Links, and southward. May. ⊙

5. *C. arvense*, stems recumbent and matted at the base; leaves linear-lanceolate, bluntish, fringed at the base; flowers large, white; petals twice the length of the calyx; capsule shorter. *Field Chickweed.*

Hab. Dry gravelly banks, borders of fields, and road-sides, frequent. Near King's Mount Bastion; Castle-banks, Thomp. Spittal and Scrammerston Links, &c. May, Aug. ♃

This species is common on all the Border between this and Kelso, though it appears to be rare in other districts of Scotland.

142. SPERGULA.

1. *S. arvensis*, leaves whorled, linear; flowers white, in a loose panicle, their stalks reflexed when in fruit. *Corn Spurrey.*

Hab. Sandy corn-fields, common. June, July. ☉

GERARDE mentions that the Spurrey is sown in Brabant, Holland and Flanders, "of purpose to fatten cattel, and to cause them to give much milke;" and it would seem the practice is still continued. In Norway, in times of scarcity, the seeds are ground and baked along with a small proportion of corn. The bread is blackish, but not bad.

The flowers are very sensible to atmospheric changes. We have seen a field, whitened with its numerous blossoms, have its appearance quite changed by the petals closing on a black cloud passing over, and discharging a few drops of rain.—The variety with five stamens is not rare.

2. *S. nodosa*, stems numerous, slender, spreading, 3—6 inches long, beset with numerous pairs of short, smooth, awl-shaped leaves, accompanied by axillary tufts of smaller ones; flowers large, white, few together, on simple stalks towards the top of each stem. *Knotted Spurrey.*

Hab. Moist sandy or turfy ground, common in this neighbourhood. Links at Bamborough and Holy Island, Winch. Boggy field west of the Steps-of-Grace Farm-house; Goswick Links, Thomp. Yarrowhaugh; and abundant on all our moors. July, Aug. ♃

3. *S. subulata*, leaves opposite, awl-shaped, bristle-pointed, fringed; flower-stalks solitary, very long, each bearing a small flower, the white petals as long as the calyx. *Awl-shaped Spurrey.*

Hab. Dry pastures and barren heaths. Amongst the craigs at Easington, and at Spindlestone, plentiful. Coldingham Moor. July, Aug. ♃

This species very much resembles *Sagina procumbens*, of which LINNÆUS considered it a variety; and we have gathered specimens of the *Sagina* in which some of the flowers had a calyx of five segments, and a capsule of five cells. SMITH says he never found the marginal hairs on the leaves of *S. subulata* wanting, and that the flower-stalks are always more or less glandular and viscid; but we have gathered *wild* plants perfectly smooth in every part. See also HOOKER's Fl. Scot. i. 145.

CLASS XI.

DODECANDRIA.

"Lucy loved all that grew upon the ground,
And loveliness in all things living found;
The gilded fly, the fern upon the wall,
Were Nature's works, and admirable all;
Pleased with indulgence of so cheap a kind,
Its cheapness never discomposed her mind."

CRABBE.

I. MONOGYNIA.

143. LYTHRUM. *Petals* 6; *calyx* 12-cleft, inferior.

II. DIGYNIA.

144. AGRIMONIA. *Petals* 5, borne by the calyx; *seeds* in the bottom of the hardened calyx.

III. TRIGYNIA.

145. RESEDA. *Petals* in many segments; *capsule* of 1 cell, gaping.

IV. DODECAGYNIA.

146. SEMPERVIVUM. *Petals* 12; *calyx* in 12 deep segments; *capsules* 12.

I. MONOGYNIA.

143. LYTHRUM.

1. *L. salicaria*, stem square, 2 or 3 feet high; leaves opposite, lanceolate, heart-shaped at the base; flowers in whorled leafy spikes, purple; stamens 12. *Purple Loosestrife.*

Hab. Rough bogs and marshy places. Haiden and Allerton Mill deans; Tweed banks above Norham, &c. July, Aug. ♃

II. DIGYNIA.

144. AGRIMONIA.

1. *A. eupatoria*, hairy, 2 feet high; stem-leaves pinnate, leaflets elliptic-oblong, terminal one stalked; calyx encompassed with bristles; flowers numerous, yellow, in an elongated tapering spike. *Common Agrimony.*

Hab. Borders of fields, and on dry banks, frequent. June, July. ♃

The astringent and bitter qualities of this plant render it mildly tonic and stimulant; but it is rather a popular than a classical medicine, and makes the principal and most efficacious part of some empirical herb-teas.—*Eng. Bot.*

III. TRIGYNIA.

145. RESEDA.

1. *R. luteola*, leaves lanceolate, undivided; calyx in four segments; flowers yellowish, numerous, in long terminal clusters. *Dyer's Rocket.*

Hab. Waste grounds, and dry gravelly pastures, common. July. ☉

The dried stems yield, by decoction, a yellow colour, and are much used in dyeing wool, silk, and cotton.

IV. DODECAGYNIA.

146. SEMPERVIVUM.

1. *S. tectorum*, leaves fringed; offsets spreading; edges of the petals hairy, entire. *Common Houseleek.*

Hab. Cottage roofs, frequent. July. ♃

"It is common in the North to plant the herb Houseleek upon the tops of cottage-houses. The learned author of the 'Vulgar Errors' informs us, that it was an ancient superstition, and the herb was planted on the tops of houses as a defensative against lightning and thunder."—BRANDE'S *Pop. Antiq.* p. 241.

CLASS XII.

ICOSANDRIA.

——" He that enlarges his curiosity after the works of Nature, demonstrably multiplies the inlets to happiness; and, therefore, the younger part of my readers, to whom I dedicate this vernal speculation, must excuse me for calling upon them, to make use at once of the spring of the year, and the spring of life, to acquire, while their minds may be yet impressed with new images, a love of innocent pleasures, and an ardour for useful knowledge; and to remember, that a blighted spring makes a barren year, and that the vernal flowers, however beautiful and gay, are only intended by Nature as preparatives to autumnal fruits."—Dr JOHNSON.

I. MONOGYNIA.

147. PRUNUS. *Calyx* inferior, 5-cleft; *petals* 5; *nut* of the *drupa* with slightly prominent seams.

II. PENTAGYNIA.

148. MESPILUS. *Calyx* superior, 5-cleft; *petals* 5; *apple* with 2–5 bony single-valved capsules; *seeds* 2.

149. PYRUS. *Calyx* superior, 5-cleft; *petals* 5; *apple* with 2–5 membranous 2-valved capsules; *seeds* 2.

150. SPIRÆA. *Calyx* inferior, 5-cleft; *petals* 5; *capsules* of 2 membranous valves; *seeds* numerous.

III. POLYGYNIA.

151. ROSA. *Calyx* 5-cleft; *tube* finally pulpy, lined with hairs, and with numerous bristly *seeds.*

152. RUBUS. *Calyx* 5-cleft; *berry* superior, compound, deciduous; *receptacle* spongy, permanent.

155. TORMENTILLA. *Calyx* 8-cleft; *petals* 4; *seeds* naked, beardless; *receptacle* dry, obsolete.

156. GEUM. *Calyx* 10-cleft; *petals* 5; *seeds* each with a bent hooked tail; *receptacle* columnar.

153. FRAGARIA. *Calyx* 10-cleft; *seeds* naked, even, on the surface of a pulpy deciduous *receptacle.*

157. COMARUM. *Calyx* 10-cleft; *seeds* naked, even, on the surface of a spongy, hairy, permanent *receptacle.*

154. POTENTILLA. *Calyx* 10-cleft; *seeds* naked, rugged, beardless; *receptacle* dry, obsolete.

I. MONOGYNIA.

147. PRUNUS.

1. *P. Padus,* flowers white, in cylindrical pendulous clusters; leaves deciduous, smooth, with 2 glands on the under side at the base. *Bird Cherry.*

Hab. Woods about Houndwood and Renton Inns. In a dean about a mile south of Fastcastle. May. ♄

The leaves of this shrub, when bruised, have a disagreeable scent, resembling Rue. Birds of several kinds soon devour the black, austere and bitter fruit, which is nauseous, and probably dangerous to mankind, though LIGHTFOOT asserts that an infusion of them in brandy is drank in Scotland.

2. *P. Cerasus*, flowers white, in nearly sessile umbels; leaves ovate-lanceolate, folded flat in the bud, somewhat downy beneath. *Wild Cherry.*

Hab. Hedges. Near Flemington. May. ♄

3. *P. spinosa*, flower-stalks solitary; leaves lanceolate, smooth; branches thorny at the end. *Sloe.*

Hab. Hedges and deans. April. ♄

The flowers appear earlier than the leaves, and are evolved in such profusion, that it would seem

> "As if a flaky shower the leafless sprays
> Had hung."

The leaves are reckoned among the adulterations of tea in England; and the inspissated juice of the fruit serves to adulterate, or to make fictitious port-wine.

II. PENTAGYNIA.

148. MESPILUS.

1. *M. Oxyacantha*, thorny; leaves obtuse, variously 3-lobed, serrated, smooth; styles about 2. *Hawthorn.*

Hab. Woods. June. ♄

"Few of our native plants can present a more beautiful sight than a well-grown bush of Hawthorn, with its dense masses of white flowers backed by the shining dark-green leaves. Nor is it less desirable on account of its scent; though there are many individual plants perfectly destitute of it. It is excellent for fences, and bears clipping admirably. The fruit affords a supply of food to innumerable birds in a season when scarcely any thing else is to be obtained." HOOKER.—When old, it is much infested with the grey lichen, a state in which it is very poetically described by BURNS:

> "The hawthorn I will pu', *wi' its locks o' siller grey,*
> Where, like an aged man, it stands at break o' day,
> But the songster's nest within the bush I winna tak away;
> And a' to be a posie to my ain dear May."

149. PYRUS.

1. *P. Malus*, leaves simple, serrated, more or less elliptical flowers in a simple sessile umbel. *Crab-tree.*

Hab. Hedges, common. May. ♄

2. *P. Aucuparia*, leaves pinnate, leaflets uniform, serrated, smooth; flowers corymbose; styles about 3; fruit globular. *Roan-tree.*

Hab. Woods. At the base of Cheviot. May. ♄

"It is probable that this tree was in high esteem with the Druids; for it may to this day be observed to grow more frequently than any other in the neighbourhood of those Druidical circles of stones, so often seen in North Britain; and the superstitious still continue to retain a great veneration for it, which was undoubtedly handed down to them from early antiquity. They believe that any small part of this tree carried about them, will prove a sovereign charm against all the dire effects of enchantment or witchcraft. Their cattle also, as well as themselves, are supposed to be preserved by it from evil; for the dairy-maid will not forget to drive them to the shealings or summer pastures with a rod of the Rowan-tree, which she carefully lays up over the door of the sheal-boothy, or summer-house, and drives them home again with the same." This superstitious belief prevailed also in Northumberland, but is now probably extinct.—In the Island of Jura they use the juice of the berries as an acid for punch; and, in some places, the Highlanders distil a very good spirit from them. LIGHTFOOT.—"Ale and beer brewed with these berries, being ripe, is an incomparable drink, familiar in Wales, where this tree is reputed so sacred, that there is not a churchyard without one of them planted in it." EVELYN.

150. SPIRÆA.

1. *S. ulmaria*, stem herbaceous; leaves interruptedly pinnate, downy beneath, the terminal leaflet largest and lobed; flowers cymose, with many styles, cream-coloured. *Meadow-sweet.*

Hab. Moist meadows and banks of rivulets. July. ♃

III. POLYGYNIA.

151. ROSA.

* *Branches bristly. Prickles mostly slender, nearly straight.*

1. *R. spinosissima*, flower-stalks without bracteas, mostly smooth, as well as the simple calyx; fruit globose, abrupt, somewhat depressed; prickles of the stem straight, unequal, numerous, intermixed with glandular bristles; leaflets roundish, smooth, with simple serratures. *Burnet Rose.*

Hab. Sandy sea-banks, deans, and hedges, common. The only species found wild in Holy Island. June, July.

A small bushy very prickly shrub, of a dark colour, with small leaves. The flowers are white or cream-coloured; the fruit at first reddish brown, black when ripe. It is the *Cat-hip* of school-boys.

* * *Branches without bristles. Prickles nearly straight..*

2. *R. tomentosa*, fruit broadly elliptical, bristly; calyx copiously pinnate; prickles slightly curved; leaflets ovate, acute, more or less downy. *Downy-leaved Dog-Rose.*

Hab. Deans and hedges, common. June, July.

A branching bushy shrub. Branches round, often coloured on one side, prickly, but otherwise smooth. Prickles irregularly placed, more or less dilated at the base. Leaflets doubly serrated, glandular on the margins; the footstalks downy, glandular and prickly. Flowers red, paler at the base, usually two or three together, on stalks thickly beset with glandular bristles. Fruit red, bristly, capped with the permanent calyx.

3. *R. scabriuscula*, fruit roundish-ovate, bristly as well as the flowerstalks; prickles awl-shaped; leaflets doubly serrated, elliptical, hairy on both sides; divisions of the calyx permanent. *Rough-leaved Dog-Rose.* Winch, Geogr. Dist. p. 45.

Hab. Banks of the Tweed above the Union Bridge, plentiful; and occasionally in hedges. June, July.

"The buds are peculiarly handsome when sufficiently expanded to shew the bright red tints with which the outer edge of the snow-white petals are marked." Sometimes the flowers are entirely white; and a variety with them scarcely one-half their usual size, grows abundantly at the sides of the road between Ancroft and Barmoor.—Probably a variety of *R. tomentosa.*

* * * *Branches without bristles. Prickles hooked, compressed. Styles distinct.*

4. *R. rubiginosa*, fruit obovate, bristly towards the base; calyx pinnate; prickles hooked, compressed, with smaller, straighter ones interspersed; leaflets elliptical, doubly serrated, hairy, clothed beneath with rusty-coloured glands. *Sweet Briar.*

Hab. Hedges about Scremmerston and Broomhouse, but not certainly wild. July.

5. *R. sarmentacea*, fruit broadly elliptical, naked; flower-stalks aggregate, smooth or minutely bristly; calyx strongly pinnate; prickles hooked; leaflets ovate, doubly serrated, very smooth. *Trailing Rose.*

Hab. Hedges and deans, frequent. June, July.

It will, I think, depend upon the value which may be attached to the character afforded by the *doubly* serrated leaves, whether we will consider this species distinct from *R. canina*, or not. I cannot perceive any other difference between them. Flowers pale pink.

6. *R. dumetorum*, fruit elliptical, smooth, as tall as the bracteas; flower-stalks aggregate, smooth; calyx copiously pinnate, somewhat cut; prickles numerously scattered, hooked; leaflets simply serrated, hairy on both sides. *Thicket Rose.* (Eng. Fl. ii. 392.)

Hab. Deans and hedges not rare in this neighbourhood. Side of the road between New Farm and the Old Lamberton Toll. Below Lamberton Shields. On banks between Middleton and Langley Ford. June, July.

A branching shrub, 3 or 4 feet high. Branches brownish, smooth, or blistered, round, with equal hooked prickles. Two of these are generally placed at the base of each leaf, one a little below the other, and there is often a third; the base is much dilated. Leaflets 5 or 7, ovate, acute,

irregularly serrated, hairy, particularly beneath on the ribs, more sparingly on the upper surface, which is greener. The serratures are often tipt with a gland, more commonly only gangrened. Footstalks downy, with a few brownish glands intermixed, and 1 or 2 prickles on the inferior surface. Stipulas linear, pointed, smooth, fringed with hairs and numerous glands. Bracteas smooth, ovate-lanceolate, fringed like the stipulas, the outer one generally as long as the fruit, sometimes with a leaf-like point, which rises much above it. Flower-stalks smooth, rather short, generally 3 together. Tube of the calyx smooth, nearly globular, sometimes elliptical; segments of the limb spreading, downy, and glandular, 2 of them copiously pinnate. Petals light red, white at the base, obcordate, emarginate. Styles prominent, hairy. Stigmas forming a round hairy head. Fruit red, smooth, elliptical. Calyx deciduous. This seems a very distinct species, whose identity with the *R. dumetorum* of SMITH, I have been enabled to ascertain through the kindness of Mr WINCH. The *R. dumetorum* of Eng. Botany is quite a different plant.

7. *R. Forsteri*, fruit elliptical, smooth, like the aggregate flower-stalks; calyx copiously, and somewhat doubly pinnate; prickles scattered, conical, hooked; leaflets simply serrated, smooth above, ribs hairy beneath.

Hab. Ancroft dean. June, July.

Mr WINCH informs me, our plant agrees with a specimen he has from FORSTER; and it corresponds with SMITH'S description. After an attentive examination of it in a growing state, I am satisfied that it cannot be kept distinct from *R. canina*.

8. *R. canina*, fruit ovate, smooth or somewhat bristly, like the aggregate flower-stalks; calyx pinnate, deciduous; prickles strongly hooked; leaflets simply serrated, pointed, quite smooth. *Common Dog-Rose.*

Hab. Hedges and thickets. June, July.

Flowers pale pink, clustered, soon out-topped by the leading shoots of the shrub. "It were to small purpose to vse many words in the description thereof; for even children with great delight eat the berries thereof when they be ripe, make chaines and other pretty gewgawes of the fruit: cookes and gentlewomen make tarts, and such like

dishes for pleasure thereof, and therefore this shall suffice for the description."

152. RUBUS.

1. *R. fruticosus*, stems angular, furrowed, barren ones arched and elongated; prickles hooked; leaves pedate, of 5 stalked ovate-oblong leaflets, white and downy beneath; panicle cylindrical, twice compound; calyx reflexed, unarmed; petals delicate pink. *Common Bramble.*

Hab. Hedges and deans. July, Aug.

2. *R. glandulosus*, stems angular; branches and footstalks hairy, with glandular bristles interspersed; prickles deflexed, partly hooked; leaflets 5 or 3, downy beneath; panicle and calyx very prickly and hairy, with copious glandular bristles; petals white. *Grandular Bramble.*

Hab. Hedges not rare. July, Aug.

3. *R. idæus*, stems round, erect, smooth, with downy branches, their prickles straight and slender; leaves pinnate, of 5 or 3 ovate rather angular leaflets, very downy beneath; clusters prickly, somewhat compound; flowers pendulous, white. *Raspberry.*

Hab. Woods and deans, frequent. June.

4. *R. corylifolius*, stems round, spreading, barren ones somewhat angular; prickles scattered, straight, deflexed; leaflets 5 or 3, roundish-heart-shaped, finely hairy beneath; panicle minutely glandular, as well as the reflexed calyx; petals white. *Hazel-leaved Bramble.*

Hab. Side of the Whiteadder, between its mouth and the bridge. Sea-banks below Lamberton Shields. Also in hedges, frequent. July, Aug.

5. *R. cæsius*, stems prostrate, round, glaucous, prickly and bristly; prickles deflexed; leaflets 3, hairy beneath, lateral ones lobed externally; calyx embracing the glaucous fruit; flowers white or blush-coloured. *Dew-berry.*

Hab. Bushy places not common. Tweed banks beyond Ord-Mill, Thomp. July.

6. *R. Chamæmorus*, stem herbaceous, without prickles, simple, single-flowered; leaves simple, plaited, lobed; segments of the calyx ovate; flowers white. *Cloud-berry.*

Hab. On Cheviot, plentiful, Winch. June. ♃

The fruit, bruised and eaten with reindeer milk, is a favourite Lapland dish. They also make a jelly of it, by boiling it with fish. Immense quantities are sent in autumn from all the north of the Gulph of Bothnia to Stockholm, where it is used for sauces, and in making vinegar. Its medicinal properties, says the celebrated Dr CLARKE, have certainly been overlooked, owing, perhaps, to its rarity in Britain, or to its not attaining the same degree of perfection as in Lapland. He was cured of a "most obstinate obstruction of the biliary duct," by eating freely of the fruit. "When eaten with sugar and cream, it is cooling and delicious, and tastes like the large American hautboy strawberries. Little did the author dream of the blessed effects he was to experience by tasting of the offering brought by these little children, who, proud of having their gifts accepted, would gladly run and gather daily a fresh supply; which was as often blended with cream and sugar, by the hands of their mother; until at last he perceived that his fever rapidly abated, his spirits and his appetite were restored;—and, when sinking under a disorder so obstinate, that it seemed to be incurable, the blessings of health were restored to him, where he had reason to believe he should have found his grave."

153. FRAGARIA.

1. *F. vesca*, calyx of the fruit reflexed; hairs of the footstalks widely spreading, those of the partial flower-stalks close-pressed, silky. *Wood Strawberry.*

Hab. Woods and hedge-banks. May, June. ♃

154. POTENTILLA.

1. *P. anserina*, stem creeping; leaves interruptedly pinnate, serrated, silky; stalks axillary, solitary, single-flowered; flower yellow. *Silver-weed. Moss-crops.*

Hab. Moist fields and road-sides. July. ♃

The roots taste like parsnips, and are frequently eaten by the common people in Scotland, either roasted or boiled. In the islands of Tirey and Col they are much esteemed, as

answering, in some measure, the purposes of bread, they having been known to support the inhabitants for months together, during a scarcity of other provisions.—LIGHTFOOT.

2. *P. verna*, stems procumbent; radical leaves of 5 or 7 obovate-wedge-shaped, partly serrated, furrowed leaflets, hairy at the margins and ribs beneath; upper stipulas dilated; flowers yellow. *Spring Cinquefoil.*

Hab. Spindlestone Hills, Northumberland, plentiful. May. ♃

3. *P. reptans*, stem creeping; leaflets 5, obovate, serrated; stalks axillary, single flowered; flower yellow. *Creeping Cinquefoil.*

Hab. Road-sides and borders of fields. June–Aug. ♃

4. *P. fragariastrum*, stems prostrate; leaves ternate, leaflets roundish-obovate, serrated, hairy; flowers small, white; seeds corrugated, hairy at the scar. *Strawberry-leaved Cinquefoil.*

Hab. Dry gravelly banks, frequent. April. ♃

155. TORMENTILLA.

1. *T. officinalis*, stem ascending, branched; leaves almost sessile, ternate; leaflets oblong acute, deeply serrated; stipulas cut; flowers small, yellow. *Common Tormentil.*

Hab. Barren pastures and heaths. June, July. ♃

The root is very astringent; and, in several northern countries, is gathered for the purpose of tanning. Indeed it is asserted that it contains a larger proportion of the tanning principle than any other wood or bark, a pound and a half of tormentil being equal to seven pounds of oak-bark. It is used medicinally.

2. *T. reptans*, stem prostrate, scarcely branched; leaves stalked, ternate; leaflets obovate, toothed; stipulas undivided; flowers rather large, yellow. *Trailing Tormentil.*

Hab. "Heathy ground, a mile north of Coldingham; Little Swinton Bogs, Berwickshire," Rev. A. Baird. June, July. ♃

156. GEUM.

1. *G. urbanum*, leaves ternate, radical ones somewhat lyrate; stipulas rounded, cut; flowers nearly upright, small, yellow; styles naked. *Common Avens.*

Hab. Woods and hedges, frequent. May–Aug. ♃

Formerly in high repute for all relaxations of the bowels; and, from its astringent and tonic power, deserves to be revived. Its taste is aromatic and austere.—Dr Good.

2. *G. rivale*, radical leaves interruptedly pinnate, somewhat lyrate; stipulas ovate, acute, cut; flowers drooping, large, with a purplish-brown calyx and tawny brown petals; styles hairy above the curvature. *Water Avens.*

Hab. Sides of rivulets and ditches, and in boggy woods, common. June, July. ♃.

The variety β, considered a hybrid plant by some, but erroneously, is found in the woods at Netherbyres, according to Mr Baird, and has occurred to us in the immediate neighbourhood. In it the stalk supports a showy rose-like flower, consisting of numerous red striated petals, without any calyx, the segments of which have been converted into leaf-like bracteas. From the centre of this another flower, generally of the usual conformation, arises, and its stalk bears near the base 3 lacineated bracteas, very much resembling in colour and texture the true petals; but monstrosities are never constant in character, and two specimens will seldom be found to correspond precisely.

157. COMARUM.

1. *C. palustre*, downy; leaves pinnate, the lower with 7 or 5 elliptical serrated leaflets, the upper with 3; flowers dark purplish red, the petals much smaller than the calyx. *Marsh Cinquefoil.*

Hab. Spongy bogs and marshy places, frequent. Below Murton Craigs, Thomp. Haiden dean; below Shoreswood-hall, Dr Thompson. Longridge dean, &c. July. ♃

CLASS XIII.

POLYANDRIA.

——————" At early morn
Court the fresh air, explore the heaths and woods,
And, leaving it to others to foretell,
By calculations sage, the ebb and flow
Of tides; and, when the moon will be eclipsed,
Do you, for your own benefit, construct
A calendar of flowers, plucked as they blow
Where health abides, and cheerfulness and peace."

I. MONOGYNIA.

* *Petals* 4.

160. PAPAVER. *Calyx* of 2 leaves; *capsule* of 1 cell, opening by pores under the *stigma*.

158. CHELIDONIUM. *Calyx* of 2 leaves; *pod* of 1 cell; *seeds* crested.

159. GLAUCIUM. *Calyx* of 2 leaves; *pod* of 2 or 3 cells; *seeds* dotted.

* * *Petals* 5.

162. CISTUS. *Capsule* of several valves; *seeds* numerous; *calyx* of 5 permanent leaves, 2 of them smaller.

* * * *Petals numerous.*

161. NUPHAR. *Berry* coated, of many cells; *petals* from the receptacle, furrowed and honey-bearing at the back.

II. POLYGYNIA.

164. THALICTRUM. *Calyx* 0; *petals* 4 or 5, imbricated; *seeds* without any appendage.

163. ANEMONE. *Calyx* 0; *petals* 5–15, imbricated; *seeds* numerous.

167. CALTHA. *Calyx* 0; *petals* 5, or more; *nectary* 0; *follicles* 5–10.

166. TROLLIUS. *Calyx* 0; *petals* 5–15, deciduous; *nectaries* flattened; *follicles* numerous.

165. RANUNCULUS. *Calyx* of 5 leaves; *petals* 5, or more, with *nectaries* in their claws; *seeds* numerous, naked.

I. MONOGYNIA.

158. CHELIDONIUM.

1. *C. majus*, stem smooth, branched, with orange-coloured juice; leaves deeply pinnatifid; flowers umbellate, yellow. *Common Celandine.*

Hab. "Dike north of the Magdalen Field farm-house, sparingly," Thomp. Occasionally to be seen in cottage gardens. May, June. ♃

159. GLAUCIUM.

1. *G. luteum*, stem smooth; radical leaves lyrate, those of the stem clasping, wavy; flowers large, yellow; pod roughish with minute tubercles, a foot long. *Yellow Horned-poppy.*

Hab. Sandy sea-coast at Coldingham, Rev. A. Baird. July, Aug. ♂

160. PAPAVER.

1. *P. argemone*, stem leafy, many-flowered; leaves doubly pinnatifid; calyx slightly hairy; capsule club-shaped, ribbed, bristly. *Long rough-headed Poppy.*

Hab. Corn fields. June, July. ⊙

2. *P. dubium*, stem many-flowered, hairy; leaves doubly pinnatifid; bristles on the flower-stalks close-pressed; capsule smooth, oblong, angular. *Long smooth-headed Poppy.*

Hab. Cultivated grounds, occasionally. July. ⊙

3. *P. Rhœas*, stem many-flowered, rough (like the flower-stalks) with spreading bristles; leaves pinnatifid, cut; capsule smooth, nearly globular; stigma many-rayed. *Common Red Poppy.*

Hab. Corn fields. Abundant on Holy Island. July. ⊙

161. NUPHAR.

1. *N. lutea*, calyx of 5 leaves; border of the stigma entire; footstalks two-edged; lobes of the leaves meeting each other. *Yellow Water Lily.*

Hab. Coldingham Lough, Rev. A. Baird. July. ♃

"Flowers about 2 inches wide, cupped, all over of a golden yellow, with the scent of brandy or ratifia, whence they are called Brandy-bottles in Norfolk. They perhaps communicate this flavour by infusion to the cooling liquors, or sherbets, so much used in the Levant."—Sm.

162. CISTUS.

1. *C. Helianthemum*, shrubby, procumbent, with fringed stipulas; leaves elliptic-oblong, white, and downy beneath; calyx-ribs bristly, its outer leaves lanceolate, fringed. *Dwarf Cistus.*

Hab. Heugh, Holy Island, Thomp. On the rocky ridge extending from Kyloe to Bamborough, most abundant. Sea-banks beyond Hudshead. Longridge dean. Banks of the Whiteadder above Edrington Mill, &c. June-Aug. ♄

An elegant little shrub with yellow blossoms, which expand in sunshine only, and are of ephemeral existence. The stamens, when rudely touched, retire from the style, and lie down in a spreading form upon the petals,—an interesting example of vegetable irritability.

Mr WINCH found a single specimen of *Delphinium consolida*, in fields near the Loch on Holy Island; but, as he informs me, it may have been imported with corn, and can scarcely claim a place in our Flora.

II. POLYGYNIA.

163. ANEMONE.

1. *A. nemorosa*, stem single-flowered; leaves and involucre stalked, ternate, lobed and cut; petals 6, elliptical, white, tinged with purple on the outside; seeds pointed, without tails. *Wood Anemone.*

Hab. Woods, deans, and elevated moors, abundant. April. ♃

164. THALICTRUM.

1. *T. minus*, leaves doubly pinnate, leaflets ternate, 3-cleft, glaucous on both sides; flowers panicled, pendulous; stem zig-zag; stipulas rounded. *Lesser Meadow-rue.*

Hab. Dry pastures. Tweed banks opposite Spring Gardens; Spittal Links, and banks beyond Hudshead, Thomp. Common on our coast. June, July. ♃

2. *T. majus*, leaves triply pinnate, leaflets ternate, lobed, glaucous beneath; branches of the panicle aggregate, somewhat umvellate; flowers drooping; stipulas crescent-shaped, notched. *Greater Meadow-rue.*

Hab. "Rocky and woody banks of the Eye at Netherbyres," Rev. A. Baird. June, July. ♃

3. *T. flavum*, stem erect, furrowed, leafy; leaves doubly pin-

nate, partly 3-lobed; panicle compound, close, corymbose; flowers and stamens erect. *Common Meadow-rue.*

Hab. Wet meadows, rare. "Porterhaugh," Thomp. Woods at Netherbyres, Rev. A. Baird. June, July. ♃

165. RANUNCULUS.

* *Leaves simple. Flowers yellow.*

1. *R. Flammula*, root fibrous; stem reclining; leaves ovate-lanceolate, bluntish, stalked; seeds smooth. *Lesser Spear-wort.*

Hab. Marshy places, common. June–Sept. ♃

The distilled water of this plant acts instantaneously as a vomit, "and, from the experience I have had of it," says Dr WITHERING, "I feel myself authorised to assert, that, in the case of poison being swallowed, or other circumstances occurring, in which it is desirable to make a patient vomit instantaneously, it is preferable to any other medicine yet known, and does not excite those painful contractions in the upper part of the stomach, which the white vitriol sometimes does, thereby defeating the intention for which it was given." Notwithstanding this recommendation from a physician, distinguished for his learning and practical skill, the remedy is altogether neglected. There be "phantasticall physitions, who, when they have found an approved medicine and perfect remedie neere home against any disease; yet, not content therewith, they wil seeke for a new farther off, and by that meanes many times hurt more than they helpe."

2. *R. lingua*, root fibrous; stem erect, many-flowered; leaves lanceolate, pointed, nearly sessile, somewhat serrated; seeds smooth; flowers large. *Great Spear-wort.*

Hab. In the pond above Spindlestone. July. ♃

3. *R. Ficaria*, leaves heart-shaped, angular, stalked, smooth; petals numerous, elliptic-oblong. *Pilewort.*

Hab. Moist meadows and hedge-banks. April. ♃

** *Leaves lobed or cut. Flowers yellow.*

4. *R. sceleratus*, stem erect, hollow, much branched; leaves

smooth, lower ones palmate, upper fingered; flowers small; fruit oblong; seeds very numerous, minute. *Water Crowfoot.*

Hab. Watery places, common. June–Aug. ⊙

The bruised herb is said to raise a blister, leaving a sore, which is not easily healed. "Cunning beggers do vse to stampe the leaves, and lay it vnto their legs and arms, which causeth such filthy ulcers, as we daily see (among such wicked vagabonds), to move the people the more to pitie."

5. *R. bulbosus*, root bulbous; stem upright, many-flowered; leaves cut into 3 stalked leaflets, which are deeply 3-cleft and cut; flower-stalks furrowed; calyx reflexed; seeds smooth. *Butter-cups.*

Hab. Meadows and pastures. May. ♃

6. *R. repens*, root slightly tuberous, with creeping scions; leaves compound, cut, the uppermost entire; flower-stalks furrowed; calyx spreading. *Creeping Crowfoot.*

Hab. Moist meadows and pastures. June–Aug. ♃

7. *R. acris*, stem erect, covered with close hairs; leaves in 3 deep lobed and cut segments, those of the uppermost linear and entire: flower-stalks round and even; calyx spreading. *Meadow Crowfoot.*

Hab. Meadows and pastures. June, July. ♃

8. *R. arvensis*, stem erect, much branched, many-flowered, smooth; leaves once or twice deeply 3-cleft, with linear-lanceolate segments; flowers small, pale; seeds very prickly at the sides. *Corn Crowfoot.*

Hab. Corn fields, rare in the immediate neighbourhood, but common about Paxton, Swinton, &c. and in the vicinity of Bamborough. June. ⊙

The prickly seeds render this species troublesome to the reaper. It is said to be very dangerous to cattle, and they eat it greedily.

* * * *Petals white with a yellow claw.*

9. *R. hederaceus*, stem creeping; leaves roundish-kidney-sha-

ped, with 3 or 5 lobes, entire, smooth; petals small, scarcely longer than the calyx; seeds wrinkled. *Ivy Crowfoot.*

Hab. Ditches and watery places, frequent. May–Aug. ♃

10. *R. aquatilis*, stem floating, submersed; leaves in capillary segments under water, above somewhat peltate, lobed, bluntly notched; petals obovate, twice as long as the calyx. *Water Crowfoot.*

(1) *aquatilis*, all the leaves divided into long capillary segments.

(2) *circinatus*, all the leaves divided into capillary diverging segments, forming a small orbicular outline.

Hab. Ponds and still running waters. (1) In rapid streams. (2) Holy Island Loch. May, June. ♃

The properties of this seem to be very different from those of the Corn Crowfoot; for we are told by Dr PULTENEY, that, in the neighbourhood of Ringwood, on the borders of the Avon, some cottagers sustain their cows and horses almost wholly by it. The cows relished it so highly, that it was unsafe to allow them more than a certain quantity, between 25 and 30 pounds each daily, but with variation, according to circumstances. The cows were not in a mean condition, and gave a sufficient quantity of good milk. Hogs also are fed with the same plant, on which they improve so well, that it is not necessary to allow them other substances, till it is proper to put them up to fatten.—*Lin. Trans.*

166. TROLLIUS.

1. *T. europæus*, petals about 15, converging into a globe; nectaries from 5 to 10, the length of the stamens. *Globe-flower.*

Hab. Moist meadows, not uncommon. Haidendean, abundant. Felkington Bog, sparingly, Dr Thompson. "Buncle Wood. Banks of the Leet at Swinton. In the marshy field near Edington Moor," Rev. A. Baird. Lamberton Moor. June. ♃

The flowers are large, handsome, yellow, giving the plant a good title to its place in the garden. The country people of Westmoreland, Scotland, and Sweden, consider it a sort of festival flower, going in parties to gather it, for

the decoration of their doors and apartments, as well as their persons.—Sm. It is the *Lucken-gowan* of Allan Ramsay,—

"We'll pou the daisies on the green,
The lucken-gowans frae the bog;
Between hands now and then we'll lean,
And sport upon the velvet fog."

167. CALTHA.

1. *C. palustris*, smooth; stem erect; leaves heart-shaped, rounded, crenate; flowers large, yellow. *Marsh Marigold.*

Hab. Marshes and boggy places. May, June. ♃

The flower-buds preserved in salted vinegar, are a good substitute for capers.

CLASS XIV.

DIDYNAMIA.

"We content ourselves with the knowledge of the tongues, and a little skill in philology, or history, perhaps, and antiquity, and neglect that which to me seems more material, I mean natural history, and the works of the creation. I do not discommend, or derogate from those other studies. I should betray mine own ignorance and weakness should I do so; I only wish they might not altogether justle out, and exclude this. I wish that this might be brought in fashion among us; I wish men would be so equal and civil, as not to disparage, deride, and vilify those studies, which themselves skill not of, or are not conversant in; no knowledge can be more pleasant than this, none that doth so satisfy and feed the soul; in comparison whereto that of words and phrases seems to me insipid and jejune."—RAY.

I. GYMNOSPERMIA.

* *Calyx in 5 segments, nearly regular.*

171. GLECHOMA. *Upper lip* of the *corolla* cloven, the *lower* in 3 segments, middle segment broadest, emarginate; *anthers* converging crosswise in pairs.

170. MENTHA. *Corolla* nearly equal, 4-lobed, the broadest slightly notched; *filaments* spreading widely, straight.

169. TEUCRIUM. *Upper lip* of the *corolla* in 2 very deep remote lateral lobes, the *stamens* projecting through the cleft; *lower lip* 3-lobed, central lobe largest.

168. AJUGA. *Upper lip* minute, abrupt, notched; *lower* one 3-lobed, the central largest, inversely heart-shaped; *stamens* exserted.

174. BETONICA. *Calyx teeth* spinous-tipped; *upper lip* of the *corolla* nearly flat, ascending, the *lower* 3-cleft; *tube* cylindrical, incurved; *stamens* not longer than the throat.

172. LAMIUM. *Calyx teeth* spinous, spreading; *upper lip* of the *corolla* vaulted, entire, *lower* 2-lobed, toothed at each side of the throat; *anthers* hairy.

173. GALEOPSIS. *Calyx teeth* spinous-tipped; *upper lip* of the *corolla* vaulted, serrated, *lower* in 3 unequal lobes, with a pair of hollow prominences at the base in front.

175. STACHYS. *Calyx teeth* spinous-pointed; *upper lip* of the *corolla* vaulted, *lower* one 3-lobed, the lateral lobes reflexed; *stamens* finally spreading outwards at each side.

176. BALLOTA. *Calyx* with 10 ribs and 5 teeth; *upper lip* of the *corolla* concave, notched: *lower* 3-lobed, obtuse, the central lobe largest, cloven.

177. MARRUBIUM. *Calyx* with 10 ribs and 10 spreading teeth; *upper lip* of the *corolla* straight, linear, cloven: *lower* in 3 deep lobes, the middle one largest and cloven.

* * *Calyx two-lipped.*

181. SCUTELLARIA. *Calyx*, when in fruit, closed by a dorsal lid.

180. THYMUS. *Calyx* closed with dense converging hairs.

178. CLINOPODIUM. *Calyx* many-ribbed; *involucrum* of numerous taper leaves under the flowers.

179. ORIGANUM. *Calyx* without ribs; *involucrum* of numerous dilated flat leaves, 1 to each flower, collected into a spurious *catkin*.

182. PRUNELLA. *Upper lip* of the *calyx* with 3 very short acute teeth; *filaments* forked, 1 of the points bearing the *anther; stigma* bifid.

II. ANGIOSPERMIA.

* *Calyx four-cleft.*

183. BARTSIA. *Calyx* coloured; *corolla* ringent, with a contracted orifice; *upper* lip longest, concave, entire; *lower* in 3 equal reflexed lobes; *capsule* ovate, compressed, of 2 cells; *seeds* angular.

184. RHINANTHUS. *Calyx* inflated, 4-toothed; *upper lip* of the *corolla* compressed, *lower* one plane, 3-lobed; *capsule* of 2 cells, obtuse, compressed; *seeds* compressed, imbricated.

186. MELAMPYRUM. *Upper lip* of the *corolla* compressed, with a narrow reflexed border at each side; *lower lip* in 3 nearly equal segments; *capsule* oblong, 2-celled, oblique, opening on one side; *seeds* in pairs, tumid, smooth.

185. EUPHRASIA. *Calyx* tubular, 4-toothed; *upper lip* of the *corolla* divided; *lower* one spreading, of 3 notched lobes; *anthers* spinous; *capsule* of 2 cells; *seeds* striated.

** *Calyx five-cleft.*

189. SCROPHULARIA. *Corolla* subglobose; *limb* contracted, shortly 2-lipped, upper lip 2-lobed (with a small interior lobe frequently within), *lower* 3-lobed. *Capsule* of 2 cells.

190. DIGITALIS. *Calyx* in 5 segments; *corolla* bell-shaped, inflated beneath; *stamens* bent; *capsule* of 2 cells.

188. ANTIRRHINUM. *Calyx* in 5 segments; *corolla* closed with a palate, prominent or spurred at the base behind; *capsule* of 2 cells, bursting unequally at the summit.

187. PEDICULARIS. *Calyx* inflated; *corolla* ringent; *upper lip* compressed, arched, the lower plane, 3-lobed; *capsule* oblique, compressed, 2-celled; *seeds* pointed.

I. GYMNOSPERMIA.

168. AJUGA.

1. *A. reptans*, almost smooth; stem solitary, with creeping scions; leaves obovate, crenate; flowers blue, in whorls in the axils of the upper leaves; lower lip 4-cleft. *Common Bugle.*

Hab. Woods and moist meadows. In dry mountainous situations, as on Lamberton Moor, the plant becomes hairy. May, June. ♃

169. TEUCRIUM.

1. *T. Scorodonia*, stem erect; leaves heart-shaped, hairy, serrated, stalked; flowers in lateral and terminal clusters, unilateral, pale yellow, with purple stamens. *Wood Sage.*

Hab. Woods and heathy bushy places, common. July. ♃

"The whole plant is glutinous and bitter, with an agreeable aromatic scent, much resembling that of hops, for which it is said to be no bad substitute for making beer." —Sm.

170. MENTHA.

1. *M. Piperita*, leaves stalked, ovate-lanceolate, smoothish; spikes elongated, interrupted below; flower-stalks and calyx smooth, purple, dotted; calyx-teeth fringed with hairs. *Peppermint.*

Hab. Sides of the rivulet below Lamberton Shields, Berwickshire, plentiful. Aug. Sept. ♃

Our plant is the variety α of Smith. There is only one other station where this species has been ascertained to grow wild in Scotland. It is extensively cultivated for medicinal purposes.

2. *M. hirsuta*, hairy; flowers capitate or whorled; eaves stalked, ovate; calyx clothed with erect hairs; flower-stalks with recurved ones. *Hairy Mint.*

(1) flowers in whorls so close together as to resemble a spike.

(2) flowers in axillary clusters from many of the uppermost leaves.

Hab. Watery places, very common. Aug. Sept. ♃

Mr Macdonald of Scalpa, in the Hebrides, having some years ago suffered considerably by mice, put at the bottom, near the centre, and the top of each stalk, as it was raised, 3 or 4 stalks of wild mint, with the leaves on, gathered near a brook in a neighbouring field, and never after had any of his grain consumed. He then tried the same experiment with his cheese, and other articles kept in store, and often injured by mice, and with equal effect, by laying a few leaves, green or dry, on the articles to be preserved.

3. *M. rubra*, flowers whorled; leaves ovate; stem upright, zigzag (4 or 5 feet high); flower-stalks, and lower part of the calyx, very smooth; teeth hairy. *Red Mint.*

Hab. Reedy banks of rivers. "About Whiteadder Island," Thomp. I think I have observed it at the side of the Blackadder, below Mungo's Wells, Berwickshire. Sept. ♃

4. *M. gentilis*, flowers whorled; leaves ovate; stem much branched, spreading; flower-stalks, and base of the bell-shaped calyx, nearly smooth. *Bushy Red Mint.*

(1) leaves of an uniform green colour.

(2) leaves variegated with yellow.

Hab. (1) Sides of Wooler Water, near the Haugh-head, sparingly. (2) Side of the water course above the carding-mill at Wooler, apparently wild. Aug. ♃

5. *M. arvensis*, flowers whorled; leaves ovate; stem much branched, diffuse; calyx bell-shaped, covered all over with horizontal hairs. *Corn Mint.*

Hab. Moist sandy corn fields. "About New Water Haugh," Thomp. Plentiful on the fields about Stoneymuir Rig. June–Sept. ♃

171. GLECHOMA.

1. *G. hederacea*, creeping, downy; leaves kidney-heart-shaped, crenate; flowers blue, axillary. *Ground Ivy.*

Hab. Road-sides and hedge-banks. Dikes and hedges beyond the Magdalen Field farm-house; Tweed Banks beyond Gainslaw Ford, &c. Thomp. New-Water-Haugh Wood. At Richardson's Stead and Mountholy, &c. April, May. ♃

Was generally used for the purpose of clarifying ale, and giving it a flavour, till the reign of Henry VIII. about which period hops were substituted.—WITH.

172. LAMIUM.

1. *L. album*, leaves heart-shaped, pointed, strongly serrated, hairy; flowers white, about 20 in a whorl; tube of the calyx shorter than its teeth; upper lip of the corolla notched, lateral teeth solitary, lanceolate. *White Dead-nettle.*

Hab. Waste grounds. May, June,—also Sept. ♃

2. *L. purpureum*, stem leaflets in the middle; leaves heart-shaped, bluntish, unequally crenate, stalked, the upper ones crowded; calyx-teeth lanceolate; tube of the purplish-red corolla closed, near the bottom, with hairs. *Red Dead-nettle.*

Hab. Waste and cultivated grounds. May. ☉

3. *L. incisum*, stem leafless in the middle; leaves heart-shaped, dilated, stalked, irregularly cut, the upper ones crowded; tube of the red corolla internally naked, marginal teeth dilated, combined. *Cut Dead-nettle.*

Hab. Road-sides and in fields, frequent in this neighbourhood. May. ☉

4. *L. amplexicaule*, floral leaves sessile, kidney-shaped, obtuse, deeply crenate, partly lobed, clasping the stem; teeth of the calyx linear-awl-shaped, as long as its tube; flowers deep rose-colour. *Henbit Dead-nettle.*

Hab. Sandy fields and gardens, common. March–June. ☉

173. GALEOPSIS.

1. *G. Tetrahit*, bristly; stem swelled below the joints; leaves ovate, serrated; corolla twice the length of the calyx, upper lip nearly straight. *Common Hemp-nettle.*

Hab. Cultivated fields, common. July, Aug. ⊙

The flowers are reddish, cream-coloured, or white, with a spot on the lower lip variegated with purple and yellow. Labourers in harvest are sometimes affected with a severe inflammation of the hand, or of a finger, which they uniformly attribute to the sting of a *Day-nettle*, the name by which this plant is known amongst them. On examining its bristles, we perceive they consist of 3 or 4 tubular joints, and arise from a swollen base or vesicle *. On the upper part of the branches, on the calyx and flower, they are intermixed with others tipped with a gland. Now the former seem fitted, by their structure, for containing and emitting a fluid; and, though in general too soft to wound, yet by chance, when rudely pressed, they may perforate the skin and lodge their contents, which must be virulently poisonous, if the opinion of the cause of the disease be correct.

2. *G. versicolor*, bristly; stem swelled below the joints; leaves ovate, serrated; corolla thrice the length of the calyx, upper lip tumid, middle lobe of the lower heart-shaped. *Bee-Nettle.*

Hab. Corn-fields. "Near Burnhouses and Whitchester," Berwickshire, Rev. A. Baird. About Wooler, Mrs M. T. Johnston. Abundant in a field below Langleyford. In the west of Berwickshire. We observed it in great plenty between Huntly-wood and Ledgerwood, sometimes varying with a white lower lip. Aug. Sept. ⊙

The flowers are large, yellow, the lateral lobes whitish, the lower one fine purple, bordered with white, and streaked in the throat. A very beautiful plant.

174. BETONICA.

1. *B. officinalis*, stem naked in the middle; lower leaves on long stalks, upper sessile; flowers crimson, in a dense spike, the lowest whorl a little remote. *Wood Betony.*

* This structure of the bristles is common to many plants of this natural order.

Hab. Deans and dry banks. A little beyond Dodd's Well; Edrington Craigs; Chapel-hill, Belford, Thomp. Haidendean, &c. July, Aug. ♃

175. STACHYS.

1. *S. sylvatica*, hairy, fetid; stem solid; leaves heart-shaped, stalked; flowers dull red, 6 in a whorl. *Hedge Woundwort.*

Hab. Woods, and under hedges. July, Aug. ♃

2. *S. palustris*, root tuberous; leaves linear-lanceolate, half-embracing the hairy stem; flowers light purple, variegated, 6 to 10 in a whorl. *Marsh Woundwort.*

Hab. Moist fields and banks of ditches, common. Aug. ♃

3. *S. arvensis*, stem weak; leaves heart-shaped, obtuse, crenate, slightly hairy; flowers 6 in a whorl, small, light purple, with a white and spotted palate. *Corn Woundwort.*

Hab. Sandy fields. "Below Lamberton, plentiful; about Doddington," Thomp. July, Aug. ☉

176. BALLOTA.

1. *B. nigra*, leaves ovate, undivided, serrated; calyx funnel-shaped, abrupt, with short spreading teeth; flowers in whorls, purple. *Black Horehound.*

Hab. Waste grounds, common near towns and villages. Aug. ♃

177. MARRUBIUM.

1. *M. vulgare*, hoary, pubescent; stem erect; leaves roundish-ovate, unequally serrated; calyx-teeth 10, bristle-shaped, hooked backwards; flowers white, in dense convex whorls. *White Horehound.*

Hab. "On the rocks and links at Bamborough Castle," Winch. July. ♃

The plant has been much employed in medicines for the asthma, though, we may remark, it does not enter into the composition of the *genuine* medicines sold in its name.

178. CLINOPODIUM.

1. *C. vulgare*, leaves ovate, obscurely serrated; involucral leaves awl-shaped; flower-stalks branched; flowers in bristly crowded whorls, large, purple. ***Wild Basil.***

Hab. Bushy places, and about hedges. "Ash-wood, Belford," Thomp. Road-side within a mile of Belford. Aug. ♃

179. ORIGANUM.

1. *O. vulgare*, leaves ovate, entire; heads of flowers roundish, panicled, crowded, erect; involucral leaves ovate, smooth, longer than the calyx; flowers light purple or white. ***Common Marjoram.***

Hab. Deans and bushy places, frequent. Aug. ♃

180. THYMUS.

1. *T. serpyllum*, stems recumbent; leaves flat, ovate, obtuse, entire, fringed at their base; flowers in small heads, purple. ***Wild Thyme.***

Hab. Dry banks and heaths. July, Aug. ♃

181. SCUTELLARIA.

1. *S. galericulata*, leaves lanceolate, crenate, rugged, heart-shaped at the base; flowers axillary, in pairs, blue, pubescent. ***Common Skull-cap.***

Hab. Wet marshy places. Allerton-mill dean, plentiful. July, Aug. ♃

182. PRUNELLA.

1. *P. vulgaris*, stems a span high; leaves ovate-oblong, stalked; teeth of the upper lip of the calyx scarcely discernible; flowers deep purplish blue, in dense solitary erect whorled spikes; bracteas broad, heart-shaped. ***Self-heal.***

Hab. Meadows, pastures, and road-sides. July, Aug. ♃

II. ANGIOSPERMIA.

183. BARTSIA.

1. *B. Odontites*, root fibrous; stem square, branched; leaves lanceolate, serrated, the upper ones alternate; flowers forming unilateral clusters, rose-coloured. *Red Bartsia.*

Hab. Meadows and pastures, on a cold and wet clay soil, common. July, Aug. ⊙

184. RHINANTHUS.

1. *R. Crista-Galli*, stem slightly branched; leaves lanceolate, serrated; calyx smooth; style concealed by the upper lip; seeds with a dilated membranous border. *Common Yellow Rattle.*

Hab. Barren meadows and pastures. June. ⊙

Stem a foot high, smooth, often spotted. Leaves somewhat crisp and fleshy, curiously marked on the under surface with characters of a paler green. Flowers axillary, but somewhat crowded and spiked, yellow, with a blue upper lip.

2. *R. major*, stem much branched; leaves linear-lanceolate, serrated; bracteas taper-pointed; calyx smooth; style prominent; seeds slightly bordered. *Large Yellow Rattle.*

Hab. Corn fields in the north of England. "I also observed it this year, 1723, amongst the corn nigh Westnewton, in Northumberland, upon the borders of Scotland," Dr Richardson. Though I have not observed it, yet others may probably find it in this neighbourhood. Mr Winch remarks, it ought to be looked for in newly inclosed grounds. July. ⊙

Larger than the preceding, with narrower leaves, and smaller flowers with a purple upper lip.

185. EUPHRASIA.

1. *E. officinalis*, stem 1–4 inches high, square; leaves ovate, sessile, furrowed, toothed; flowers white, with purple streaks and a yellowish palate. *Eye-bright.*

Hab. Heaths and barren pastures. July. ⊙

"On the mountains of Scotland," says Sir J. E. SMITH, "there is a more slender variety, with smaller but more richly tinted blossoms." This we have found on our moors. The flowers are very pretty, purplish; and the crenatures of the leaves, in our specimens, are so obtuse, that they might with propriety be described as 5-lobed.

They who are "well seene in herbes" do much commend the E. as a precious medicine "to comfort the sight,"—hence, in MILTON, we have

> ——— "Then purg'd with euphrasy and rue
> The visual nerve, for he had much to see."

And its fame rests not on any real efficacy, but because it has a spot on the corolla something like a pupil, a character which, according to the doctrine of Signatures, is certainly indicative of marvellous virtues.

186. MELAMPYRUM.

1. *M. pratense*, leaves lanceolate, floral ones toothed at the base; flowers axillary, in partly distant pairs, turned to one side; corolla four times as long as the calyx, closed, lower lip direct. *Common Cow-wheat.*

Hab. Deans, not common. Ancroft dean, Mr J. Manners. July. ⊙

Stem 12--18 inches high, branched, smooth, as well as the bright green leaves. "Corolla pale at the base, deep yellow towards the summit, with a purple spot at each side of the mouth, which is closed, not gaping, the lower lip prominent and straight, not deflexed, palate elevated, orange-coloured."—SM.

2. *M. montanum*, leaves linear, floral ones quite entire; flowers axillary, in partly distant pairs, turned to one side; corolla about twice as long as the calyx, closed, lip direct. (*Nova species.*)

Hab. On the south-east side of Cheviot, plentiful. June, July. ⊙

Stem 3 or 4 inches high, square, pubescent, branched; branches opposite, simple. Cotyledon-leaves linear-obovate, entire. Leaves narrow, long, linear, often twisted, hairy all over, brownish-green. The floral leaves do not differ from the others. Flowers in pairs, turned to one side, on short stalks, pale yellow, with a white tube.

Calyx striped with green and reddish-brown; the segments setaceous, rough, shorter than the tube. Upper lip of the corolla villose internally; lower lip straight, in 3 acute short segments, slightly projecting; the palate raised, orange. Anthers green and brown, pubescent, on smooth filaments. The flower is generally unspotted, but sometimes there are 4 small obscure spots on the lower lip, placed distantly, and not on the mouth.

It is not without hesitation that I give this as a species distinct from the preceding, since the differences may be attributed to situation, for we know that an alpine station does alter the aspect of plants to a considerable extent. In estimating the force of this objection, we can only reason from what we observe to be the effect of a similar situation on plants of the same natural order. Now, the *Rhinanthus Crista-Galli* is a plant of this kind, and we find it growing with this *Melampyrum* undiminished in height, and unaltered in appearance. And, were the objection valid, we might expect the plant at the base of the hill to be much in its usual state, and gradually diverging from it as it attained higher limits; but this was not the case, for it was very uniform in character over a surface of many acres.

187. PEDICULARIS.

1. *P. palustris*, stem solitary, branched, 1 foot high; leaves all doubly pinnatifid; calyx ovate, hairy, ribbed, in 2 unequally notched lobes; flowers crimson. *Marsh Louse-wort.*

Hab. Marshes and boggy meadows, common. July. ♃ ?

2. *P. sylvatica*, stem several, spreading, simple; radical leaves ovate; calyx oblong, angular, smooth, in five unequal notched segments; flowers rose-coloured. *Dwarf Lousewort.*

Hab. Heaths, common. Longridge dean. Lamberton Moor, &c. A white flowered variety has repeatedly occurred to us. July. ♃

188. ANTIRRHINUM.

1. *A. Linaria*, stem erect; leaves linear-lanceolate, crowded; spikes terminal; flowers imbricated, yellow with an orange-coloured palate; calyx smooth, shorter than the spur. *Yellow Toadflax.*

Hab. Borders of fields, and gravelly banks, frequent. July, Aug. ♃

2. *A. minus*, stem much branched, spreading; leaves lanceolate, obtuse, downy, mostly alternate; calyx longer than the spur; flowers small, purplish, the lower lip yellow. *Least Snapdragon.*

Hab. Sandy fields, very rare. Bank above the Union Bridge, Durham, Dr Thompson. July. ♃

189. SCROPHULARIA.

1. *S. nodosa*, smooth; root tuberous; stem sharp-edged; leaves heart-shaped, acute, serrated, 3-ribbed at the base; flowers dull green with a livid purple lip. *Knotty-rooted Figwort.*

Hab. Woods and hedges, frequent. About the mouth of the Whiteadder, Thomp. July. ♃

190. DIGITALIS.

1. *D. purpurea*, downy; leaves ovate, crenate; flowers large, purple; segments of the calyx ovate, acute; corolla obtuse, its upper lobe scarcely cloven. *Foxglove.*

Hab. Gravelly or sandy pastures. Edrington Craigs, Thomp. Rare in the immediate vicinity, but very common about Houndwood and Renton Inns; and near Wooler. July. ♂

The history of this plant might afford a practical answer to such as sneer at the pursuits of the botanist, and are continually asking *Cui bono?* For it grew neglected, until Dr WITHERING, a botanist, made known its virtues, and gave to medicine one of its most valuable auxiliaries. It is most beneficial in dropsical and inflammatory complaints, and in diseases of the heart and of the lungs; but great caution is required in its use.

CLASS XV.

TETRADYNAMIA.

" The spleen is seldom felt where Flora reigns."
COWPER.

—" I have cured weak stomachs by engaging the persons in the study of Botany, and particularly in the investigation of our native plants." — Dr CULLEN.

I. SILICULOSA.

* *Cotyledons accumbent.*

191. DRABA. *Pouch* entire, laterally compressed, valves nearly flat; *seeds* numerous.

198. CRAMBE. *Pouch* globose, stalked, coriaceous, of 1 cell, without valves, deciduous; *seed* solitary.

197. CAKILE. *Pouch* angular, of 2 joints, each of 1 cell, without valves, the uppermost deciduous; *seed* solitary.

195. COCHLEARIA. *Pouch* nearly entire, turgid, rugged, of 2 valves; *seeds* numerous.

194. THLASPI. *Pouch* cloven, inversely heart-shaped, the valves with a bordered keel; *seeds* numerous.

198. TEESDALIA. *Pouch* cloven, inversely heart-shaped, the valves keeled; *seeds* 2 in each cell; *filaments* each bearing a scale at the base.

** *Cotyledons incumbent.*

[illegible]. *Pouch* nearly entire, transversely compressed, ventricose, of 2 cells, without valves; *seeds* solitary in each cell.

[illegible]. *Pouch* cloven, elliptical, of 2 cells, and 2 keeled valves; seeds solitary in each cell.

II. SILIQUOSA.

* *Cotyledons flat, accumbent.*

[illegible]. *Pod* rather compressed, straight; *stigma* either 2 spreading lobes or capitate; *calyx* closed, 2 of its leaves prominent at the base.

[illegible]. *Pod* nearly cylindrical, oblique, valves convex, without keels; *stigma* obtuse, notched; *calyx* spreading, equal at the base.

[illegible]. *Pod* quadrangular, two-edged; *seeds* in a single row; *petals* at the inside of the shorter filaments.

[illegible]. *Pod* linear, valves flat; *seeds* in a single row.

[illegible]. *Pod* linear, valves flat, without ribs, bursting elastically from the base; *seeds* on capillary stalks.

** *Cotyledons flat, incumbent.*

[illegible]. *Pod* nearly cylindrical; *stigma* capitate, [illegible].

[illegible]. *Pod* quadrangular; *stigma* capitate, notched.

*** *Cotyledons folded, incumbent.*

[illegible]. *Pod* nearly cylindrical, beaked, with 2 valves; [illegible] *calyx* closed.

207. SINAPIS. *Pod* nearly cylindrical, somewhat beaked, with 2 valves; *seeds* nearly globular; *calyx* spreading.

208. RAPHANUS. *Pod* tumid, imperfectly jointed, without valves; *seeds* globular.

I. SILICULOSA.

191. DRABA.

1. *D. verna*, stalks radical, naked; leaves lanceolate, somewhat notched, hairy; flowers white, with deeply cloven petals. *Common Whitlow-grass.*

Hab. On walls and dry banks, frequent. March, April. ⊙

192. LEPIDIUM.

1. *L. campestre*, downy; stem 1 foot high, its leaves arrow-shaped, toothed; flowers small, white; pouch scaly, notched, bordered at the summit; style very short. *Field Pepperwort.*

Hab. "Shore beyond Fisher's Battery," Thomp. July. ⊙

193. TEESDALIA.

1. *T. nudicaulis*, stems several; leaves lyrate; flowers very small, white, with unequal petals. *Irregular Teesdalia.*

Hab. In the gravelly vale between Middleton and Langley Ford, plentiful. June. ⊙

194. THLASPI.

1. *T. arvense*, stem erect; leaves smooth, oblong, toothed; flowers small, white; pouch large, orbicular, nearly flat, shorter than its stalk. *Penny Cress.*

Hab. Cultivated fields very rare. I gathered a single specimen in Ord Fields. June, July. ⊙

2. *T. Bursa Pastoris*, hairy; radical leaves pinnatifid; flower small, white; pouch inversely heart-shaped, somewhat triangular, smooth. *Common Shepherd's Purse.*

Hab. Waste and cultivated grounds. March—Nov. ⊙

195. COCHLEARIA.

1. *C. officinalis*, smooth; radical leaves roundish, those on the stem oblong and somewhat sinuated; flowers white; pouch globose. *Common Scurvy-grass.*

Hab. Plentiful on our sea-coast; also on dikes near the Magdalen-field farm-house. May. ⊙

A useful plant in the sea-scurvy.

2. *C. danica*, stems prostrate; leaves all triangular and stalked; pouch elliptical, reticulated with veins. *Danish Scurvy-grass.*

Hab. On the Pinnacles, one of the Fern Islands, Dr Thompson. May, June. ⊙

Stems numerous, spreading, about 2 inches long, smooth. Leaves all stalked, lobed near the base. Flowers small, white. Pouches numerous, large, oval, tipped with a short style, reticulated with prominent veins. Seeds from 6 to 9 in each cell, brown, rough.

196. SENEBIERA.

1. *S. coronopus*, stem spreading, much branched; leaves pinnatifid, subdivided; flowers very small, white, opposite to the leaves, densely corymbose; pouch undivided, crested with little sharp points; style prominent. *Swine's-cress.*

Hab. Waste ground and road-sides, very common in the immediate vicinity; and on Holy Island. June—Aug. ⊙

197. CAKILE.

1. *C. maritima*, herb smooth, branched; leaves fleshy, pinnatifid, obtuse; flowers rather large, purplish; joints of the pouch two-edged, the upper one arrow-shaped. *Sea Rocket.*

Hab. Frequent on our sandy sea-coast. June, Sept. ⊙

198. CRAMBE.

1. *C. maritima*, longer filaments toothed; leaves roundish, sinuated, wavy, toothed, glaucous, very smooth as well as the stem; flowers white, in clustered panicles. *Sea Kale.*

Hab. "On the shore by Fastcastle, in Berwickshire," Dr Parsons. June. ♃

Sea Kale is now common in gardens. The young shoots come early, and are much esteemed. "The precise period of its introduction to the garden is unknown. PARKINSON and BRYANT state, that the radical leaves are cut by the inhabitants where the plant grows wild, and boiled as cabbage; and JONES, of Chelsea, assured the late CURTIS, that he saw bundles of it, in a cultivated state, exposed for sale in Chichester market in 1753. MAHER states, that the *C. maritima* was known, and sent from this kingdom to the Continent, more than 200 years ago, by LOBEL and TURNER; but MILLER, in 1731, was the first who wrote upon it professionally. About the year 1767, it was cultivated by Dr LETTSOM at Grove Hill, and by him brought into general notice in the neighbourhood of London."—LOUDON.

II. SILIQUOSA.

199. CARDAMINE.

1. *C. hirsuta*, more or less hairy; leaves pinnate, without stipulas, leaflets stalked, roundish-oblong, notched; flowers small, white. *Hairy Ladies'-smock.*

Hab. Shady places. "Near St Abb's Head," Rev. A. Baird. On a rough stone-wall below the Union Bridge, sparingly. Frequent in the gravelly bed of Wooler Water. May, June. ☉

In the last station the stem of the plant is erect, flexuose, nearly smooth and simple. *C. flexuosa*, WITHERING, 715.

2. *C. pratensis*, leaves pinnate, without stipulas, leaflets of the radical ones roundish and toothed, those of the stem leaves lanceolate, entire; flowers large, light purple; petals with a tooth upon the claw. *Meadow Ladies'-smock.*

Hab. Meadows and moist pastures. May. ♃

The flowers were at one time supposed to be useful in spasmodic diseases, as epilepsy, for the cure of which they are recommended by RAY and Sir G. BAKER, but they have fallen into neglect. They come with the cuckoo, whence, in some parts, the people call it the *Cuckoo-flower*; and they cover the meadows as with linen bleaching, which is supposed to be the origin of the name we have adopted, as being more classical. Thus SHAKSPEARE,

> "When daisies pied, and violets blue,
> And *Lady-smocks* all silver-white,
> And Cuckoo-buds of yellow hue,
> Do paint the meadows with delight."

3. *C. amara*, stem creeping at the base; leaves pinnate, without stipulas, leaflets of the lowermost roundish, of the rest toothed or angular; flowers white with violet anthers; style obliquely elongated. *Bitter Ladies'-smock.*

Hab. Watery places, rare. Banks of the Eye about Netherbyres, Rev. A. Baird. May. ♃

More likely to be passed by as a *Water-cress*, than mistaken for any variety of the preceding. Dr HOOKER says, the flowers are larger than those of the *pratensis*, and SMITH describes them as of the same size; but in our specimens they are not more than half as large.

200. NASTURTIUM.

1. *N. officinale*, leaves pinnate, leaflets roundish-heart-shaped, wavy; flowers white. *Common Water-cress.*

Hab. Ditches and water-courses. June, July. ♃

Near London the Water-cress is regularly cultivated, and it is perhaps the best and most wholesome of our sallad herbs.

2. *N. sylvestre*, leaves pinnate, leaflets lanceolate, deeply serrated or cut; root creeping; flowers yellow, the petals much longer than the calyx. *Creeping Yellow-cress.*

Hab. Wet gravelly places. River-side a little above West Ord, Dr Thompson. About the Union Bridge. Aug. ♃

3. *N. terrestre*, leaves pinnatifid, unequally toothed; root tapering; flowers yellow, the petals scarcely so long as the calyx; pod curved. *Annual Yellow Cress.*

Hab. Watery places. About Ladykirk and Norham, Mr W. Baird. Sides of the Tweed from West Ord to Norham, plentiful. In the pond below Calf-hill; and at the Cow-port. June, July. ⊙

The root is simple and spindle-shaped; but in a specimen, which measured upwards of two feet in height, we found it a dense bunch of fibres. The stem is frequently purplish, as are also the leaves, which are occasionally somewhat bristly on the margins. Pods short, cylindrical, thick, on patent curved stalks longer than themselves, tipped with a short style crowned with a peltate stigma. The plant rarely exceeds a foot in height, and is often much less.

201. SISYMBRIUM.

1. *S. officinale*, stem rough with reflexed bristles; leaves runcinate, hairy; flowers small, pale yellow; pods pressed close to the main stalk, awl-shaped, downy. *Common Hedge-mustard.*

Hab. Wastes and road-sides. June, July. ⊙

2. *S. Irio*, leaves runcinate, toothed, smooth as well as the stem; flowers yellow; pods erect, long, slender. *London Rocket.*

Hab. On the walls of Berwick-upon-Tweed, Ray. Most abundant at the Pier-gate. July, Aug. ⊙

3. *S. Sophia*, leaves doubly pinnatifid, a little hairy; flowers small, greenish-yellow, the petals smaller than the calyx. *Flixweed.*

Hab. Waste ground near villages. About East-Ord, Etall, and Bamborough, Thomp. July—Sept. ⊙

202. BARBAREA.

1. *B. vulgaris*, smooth; lower leaves lyrate, the terminal lobe roundish; upper obovate, toothed; flowers yellow; pods an inch long. *Yellow Rocket.*

Hab. Sides of the Tweed and Whiteadder; also at hedge bottoms in moist situations, frequent. A double flowered variety is common in gardens. May—Aug. ♃

2. *B. præcox*, smooth; lower leaves lyrate; upper deeply pinnatifid, with linear-oblong entire segments; flowers small, yellow; pods about three inches long. *Early Winter-cress.*

Hab. Hedge-side between Wooler and Earl. April—Oct. ♂

Cultivated in many gardens as a salad-herb, under the name of *American Cress.*

203. ERYSIMUM.

1. *E. Alliaria*, smooth; leaves heart-shaped, broadly toothed, stalked; flowers white. *Garlick-mustard*, or *Jack-by-the-hedge.*

Hab. Hedge-sides and shady lanes. Near Lint-hill, Berwickshire, Rev. A. Baird. Near Haggerston. North side of the Tweed above the Union Bridge. May, June. ⊙

The whole plant scents strongly of garlic. It is occasionally used as a sallad. "When gathered, as it approaches the flowering state, boiled separately, and then eaten to boiled mutton, it certainly forms a most desirable pot-herb; and to any kind of salted meat, an excellent green." NEILL.

204. CHEIRANTHUS.

1. *Ch. fruticulosus*, stem shrubby; branches angular; leaves lanceolate, acute, most hoary beneath, with simple close hairs; style prominent; flowers yellow. *Wild Wall-flower.*

Hab. On the ruins of all the old castles in the neighbourhood; also on Spindlestone rocks. June. ♃

205. ARABIS.

1. *A. Thaliana*, stem branched; leaves hairy, more or less toothed, radical ones stalked, oblong; flowers small, white; stamens not much shorter than the petals; pods pointing upwards, slender, smooth. *Common Wall-cress.*

Hab. Walls and dry banks, not common. In the ravine above Burnmouth. Amongst the debris of Kyloe Rocks. Abundant on walls below the Chain Bridge, and about Warren. April, May. ⊙

206. BRASSICA.

1. *B. Napus*, root spindle-shaped; leaves smooth, upper ones lanceolate, heart-shaped at their base, clasping the stem, lower ones lyrate, toothed; flowers yellow. *Rape-seed.*

Hab. Corn-fields and road-sides occasionally, but not any where truly wild. May. ♂

"Cultivated for the oil produced by the seeds; and the seeds, by pressure, are formed into cakes, which, after the extraction of the oil, are useful for manure, as well as for fattening cattle."

2. *B. Rapa*, root stem-like, fleshy, orbicular, depressed; radical leaves lyrate, rough, those of the stem smooth, the uppermost entire; flowers yellow. *Common Turnip.*

Hab. Cultivated fields and their borders, but not wild. April. ♂

As an object of agriculture, the Turnip was introduced into this country by Lord Townsend, in the reign of Geo. I.

207. SINAPIS.

1. *S. arvensis*, rough; leaves toothed, partly lyrate or hastate; flowers yellow; pods with many angles, rugged, longer than their own awl-shaped beak. *Wild Mustard.*

Hab. Corn-fields, too common. May. ⊙

2. *S. alba*, rough; leaves lyrate; flowers yellow; pods bristly, rugged, spreading, shorter than their own flat two-edged beak. *White Mustard.*

Hab. Corn-fields, common. June. ⊙

Cultivated for the sake of the young herbs, which are used in sallads; and for the seeds, which have long been a popular remedy in rheumatism, and of late have become fashionable in dyspeptic complaints.

3. *S. nigra*, lower leaves lyrate, upper linear-lanceolate, entire, smooth, more or less pendulous; flowers yellow, small; pods quadrangular, smooth, slightly beaked, close-pressed to the stalk. *Common Mustard.*

Hab. Fields and waste grounds. "North side of the

Whitesadder from the boundary to Edrington Craigs, plentiful," Thomp. Ord Fields sparingly, Dr Thompson. June. ☉

Table-mustard is prepared from the seeds of this species.

4. S. [illegible], stem smooth; leaves once or twice pinnatifid, the uppermost undivided; flowers large, pale yellow; pods erect, on spreading stalks, linear, compressed, slightly beaked; seeds [illegible]. *Wall Mustard.*

Hab. On the walls of Berwick, Ray; where it still grows. June—Oct. ♃

208. RAPHANUS.

1. R. [illegible], leaves lyrate, rough; flowers large, pale yellow, veined; pods jointed, striated, of one cell. *Charlock.*

Hab. Corn-fields. June, July. ☉

"A noisome weed, that without profit sucks
The soil's fertility from wholesome flowers."

The seeds, mixed with bread, are said, by LINNÆUS and others, to produce a severe spasmodic disease, which, in wet seasons, is common in Sweden.

CLASS XVI.

MONADELPHIA.

—" Not a flower
But shows some touch in freckle, streak, or stain,
Of HIS unrivalled pencil. He inspires
Their balmy odours, and imparts their hues,
And bathes their eyes with nectar, and includes,
In grains as countless as the sea-side sands,
The forms, with which He sprinkles all the earth.
Happy who walks with Him! whom what he finds
Of flavour, or of scent in fruit or flower,
Or what he views of beautiful or grand
In Nature, from the broad majestic oak
To the green blade, that twinkles in the sun,
Prompts with remembrance of a present GOD.
His presence, who made all so fair, perceived,
Makes all still fairer." COWPER.

I. PENTANDRIA.

209. ERODIUM. *Style* 1; *fruit* beaked, of 5 aggregate *capsules*, each tipped with a spiral *awn*, bearded on the inside.

II. DECANDRIA.

210. GERANIUM. *Style* 1; *fruit* beaked, of 5 aggregate *capsules*, each tipped with a recurved naked *awn*.

III. POLYANDRIA.

211. MALVA. *Styles* numerous; *outer calyx* of 3 leaves; *capsules* whorled, single-seeded.

I. PENTANDRIA.

209. ERODIUM.

1. *E. cicutarium*, stems procumbent, hairy; stalks many-flowered; leaves pinnate, leaflets sessile, pinnatifid, cut; stamens simple. *Hemlock Stork's-bill.*

Hab. Dry sandy pastures and waste grounds, common. On the Links from Spittal southward, the variety with *white* flowers is the most common; but remote from the sea, the flowers are invariably *rose-coloured.* June—Aug. ☉

Among the numberless instances of obvious design in the structure of the seeds and seed-vessels of plants, few are, perhaps, more remarkable, or more strikingly display themselves as the workmanship of an intelligent Artificer, than that which we meet with in the seeds of *E. cicutarium.* The seeds surround the pistil at its base; each seed is covered with a coat peculiar to itself; which, after having inclosed the seed, runs out, in the form of a narrow appendage, to the extremity of the style, to which it is slightly connected along its whole length, and which has five grooves to receive the five seeds with their appendages. Each of these appendages has the property of contracting itself into a spiral form when dry, and of again extending itself into a right line when moist. In short, it is a spiral spring, which lengthens or contracts itself as it happens to become wet or dry. This power first exerts itself when the seed and its appendage become dry by maturity, when it gradually separates the seed from its parent plant. The seed, thus disengaged, is continually contracting and dilating itself, as the weather changes from wet to dry, and from dry to wet; and by this means is kept in motion, till it is either destroyed by the vicissitudes of the seasons, or meets with some crevice in the earth, or some light porous spot, into which it can easily insinuate itself, and from thence, in due time, produce a new plant.—See WITHERING, iii. 753.

II. DECANDRIA.

210. GERANIUM.

1. *G. sylvaticum*, stem erect; leaves about 7-lobed, cut and serrated; stalks 2-flowered, somewhat corymbose; flowers large, light purple, veined; stamens awl-shaped, fringed; capsules hairy all over. *Wood Crane's-bill.*

Hab. Woods about Houndwood and Renton, Berwickshire. Banks of Wooler Water above and below Langley-ford. June, July. ♃

2. *G. pratense*, leaves in about 7 deep segments, sharply pinnatifid and serrated; stalks 2-flowered; flowers larger, blue; stamens smooth, much dilated at the base; capsules hairy all over. *Meadow Crane's-bill.*

Hab. Road-sides, and banks of rivers and ditches, frequent. June, July. ♃

3. *G. Robertianum*, stem spreading, red; leaves somewhat pedate, pinnatifid, 5-angled; stalks 2-flowered; flowers purple; calyx with 10 angles; capsules wrinkled, simply keeled. *Stinking Crane's-bill*, or *Herb-Robert.*

Hab. Woods, and rough stony places frequent. May—Oct. ☉

This herb has a strong disagreeably pungent smell, especially after rain. In autumn it assumes a deep red hue.

4. *G. lucidum*, shining, smooth; leaves 5-lobed, rounded; stalks 2-flowered; flowers small, rose-coloured; calyx pyramidal, transversely wrinkled; capsules wrinkled, triply keeled. *Shining Crane's-bill.*

Hab. Rocky banks of the Eye opposite Netherbyres, Rev. A. Baird. May—Aug. ☉

5. *G. molle*, stems spreading, downy; stalks 2-flowered, alternate, opposite to the leaves, which are rounded, many-lobed, notched and downy; flowers small, purple, with cloven petals;

capsules numerously wrinkled, smooth; seeds without dots. *Downy Crane's-bill.*

Hab. Cultivated and waste grounds, very common. April —Aug. ⊙

6. *G. pusillum*, stalks 2-flowered; flowers bluish-purple, the petals notched, and scarcely extending beyond the calyx; leaves kidney-shaped, palmate, cut, downy; capsules keeled, even, clothed with erect hairs; seeds without dots; anthers only 5. *Small-flowered Crane's-bill.*

Hab. Gravelly fields and waste grounds. "Hedges near Paxton," Thomp. June—Sept. ⊙

7. *G. dissectum*, stalks 2-flowered; flowers small, purplish, the petals cloven, rather shorter than the much awned calyx; leaves in 5 deep laciniated segments; capsules hairy; seeds reticulated. *Jagged-leaved Crane's-bill.*

Hab. Road-sides and pastures, particularly in new pastures on a gravelly soil, common. May, June. ⊙

8. *G. sanguineum*, stalks single-flowered; flowers large, crimson; leaves roundish, in 5 or 7 deeply separated, 3-cleft lobes; capsules even, bristly at the summit; seeds minutely wrinkled. *Bloody Crane's-bill.*

Hab. On the Links of Holy Island, Winch. Sea-banks at Hudshead; and on the Links from Scrammerston southwards, abundant, and highly ornamental. July—Sept. ♃

III. POLYANDRIA.

211. MALVA.

1. *M. sylvestris*, stem upright, herbaceous, much branched; leaves with 7 acute lobes; footstalks and flowerstalks hairy; flowers large, purple, veiny. *Common Mallow.*

Hab. Waste places and road-sides. June—Aug. ♃

The leaves boiled are in common use amongst the poor as a poultice, to which they ascribe many opposite virtues. It is as good and cheaper than one of bread and milk.

2. *M. rotundifolia*, stems prostrate, scarcely branched; leaves roundish heart-shaped, bluntly 5-lobed; stalks when in fruit bent downwards; flowers small, pale lilac. *Dwarf Mallow.*

Hab. Waste ground near villages. June—Sept. ⊙

3. *M. moschata*, stem erect; radical leaves kidney-shaped, cut, the rest in 5 deep pinnatifid jagged segments; calyx hairy, its outer leaves linear-lanceolate; flowers large, rose-coloured. *Musk Mallow.*

Hab. Meadows rare. Fishwick Mains on the Tweed; foot of Foxburnheugh, Berwickshire, Mr W. Baird. On the plain between Edrington Mill and the White-adder, sparingly. Aug. ♃

CLASS XVII.

DIADELPHIA.

" Then *names* are good, for how, without their aid
Is knowledge gained by man, to man conveyed?
But from that source, shall all our pleasure flow?
Shall all our knowledge be, these names to know?
Then he with memory blest, shall bear away
The palm from GREW, and MIDDLETON, and RAY:
No! let us rather seek in grove and field,
What food for wonder, what for use they yield;
Some just remark, from Nature's people bring,
And some new source of homage for her King."

CRABBE.

I. HEXANDRIA.

212. FUMARIA. *Calyx* of 2 leaves; *corolla* ringent, prominent, and bearing honey at the base; each *filament* with 3 anthers.

II. OCTANDRIA.

213. POLYGALA. Two segments of the *calyx* like wings; *standard* of the *corolla* cylindrical; *capsule* of 2 cells and 2 valves; *seeds* solitary, crested.

III. DECANDRIA.

* *Stamens all connected at the base, the tube mostly split along its upper side.*

214. SPARTIUM. *Filaments* all forming a simple tube; *stigma* lateral, linear, hairy; *legume* flat.

215. GENISTA. *Filaments* upwards in 2 sets; *stigma* terminal, somewhat capitate; *legume* turgid; *pistil* depressing the keel; *standard* reflexed.

216. ULEX. *Calyx* of 2 leaves, nearly as long as the *legume*.

218. ANTHYLLIS. *Calyx* inflated, including the *legume*. (Flowers capitate.)

217. ONONIS. *Calyx* in 5 deep segments; *standard* striated; *legume* rhomboid, sessile.

* * *Stigma or style downy; without the character of the former section.*

219. OROBUS. *Style* linear, nearly cylindrical; *stigma* along the upper side downy.

220. LATHYRUS. *Style* flattened vertically; *stigma* along the dilated upper half of the style downy.

221. VICIA. *Style* bearded in front below the *stigma*.

222. ERVUM. *Stigma* capitate, all over downy.

* * * *Legume more or less perfectly* 2*-celled; without the former characters.*

223. ASTRAGALUS. *Legume* tumid, of 2 longitudinal cells.

* * * * *Legume with scarcely more than* 1 *seed; without the former characters.*

224. TRIFOLIUM. *Legume* hardly longer than the calyx, with 1 *seed*, rarely more, deciduous, not bursting.

* * * * * *Legume either jointed or spiral; without the former characters.*

226. MEDICAGO. *Legume* spiral, compressed, somewhat membranous; *pistil* pressing the *keel* downwards.

* * * * * * *Legume of* 1 *cell with numerous seeds; without the former characters.*

225. LOTUS. *Legume* cylindrical, spongy within; *wings* converging at their upper edges; *filaments* partly dilated.

I. HEXANDRIA.

212. FUMARIA.

1. *F. claviculata*, stem climbing, slender; leaves pinnate, then pedate or ternate, with elliptical entire leaflets and branched tendrils; flowers yellowish-white; pods lanceolate, undulated, with 3 or 4 seeds. *Climbing Fumitory.*

Hab. Amongst the rocks in Longridge Dean, plentiful. July—Oct. ⊙

2. *F. officinalis*, stem spreading, branched; leaves twice or thrice pinnate, leaflets wedge-shaped, with flat lanceolate segments; flowers rose-coloured, with a dark apex, in a rather lax cluster; pods single-seeded, globose, abrupt, on upright stalks, twice as long as the bracteas. *Common Fumitory.*

Hab. Cultivated fields, common. May—Aug. ⊙

Dr CULLEN recommends the expressed juice of this herb, in a dose of two ounces twice a-day, to cleanse the skin from leprous disorders; and for the same purpose it had been long previously recommended by the older herbalists. An infusion of the leaves is used as a cosmetic to remove freckles and clean the skin.

II. OCTANDRIA.

213. POLYGALA.

1. *P. vulgaris*, stems ascending, simple, herbaceous; leaves linear-lanceolate; bracteas 3, at the base of each flower-stalk, deciduous; wings about equal to the corolla; flowers crested, blue, pink or white. *Milkwort.*

Hab. Dry hilly pastures, common. June, July. 4

III. DECANDRIA.

214. SPARTIUM.

1. *S. Scoparium*, leaves ternate or solitary; branches angular, without thorns; filaments all in one set at the base; legume fringed. *Common Broom.*

Hab. Dry gravelly fields, and in deans. June. ♄

The most celebrated station for the Broom in Berwickshire, or perhaps in the United Kingdom, is Cowdenknows, an undulatory rising ground, of great beauty, in the west of the county. The broom extended over the whole hill, and is said to have been so tall and luxuriant, that a man on horseback, riding through it, could not be seen.

> "More pleasant far to me the broom
> So fair on Cowdenknowes,
> For sure so sweet, so soft a bloom,
> Elsewhere there never grows."

But *there* it grows no longer, having been eradicated, to give place to corn and turnips, and the other useful vulgarities of the farm.—It is still plentiful, however, in the vicinity, and a relic of the "bonnie broom" from the *Knowes* themselves, may still be gathered in the pleasure grounds surrounding the mansion of the proprietor.

A decoction of the young tops is a good remedy in dropsies. "That worthy prince of famous memorie, HENRY VIII., King of England, was wont to drinke the distilled water of Brome floures, against surfets and diseases thereof arising." In the neighbourhood of Ghent, Broom is sown with the view of improving poor sandy

soils; and the young flower-buds, gathered in the spring, are often used as a pickle, and as a substitute for capers. —Mr Neill.

215. GENISTA.

1. *G. tinctoria*, stems depressed, with round, striated, erect, thornless branches; leaves lanceolate, smooth; flowers yellow, nearly sessile. *Dyer's Greenweed.*

Hab. Gravelly banks. Haiden dean. July, Aug. ♄

The whole plant affords the dyer a good yellow colour, and with woad a good green.

216. ULEX.

1. *U. europæus*, teeth of the calyx obsolete, converging; bracteas ovate, lax; branches erect. *Whin* or *Gorse.*

Hab. Moors, &c. common. May. ♄

—"Rough
With prickly *Gorse*, that, shapeless and deformed,
And dangerous to the touch, has yet its bloom,
And decks itself with ornaments of gold."
. . . . . "there the turf
Smells fresh, and, rich in odoriferous herbs
And fungous fruits of earth, regales the sense
With luxury of unexpected sweets."

Will make fences upon the bleaker mountains, and close to the sea-side, where the spray of the sea kills almost every other shrub. In Cornwall, where fuel is scarce, it is cultivated to advantage, and is generally cut to make faggots for heating ovens, which it does very soon, burning rapidly, and with a great degree of heat. In Ireland, when hay is dear, the lower order of country people sometimes make a livelihood by selling chopped whins to the inhabitants of towns, for their cattle, by the bushel. "I have," says Dr Richardson, "great experience of this food, being obliged to recur to it every third or fourth year, during the twenty-six I have been a farmer; it is strong and nutritive; considered by many as the best substitute for oats, when that more nourishing food cannot be procured."—See *Pamphleteer*, vol. viii. p. 178, and Evelyn's *Sylva*, p. 410.—The Irish Whin, Mr Neill informs me, is much softer than ours, and a different species, *U. stricta.*

217. ONONIS.

1. *O. arvensis*, stem hairy; branches at length spinous; flowers mostly solitary, rose-coloured; leaves generally simple, entire towards their base. *Rest-harrow.*

Hab. Sandy sea-coast, as on Spittal Links; and borders of fields, common. June—Aug. ♃

218. ANTHYLLIS.

1. *A. vulneraria*, herbaceous; leaves pinnate, unequal; flowers yellow, in a pair of crowded terminal heads. *Ladies'-finger.*

Hab. Dry pastures. Sea and river banks, plentiful, Thomp. June—Aug. ♃

219. OROBUS.

1. *O. tuberosus*, stem simple, erect; leaves pinnate, elliptic-lanceolate; stipulas half-arrow-shaped, toothed at the base; flowers in axillary loose clusters, purple, veined. *Heath Pea.*

Hab. Heaths and deans. May, June. ♃

"But among the useful plants, the *Corr* or *Cor-Meille* must not be omitted, whose roots dried are the support of the Highlanders in long journeys, amidst the barren hills destitute of the supports of life; and a small quantity, like the alimentary powders, will, for a long time, repel the attacks of hunger. Infused in liquor, it is an agreeable beverage, and, like the Nepenthe of the Greeks, exhilarates the mind. From the similitude of sound in the name, it seems to be the same with *Chara*, the root discovered by the soldiers of Cæsar, at the siege of Dyrrachium, which, steeped in milk, was such a relief to the famished army. Or we may reasonably believe it to have been the Caledonian food described by Dio, of which the quantity of a bean would prevent both hunger and thirst; and this, says the historian, they have ready for all occasions."—PENNANT.

2. *O. sylvaticus*, stems recumbent, hairy, branched; leaves pinnate, hairy, leaflets numerous, ovate-lanceolate; flowers white, striated with purple. *Wood Bitter-vetch.*

Hab. "Observed also by Dr Burgess in great plenty on a bank facing the Tweed, on the north side, about a

quarter of a mile below the public house at the Beild," Lightfoot. "Near Longformacus," Berwickshire, Rev. A. Baird. July. ♃

220. LATHYRUS.

1. *L. pratensis*, smooth; stalks many-flowered; flowers yellow; tendrils mostly simple, each bearing a pair of lanceolate leaflets. *Meadow Vetchling.*

Hab. Moist meadows and pastures, common. Cattle are fond of it. July, Aug. ♃

221. VICIA.

* *Stalks elongated, many-flowered.*

1. *V. sylvatica*, smooth; leaflets elliptical; stipulas crescent-shaped, deeply toothed; flowers white, streaked with bluish veins. *Wood Vetch.*

Hab. Woods and bushy places. Banks beyond the Needle-eye; Tweed banks beyond Ord Mill, Thomp. July, Aug. ♃

One of our most elegant wild plants; well worthy to decorate shrubberies, or to be trained over a treillis or bower; Smith,—and so Sir Walter Scott seems also to think,

> "And where profuse the Wood Vetch clings
> Round Ash and Elm in verdant rings,
> Its pale and azure-pencilled flower
> Should canopy Titania's bower."

2. *V. Cracca*, downy; flowers imbricated; bluish-purple; leaflets lanceolate, silky; stipulas half-arrow-shaped, mostly entire. *Tufted Vetch.*

Hab. Rough boggy fields, and in hedges, where it is very ornamental. July, Aug. ♃

* * *Flowers axillary, nearly sessile.*

3. *V. sativa*, flowers mostly in pairs, purplish; leaflets elliptic-oblong, lower ones abrupt; stipulas with a blackish depression beneath; seeds orbicular, smooth. *Common Vetch.*

Hab. Corn fields, and dry short pastures. Banks below

Marshall-meadows. Amongst the whins to the north of Kyloe rocks. June. ⊙

Our plant is the variety β of the English Flora, and the specimens from the latter station approach, in some characters, to the *V. augustifolia* of the same work. The flowers are always solitary, very conspicuous and beautiful, but bluish-purple, not crimson. The root is furnished with a few fleshy, rather large tubercles; the stems are procumbent, but branched and downy, not simple and smooth; and the mark of the stipulas is generally pale, but sometimes brown. Readily distinguished from the following by the seeds.

4. *V. lathyroides*, flowers solitary, bluish-purple; leaflets elliptic-oblong, lower ones inversely heart-shaped; tendrils simple, shorter than the leaflets; seeds cubic, warty. *Spring Vetch.*

Hab. Gravelly fields. "Heugh, Holy Island;" Chapel-hill, Belford, and other basaltic heights between it and Bamborough, Thomp. May. ⊙

5. *V. sepium*, flowers about 4 together, in short axillary clusters, bluish-purple; legumes upright, smooth; leaflets ovate, obtuse, the upper ones gradually smaller. *Bush Vetch.*

Hab. Hedges, common. We have observed it with white flowers. June. ♃

222. ERVUM.

1. *E. hirsutum*, clusters many-flowered; flowers very small, pale blue; legumes hairy, with 2 seeds; stems weak, straggling; leaflets linear-oblong, abrupt. *Hairy Tare.*

Hab. Corn fields and cultivated ground. June—Aug. ⊙

223. ASTRAGALUS.

1. *A. glycyphyllos*, stem prostrate, 2 or 3 feet long; leaves longer than the flower-stalks; leaflets oval; flowers pale sulphur-colour; legumes obscurely triangular, incurved. *Wild Liquorice.*

Hab. "Brow of Cockle-hill at Learmonth; banks of Tweed by the road to Carham; Hilly pastures at Money-Laws," Wallis. June. ♃

2. *A. hypoglottis*, stem prostrate, 2 to 5 inches long; flowers in

round heads, bluish-purple; legumes ovate, deeply channelled along the back, compressed, hairy, hooked at the point; leaflets blunt. *Purple Milk-vetch.*

Hab. Links of Holy Island, Winch. Spittal Links, and the links beyond Scrammerston, Thomp. Sea banks below Redheugh, Berwickshire. June, July. ♃

224. TRIFOLIUM.

* *Flowers in clusters. Seeds* 1 *or more.*

1. *T. officinale*, stem erect; leaflets obovate, oblong, toothed; stipulas awl-shaped; flowers unilateral, drooping; legume prominent, acute, transversely wrinkled, hairy, with 2 seeds. *Common Melilot.*

Hab. Bushy places and way sides. "Old limestone quarry at Saterpath Haven," Thomp. Sea-banks in several places. New-water Haugh Wood. July. ☉

The flowers are commonly yellow, but in this neighbourhood, more frequently of a greenish-white colour, and smaller than usual. The herb is very palatable food to all sorts of cattle, and has a grateful odour when cut down and dried. Its seed is of all others the most pernicious in wheat, a few communicating a very strong smell to the flour.—SINCLAIR. It is fortunately rare in this district.

* * *Flowers capitate. Seeds several.*

2. *T. repens*, stems creeping, solid; flowers somewhat stalked, white, in a globose head; legume within the calyx, 4-seeded. *White Clover*, or *Shamrock.*

Hab. Meadows and pastures. May—Sept. ♃

It is a curious fact, and one not easily explained, that whenever a moor or barren heath is manured or turned up with the spade or plough, instead of producing next season its former coarse grass or heath, the white clover uniformly appears in their place, although previously it was at least not visible to the eye.

In dry soils the flowers sometimes become leafy. This we have observed on Holy Island. The flowers are supported on rather long stalks; the calyx has 6 leaflike cut segments, while the style is dilated into a large ovate leaf,

toothed on the margins. In other respects the plant is not altered, and cannot deceive the student under this disguise, however it may interest him.

* * * *Flowers capitate. Seeds single.*

3. *T. pratense*, spikes dense; stems ascending; petals unequal; calyx hairy, 4 of its teeth equal; stipulas ovate, bristle-pointed. *Common Purple Clover.*

Hab. Meadows and pastures. May—Sept. ♃

The "Cow-grass" of farmers, who seem very unwilling to admit that their "Purple Clover" can be a variety produced by cultivation, as is generally supposed by botanists, seeing that the former is perennial, while the latter is biennial only, and their agricultural properties are very different. This, however, is very good for cattle, and very noisome to witches. And, in the days when there were witches in the land, the leaf was worn by knight and by peasant, as a potent charm against their wiles; and we can even yet trace this belief of its magic virtue in some not unobserved customs. Hast thou never sought, and deemed thyself fortunate in finding a four-leaved clover?

"But woe to the wight who meets the green knight
Except on his faulchion arm
Spell proof he bear, like the brave St Clair,
The *holy Trefoil's* charm;

For then shall fly his gifted eye
Delusions false and dim;
And each unbless'd shade shall stand pourtray'd
In ghostly form and limb."

4. *T. medium*, spikes lax; stems zigzag and branching; petals nearly equal; calyx smooth, 2 upper teeth rather the shortest; stipulas tapering, converging. *Zigzag Trefoil.*

Hab. In deans. Longridge dean. July. ♃

The characters which best distinguish this from the preceding, seem to be the shape of the stipulas, and the smooth calyx. The heads of flowers are also somewhat globular, concave on the top, and of a finer purple. The character afforded by the comparative length of the lower tooth of the calyx, and of the tube of the corolla, adopted by Willdenow, and borrowed by Hooker and Greville, is not to be depended upon, since in *this* we find the tooth sometimes much shorter than the tube, while in the *cultivated clover* it is often equal to it in length.

5. *T. arvense*, spikes cylindrical, very hairy; stipulas lanceolate, bristle-pointed; calyx-teeth longer than the corolla, permanently bristle-pointed; leaflets linear-obovate; stem erect, much branched. *Hare's-foot Trefoil.*

Hab. Sandy barren fields. Heugh, Holy Island. Chapel-hill, Belford, and heights between it and Bamborough. Bed of Wooler Water, Thomp. "Banks of the eye opposite Netherbyres," Rev. A. Baird. July, Aug. ⊙

6. *T. scabrum*, heads sessile, axillary, ovate; calyx-teeth unequal, lanceolate, rigid, finally recurved; stems procumbent, rigid. *Rough Trefoil.*

Hab. Rocks in Holy Island, Winch. June. ⊙

7. *T. striatum*, heads sessile, axillary and terminal, ovate; calyx elliptical, furrowed, hairy, with straight bristle-shaped teeth; stems procumbent, pubescent. *Soft-knotted Trefoil.*

Hab. Dry pastures. On rocks at Holy Island. Heights from Kyloe to Bamborough. June. ⊙

* * * * *Standards persistent, dry and membranous. Flowers yellow.*

8. *T. procumbens*, heads oval, many-flowered; standard finally deflexed, furrowed; stems spreading or procumbent; common footstalk longest at the base. *Hop Trefoil.*

Hab. Dry gravelly fields. June, July. ⊙

9. *T. minus*, heads hemispherical, with 12–15 flowers; flower-stalks straight, rigid; standard nearly even; stems prostrate; common footstalk very short. *Lesser Trefoil.*

Hab. Dry gravelly fields. June, July. ⊙

225. LOTUS.

1. *L. corniculatus*, stems recumbent, pithy; heads depressed, of 2–5 yellow flowers; claw of the standard obovate; filaments all dilated; legumes spreading, nearly cylindrical. *Common Bird's-foot Trefoil.*

Hab. Grassy pastures, common. June—Sept. ♃

2. ***L. major***, stems erect, tubular; heads depressed, many-flowered, duller yellow; claw of the standard linear; shorter filaments not dilated; legumes drooping, cylindrical. ***Greater Bird's-foot Trefoil.***

Hab. Bushy places at the sides of ditches, frequent. July, Aug. ♃

226. MEDICAGO.

1. ***M. sativa***, stem erect, smooth; leaflets long, serrated towards the end; clusters upright, of many bluish-purple flowers; legumes spiral. ***Lucerne.***

Hab. Field above the quarry on Sunnyside, Dr Thompson. "Corn-field near Gunsgreen-hill," Rev. A. Baird. Aug. Sept. ♃

Lucerne has often been recommended for fodder, but is not cultivated in this neighbourhood. At Portobello, near Edinburgh, it is cultivated with great success; and the appearance of the field is always particularly fresh and luxuriant.

2. *M. lupulina*, stem procumbent; leaflets obovate; spikes ovate, erect, of numerous small yellow flowers; legumes kidney-shaped, rugged and veiny, single-seeded. ***Black Medick.***

Hab. Meadows and pastures. May—Aug. ☉

The *Yellow Clover* of the farmer, and often sown with rye-grass.

CLASS XVIII.

POLYADELPHIA.

" The young maid stole thro' the cottage door,
And blush'd as she sought the plant of pow'r;—
" Thou silver glow-worm, O, lend me thy light,
I must gather the mystic St John's-wort to-night,
The wonderful herb whose leaf will decide
If the coming year shall make me a bride."
And the glow-worm came
With its silvery flame,
And sparkled and shone
Thro' the night of St John,
And soon has the young maid her love-knot tied.

With noiseless tread
To her chamber she sped,
Where the spectral moon her white beams shed:—
" Bloom here—bloom here, thou plant of pow'r
To deck the young bride in her bridal hour!"
But it droop'd its head that plant of pow'r,
And died the mute death of the voiceless flow'r;
And a wither'd wreath on the ground it lay,
More meet for a burial than bridal day.

And when a year was past away,
All pale in her bier the young maid lay!
And the glow-worm came
With its silvery flame,
And sparkl'd and shone
Thro' the night of St John
As they closed the cold grave o'er the maid's cold clay."

I. POLYANDRIA.

227. HYPERICUM. *Calyx* inferior, in 5 deep divisions; *petals* 5; *filaments* united at the base, into 3 or 5 parcels; *capsule* with many seeds.

In former times the Hypericum, or St John's-wort, was looked upon as a "plant of power" in the expulsion of demons, in hindering witches of their will, and in prognosticating the good or bad fortune of young men and maidens, as to their obtaining partners for life. In Lower Saxony the young girls, to this day, gather sprigs of it on Midsummer night, and fasten them to the walls of their bed-chamber. If, on the ensuing morning, the sprig remains fresh, a suitor may be expected; if it drop or wither, the maid is destined to an early grave. This superstition gave origin to the beautiful lines we have selected for our motto, and which are taken from Blackwood's Magazine for January 1821.—The *H. perforatum* is the species which was used in this country; and the belief in its virtues is said still to linger amongst the people of North Wales.

227. HYPERICUM.

1. *H. quadrangulum*, stem herbaceous, with 4 sharp angles; leaves ovate, with copious pellucid dots; segments of the calyx lanceolate; flowers lemon-coloured, panicled; styles 3. *Square St John's-wort.*

Hab. Moist meadows, and banks of rivulets. July. ♃

2. *H. perforatum*, stem two-edged; leaves elliptical, obtuse, with copious pellucid dots; segments of the calyx lanceolate; flowers bright yellow, streaked; styles 3. *Perforated St John's-wort.*

Hab. Thickets and hedges, frequent. July, Aug. ♃

3. *H. humifusum*, stem compressed, prostrate; leaves elliptical, smooth; segments of the calyx ovate, leafy; flowers somewhat cymose, yellow; styles 3. *Trailing St John's-wort.*

Hab. Gravelly pastures. Hilly pastures above Lamberton Shields; "Fields about Netherbyres," Rev. A. Baird. In fields above Ayton, on the Eye; and near St Abb's Head. July. ♃

——————" Far diffus'd
And lowly creeping, modest and yet fair,
Like virtue, thriving most where little seen."

4. *H. hirsutum*, downy; stem erect, round; leaves ovate; calyx lanceolate with glandular serratures; flowers yellow; styles 3. *Hairy St John's-wort.*

Hab. Woods not common. Sea banks at Lamberton Shields; Tweed banks beyond Ord-Mill, Thomp. July. ♃

5. *H. pulchrum*, smooth; stem erect, round; leaves clasping the stem, heart-shaped; calyx ovate, with glandular serratures; flowers yellow, tipped with scarlet; styles 3. *Pretty St John's-wort.*

Hab. Deans and bushy places, common. July. ♃

CLASS XIX.

SYNGENESIA.

"Many of the Sciences are evidently pursued, and considered as proper objects of study for all refined minds, merely on account of the intellectual pleasure they afford; merely because they enlarge our views of nature, and enable us to think more correctly with regard to the beings and objects surrounding us."—Sir H. DAVY.

I. POLYGAMIA ÆQUALIS.

* *Corolla of each floret ligulate.*

236. HYPOCHÆRIS. *Receptacle* chaffy; *seed down* feathery; *calyx* somewhat imbricated.

238. CICHORIUM. *Receptacle* slightly chaffy; *down* chaffy, shorter than the seed; *calyx* double.

235. CREPIS. *Receptacle* roughish; *down* simple, partly stalked; *calyx* double, outermost lax, tumid, deciduous.

234. HIERACIUM. *Receptacle* almost naked, dotted; *down* simple, sessile; *calyx* imbricated, ovate.

233. APARGIA. *Receptacle* naked, dotted; *down* feathery, sessile, unequal and various; *calyx* double, innermost imbricated.

229. PICRIS. *Receptacle* naked; *down* feathery; *seeds* furrowed transversely; *calyx* double, innermost equal, outer lax.

228. TRAGOPOGON. *Receptacle* naked; *down* stalked, feathery; *calyx* simple, of several equal scales, in 2 rows.

232. LEONTODON. *Receptacle* naked; *down* stalked, simple; *calyx* imbricated, double, scales of the outermost lax.

231. LACTUCA. *Receptacle* naked; *down* stalked, simple; *calyx* imbricated, simple, cylindrical, scales membranous at the margin.

230. SONCHUS. *Receptacle* naked; *down* sessile, simple; *calyx* simple, imbricated, swelling at the base.

237. LAPSANA. *Receptacle* naked; *down* none; *calyx* double, innermost of equal channelled scales.

* * *Florets all tubular, lax, and spreading in the limb. Capitate.*

243. CARLINA. *Calyx* swelling, outer scales spinous, inner coloured, polished, radiant; *receptacle* chaffy; *down* feathery.

239. ARCTIUM. *Calyx* globose, scales spinous, hooked, inflexed.

240. CARDUUS. *Calyx* tumid, imbricated, scales spinous; *receptacle* hairy; *down* deciduous, capillary, roughish.

241. CNICUS. *Calyx* tumid, imbricated, scales spinous; *receptacle* hairy; *down* deciduous, feathery.

242. ONOPORDUM. *Calyx* tumid, scales spinous, spreading; *receptacle* cellular, somewhat chaffy.

* * * *Florets all tubular, parallel, crowded, nearly on a level at the top. Discoid.*

244. EUPATORIUM. *Receptacle* naked; *down* rough; *calyx* imbricated, oblong; *style* cloven half-way down, prominent.

II. POLYGAMIA SUPERFLUA.

* *Corolla of the marginal florets obsolete, or wanting. Discoid.*

245. TANACETUM. *Receptacle* naked; *seed* with a membranous crown; *calyx* imbricated, hemispherical; *florets* of the circumference 3-cleft, obsolete, sometimes wanting.

247. GNAPHALIUM. *Receptacle* naked; *down* rough, or feathery; *calyx* imbricated, scales filmy, coloured; *florets* of the circumference awl-shaped.

246. ARTEMISIA. *Receptacle* either naked or hairy; *down* none; *calyx* imbricated, scales rounded, converging; *florets* of the circumference awl shaped, entire.

* * *Corolla of the marginal florets ligulate. Radiant.*

254. BELLIS. *Receptacle* naked, conical; *down* none; *calyx* hemispherical, scales equal; *seed* obovate.

255. CHRYSANTHEMUM. *Receptacle* naked, rather convex; *down* none: *calyx* hemispherical, imbricated, scales with a dilated membranous border.

256. PYRETHRUM. *Receptacle* naked; *seed* crowned with a border; *calyx* hemispherical, imbricated, scales rather acute, membranous at the edges.

253. INULA. *Receptacle* naked; *down* simple; *calyx* imbricated; *florets* of the radius very numerous, linear; *anthers* with 2 bristles at the base.

248. ERIGERON. *Receptacle* naked; *down* simple; *calyx* imbricated; *florets* of the radius numerous, linear, very narrow; *anthers* simple.

252. SOLIDAGO. *Receptacle* naked, pitted; *down* simple; *calyx* imbricated, with close scales; *florets* of the radius about 5.

251. ASTER. *Receptacle* naked; *down* simple; *calyx* imbricated, lowermost scales spreading; *florets* of the radius more than 10.

250. SENECIO. *Receptacle* naked; *down* simple: *calyx* double, the innermost cylindrical, of numerous equal scales, outer of several minute ones, scales all withered at the extremity.

249. TUSSILAGO. *Receptacle* naked; *down* simple; *calyx* simple, tumid at the base, scales numerous, equal, somewhat membranous; *seed* obovate, compressed.

257. ANTHEMIS. *Receptacle* chaffy; *seed* crowned with a slight border; *calyx* hemispherical, scales nearly equal; *florets* of the radius numerous, oblong.

258. ACHILLEA. *Receptacle* chaffy; *down* none; *calyx* ovate, scales imbricated, unequal; *florets* of the radius 5–10, roundish, somewhat heart-shaped.

III. POLYGAMIA FRUSTRANEA.

259. CENTAUREA. *Receptacle* bristly; *down* simple or feathery, rarely wanting; *florets* of the radius funnel-shaped, dilated, irregular, without stamens or style.

I. POLYGAMIA ÆQUALIS.

228. TRAGOPOGON.

1. *T. pratensis,* smooth, milky; leaves keeled, tapering, dilated, and somewhat undulated at the base; flower-stalk cylindrical; calyx about equal to the corolla. *Yellow Goat's-beard.*

Hab. Meadows and pastures, frequent. June. ♂

We find the segments of the calyx uniformly much longer than the corolla. If the weather be fair, the large yellow

flowers open at the rising of the sun, and close again between nine and ten o'clock in the morning, so that they are seldom seen expanded. The roots "boyled in water until they be tender, and buttered as parseneps and carrots, are a most pleasant and wholesome meate, in delicate taste farre surpassing either parsenep or carrot; which meate procures appetite, warmeth the stomacke, prevaileth greatly in consumptions, and strengthneth those that have been sicke of a long lingring disease."—GERARDE.

229. PICRIS.

1. *P. echioides*, herb very bristly; leaves wavy; outer calyx of 5 broad heart-shaped scales; flowers golden yellow; down stalked. *Bristly Ox-tongue.*

Hab. By the Pier-road near the Limekiln, Thomp.—Probably its most northern station, as it has not yet found a place in the Scottish Flora. July. ⊙

230. SONCHUS.

1. *S. arvensis*, root creeping; stem 3 or 4 feet high; leaves runcinate, finely toothed, heart-shaped at the base; flower-stalks and calyx bristly, somewhat umbellate; flowers large, yellow. *Corn Sow-thistle.*

Hab. Corn fields, common. Aug. ♃

5. *S. oleraceus*, leaves runcinate, toothed; flower-stalks cottony; calyx smooth; flowers pale yellow, rather small. *Common Sow-thistle.*

Hab. Waste grounds. July—Sept. ⊙

231. LACTUCA.

1. *L. virosa*, leaves horizontal, finely toothed, the keel prickly *Strong-scented Lettuce.*

Hab. Near Twizel Castle; lane west of Old Ladykirk, Mr W. Baird. Banks of the Tweed from the Chainbridge to Norham, most abundant. Ayton road, near the six-mile stone. Twizel Toll. Aug. Sept. ♂

Root tapering. Stem from 4 to 8 feet high, round, reddish-purple, prickly before flowering, but afterwards nearly

smooth. Leaves all cauline, large, alternate, obovate, obtuse, tapered towards the base, sinuated and spinous on the margin, with red midrib and veins, which are prickly on the inferior surface. The upper leaves become gradually smaller, more decidedly clasp the stem, are sometimes pinnatifid, and prickly only on the midrib and margins. The upper surface of the leaves is dull green, smooth, but the under is often purplish, and the midrib and veins always so. Flowers in a large erect panicle, rather small, yellow. Calyx-scales more or less tinged with purple, the upper ones downy at the tip, indistinctly keeled. This description differs something from that of other authors; and the fig. of GERARDE, No. 3. were the leaves less sinuated, would better express our plant than the fig. No. 1. usually quoted.

The whole herb abounds in a milky juice, which has the smell of opium, and possesses narcotic and diuretic properties.

232. LEONTODON.

1. *L. Taraxacum*, outer scales of the calyx reflexed; leaves runcinate, toothed, smooth. *Common Dandelion.*

Hab. Pastures, &c. April—July. ♃

Early in spring the leaves, before they are fully expanded, might be used in sallads, especially if they were blanched. When a swarm of locusts had destroyed the harvest in the island of Minorca, many of the inhabitants subsisted upon this plant; and at Gottingen the roots are roasted, and used by the poor for coffee. It has been much recommended by BOERHAAVE and others, in diseases proceeding from obstructions in the liver; and is still held in estimation by some physicians of respectability. On their recommendation, we have occasionally prescribed both the extract, and a decoction of the recent herb, with much benefit.

2. *L. palustre*, outer scales of the calyx erect, shorter, imbricated, ovate; leaves sinuated and toothed, not quite smooth. *Marsh Dandelion.*

Hab. Boggy meadows, rare. "In a small marshy plantation on the farm of Gunsgreen," Rev. A. Baird. June, July. ♃

233. APARGIA.

1. *A. hispida*, stalks naked, single-flowered; leaves runcinate, rough; flowers yellow; florets hairy at their orifice, glandular at the tip; seeds scarcely beaked, all with feathery down. *Rough Hawkbit.*

Hab. Meadows and pastures. July. ♃

2. *A. autumnalis*, common stalk branched; partial ones scaly; leaves lanceolate, toothed or pinnatifid, nearly smooth; flowers yellow. *Autumnal Hawkbit.*

Hab. Meadows and pastures. Aug. ♃

234. HIERACIUM.

* *Stalk radical, naked, single-flowered.*

1. *H. Pilosella*, leaves elliptical, entire, cottony beneath; scions creeping; stalks naked; flowers pale yellow, beautiful. *Mouse-ear Hawkweed.*

Hab. Dry banks and pastures. May—July. ♃

* * *Stem leafy.*

2. *H. murorum*, stem corymbose with a solitary leaf; leaves ovate-heartshaped, wavy, with radiating teeth chiefly at the base; flowers rather large, yellow. *Wall Hawkweed.*

Hab. On the steep naked banks of the Tweed and White-adder, plentiful. On Kyloe rocks. June. ♃

3. *H. sylvaticum*, stem simply racemose, many-leaved, solid; leaves ovate-lanceolate, toothed chiefly about the base, teeth pointing forward; flowers yellow. *Wood Hawkweed.*

Hab. Old walls and dry banks. On the Old Castle. Banks between the Foundry and Spittal. July. ♃

4. *H. paludosum*, stem angular, tubular, leafy, smooth, corymbose; leaves smooth, toothed, elliptic-oblong, clasping the stem with their heart-shaped base; calyx hairy; flowers yellow. *Marsh Hawkweed.*

Hab. Marshy places. Castle hills. Boggy ravine east of West Ord, &c. July. ♃

5. *H. sabaudum*, stem erect, copiously leafy, many-flowered; leaves ovate-lanceolate, sharply toothed, rough-edged, somewhat clasping, hairy beneath; flowers yellow. *Shrubby Hawkweed.*

Hab. Bushy deans. Longridge dean. Sea banks between Marshall Meadows and Lamberton Shields. Aug. Sept. ♃

6. *H. umbellatum*, stem erect, leafy, almost solid, imperfectly umbellate; leaves scattered, linear, slightly toothed, nearly smooth as well as the calyx. *Narrow-leaved Hawkweed.*

Hab. Bushy rocky places. Haiden dean, on the site of an old Roman station. Aug. Sept. ♃

It is curious that in the greater number of the plants of this species, some insect deposits its egg near the summit, by which an oval or globular tumour is produced, and a more complete umbellate appearance given to the yellow flowers.

235. CREPIS.

1. *C. tectorum*, stem smooth, branched; radical leaves runcinate, the rest clasping, lanceolate and toothed; calyx rough; flowers small, yellow; seed-down sessile. *Smooth Hawk's-beard.*

Hab. Dry pastures, old walls and road-sides. July, Aug. ☉

236. HYPOCHÆRIS.

1. *H. radicata*, stems branched, naked, smooth; leaves runcinate, bluntish, rough; flower-stalks scaly; flowers large, yellow; down of all the seeds stalked. *Long-rooted Cat's-ear.*

Hab. Pastures and waste ground. July. ♃

237. LAPSANA.

1. *L. communis*, stem branched, panicled, leafy; leaves ovate, stalked, toothed; flower-stalks cylindrical, even; flowers very small, yellow; calyx of the fruit angular. *Common Nipple-wort.*

Hab. Waste and cultivated grounds. July, Aug. ☉

238. CICHORIUM.

1. *C. Intybus*, stem 2 or 3 feet high, rough, very tough; leaves runcinate; flowers large, bright blue, in pairs, both sessile. *Wild Succory.*

Hab. "Fields by the Tweed opposite Spring Gardens," Thomp., not now to be found there. Holywell-haugh at New Ladykirk, Mr W. Baird. (It was in this field that Edward I. met the Scottish nobility, to settle the dispute betwixt Baliol and Bruce, relative to the crown of Scotland.) July, Aug. ♃

In France the young leaves are used in salads; and the shoots from the root, blanched by being forced in a dark cellar, are much relished as a winter salad, under the name of *Barbe de Capucin*. The dried roots afford a powder, which Dr Howison thinks preferable to that of coffee; and Dr Duncan is of opinion, that the plant might be cultivated with great national advantages, as a substitute for that exotic berry. On the continent, Succory is cultivated to some extent for the use of milch cows, which, when fed on it, are said to yield generally about a third more milk than when on ordinary fodder; and it is also accounted excellent for promoting the production of butter.—See Neill's *Hort. Tour.*

239. ARCTIUM.

1. *A. Lappa*, leaves stalked, heart-shaped, wavy, without prickles; calyx, when in seed, nearly smooth. *Common Burdock.*

Hab. Waste grounds. July, Aug. ♂

2. *A. Bardana*, leaves stalked, heart-shaped, nearly entire and even, without prickles; calyx, when in seed, cottony. *Wooly-headed Burdock.*

Hab. Waste grounds, more common, I think, than the preceding. July, Aug. ♂

The common people occasionally take a decoction of the roots of Burdock, in herpetic eruptions, and with success. It might be employed as a substitute for sarsaparilla. Sir R. Walpole has praised it much as a remedy in gout.

240. CARDUUS.

* *Leaves decurrent.*

1. *C. nutans*, 2 or 3 feet high, cottony; leaves interruptedly decurrent, spinous; flowers solitary, drooping, large, crimson, musky; calyx-scales lanceolate, their upper part spreading. ***Musk Thistle.***

Hab. Waste grounds. "Shore near the Four-gun Battery," Thomp. July, Aug. ⊙

2. *C. acanthoides*, 3 feet high, green; leaves decurrent, sinuated, very spinous; flowers aggregate, somewhat stalked, purple; calyx globose, scales linear, partly recurved. ***Welted Thistle.***

Hab. Hedges and dry waste ground, not uncommon. July. ⊙

3. *C. tenuiflorus*, 3 or 4 feet high, cottony; leaves decurrent, sinuated, spinous; flowers aggregate, sessile, pale purple; calyx nearly cylindrical, scales ovate at the base, somewhat recurved at the point. ***Slender-flowered Thistle.***

Hab. Waste places and road-sides, common in this neighbourhood. June, July. ⊙

* * *Leaves sessile.*

4. *C. marianus*, leaves wavy, spinous, clasping the stem, radical ones pinnatifid, all painted with broad white veins; calyx-scales leafy, recurved, channelled, spinous at the margin; flowers solitary, large, purple. ***Milk Thistle.***

Hab. Waste grounds, frequent. Bankhill, and other parts of the Ramparts. Castle banks. Holy Island, opposite St Cuthbert's, Thomp. July. ⊙

"Proud Thistle! emblem dear to Scotland's sons!
Begirt with threatening points, strong in defence,
Unwilling to assault! By thee the arm
Of England was repelled; the rash attempt
Oft did the wounded arm of England rue.
But fraud prevailed, where force had tried in vain:
Fraud undermined thy root, and laid thy head,
Thy crested head low sullied in the dust."

GRAHAME.

241. CNICUS.

* *Leaves decurrent. Stem winged.*

1. *C. lanceolatus*, stem furrowed, hairy; leaves decurrent, pinnatifid, hispid, with variously spreading spinous lobes; calyx ovate, shaggy; flowers erect, large, crimson. *Spear Thistle.*

Hab. Way-sides frequent. July, Aug. ♂

3. *C. palustris*, very prickly, green, 3 or 4 feet high; leaves decurrent, pinnatifid, toothed, spinous, rough; flowers aggregate, sessile, purple or white, rather small; calyx ovate, minutely spinous, nearly smooth. *Marsh Thistle.*

Hab. Moist meadows and shady places. July. ♂

* * *Leaves sessile, or partially decurrent. Stem not winged.*

3. *C. arvensis*, stem panicled, solid; leaves sessile, pinnatifid, spinous, nearly smooth; calyx ovate, outer scales spinous; flowers stalked, pale purple; root creeping, tuberous. *Creeping Thistle.*

Hab. Cultivated fields and way-sides. July. ♃

A very bad weed, which it seems quite impossible wholly to destroy by any exertions of tillage which are consistent with due attention to profit.

4. *C. heterophyllus*, stem downy, almost single-flowered; leaves clasping the stem, fringed, undivided or pinnatifid, very smooth above, densely cottony beneath; flower large, fine purple. *Melancholy Thistle.*

Hab. Moist mountainous pastures. "At the foot of Cheviot," Winch. July, Aug. ♃

242. ONOPORDUM.

1. *O. Acanthium*, cottony, 4 or 5 feet high; leaves ovate-oblong, sinuated, woolly on both sides; calyx-scales awl-shaped, spreading in every direction; flowers solitary, large, bluish rose-colour. *Common Cotton-thistle.*

Hab. Waste grounds. "Wastes near the Scotch-gate," Thomp. Frequent in gardens and shrubberies. July. ♂

243. CARLINA.

1. *C. vulgaris*, a foot high; stem corymbose, many-flowered; flowers terminal, purplish; outer calyx-scales pinnatifid, inner whitish. *Carline Thistle.*

Hab. Dry barren fields. Sea banks below Lamberton Shields, Thomp., and between them and Burnmouth. Holy Island, Mr Neill. June, July. ♂

"This genus was named after the Emperor CHARLEMAGNE, because, according to report, one of its species, *C. acaulis*, was pointed out to him by an angel, to cure his army of the plague. Its root is pungent, bitter, and tonic; but the large white everlasting flower is perhaps most useful, when nailed upon cottage doors, in Germany, France, or Italy, by way of a hygrometer, as it closes before rain."—SM.

244. EUPATORIUM.

1. *E. cannabinum*, stems 2 or 3 feet high, leafy, downy; leaves in 3 or 5 deep lanceolate segments, the middle one longest; flowers in dense, pale purplish, corymbose tufts. *Hemp-agrimony.*

Hab. Watery boggy places, frequent. Dodses' Well, and other parts of the sea-banks, Thomp. Horncliff dean, &c. Aug. ♃

II. P. SUPERFLUA.

245. TANACETUM.

1. *T. vulgare*, leaves doubly pinnatifid, deeply serrated, naked; flowers densely corymbose, yellow. *Common Tansy.*

Hab. Banks of the Whiteadder, Tweed and Till, plentiful, Thomp. July, Aug. ♃

"In the spring time are made with the leaues hereof newly sprung up, and with egs, cakes or tansies, which be pleasant in taste, and good for the stomacke. For if any bad

humours cleaue thereunto, it doth perfectly concoct them, and scowre them downewards. The root, preserued with hony or sugar, is an especial thing against the gout, if euery day, for a certaine space, a reasonable quantitie thereof be eaten fasting." GERARDE.—Tansy cakes and pudding, notwithstanding all this, are now much out of fashion.

246. ARTEMISIA.

1. *A. maritima*, herb hoary; leaves downy, pinnatifid, uppermost undivided; flowers drooping, oblong, downy, sessile; receptacle naked. *Sea Wormwood.*

Hab. Sea-shore in a muddy soil. Coast beyond Goswick; "on the Emblestones," Thomp. Aug. ♃

A decoction of this plant is occasionally used by the people here as an anthelmintic.

2. *A. gallica*, leaves downy, pinnatifid, radical ones capillary, uppermost undivided; flowers erect, oblong, downy, partly stalked, of few florets; receptacle naked.

Hab. On St Cuthberts, Holy Island, sparingly. August, Sept. ♃

3. *A. Absinthium*, herb hoary; leaves in many deep segments, clothed with close silky down; flowers drooping, hemispherical; receptacle hairy. *Common Wormwood.*

Hab. Waste ground about villages. Aug. ♃

This and the following are in much use amongst the poor as bitter stomachic and deobstruent medicines; and they are frequently very useful. What our publicans sell under the name of Purl, is said to be ale seasoned with the tops of Wormwood—BRANDE; and, according to Mr NEILL, the distillers in Scotland sometimes employ it in place of hops. "The plant is thought to drive away insects from clothes and furniture, for which purpose it is often laid into drawers and chests in the country."

"While Wormwood hath seed, get a handful or twaine,
To save against March, to make flea to refraine.
Where chamber is sweeped, and wormwood is strown,
No flea for his life dare abide to be knowne."

4. *A. vulgaris*, leaves pinnatifid, flat, cut, downy beneath, dark green above; clusters simple; flowers ovate; receptacle naked. ***Mugwort.***

Hab. Under hedges, and in waste places. Aug. ♃

247. GNAPHALIUM.

* *Calyx white or reddish.*

1. *G. dioicum*, shoots procumbent; stem unbranched, 3 or 4 inches high; radical leaves obovate; flowers dicœcious, in a simple terminal corymb; seed-down feathery, various. ***Mountain Cudweed.***

Hab. Moors. "Etal Moor, by the road to the Coalworks," Wallis. Lamberton Moor. Moors above Kyloe. June, July. ♃

* * *Calyx brown, and less ornamental.*

2. *G. rectum*, stem simple, nearly erect, downy; leaves linear-lanceolate, naked on the upper side, silky beneath; flowers axillary, forming a distant leafy spike. ***Upright Cudweed.***

Hab. Thickets and pastures on a sandy soil. Lamberton Moor. Quarry on Sunnyside, Thomp. Moor at Ord Hill. Road-side above Fenham, &c. Aug. ♃

3. *G. uliginosum*, stem much branched, spreading, woolly; leaves linear-lanceolate, cottony on both sides; flowers in dense terminal tufts. ***Marsh Cudweed.***

Hab. Sandy watery places, particularly where water has stood during winter, common. Aug. ☉

4. *G. minimum*, stem erect, branched; leaves lanceolate, acute, flat; flowers conical, in lateral and terminal tufts; herb somewhat cottony. ***Least Cudweed.***

Hab. Sandy heaths and barren ground, common. July, Aug. ☉

5. *G. germanicum*, stem erect, proliferous; leaves lanceolate; heads globose, many-flowered, lateral as well as terminal; calyx-scales bristle-pointed. ***Common Cudweed.***

Hab. Dry fields and pastures, common. July, Aug. ☉

248. ERIGERON.

1. *E. acris*, stem racemose; stalks mostly single-flowered; leaves lanceolate or tongue-shaped, sessile; radius erect, scarcely taller than the seed-down. *Blue Flea-bane.*

Hab. "Links at Holy Island in a direction north from the Castle, plentiful," Thomp. July, Aug. ♂

249. TUSSILAGO.

1. *T. Farfara*, stalks single-flowered, clothed with scaly bracteas; flowers radiant, yellow; leaves heart-shaped, angular and toothed, cottony beneath. *Colt's-foot.*

Hab. Moist clay-soils common, one of the most injurious of weeds. March, April. ♃

The flowers come before the leaves. In the bud they are pendulous, erect when expanded and in vigour; when they begin to fade, they contract their petals together, and again hang their heads, lamenting, as it were, their departed beauty; but before long, the seeds being matured and ready to be dispersed, they rise again erect, that the breeze may waft them more certainly to a soil fitted for their germination in a future spring. I know not a more interesting proof that the actions of plants are not explicable on mechanical principles.

The downy substance, on the under surface of the leaves, impregnated with saltpetre, makes excellent tinder. A decoction of them in milk is a popular remedy in pectoral complaints.

2. *T. Petasites*, flowers flosculous, flesh-coloured, in a dense ovate-oblong panicle; leaves heart-shaped, unequally toothed, 3-ribbed at the base, larger than those of any other native plant. *Butter-bur.*

Hab. Moist meadows, and the banks of rivers. April, May. ♃

250. SENECIO.

* *Flowers without rays.*

1. *S. vulgaris*, leaves pinnatifid, toothed, obtuse, smoothish, clasping at the base; flowers dispersed, small, yellow. *Common Groundsel.*

Hab. Waste and cultivated grounds. Flowers at all seasons. ⊙

Birds kept in cages are fed with the young buds and leaves, which have a saltish herbaceous flavour. Beat down into a coarse pulp, and applied to the pit of the stomach, they cause strong vomiting some hours after; and thus employed, have been found to cure the ague. *Edin. Med. Essays and Obs.* vol. ii. p. 42.—A poultice of the whole herb forms a good application to boils, and sprained joints.

* * *Flowers with speedily revolute rays.*

2. *S. viscosus*, stem with many spreading branches, downy; leaves pinnatifid, viscid; flowers yellow with revolute rays; outer calyx lax, almost as long as the inner. *Stinking Groundsel.*

Hab. Waste ground, rare. About the riding-stable at Easington plentiful. July—Oct. ⊙

3. *S. sylvaticus*, stem erect, straight, corymbose; leaves sessile, pinnatifid, lobed and toothed; flowers yellow with revolute rays; outer calyx short, with bluntish discoloured tips. *Mountain Groundsel.*

Hab. Dry soils, banks and mounds of earth, common. July. ⊙

* * * *Flowers with spreading rays.*

4. *S. tenuifolius*, stem erect, loosely cottony, straight; leaves pinnatifid, somewhat revolute, paler and shaggy beneath; flowers yellow with spreading oblong rays. *Hoary Ragwort.*

Hab. Woods, and by road-sides, rare. "Plantation on the banks of the Tweed near Ord-mill, sparingly," Thomp. Road-sides between Swinton and Swinton-mill, Berwickshire, Messrs A. and W. Baird, by whom it was first added to the Scottish Flora. July, Aug. ♃

5. *S. Jacobæa*, stem erect, branched; leaves doubly pinnatifid, somewhat lyrate, with spreading toothed smooth segments; flowers yellow, with spreading, oblong, toothed rays; seeds of the disk silky. *Common Ragwort.*

Hab. Pastures and road-sides. July, Aug. ♃

6. *S. aquaticus*, leaves lyrate, serrated, the lowermost obovate and undivided; flowers yellow, with spreading elliptic oblong rays; seeds all smooth. *Marsh Ragwort.*

Hab. Wet meadows and sides of ponds. July, Aug. ♃

251. ASTER.

1. *A. Tripolium*, herbaceous, corymbose; leaves lanceolate, entire, fleshy, smooth, obscurely 3-ribbed; calyx-scales obtuse, somewhat membranous; flowers with a yellow disk and blue rays. *Sea Starwort.*

Hab. Salt marshes. Sides of the Tweed above the bridge; and coast beyond Goswick Links, plentiful. August, Sept. ♃

252. SOLIDAGO.

1. *S. virgaurea*, stem slightly zigzag, angular, erect; lower leaves stalked, elliptic-oblong, those of the stem sessile, lanceolate, all partly serrated; clusters downy, panicled, crowded, erect; flowers yellow. *Common Golden-rod.*

Hab. Deans frequent. New-mill banks. Murton Craigs, Thomp. Longridge and Haiden deans, &c. July—Sept. ♃

253. INULA.

1. *I. dysenterica*, stem woolly, panicled, a foot high; leaves oblong, downy, clasping the stem with their heart-shaped base; calyx-scales bristle-shaped, hairy; flowers yellow, rather large. *Common Flea-bane.*

Hab. Watery places, rather rare. Dodses' Well; "Porterhaugh;" Castle-hill banks, Thomp. In the latter station it was abundant in 1822, and flowered freely: in 1823 it did not flower, and it has since entirely disappeared, though no change has been made in the field. "Holywell-haugh, near Ladykirk," Mr W. Baird. Aug. ♃

The *Doronicum Pardalianches*, GERARDE says, "hath beene found and gathered in the cold mountaines of Northumberland, by Dr PENNY, lately of London, deceased, a man of much experience and knowledge in simples;" but we are not aware of its having been seen by any one since.

254. BELLIS.

1. *B. perennis*, root creeping; flower-stalks radical, naked. *Common Daisy.*

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

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

This little flower has ever been the favourite of poets, a distinction which it seems to merit by the beauty and purity of its blossoms, which, in May particularly, are evolved in such profusion as to whiten the fields, and render the landscape doubly cheerful. In the days of chivalry it was the emblem of fidelity in love, and was frequently borne at tournaments both by ladies and by knights. Thus DRYDEN, from CHAUCER, in the Vision of the "Flower and the Leaf:"

" A tuft of Daisies on a flowery lay
They saw, and thitherward they bent their way;
To this both knights and dames their homage made,
And due obeisance to the Daisy paid.
And then the band of flutes began to play,
To which a lady sung a virelay:
And still at every close she would repeat
The burden of the song, ' The Daisy is so sweet.'
' The Daisy is so sweet,' when she begun,
The troop of knights and dames continued on."

And thus LEYDEN, in a passage of exquisite beauty:

" Star of the mead! sweet daughter of the day,
Whose opening flower invites the morning ray,
From thy moist cheek, and bosom's chilly fold,
To kiss the tears of eve, the dew-drops cold!
Sweet Daisy, flower of love! when birds are paired,
'Tis sweet to see thee, with thy bosom bared,

Smiling, in virgin innocence, serene,
Thy pearly crown above thy vest of green.*
The lark, with sparkling eye, and rustling wing,
Rejoins his widowed mate in early spring,
And as she prunes his plumes, of russet hue,
Swears, on thy maiden blossom, to be true.
" Oft have I watched thy closing buds at eve,
Which for the parting sun-beams seemed to grieve,
And, when gay morning gilt the dew-bright plain,
Seen them unclasp their folded leaves again:
Nor he who sung—' the Daisy is so sweet,'—
More dearly loved thy pearly form to greet;
When on his scarf the knight the Daisy bound,
And dames at tourneys shone, with daisies crown'd,
And fays forsook the purer fields above,
To hail the Daisy, flower of faithful love."

255. CHRYSANTHEMUM.

1. *C. Leucanthemum*, stem erect, 1 or 2 feet high; leaves clasping the stem, oblong, obtuse, cut, pinnatifid at the base, radical ones obovate stalked; flowers large, solitary, with a yellow disk and white rays. *White Ox-eye.*

Hab. Dry pastures and way-sides. Some of the fields in the vicinity of Barmoor Castle are white with it. June, July. ♃

2. *C. segetum*, smooth, glaucous; leaves clasping the stem, jagged upwards, toothed at the base; flowers large, yellow. *Yellow Ox-eye.*

Hab. Corn-fields, a " splendid weed," but very rare in this neighbourhood. " Fields below Lamberton," Thomp. Near Gunsgreen House, Rev. A. Baird. Fields near St Abb's-head. June—Aug. ☉

* I question whether any but a botanist will fully appreciate the beauty of this line; and the same remark might with propriety have been made on some other passages which we have quoted, particularly on that very beautiful one from SHAKSPEARE, under *Primula veris*. MICHAELIS has remarked, that " the frequent recurrence for metaphorical expressions to natural objects, and particularly to plants and to trees, is so characteristic of the Hebrew poetry, that it might be almost called the *botanical* poetry." A similar designation might not unaptly characterize the poetry of the present day;—we have at least found the pleasure of reading it much enhanced by an acquaintance with natural history.

256. PYRETHRUM.

1. *P. Parthenium*, stem erect, 2 feet high; leaves stalked, compound, flat; leaflets ovate, cut, the uppermost confluent; flower-stalks corymbose; rays white, shorter than the diameter of the yellow disk. *Common Fever-few.*

Hab. Waste ground, and about hedges. "About Newwater-haugh," Thomp. Old walls near Eyemouth, Rev. A. Baird. Near Twizel Toll. July. ♂

2. *P. inodorum*, stem branched, spreading; leaves sessile, pinnate, in numerous capillary pointed segments; flowers large, solitary, white; crown of the seeds entire. *Horse-gowan.*

Hab. Fields and road-sides very common. Aug.—Oct. ⊙

3. *P. maritimum*, stems diffuse; leaves sessile, doubly pinnate, fleshy, pointless, convex above, keeled beneath; flowers large, white; crown of the seeds lobed. *Sea Feverfew.*

Hab. Sea-banks about the Needle-eye, Thomp., but in almost inaccessible places. July, Aug. ♃

257. ANTHEMIS.

1. *A. arvensis*, stem much branched, hairy; leaves doubly pinnatifid, hairy, segments parallel; flowers white; receptacle conical, scales lanceolate, acute, keeled, prominent; seeds crowned with a quadrangular border. *Corn Chamomile.*

Hab. Road-sides in various places, but nowhere plentiful. "By the old tower near the Magdalen-field Farmhouse," Thomp. Near Cheswick Buildings; and near the Inn on Doddington Moor. July. ♂

The *A. Cotula* is mentioned as a common weed by Messrs Bailley and Culley in their Agricultural Survey of Northumberland; and, from the Botanist's Guide, it would appear to be far from rare either in that county or in Durham,—but we have not seen it within the limits we have assigned to ou selves.

258. ACHILLEA.

1. *A. Ptarmica*, leaves linear, pointed, equally and sharply serrated, smooth; flowers white, corymbose. *Sneeze-wort.*

Hab. Moist meadows and pastures, most common on a moorish soil. July, Aug. ♃

2. *A. Millefolium*, stem furrowed; leaves doubly pinnatifid, hairy, segments linear, toothed, pointed; flowers small, white or rose colour, in a dense flattish corymb. *Common Yarrow.*

Hab. Pastures and way-sides. June—Aug. ♃

A useful plant in pastures, but too common to require to be sown. The root is warm and agreeably pungent, partaking of the flavour and salivating quality of the Pellitory of Spain. An infusion of the flowering tops was once a celebrated stomachic, but is now neglected, except by the good women of Orkney, who use it as tea, and hold it in estimation for its virtue in dispelling melancholy.

III. FRUSTRANEA.

259. CENTAUREA.

1. *C. nigra*, lower leaves somewhat lyrate, with angular lobes, upper ones ovate; calyx black, its scales oval, fringed with upright capillary teeth; flowers discoid, crimson; seed-down very short, tufted. *Black Knapweed.*

Hab. Pastures and road-sides. July, Aug, ♃

2. *C. Cyanus*, leaves linear-lanceolate, entire, lower ones toothed towards their base; calyx-scales serrated; flowers sky-blue. *Corn Blue-bottle*, or *Blawort.*

Hab. Corn-fields not uncommon. July, Aug. ☉

"The wild flowers afford a blue for painting in water-colours, the expressed juice requiring only to be mixed with cold alum-water."—Sm. "As blue as a *Blaver*," was once a familiar comparison in the Merse, now intelligible to few.

CLASS XX.

GYNANDRIA.

——" For him, the Spring
Distils her dews, and from the silken gem
Its lucid leaves unfolds: for him, the hand
Of Autumn tinges every fertile branch
With blooming gold, and blushes like the morn.
Each passing hour sheds tribute from her wings;
And still new beauties meet his lonely walk,
And loves unfelt attract him.——
—— Nor thence partakes
Fresh pleasure only: for the attentive mind,
By this harmonious action on her powers,
Becomes herself harmonious: wont so oft
In outward things to meditate the charm
Of sacred order, soon she seeks at home
To find a kindred order, to exert
Within herself this elegance of love,
This fair inspir'd delight: her temper'd powers
Refine at length, and every passion wears
A chaster, milder, more attractive mein."

AKENSIDE.

I. MONANDRIA.

* *Anther of 2 distinct vertical cells, fixed to the summit of the column.*

260. ORCHIS. *Nectary* with a spur behind.

* * *Anther parallel to the stigma, of 2 cells close together, permanent.*

261. LISTERA. *Calyx* spreading; *nectary* without a spur, nearly flat; *petals* spreading; *column* without wings.

* * * *Anther terminal, fixed.*

262. EPIPACTIS. *Nectary* without a spur, tumid underneath at the base, contracted in the middle, undivided at the end.

I. MONANDRIA.

260. ORCHIS.

* *Knobs of the root roundish, undivided.*

1. *O. bifolia*, leaves usually 2, elliptical; knobs of the root oval, taper-pointed; lip of the nectary lanceolate, entire, about half the length of its very long spur; lateral calyx-leaves spreading downwards. *Butterfly Orchis.*

Hab. Marshy places, and also on heaths. Bogs below Shoreswood, and on Ancroft Moor, sparingly, Dr Thompson. Doddington Moor, at the 13 mile-stone, plentiful. Coldingham Moor. June. ♃

The flowers are in a long loose spike, yellowish-white, and in the evening exhale the scent of the sweetest honeysuckle. I have gathered a curious specimen, in which the nectary had 2 spurs and 2 lips of the usual size and length, 4 calyx leaves, and petals unusually elongated, while the germen contained 4 capsules.

2. *O. mascula*, knobs of the root oval; lip of the nectary 4-cleft, crenate, spur obtuse; calyx-leaves 3-ribbed, 2 lateral ones reflexed upwards. *Early Purple Orchis.*

Hab. Pastures frequent. Very abundant on our sea-banks. May. ♃

Salep is prepared principally from the roots of this species. For the manner of its culture and preparation, I must refer to Dr HUNTER's Georgical Essays, York, 1777, and

to WITHERING's Botany. The leaves are generally spotted with black, but we have frequently observed them entirely green. The flowers are purple, and are believed to be the "Long-purples" of SHAKSPEARE, with which poor OPHELIA formed her fantastic garlands.

"There is a willow grows ascaunt the brook,
That shows his hoar leaves in the glassy stream;
Therewith fantastick garlands did she make
Of crow-flowers, nettles, daisies, and Long-purples,
That liberal shepherds give a grosser name,
But our cold maids do Deadmen's fingers call them."

* * *Knobs of the root palmate.*

3. *O. latifolia*, stem hollow; leaves unspotted; knobs imperfectly palmate; lip of the nectary convex, crenate, slightly 3-cleft, spur conical; bracteas longer than the flowers. *Marsh Orchis.*

Hab. Marshes and moist meadows, common. June. ♃

4. *O. maculata*, knobs palmate, spreading; lip of the nectary flat, crenate, 3-lobed, spur cylindrical, rather shorter than the germen; bracteas shorter than the flowers. *Spotted Orchis.*

Hab. Meadows and pastures, common. July. ♃

Leaves spotted with black. Flowers pale purple or white, streaked with dark lines. We have examined numerous specimens, and uniformly find the bracteas *longer* than the germens, green with crimson edges. The anthers are yellowish, as well as the pollen, and, when touched at the base of the filaments, readily separate, and adhere to the needle, as much, perhaps, from their irritability, as from their glutinous quality.

5. *O. conopsea*, knobs palmate; lip of the nectary in 3 entire equal lobes, spur very slender, twice as long as the germen; calyx widely spreading. *Aromatic Orchis.*

Hab. Moist meadows and pastures, not uncommon. "In a marshy field near Edington Moor, Berwickshire," Rev. A. Baird. Castle hills, in the field adjoining Spring-gardens. Sea-banks at Hudshead. Longridge dean, &c. July. ♃

The flowers are rather small, of an uniform crimson colour, and exhale a delicious odour, resembling that of a Clove Pink. We have observed the spikes sometimes entirely without flowers, bearing bracteas only.

261. LISTERA.

1. *L. ovata*, stem with only a pair of elliptical opposite leaves; flowers yellowish-green, numerous; nectary with 2 linear-oblong nearly parallel lobes; column with a posterior hood. *Common Twayblade.*

Hab. Moist pastures, not uncommon. Haiden dean. Woods below Claribed Mill, Dr Thompson. Boggy ground at the four mile-stone on the Ayton road. June, July. ♃

2. *L. cordata*, stem with only 2 heart-shaped opposite leaves; flowers greenish-brown, small, scarcely more than 10; nectary with 4 lobes. *Heart-leaved Twayblade.*

Hab. "Buncle Wood," Berwickshire, Rev. A. Baird. July, Aug. ♃

3. *L. Nidus-avis*, leaves none; stem clothed with sheathing scales; flowers pale brown, in a many-flowered cylindrical cluster; nectary with 2 spreading lobes. *Bird's-Nest Listera.*

Hab. Woods at Netherbyres, Berwickshire, Rev. A. Baird. May, June. ♃

262. EPIPACTIS.

1. *E. palustris*, leaves lanceolate, clasping the stem; flowers drooping, large, white tinged with purple; lip rounded, obtuse, crenate, as long as the petals, with a notched protuberance on the disk. *Marsh Helleborine.*

Hab. Rough boggy places. Haiden dean. Field below the Old Lamberton Toll. In the Pond field above Spindlestone. July. ♃

CLASS XXI.

MONŒCIA.

" He looks abroad into the varied field
Of Nature, and, though poor, perhaps, compared
With those whose mansions glitter in his sight,
Calls the delightful scenery all his own.
His are the mountains, and the valleys his,
And the resplendent rivers."

COWPER.

I. MONANDRIA.

263. EUPHORBIA. *Involucrum* with numerous barren flowers, and 1 fertile. BARREN FLOWER—*calyx* none; *corolla* none. FERTILE FLOWER—*calyx* none; *corolla* none; *capsule* 3-lobed; *styles* 3, cloven.

264. ZANNICHELLIA. *Involucrum* none. BARREN FLOWER—*calyx* none; *corolla* none. FERTILE FLOWER—*calyx* of 1 leaf; *corolla* none; *germens* 4, or more; *seeds* 4, stalked; *stigmas* peltate. (Aquatic.)

II. TRIANDRIA.

266. SPARGANIUM. BARREN FLOWER—*calyx* 3-leaved; *corolla* none. FERTILE FLOWER—*calyx* 3-leaved; *corolla* none; *drupe* dry. (Flowers in round balls.)

267. CAREX. BARREN FLOWER—*catkin* imbricated; *calyx* a scale; *corolla* none. FERTILE FLOWER—*catkin* imbricated; *calyx* a scale; *corolla* a hollow permanent *glume*, investing the loose seed. (Grass-like.)

265. TYPHA. BARREN FLOWER—*catkin* hairy; *calyx* none; *corolla* none; *anthers* about 3 on each filament. FERTILE FLOWER—*catkin* hairy; *seed* 1, on a hairy stalk. (Reed-like.)

III. TETRANDRIA.

268. LITTORELLA. BARREN FLOWER—*calyx* 4-leaved; *corolla* 4-cleft; *stamens* capillary, very long. FERTILE FLOWER—*calyx* none; *corolla* unequally 3 or 4-cleft; *style* very long; *nut* of 1 cell.

270. URTICA. BARREN FLOWER—*calyx* 4-leaved; *petals* none; *nectary* central, cup-shaped; *stamens* the length of the calyx. FERTILE FLOWER—*calyx* 2-leaved; *corolla* none; *seed* 1, superior, polished.

269. ALNUS. BARREN FLOWER—*calyx* scale of a catkin, permanent, 3-flowered; *corolla* deeply 4-cleft. FERTILE FLOWER—*calyx* scale of a *catkin*, permanent, 2-flowered; *corolla* none; *styles* 2; *nut* compressed, without wings.

IV. POLYANDRIA.

271. MYRIOPHYLLUM. BARREN FLOWER—*calyx* 4-leaved; *petals* 4; *stamens* 8. FERTILE FLOWER—*calyx* 4-leaved; *petals* 4; *stigmas* 4, sessile; *drupas* 4. (Aquatic.)

273. POTERIUM. BARREN FLOWER—*calyx* 3-leaved; *corolla* deeply 4-cleft; *stamens* 30–50. FERTILE FLOWER—*calyx* 3-leaved; *corolla* deeply 4-cleft; *pistils* 1 or 2; *nut* coated, of 1 or 2 cells.

275. FAGUS. BARREN FLOWER in a catkin; *calyx* in several segments; *corolla* none; *stamens* 5–20. FERTILE FLOWER—*calyx* double, *outer* inferior, prickly, in several deep seg-

ments, 2 or 3-flowered, *inner* superior, 5 or 6-cleft; *corolla* none; *styles* 5 or 6; *nuts* 2 or 3, loosely invested with the spreading outer calyx.

274. QUERCUS. BARREN FLOWER in a *catkin*; *calyx* in several segments; *corolla* none; *stamens* 8, or more. FERTILE FLOWER—*calyx* double, *outer* inferior, scaly, undivided, *inner* superior, in 6 deep segments; *corolla* none; *style* 1; *nut* solitary, closely invested at its base with the hemispherical outer calyx.

277. CORYLUS. BARREN FLOWER in a *catkin*; *calyx* a 3-cleft scale; *corolla* none; *stamens* 8, or more. FERTILE FLOWER—*calyx* double, *outer* inferior, divided, *inner* superior, obsolete; *corolla* none; *styles* 2; *nut* solitary, bony, invested with the enlarged coriaceous jagged outer calyx.

276. BETULA. BARREN FLOWER in a *catkin*; *calyx* a ternate scale; *corolla* none; *stamens* 10–12. FERTILE FLOWER in a *catkin*; *calyx* a peltate, 3-lobed, 3-flowered scale; *corolla* none; *styles* 2; *nut* winged, deciduous.

272. ARUM. *Common calyx* a sheathing leaf inclosing a common stalk naked above; *corolla* none. BARREN FLOWER—*stamens* numerous, in a dense ring, surmounted by another ring of abortive *filaments*. FERTILE FLOWER—*germens* numerous, in a dense ring below the stamens, sessile; *styles* none; *stigmas* downy; *berry* with several seeds.

I. MONANDRIA.

263. EUPHORBIA.

1. *E. Peplus*, umbel 3-branched, forked; bracteas ovate; leaves obovate, stalked, entire; nectaries crescent-shaped; seeds dotted. *Petty Spurge.*

Hab. Cultivated grounds. July, Aug. ☉

2. *E. exigua*, umbel 3-branched, forked; bracteas lanceolate; leaves linear; nectaries horned; seeds wrinkled. *Dwarf Spurge.*

Hab. Gravelly or sandy places, rare. Road-side at the Inn below Mountholy, plentiful. Aug. ⊙

3. *E. helioscopia*, umbel of 5 three-cleft, then forked branches; bracteas and leaves obovate, serrated; nectaries 4, undivided; capsule smooth. *Sun Spurge.*

Hab. Cultivated grounds. July, Aug. ⊙

The Euphorbiæ are full of a milky juice, which is commonly used to remove warts. It is very acrid, and there is on record the case of a boy, who was poisoned by eating some of the fresh herb.

264. ZANNICHELLIA.

1. *Z. palustris*, stem filiform, branched; leaves linear, entire, grass-like; flowers axillary, in pairs; anther of 4 cells; stigmas entire; capsules tubercular at the outer edge. *Horned-pond-weed.*

Hab. Ditches at the mouth of the Whiteadder. Pond at Scremmerston lime-kilns. Ditches near Windmill-hill. Aug. ⊙

II. TRIANDRIA.

265. TYPHA.

1. *T. latifolia*, leaves linear, somewhat convex beneath; catkin continuous; receptacle hairy. *Great Reed-mace*, or *Cat's-tail.*

Hab. Ponds and ditches, rare. Grange Burn (in the mill-pond); North Fluve, near Goswick, plentiful, Thomp. Near Eddencraw, Berwickshire. July. ♃

The stems rise about 6 feet high, and are terminated by a long cylindrical club, of a dark-brown colour, and velvety feel;—and this semblance of a mace is, on some festival occasions, in Italy put into the hand of statues of Christ, being considered as the reed with which the soldiers handed him the sponge of vinegar.

266. SPARGANIUM.

1. *S. ramosum*, leaves triangular at the base, with concave sides; common flower-stalk branched; stigma linear. (Stem 2 or 3 feet high; leaves sword-shaped.) ***Branched Bur-reed.***

Hab. Ditches and ponds. July, Aug. ♃

2. *S. simplex*, leaves triangular at the base with flat sides; common flower-stalk simple; stigma linear. (Less than the preceding.) ***Unbranched Bur-reed.***

Hab. Sides of the Lough on Holy Island, sparingly; more plentiful in the pond above Spindlestone. July, Aug. ♃

267. CAREX.

* *Catkin solitary, simple.*

1. *C. dioica*, catkins simple, dioecious; fruit ovate, ribbed, ascending, finely serrated at the edges; root creeping. (Stem a span high, smoothish.)

Hab. Spongy bogs, common. Castle hills, &c. May, June. ♃

2. *C. pulicaris*, catkin simple, florets in the upper half barren, in the lower fertile; fruit spreading, deflexed, polished, tapering at each end; stigmas 2. (Stem a span high, smooth.)

Hab. Bogs frequent. Castle hills. Boggy field below the Old Lamberton Toll. Lamberton Moor. Longridge dean, &c. June. ♃

* * *Catkins or spikelets aggregate, each composed of barren and fertile florets. Stigmas* 2.

3. *C. stellulata*, spikelets 3 or 4, roundish, slightly distant; barren florets inferior; fruit spreading, with a tapering undivided beak. (Stem 6–12 inches high, triangular.)

Hab. Marshes in heathy places, common. May, June. ♃

4. *C. curta*, spikelets about 6, elliptical, slightly distant, scarcely bracteated; scales ovate, membranous, about as long as the

ovate, tumid, smooth fruit. (Stem a foot high; spikelets silvery-white.)

Hab. Bogs, common in this neighbourhood. Lamberton Moor. Bog below Shoreswood. Felkington Bog, &c. June. ♃

5. *C. ovalis*, spikelets about 6, oval, crowded, alternate, with a bractea under the lowermost; fruit lanceolate, rough-edged, striated, nearly entire, the length of the lanceolate acute scales. (Stem 12–18 inches high. Spikelets greenish-brown.)

Hab. Marshy places. Yarrow-haugh; Doddington Moor, &c. June. ♃

6. *C. remota*, spikelets several, solitary, simple, remote, nearly sessile; bracteas very long, overtopping the stem; fruit ovate, with a slightly cloven beak. (A foot high, slender.)

Hab. Moist shady places on the banks of Wooler Water, below Langley-ford. June. ♃

7. *C. arenaria*, spikelets numerous, crowded into an oblong spike, upper ones chiefly of barren, lower of fertile florets; bracteas membranous, lower ones leafy; stem triangular; leaves flat; fruit winged. (8–12 inches high.)

Hab. Sandy sea-shore abundant, by its long spreading roots binding the sand together, which would otherwise be gradually, but certainly, carried towards the interior, covering up the fertile plains with its sterile particles, and rendering them unfit for the habitation of mankind. June. ♃

8. *C. intermedia*, spikelets numerous, crowded into an oblong dense spike, the lowermost and terminal ones fertile, intermediate ones barren; stem upright, triangular (12–18 inches high.)

Hab. Marshy watery meadows, frequent. Castle hills, &c. June. ♃

9. *C. vulpina*, spike thrice compound, dense, obtuse; fruit spreading, with a notched rough-edged beak; scales pointed; angles of the stem compressed, very sharp. (1–2 feet, firm; spike large, greenish.)

Hab. Watery places. Sides of the river from the Old Castle to New-water Haugh, sparingly. Plentiful at the sides of the pond at Goswick, &c. June. ♃

10. *C. paniculata*, spike thrice compound, loosely panicled, interrupted, acute; fruit spreading, with an abrupt serrated beak; stem sharply triangular, with flat interstices (2 or 3 feet high.)

Hab. Spongy bogs, forming large dense tufts. Haiden and Allerton-mill deans. June. ♃

* * * *Barren and fertile florets in separate catkins; the barren catkin solitary, very rarely more than one. Bracteas leafy, often sheathing.*

11. *C. pendula*, sheaths nearly as long as the flower-stalks; fertile catkins very long, cylindrical, drooping; fruit densely crowded, ovate, beaked. (Stem 4 feet high, triangular; leaves large and harsh.)

Hab. "Sea-banks below Lamberton Shields, plentiful," Thomp. June. ♃

12. *C. sylvatica*, sheaths not half the length of the flower-stalks; catkins slender, rather loose, drooping; fruit ovate, triangular, beaked, without ribs. (Bright green; stem 12–18 inches high, slender, smooth, triangular.)

Hab. Wooded banks of Wooler Water, below Langleyford. June. ♃

Linnæus, when speaking of the means adopted by the Laplanders to protect themselves from arctic cold, says, "Calceis indunt gramen hocce, tempore æstivo dissectum, exsiccatum, brevi ante pectine ferreo vel corneo divisum, conquassatum inter manus, ita ut non modo tibias, sed et plantas pedum undique superius et inferius tegat, quo gramine velati liberi omnino sunt ab omni frigoris sævitia: Hocce etiam gramine chirothecas suas hirsutas replent, ne manus lædantur, sicque perdurat gens hæc gelu indurata. Uti gramen hoc hyeme frigus abigit, sic etiam æstate sudorem pedum arcet, simulque ne pedes lædantur allisi ad lapides, &c. (calcei enim tenuissimi, non e corio sed pellibus conficiuntur) in itinere vetat."

13. *C. limosa*, sheaths scarcely any; fertile catkins ovate, dense, drooping, many-flowered; fruit elliptical, compressed, ribbed, smooth-edged, without a beak; root creeping. (Stem 8–10 inches high. Leaves linear, narrow.)

Hab. Bogs very rare. Haiden dean, sparingly. July. ♃

14. *C. pallescens*, sheaths very short; fertile catkins cylindrical, stalked, at length pendulous; fruit obovate, triangular, inflated, smooth, obtuse, with a minute abrupt beak. (Stem 1 foot high, rather slender. Leaves narrow, hairy on the inferior surface and sheaths.)

Hab. Wooded banks of Wooler Water below Langley-ford. June. ♃

15. *C. flava*, sheaths short, nearly equal to the flower-stalks; fertile catkins roundish-ovate; fruit triangular, smooth, with a cloven beak curved downward; stem nearly smooth, (9 to 12 inches high, triangular.)

Hab. Boggy meadows, frequent. June. ♃

16. *C. binervis*, sheaths tubular, elongated, shorter than the flower-stalks; fertile catkins cylindrical, distant, partly compound; scales pointed; stem smooth; fruit with 2 principal ribs. (Stem 12–18 inches high, bluntly triangular.)

Hab. Plentiful on all our moors. June. ♃

17. *C. præcox*, sheaths about equal to the very short flower-stalks; catkins all elliptical, rather crowded; scales of the fertile ones pointed; fruit pear-shaped, downy, with an abrupt entire point. (Stem a span high, smooth.)

Hab. Dry pastures and heaths. April, May. ♃

18. *C. pilulifera*, sheaths none; fertile catkins 2 or 3, sessile, crowded, almost globular, with pointed scales; fruit triangular, roundish, downy, with a short cloven beak. (Stems from 6 to 12 inches long, slender, often curved.)

Hab. Moorish ground not common. Lamberton Moor; Murton Craigs. May. ♃

19. *C. panicea*, sheaths elongated, about half the length of the flower-stalks; fertile catkins 1 or 2, distant, lower one rather lax; fruit tumid, smooth, cloven at the summit; stem smooth, obtusely triangular (about a foot high; leaves glaucous.)

Hab. Meadows and moist pastures, common. May, June. ♃

20. *C. recurva*, sheaths short; fertile catkins 2 or 3, cylindrical, dense, drooping, on very long recurved stalks; fruit elliptical, triangular, roughish, obtuse, slightly notched. (Stem from 8 to 18 inches high, smooth.)

Hab. Moist meadows, and wet heathy ground, common, and conspicuous from the glaucous green of its herbage, which, as Sir J. Smith well observes, much resembles the foliage of pinks or carnations. May, June. ♃

21. *C. rigida*, stigmas 2; sheaths none; fertile catkins ovate, the lowermost stalked; bracteas lanceolate, recurved, as well as the leaves; fruit triangular, somewhat compressed, with a short abrupt beak.

Hab. Summit of Cheviot, plentiful, Winch. June, July. ♃

22. *C. cæspitosa*, stigmas 2; sheaths none; fertile catkins cylindrical, obtuse, erect, the lowermost rarely stalked; leaves and auricled bracteas linear, erect; fruit permanent, elliptical, flat, many-ribbed, with a very short abrupt beak.

Hab. Marshes common. June. ♃

Stems from 6 to 12 inches high, triangular. Catkins scarcely an inch long.—Our specimens were submitted to Mr Winch, and they certainly belong to this species, yet in one instance only have we seen it growing in a distinct cespitose manner. In general, it has as little of that character as any other species, so that the name is apt to occasion doubt in the mind of the student. Smith says the fertile catkins are almost invariably 3, but in many of our specimens there are 2 only, sometimes 1; and there are frequently 2 barren catkins, which, according to Smith, is a rare occurrence. In one specimen, besides the 2 barren catkins, there is another composed of both fertile and barren flowers.

* * * * *Barren and fertile florets in separate catkins. Barren catkins 2 or more.*

23. *C. acuta*, stigmas 2; catkins cylindrical, slender, drooping in flower, afterwards erect; fruit elliptical, with a blunt undivided beak. (Stem 2 feet high, triangular, rough; bracteas without sheaths, leafy, long; catkins 1½ or 2 inches long.)

Hab. Sides of the Tweed from West Ord to the Chain-

bridge plentiful, and in some places not more than 2 or 3 inches high. May. ♃

24. *C. paludosa*, stigmas 3; catkins cylindrical, bluntish, erect, the fertile ones with taper-pointed scales; fruit ovate, triangular, compressed, with a notched beak. (Stem 2 feet high, acutely triangular, rough; leaves broad; bracteas very long, foliaceous, without sheaths.)

Hab. Boggy meadows and banks of ditches frequent. May. ♃

25. *C. lævigata*, catkins cylindrical, barren one solitary, fertile ones stalked; scales all pointed; sheaths very long; fruit triangular, with a cloven beak. (Bright green, smooth, 2 feet high.)

Hab. Wooded banks of Wooler Water below Langley-ford. June. ♃

26. *C. ampullacea*, fertile catkins cylindrical, elongated, nearly sessile; scales all lanceolate, acute; sheaths none; fruit inflated, globose, with a linear cloven beak. (1 or 2 feet high, somewhat glaucous.)

Hab. Bogs, common in this neighbourhood. Grangeburn mill-pond. Sides of the Whiteadder below the Bridge. Boggy field below the Old Lamberton toll. Lamberton Moor. Haiden dean, &c. June. ♃

27. *C. hirta*, herbage hairy; fertile catkins ovate-cylindrical, remote; scales awned; sheaths nearly as long as the flower-stalks; fruit hairy, tumid, with a deeply-cloven beak; stem rough-edged, (2 feet high.)

Hab. Wet meadows and watery places frequent. June. ♃

III. TETRANDRIA.

268. LITTORELLA.

1. *L. lacustris*, stemless; leaves linear, fleshy, semicylindrical, about 2 inches long; barren flowers on simple stalks, 2 or 3 inches high, with very long filaments; fertile flowers sessile. *Plantain Shore-weed.*

Hab. Margins of the Lough on Holy Island abundant. Coldingham Lough? June. ♃

269. ALNUS.

1. *A. glutinosa*, leaves roundish-wedge-shaped, wavy, serrated, glutinous, rather abrupt, downy at the branching of the veins beneath. *Common Alder.*

Hab. Wet and boggy grounds. May. ♄

The bark and leaves of this common and unattractive tree are employed in dyeing, in tanning leather, and for staining fishermen's nets, their astringent quality adapting them for these uses. The value of the bark is also well known to our calico-printers; and it might be used to great advantage as an excellent substitute for many woods used in dyeing, which we have from abroad, and on which we expend considerable sums. The wood is chiefly valuable from its property of remaining long sound under water; whence it is used for water-pipes, and for piles to be driven into the ground in order to support buildings in boggy situations. Clogs and pattens are also principally made of it; and with it the Highlanders are said to make chairs, which are very handsome, and have the colour of mahogany.

270. URTICA.

1. *U. urens*, leaves opposite, elliptical, with about 5 longitudinal ribs; clusters nearly simple. *Small Nettle.*

Hab. Waste places. June—Oct. ☉

2. *U. dioica*, leaves opposite, heart-shaped; clusters much branched, in pairs, mostly dicœcious; roots creeping. *Great Nettle.*

Hab. Waste grounds. Aug. ♃

The roots boiled with alum will dye yarn of a yellow colour; and with the juice of the herb woollen stuffs have been dyed a beautiful and permanent green. The fibres of the stem have been manufactured into cloth; and it appears, from some experiments made in Ireland, that the thread, in colour, strength, and fineness, is equal to that obtained from flax. In Scotland, the young tops are gathered in February, by the common people, as a pot-herb for soups, and their peculiar flavour is by many much esteemed. Of late it has been recommended for forcing. A strong decoction of nettles, with the addition of salt, will coagulate milk, as, says Mr LIGHTFOOT, we saw and experienced; but I have tried the experiment with no other result than the loss of my milk.

The Nettle is always found near the abodes of man. Wherever he has sojourned, it is said to have accompanied him; and it remains to take possession of his deserted dwellings, so that its presence has become associated with the ideas of ruin and desolation. "I went by the field of the slothful, and by the vineyard of the man void of understanding; and, lo, it was all grown over with thorns, and nettles had covered the face thereof, and the stone wall thereof was broken down."

IV. POLYANDRIA.

271. MYRIOPHYLLUM.

1. *M. spicatum*, stem round, branched, with numerous whorls of finely pectinated leaves, 4 in a whorl; flowers in whorled interrupted leafless spikes. *Spiked Water-Milfoil.*

Hab. In the Tweed and Whiteadder; in ponds and slow streams, common. July, Aug. ♃

272. ARUM.

1. *A. maculatum*, stem none; leaves halbert-shaped, entire, spotted with black; common stalk of the flowers club-shaped, obtuse; berries scarlet. *Wake Robin.*

Hab. Shady places rare. Near Netherbyres, Rev. A. Baird. May. ♃

The tuberous roots, when fresh, are acrid and dangerous; but, when dried, they afford a wholesome nutritious flour fit for making bread, and sold for that purpose in great abundance at Weymouth and in the Portland Island. This flour is sometimes called "Portland Sago;" and Dr WITHERING says, it forms also the "Cypress Powder," sold at a high price, and undoubtedly a good and an innocent cosmetic.

273. POTERIUM.

1. *P. Sanguisorba*, stem somewhat angular, thornless; leaves pinnate, leaflets rounded, serrated; flowers in round heads of a dull purplish colour. ***Salad Burnet.***

Hab. Dry hilly pastures. On Spindlestone hills. July. ♃

The leaves taste and smell like Cucumber, and give that flavour to salads, for which purpose this plant is very generally cultivated; and did it now possess those virtues which were once attributed to it, no vegetable more deserved to be so; for, says GERARDE, "it is thought to make the heart merry and glad, as also being put into wine, to which it yeeldeth a certaine grace in the drinking."

274. QUERCUS.

1. *Q. Robur*, leaves deciduous, oblong, wider towards the extremity, their sinuses rather acute, lobes obtuse; fruit-stalks elongated. ***British Oak.***

Hab. Woods and hedges. April.

The bark is extensively used in tanning leather; the wood is very hard and durable, fitted for many purposes, and invaluable as the material of which our ships of war are built; the saw-dust is the principal material used in dyeing fustians; the leaves are astringent; and on the acorns squirrels and other small quadrupeds subsist, and swine are fattened.

In this neighbourhood, though unquestionably a native of it, we have no trees which can give any idea of the size and beauty which the Oak frequently attains, and when it claims, as its undisputed right, to be the "Monarch of the wood." It has ever been a favourite with Britons. Under its shade, the Druids, the priests of his

ancestors, held their solemn festivals: in after centuries its timber supported and beautified the venerable cathedrals raised for a purer worship; the palaces of his princes rose on pilasters of oak, and it was the board of their festivities; but, above all, it is dear to him as the material of the "wooden walls" of his native isle. *Semper floreat!*

2. *Q. sessiliflora*, leaves on elongated stalks, deciduous, oblong, with opposite acute sinuses; fruit sessile. *Sessile-fruited Oak.*

Hab. In hedges; near West Fishwick, Berwickshire. April, May.

275. FAGUS.

1. *F. sylvatica*, leaves ovate, obsoletely serrated; prickles of the outer calyx simple; stigmas 3. *Common Beech.*

Hab. Woods, considered by Mr WINCH truly native; yet CÆSAR asserts there was, at the time of his invasion, no beech-timber in Britain. May.

A handsome tree, occasionally attaining the height of 90 feet, and having a stem 12 feet or more in girth. "Its leaves are of a pleasant green, and many of them remain on the trees during winter, after turning brown. No verdure, however, will thrive beneath its shade. The smoothness of its bark has from ancient times tempted the rural lover to carve the favourite name upon it, a custom recorded in various passages of the poets; and the opening of VIRGIL's first eclogue represents the musing shepherd as reclining under the shade of a spreading beech."

The wood is much used by the turner and cabinet-maker, and for various economical purposes. "The poets, who celebrate the simplicity and frugality of the early ages, speak much of the beechen cups and bowls, some of which received an extraordinary value from the hand of the carver." The leaves, gathered in autumn, and somewhat before they are much frost-bitten, "afford the best and easiest mattresses in the world, to lay under our quilts, instead of straw; because, besides their tenderness and loose lying together, they continue sweet for seven or eight years long, before which straw becomes musty and hard. They are thus used by divers persons of quality in Dauphiné; and, in Switzerland, I have sometimes lain on them to my great refreshment: so as, of this tree, it may properly be said, "Silva domus, cubilia frondes."—EVELYN.

276. BETULA.

B. alba, leaves ovate, acute, somewhat deltoid, unequally serrated, nearly smooth. *Common Birch.*

Hab. Woods and deans. May.

The Birch is a graceful ary tree, with a delicate and fragrant foliage: and the variety with pendulous branches is extremely pleasing and ornamental. "Birch may be said to be the universal wood of the Scots Highlanders. They make every thing of it: they build their houses of it, make their nets, cranes, cables, dishes, and spoons of it; construct their mills of it: make their carts, ploughs, harrows, gates and fences of it: and even manufacture ropes of it."* Birch is also used in many other parts of the country in machinery, turnery, wheel-work, and for hats, pattens, wooden shoes, and such purposes. It is likewise much used in collieries for props, and waggon-road sleepers. It is an excellent fuel, burning very clear, and emitting less smoke than most other woods. In the smoking of herrings, in particular, Birch is preferred to all other kinds of wood." NAUSEOUS.—The bark affords a tan inferior only to that of the oak: of the twigs besoms and rods are made; "the one for the cleanly housewife to sweep down the cobwebs, and the other for the magisterial pedagogue to drive the colt out of the man:" and the sap, in spring, is fermented into a kind of wine.

—"Even afflictive Birch,
Cursed by unlettered, idle youth, distils
A limpid current from her wounded bark,
Profuse of nursing sap."

277. CORYLUS.

1. *C. Avellana*, stipulas ovate, obtuse; leaves roundish, heart-shaped, pointed, serrated; young branches hairy; calyx shorter than the nut. *Hazel-Nut.*

Hab. Woods and deans. March, April.

* Its economical uses in Russia, and in other northern countries, are not less numerous and important. It is to their inhabitants what the Beech is said to have been to the people of the silver age:

"Hinc olim juvenis mundi melioribus annis,
Fortunatarum domuum non magna supellex
Tota petebatur; sellas, armaria, lectos,
Et mensas dabat, et lances, et pocula Fagus."

The charcoal of Hazel is preferred by painters and engravers, for the freedom with which it draws, and the readiness with which its marks can be rubbed out. The rods are cut to form walking-sticks, stakes, hurdles and baskets; and the "divining rod" of DOUSTERSWIVEL was always a hazel. Attracted by the effluvia from the metals concealed beneath the soil, it turned in obedience, and indicated their presence to the sage! Even within these few years it has been very positively affirmed that the rod, when held in the hands of *certain* persons, will discover the presence of water; and it is remarked as extraordinary, that no effect is produced at a well or ditch, or where earth does not interpose between the twig and the water. See *Quarterly Review*, vol. xxii. p. 373–4.—The Highlander's belief in the efficacy of two nuts naturally conjoined as a charm against witchcraft, ought not to be laughed at.

Our Scotch Fir (*Pinus sylvestris*) is not a native, but was brought from Canada not more than half a century ago. It is very inferior, in every respect, to the real Highland Fir, which may be found in the north of Scotland in immense natural forests, equally distinguished for their romantic beauty and national importance. This last is a noble tree, growing with huge contorted arms, not altogether unlike the Oak, and forming therein a strong contrast to the formality of the common fir.—Sir W. SCOTT in *Quart. Review*, vol. xxxvi. p. 580.

ST PIERRE has an observation somewhat connected with our subject, and so curious, and, we believe, correct, that we shall here introduce it. He says, he never saw the Ivy on the trunks of Pines, Firs, or of other trees whose foliage lasts the whole year round. It invests those only which are stripped by the hand of Winter; and when its protector has fallen a prey to death, it restores to him again the honours of the forest, where he lives no longer.

CLASS XXII.

DIŒCIA.

" To name the uses of the Willow tribes
Were endless task. The basket's various forms
For various purposes of household thrift;
The wicker-chair of size and shape antique;
The rocking couch of sleeping infancy;
These, with unnumbered other forms and kinds,
Give bread to hands unfit for other work."

GRAHAME.

I. DIANDRIA.

278. SALIX. BARREN FLOWER—*catkin* imbricated; *calyx* a scale; *petals* none; *nectary* 1 or more glands at the base; *stamens* 1–5. FERTILE FLOWER—*catkin* imbricated; *calyx* a scale; *petals* none; *nectary* as in the barren flower; *stigmas* 2; *capsule* superior, of 1 cell and 2 valves; *seeds* tufted.

II. TRIANDRIA.

279. EMPETRUM. BARREN FLOWER—*calyx* in 3 deep segments; *petals* 3; *stamens* capillary, 3–9. FERTILE FLOWER—*calyx* in 3 deep segments; *petals* 3; *stigmas* 9; *berry* superior, with 9 seeds.

III. TETRANDRIA.

280. MYRICA. BARREN FLOWERS in a catkin; *calyx* a concave scale; *corolla* none. FERTILE FLOWERS in a catkin; *calyx* a concave scale; *corolla* none; *styles* 2; *berry* superior, with 1 globular seed.

IV. OCTANDRIA.

RHODIOLA. BARREN FLOWER—*calyx* in 4 deep segments; *petals* 4; *nectaries* 4, notched. FERTILE FLOWER—*calyx*, *petals* and *nectaries* the same; *pistils* 4; *capsules* 4, with many seeds.

281. POPULUS. BARREN FLOWER—*catkin* imbricated; *calyx* a torn scale; *corolla* turbinate, oblique, undivided. FERTILE FLOWER—*catkin*, *calyx* and *corolla* the same; *stigmas* 4 or 8; *capsule* superior, of 1 cell and 2 valves; *seeds* tufted.

V. ENNEANDRIA.

283. MERCURIALIS. BARREN FLOWER—*calyx* in 3 deep segments; *corolla* none; *stamens* 9–12; *anther* of 2 globose cells. FERTILE FLOWER—*calyx* the same; *corolla* none; *styles* 2; *capsule* of 2 lobes and 2 cells; *seeds* solitary.

VI. MONADELPHIA.

284. JUNIPERUS. BARREN FLOWER—*calyx* scales of a *catkin*; *corolla* none; *stamens* 3. FERTILE FLOWER—*calyx* scales of a *catkin*, fewer, finally pulpy, united into a *berry* with 3 *seeds*.

285. TAXUS. BARREN FLOWER—*calyx* none; *corolla* none; *anthers* peltate, lobed. FERTILE FLOWER—*calyx* cup-shaped, entire; *corolla* none; *style* 1; *seed* 1, enclosed in the enlarged pulpy unconnected calyx.

I. DIANDRIA.

278. SALIX.

* *Adult leaves serrated, smooth, or nearly so.*

1. *S. pentandra*, leaves ovate, pointed, crenate, glandular, smooth; footstalks glandular at the summit; stamens 5 or more, hairy at the base; germen ovate, tapering, smooth, nearly sessile. *Bay-leaved Willow.*

Hab. Boggy ground not uncommon. In the field below the Old Lamberton Toll. Allerton Mill dean. Haiden dean, &c. June, July.

In the dean below Allerton Mill there are some fine trees of this species, but commonly it is merely a bushy shrub, readily distinguished by the large broad shining green leaves, which exhale a fragrant bay-like scent from their resinous notches.

2. *S. decipiens*, leaves lanceolate, pointed, serrated, very smooth, floral ones partly obovate and recurved; footstalks somewhat glandular; germen tapering, stalked, smooth; style longer than the cloven stigmas; branches smooth, highly polished. *Varnished Willow.*

Hab. Sides of Grange-burn where it passes the road below Fairney-flat. May.

With us this is a bushy shrub, distinguished by its smooth varnished simple or slightly branched twigs, which are more or less coloured with brown. The leaves are narrow, tapered at each end, numerous, opposite or alternate, of a pleasant green. The barren catkins are upwards of an inch long, protruded before the leaves, and very beautiful. Stamens 2, at first united half-way up, but separating after shedding their pollen.

3. *S. Russelliana*, leaves lanceolate, tapering at each end, serrated throughout, very smooth; footstalks glandular or leafy; germen tapering, stalked, longer than the scales; style as long as the stigmas. *Bedford Willow.*

Hab. Woods and hedges, common in this neighbourhood.

New-water-haugh plantation, where there is a *barren* tree. Mouth of the Whiteadder, &c. April, May.

A large tree with smooth branches, and alternate leaves, which, when full grown, are about 5 inches long, and 1 broad in the middle, tapered at each end, and coarsely serrated throughout. The *barren* tree is very rare, and, if we are correct in our determination of it, the figure in WITHERING is not good. Its catkins are 2 inches long, cylindrical, yellow, diandrous, the filaments not much longer than the pointed, more or less villose, scales. They stand on short leafy branchlets; and these young leaves are entire, from 1 to 2 inches in length, but not otherwise different from the adult ones. Fertile catkins rather longer, lax, with smooth lanceolate germens.

This is "found the most profitable for cultivation of any species of the genus, for the value of its timber as well as bark, the rapidity of its growth, and the handsome aspect of the tree." The bark contains more of the tanning principle than any other tree in this country, except the Oak; and if contradictory accounts have been given of its value in tanning and in medicine, as a substitute for the *Cinchona*, these are probably to be attributed to the bark of different species having been indiscriminately employed.

The celebrated Willow near Lichfield, which goes by the name of the *Johnson Willow* (not that it was planted by the Doctor, but that his delight was to repose under its shade), proves to be *S. Russelliana*. The magnitude of this tree is truly surprising; the trunk, at six feet above the ground, measures 21 feet in girth, and extends 20 feet in height of that vast size before dividing into enormous ramifications. The whole trunk, thus comprising about 130 solid feet of timber, continues perfectly sound, and the very extensive head shews unimpaired vigour.—Rev. S. DICKENSON, 1812.

4. *S. Helix*, branches erect; leaves partly opposite, oblong-lanceolate, pointed, slightly serrated, very smooth, linear towards the base; stamen 1; style nearly as long as the linear divided stigmas. *Rose Willow.*

Hab. Banks of rivulets. Sides of the Whiteadder between its mouth and the bridge. April.

"Branches upright, smooth and polished, of a pale yellowish or purplish ash-colour, tough and pliable." A bushy shrub, or tree, which withstands storms better than any other.

5. *S. Forbiana*, branches erect; leaves alternate, with small stipulas, lanceolate-oblong, with shallow serratures, smooth, rounded at the base, glaucous beneath; stamen 1; style nearly as long as the linear divided stigmas. *Basket Osier.*

Hab. Banks of Wooler Water, above Wooler. April.

A bushy shrub, "with upright, slender, smooth twigs, very flexible and tough, of a greyish yellow hue, highly esteemed, and much cultivated for the finer kinds of basket-work."

* * *Leaves all shaggy, woolly or silky.*

6. *S. argentea*, stem upright; leaves elliptical, entire, somewhat revolute, with a recurved point, rather downy above, silky and shining beneath, as well as the branches; germen ovate-lanceolate, silky, its silky stalk nearly equal to the linear-oblong scale; style not longer than the stigmas. *Silky Sand Willow.*

Hab. The sea-shore in loose sand. I have a specimen collected in this neighbourhood, but I have omitted to mark the station. May. ⊙

The leaves are alternate, about an inch long, and half as much in breadth, covered underneath with close satin-like silky hairs, which give them a remarkably brilliant silvery appearance.

7. *S. prostrata*, stem prostrate, with elongated straight branches; leaves elliptic-oblong, convex, somewhat toothed, with a curved point, glaucous, silky and veiny beneath; stipulas minute; germen stalked, ovate, silky; style shorter than the stigmas. *Prostrate Willow.*

Hab. On heaths frequent. Murton craigs. Coldingham moor. In the bog at Mountfair, Berwickshire. April.

8. *S. repens*, stem depressed, with short upright branches; leaves elliptic-lanceolate, straight, somewhat pointed, nearly entire, almost naked above, glaucous and silky beneath; stipulas none; germen stalked, ovate, downy; capsules smooth. *Dwarf Willow.*

Hab. Bogs on heaths. Longridge dean, plentiful. May.

This and the preceding have been confidently pronounced varieties of the same species, by some botanists of de-

served eminence, while others not less eminent consider them "totally distinct." Both plants are familiar to me, and I cannot hesitate to rank myself with those who are of the latter opinion. *S. prostrata* is the larger species, sending up from its prostrate stem straight simple branches, a foot or more in length, which are clothed with alternate leaves, rather more than an inch long, and one-half as broad. *S. repens*, on the contrary, is a much branched creeping shrub, whose numerous branches scarcely rise above the grass. The leaves are more closely set, of a lighter green, and rarely one-half so large. A general dissimilarity in habit should surely keep plants separate, though they may agree in some minute characters.

9. *S. cinerea*, stem erect; lower leaves entire, upper serrated, obovate-lanceolate, glaucous, downy, and reticulated with veins beneath; stipulas half heart-shaped, serrated; germen silky, its stalk half as long as the lanceolate scales *Grey Sallow.*

Hab. Moist woods and hedges. Road-side below Lethamshank, about two miles from Berwick. Allerton-mill dean. April.

A large shrub very much branched, the branches short, crooked, smooth, or downy. When cut over, it throws up straight shoots, with larger leaves and fewer catkins. These in general are very numerous, an inch long, coming before the leaves.

10. *S. aurita*, branches trailing; leaves somewhat serrated, convex, obovate, obtuse, with a small hooked point, hairy, and reticulated with veins on both sides; stipulas roundish, convex, toothed; germen silky, stalked; stigmas nearly sessile. *Round-eared Sallow.*

Hab. Deans frequent. Longridge dean, plentiful. Coast of Berwickshire in several places. April, May.

A bushy shrub usually 3 or 4 feet high, of a greyish colour, with short crooked branches. It is a very distinct species, well characterised by the form of the leaves, which, though sometimes very small, vary little in their shape. The dwarf variety, with small leaves, is frequent on moors in this neighbourhood.

11. *S. aquatica*, stem and branches erect; leaves slightly serrated, obovate-elliptical, minutely downy, flat, rather glaucous

beneath; stipulas rounded, toothed; germen silky, stalked; stigmas nearly sessile. *Water Sallow.*

Hab. Wet hedge-rows and woods. April.

A small tree or shrub, with a dull grey bark. The branches are very numerous, short and entangled, bearing a copious rough greenish-grey foliage, and in spring a profusion of catkins, which appear rather earlier than the leaves. Dr Hooker makes it a variety of *S. cinerea*, from which it differs only in the size and form of the leaves; for though Smith describes the stigmas as entire, yet, according to the observation of Mr Wyche, they become divided after maturity, and agree in this respect also with the *cinerea*.

12. *S. oleifolia*, stem erect; branches straight, spreading; leaves obovate-lanceolate, flat, rather rigid, minutely toothed, acute, glaucous, reticulated and finely hairy beneath; stipulas small, notched, rounded; catkins oval, nearly half as broad as long. *Olive-leaved Sallow.*

Hab. In the boggy field below the Old Lamberton Toll. March, April.

Dr Hooker and Mr Wyche are of opinion, that this also is a variety of *S. cinerea*. In the most characteristic specimens, the leaves are broader in proportion to the length than those of *S. cinerea*, and the fertile catkins are remarkable for their size, measuring sometimes not less than 3 inches; but the leaves and catkins, even of the same specimen or shrub, differ much in their proportions and size, and its general habit is certainly similar to that of the *cinerea*. Fertile catkins from 1 to 3 inches long, cylindrical, straight, or curved, with a few minute scale-like bracteas, evolved before the leaves. Scales obovate, blackish-brown, hairy, rather longer than the downy stalk of the germen. Germen tapered ¼ inch long, downy, green. Stigmas deeply divided, on a stalk equal to their own length.

13. *S. Andersoniana*, stem upright; leaves elliptical, acute, finely notched, slightly downy, paler beneath; stipulas half-ovate, nearly smooth; branches minutely downy; germen smooth, its stalk almost equal to the scale; style cloven, longer than the cloven stigmas. *Green Sallow.*

Hab. In a hedge near Mount-Pleasant, Durham. April, May.

The leaves of this Willow are of a bright green on the upper surface, paler beneath, and only slightly downy.

14. *S. caprea*, stem erect; leaves roundish-ovate, pointed, serrated, waved, pale and downy beneath; stipulas somewhat crescent-shaped; catkins oval; germen stalked, ovate, silky; stigmas nearly sessile, undivided; capsules swelling. *Great Round-leaved Sallow.*

Hab. Woods and hedges. April.

This species is distinguished, in spring, by its numerous large oval yellow catkins, which appear before the leaves; and afterwards by its very large rounded leaves, deep-green above, but underneath densely clothed with soft white cottony down, which gives them a considerable thickness. The flowering branches are called *Palms*, and are gathered by children about the time of Easter, the relics of a ceremony once performed in commemoration of our Saviour's entry into Jerusalem.

15. *S. acuminata*, stem erect; leaves lanceolate-oblong, pointed, wavy, finely toothed, glaucous, and downy beneath; stipulas half-ovate, then kidney-shaped; catkins cylindrical; germen stalked, ovate, hairy; style as long as the undivided stigmas. *Long-leaved Sallow.*

Hab. Moist hedges. April.

I have given the specific character of this species unaltered, from Smith, but it is proper to remark that our specimen was referred to it with a mark of doubt by Mr Winch, and that does not altogether agree with the description.

16. *S. viminalis*, leaves linear, inclining to lanceolate, elongated, taper-pointed, entire, wavy, snow-white and silky beneath; branches straight and slender; germen sessile; style as long as the linear undivided stigmas. *Common Osier.*

Hab. Wet places and banks of rivers. April, May.

17. *S. Smithiana*, leaves lanceolate, pointed, slightly wavy, minutely toothed, soft and scarce visibly downy above, whitish and silky beneath; stipulas crescent-shaped, minute; catkins ovate; germen stalked; style shorter than the linear deeply divided stigmas.

Hab. Hedges occasionally. In the garden at the Hope, and at Lethemshank. April, May.

From the remarks of Dr HOOKER, it would appear, that he is inclined to consider this a variety of the preceding, but the shrub we intend (and our specimen was named by Mr WINCH), is altogether different, and more nearly related to *S. caprea*, though very distinct from it. It is a small tree or shrub, with lanceolate leaves 3 inches long, fully one broad near the base, which, when the leaf has attained maturity, is rounded. The fertile catkins are small, numerous, greyish, and silky; the stigmas long and deeply divided, elevated on a style rather shorter than themselves.

18. *S. alba*, leaves elliptic-lanceolate, pointed, serrated, silky on both sides, the lowest serratures glandular; stamens hairy; germen smooth, almost sessile; stigmas deeply cloven; scales rounded. ***Common White Willow.***

Hab. Woods frequent. May.

A large tree with a coarse rugged bark, and a copious foliage of a beautiful grey silvery appearance, which must have made it familiar to the most inattentive observers. The properties of the bark and wood are similar, but perhaps inferior to those of *S. Russelliana*; and the two trees have much the same general appearance. We have not observed a fertile tree in this neighbourhood.

II. TRIANDRIA.

279. EMPETRUM.

1. *E. nigrum*, stem and branches procumbent; leaves linear-oblong, revolute, evergreen; flowers axillary, bracteated, reddish; berry black. ***Crow-berry.***

Hab. Moors very common; also on our sea-banks. May. ♄

Mr NEILL saw at Deerness, in Orkney, very strong ropes, calculated for different purposes in husbandry, made of the shoots of this plant.

III. TETRANDRIA.

280. MYRICA.

1. *M. Gale*, stem shrubby, 3 or 4 feet high; leaves lanceolate, serrated, tapering and entire at the base, besprinkled with resinous dots; catkins axillary, with pointed scales. *Sweet Gale.*

Hab. Bogs and moorish ground, rare. I have omitted to mark the habitat of my specimen. Haiden dean? May. ♄

In Isla and Jura, and in Wales, the people lay branches of this shrub in their beds, and between their linen, to give them a fine scent, and drive away moths, for the leaves and berries, when bruised, exhale a fragrance from their resinous dots, delightful to our senses, but apparently very noisome to insects. In northern countries it was formerly used instead of hops; and the cones boiled in water will yield a scum like bees wax, capable of being made into candles, similar to those which the Americans make of the berries of *M. cerifera*, or candle-berry myrtle. LIGHTFOOT.

IV. OCTANDRIA.

281. POPULUS.

1. *P. alba*, leaves lobed and toothed, somewhat heart-shaped at the base, snow-white and densely downy beneath; fertile catkins ovate; stigmas 4. *White Poplar.*

Hab. In plantations frequent. March. ♄

2. *P. tremula*, leaves nearly orbicular, toothed, smooth on both sides, their stalks compressed; young branches hairy; stigmas 4, erect, auricled at the base. *Aspen.*

Hab. In woods frequent. March, April. ♄

The leaves are of a fine smooth dark green, with a narrow

yellowish edge more or less fringed with soft hairs, suspended on flattened stalks, so that

—"when zephyrs wake,
The Aspen's trembling leaves must shake;"

and by their friction on one another they make a constant rustling noise, hence uncourteously feigned by some, besides poets, to be "the matter whereof women's tongues were made, which seldom cease wagging."

3. *P. nigra*, leaves deltoid, pointed, serrated, smooth on both sides; catkins all lax and cylindrical; stigmas 4, simple, spreading. ***Black Poplar.***

Hab. In plantations. March. ♄

282. RHODIOLA.

1. *R. rosea*, root thick, fleshy; stem simple, a spawn high; leaves numerous, glaucous, fleshy, obovate, bluntly toothed; flowers yellow with orange-coloured nectaries, in a terminal cyme. ***Rose-root.***

Hab. Coast of Berwickshire. I first observed this plant growing on Fastcastle in the spring of 1827, and in the autumn of the same year on rocks between Lamberton and Burnmouth, with the Rev. A. Baird, who, in the following summer, found it in great profusion and luxuriance at the foot of a deep glen about a mile south of Fastcastle. The locality is interesting and unexpected, as the plant, in general, affects alpine rocks. May, June. ♃

When recently dried, the root has an agreeable scent, resembling rose-water. The plant has the habit of a *Sedum*, and is not uncommon in gardens.

V. ENNEANDRIA.

283. MERCURIALIS.

1. *M. perennis*, root creeping; stem simple, 1 foot high; leaves rough, ovate, serrated; flowers in axillary short lax spikes. *Perennial Mercury.*

Hab. Shady places frequent. Banks of the Whiteadder above Edrington, Dr Thompson. Banks of the Eye, Rev. A. Baird. About Warren, &c. April, May. ♃

This plant, in drying, becomes of a blue green colour, and to water it yields a fine deep blue, but no means have been discovered by which it can be fixed. The herb is poisonous.

VI. MONADELPHIA.

284. JUNIPERUS.

1. *J. communis*, leaves 3 in each whorl, tipped with a spine, spreading, longer than the ripe fruit; stem erect. *Common Juniper.*

Hab. Heaths common; also on our sea-banks. May. ♄

The wood is of a reddish colour, very hard and durable, used in veneering, and in making cups, cabinets, &c. The berries are used in medicine; and they form an important article of commerce in Holland, where they are employed in the distillation of geneva; and they give that singular flavour which our distillers try to imitate by oil of turpentine.—HOOKER.

285. TAXUS.

1. *T. baccata*, leaves two-ranked, crowded, linear, flat; receptacle of the barren flowers globular. *Common Yew.*

Hab. Woods. March, April.

The Yew is not a common tree in Berwickshire, and now only to be found in plantations; but as it is certainly in-

digenous to Britain, and was in common use among the Borderers before exotics were introduced, it seems not unreasonable to conclude that the present trees are no aliens, but lineal descendants of the native stock. It was generally planted in churchyards,—not, however, on account of the "melancholy*" of its shade, nor from its "funereal hue,"—but "for the convenience and ready use of the several parishioners," to whom it afforded the favourite material for the long bow, a weapon in the use of which our ancestors were famous. At a very early period the Yew was considered pre-eminently of a "venomous qualitie, and against man's nature," and even to exhale effluvia fatal to those who chanced to repose under its shade; but this, though repeated by numerous authors, is altogether untrue. The fresh leaves, however, are poisonous. Dr PERCIVAL mentions an instance of three children being killed by a spoonful of them administered as a remedy against worms; and they prove speedily fatal to cattle accidentally tasting them when young and tender. The berries are harmless.

* "Now more I love thee, melancholy Yew,
Whose still green leaves in solemn silence wave
Above the peasant's red unhonoured grave,
Which oft thou moisteneth with the morning dew
To thee the sad, to thee the weary fly;
They rest in peace beneath thy sacred gloom
Thou sole companion of the lowly tomb!
No leaves but thine in pity o'er them sigh.
Lo! now, to fancy's gaze, thou seem'st to spread
Thy shadowy boughs to shroud me with the dead
LEYDEN

CLASS XXIII.

POLYGAMIA.

—"Juvat integros accedere fontes
Atque haurire, juvatque novos decerpere flores."
LUCRETIUS.

I. MONŒCIA.

285. ATRIPLEX. UNITED FLOWER—*calyx* inferior, in 5 deep segments; *corolla* none; *stamens* 5; *style* deeply cloven; *seed* 1, depressed. FERTILE FLOWER—*calyx* inferior, in 2 deep segments; *corolla* none; *style* deeply cloven; *seed* 1, compressed.

I. MONŒCIA.

286. ATRIPLEX.

1. *A. patula*, stem herbaceous, spreading; leaves triangular-lanceolate, somewhat halbert-shaped; calyx of the fruit tuberculated at the sides; seeds finely dotted. *Spreading Orache.*

Hab. Waste and cultivated grounds, and on the sandy sea-shore, very common. July, Aug. ⊙

2. *A. angustifolia*, stem herbaceous, spreading; leaves lanceolate, entire, the lower ones partly 3-lobed; calyx of the fruit halbert-shaped, slightly warty at the sides; seeds scarcely dotted. *Narrow-leaved Orache.*

Hab. Waste grounds frequent. July, Aug. ⊙

3. *A. littoralis*, stem herbaceous, erect; leaves all linear, entire, variously toothed or sinuated; calyx of the fruit sinuated, its disk armed with prominent tubercles. *Sea Orache.*

Hab. Muddy salt marshes. "Coast beyond Beal, plentiful," Thomp. Aug. Sept. ⊙

ADDITIONAL SPECIES.

8. VERONICA.

V. filiformis, stem spreading, hairy; leaves all alternate, heart-shaped, deeply serrate; flowerstalks very long, always straight; limb of the corolla longer than the calyx; seeds cupped. *Tab. nost.*

V. filiformis, Lam. and Decand. Fl. Fr. v. 388. (excluding Sm. in Lin. Tr. i. 195.) On the authority of Arnott, Meyer, and Schleicher.
V. agrestis β, Sm. Fl. Græc. t. 8. Prod. i. 9.
V. Buxbaumii, Tenore, Fl. Neap. i. 7. t. 10. (Settled by specimens from Tenore), Linn. Syst. Veg. by Sprengel, i. 75.

Hab. Cultivated grounds. In the shrubbery in front of the house at Whiterig, Berwickshire. August—Oct. ⊙

Stems spreading, one or two feet long, branched at the base or simple, round, more or less coloured, and clothed with soft white hairs. Leaves alternate, rarely opposite at the base, ovate-heart-shaped, deeply serrate, rough with short bristles, which also fringe the margins. Flowerstalks axillary, straight, filiform, hairy, 1 or 1¼ inch long, sometimes slightly curved at the insertion of the capsule. The stem flowers from the very base. Segments of the calyx ovate-lanceolate, hairy, 3-nerved, the lateral nerves small. Flowers large, light blue, beautifully streaked with darker lines; segments broadly ovate, entire; tube white, hairy within. Anthers large, blue, on white curved thick filaments. Capsule inversely heart-shaped, bristly. Seeds white, rough, concave beneath, four or five in each cell.

Smith considered this a variety of *V. agrestis*, to which it is certainly nearly allied. But *V. agrestis* is a smaller and smoother plant, with the lower leaves always opposite, on longer stalks, and less decidedly heart-shaped. The flowerstalks also are generally curved, never longer than the leaves; and the segments of the small corolla do not exceed, but are rather shorter than the segments

of the calyx; while in *V. filiformis* the flowers equal those of *V. Chamædrys* in size, and are little inferior in beauty. It is necessary to substitute the following character of *V. agrestis* for that at page 7:—"Stem spreading, hairy; leaves ovate, deeply serrate, the lower ones opposite; flowerstalks about equal to the leaves in length, curved when in fruit; corolla shorter than the calyx; seeds cupped."

For the above synonyma I am indebted to Mr WINCH. It may be considered a very valuable addition to the history of the species, since it is founded on specimens received from TENORE, MEYER, SCHLEICHER, and ARNOTT, who gave him the Montpellier plant, which must be DECANDOLLE's. Mr WINCH has also British specimens from BORRER and E. FORSTER. The former botanist found it several years ago near Henley in Sussex, and communicated specimens to Sir J. E. SMITH and others; but it is singular that no notice is taken of it in the English Flora, nor, so far as we know, in any work on the botany of this island.

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