

Outlines of the geographical distribution of British plants : belonging to the division of vasculares or cotyledones / by Hewett Cottrell Watson.

Contributors

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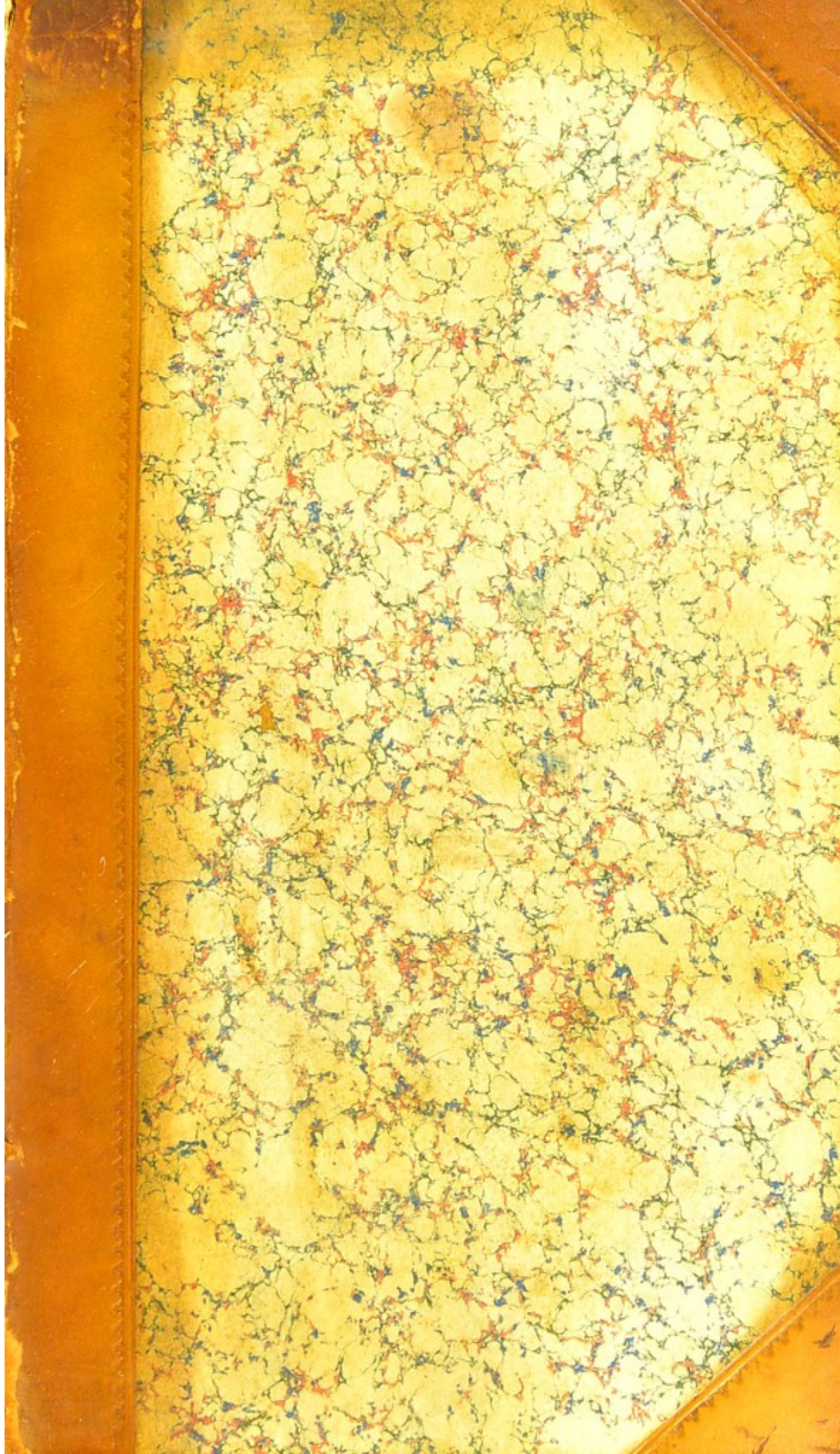
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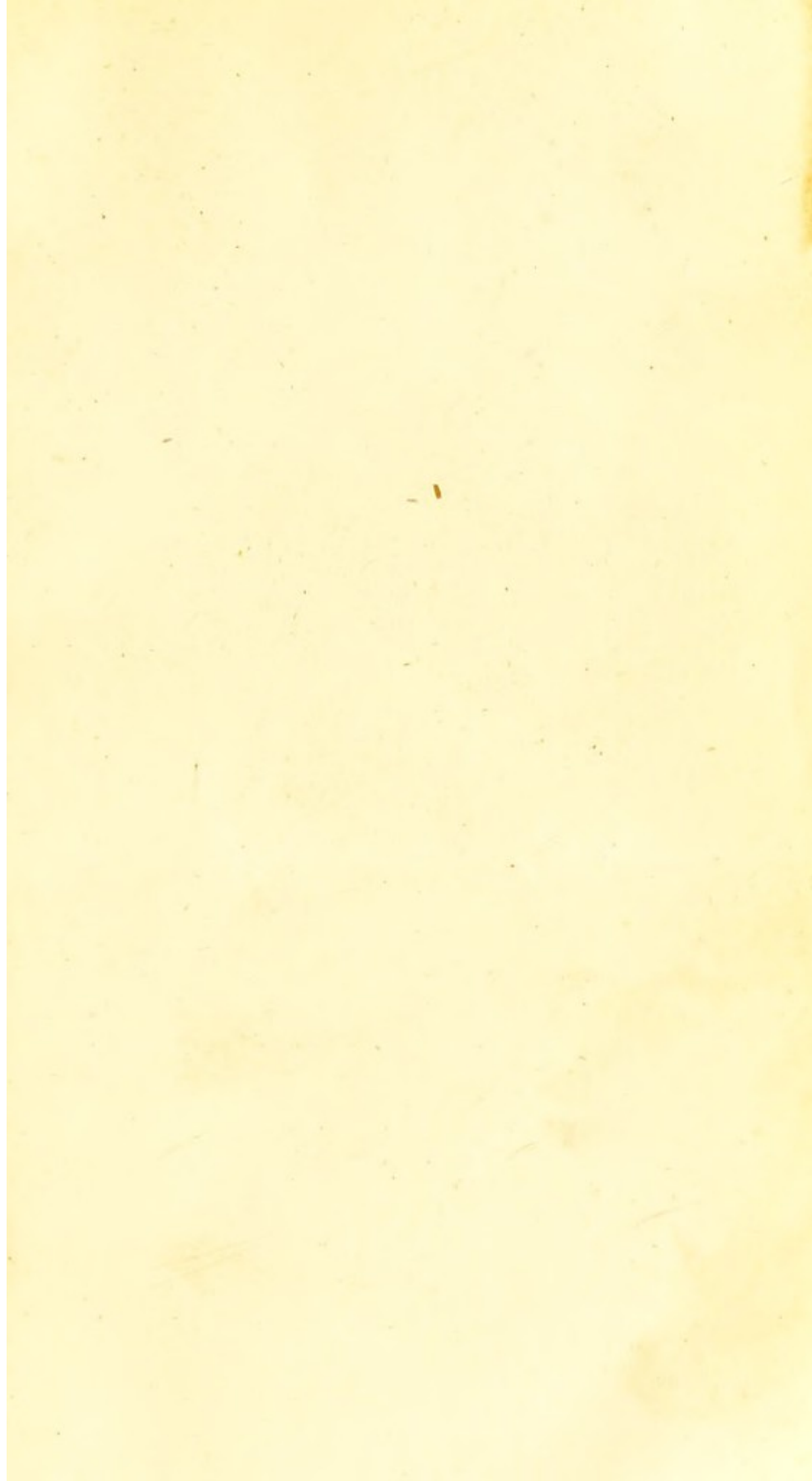
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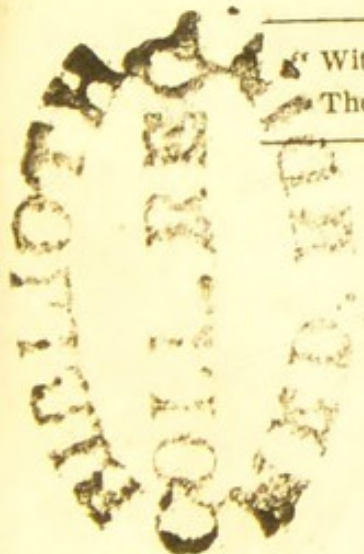
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OUTLINES
OF THE
GEOGRAPHICAL DISTRIBUTION
OF
BRITISH PLANTS;
BELONGING TO THE DIVISION OF
VASCULARES OR COTYLEDONES.

BY
HEWETT COTTRELL WATSON.

“ With such a lib’ral hand has Nature flung
Their seeds abroad.—”



EDINBURGH:
PRINTED FOR PRIVATE DISTRIBUTION.

THE HISTORY OF THE
CITY OF LONDON

BY
WILLIAM COCKER

IN THREE VOLUMES.
LONDON, 1796.

Printed by NEILL & CO. Old Fishmarket.

Vol. I.

THE HISTORY OF THE
CITY OF LONDON

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WILLIAM COCKER

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LONDON, 1796.

P R E F A C E.

ANOTHER work on British Botany to add to the hundreds already published! Yes, gentle exclaimer, "another work on British Botany." But reject not the stranger too hastily, since it purports in so far to follow "the spirit of the times" as to aim at novelty in a trodden field. It is true that our native plants have been described and re-described; divers times figured; arranged and disarranged after all manner of systems, and liberally supplied with names of Anglicized Latin and Latinized English. Good books have been written thereon, and bad ones too. Extensive herbariums have been formed; and botanists, zealous and skilful, have wandered many a tedious mile, and scaled many a frowning precipice, in search of rarities or plants unseen before. Nor have these labours been vain or useless. Yet, notwithstanding all this; notwithstanding the "impatient zeal" and "explosive elasticity" attributed to the pupils of a celebrated Professor of the science; notwithstanding the high success that has rewarded the "risks of vertebral fracture" hazarded by

the Professor himself, still is something left undone. While the distribution of plants, in most of the mountainous countries of Europe, has engaged the sedulous and successful attention of philosophic naturalists, and the influence of climate and altitude on vegetation, even in Asia and America, been in part exhibited to us; in our own country this department of Botany has been almost utterly neglected; a few vaguely applied terms, as *alpine*, *hilly*, *mountainous*, is all that botanists have yet attempted in the way of relative altitude; and the application of these has often been calculated rather to mislead than to enlighten. It has even been asserted lately by a Scottish botanist, whose knowledge of plants is very extensive, that their Geographical Distribution forms no part of the science of Botany. He refers it to geography. But it were equally just to say, that the influence of climate in causing or curing disease, forms no part of the sciences of Medicine and Physiology. Previous to the publication of Dr Hooker's British Flora, even the Topographical Range had scarcely been attended to by the botanists of Britain. Its author has made a judicious advance on his predecessors, in avowing himself "rather anxious to indicate the range of the species than the precise spot where any one is found." Of late years, too, the authors of local floras, and contributors to scientific periodicals, &c. have evinced a similar spirit of more enlarged conception than mere nomen-

clature or rarity-collecting; in proof of which, it will be sufficient to cite the various works of N. J. Winch, Esq. in relation to the Botany of the north of England. If other botanists of leisure would devote a portion of their time to giving lists of plants found in their own neighbourhood, or seen during their tours, they would be contributing much more to the advance of science than by the creation of imaginary species. Our Reforming Government would certainly do the cause of *Philosophical* Natural History an essential service by offering premiums for the encouragement of such lists, to be paid by the imposition of a good round sum on licenses for the *manufacture of species*.

Let it not be supposed that the present writer would join in the foolish reproaches that some, and they not always the most competent to judge, have hazarded against botanists, whose chief or sole attention is directed to the investigation of species or determination of nomenclature. All are benefited thereby; and he who greatly neglects this will make a sorry figure in any other department of the science, however great or varied may be his general philosophical attainments. Neither should it be deemed an opprobrium to the leading botanists of this country, that the distribution of its native plants has never engaged their attention. The circumstance is of easy explanation; the commercial relations of Britain, with the various recent voyages of survey and discovery, by introducing such

a host of new species, have provided full occupation to our botanists, competent to the task, in their examination and description.

What, then, is the proper method of commencing an investigation, to some botanists certainly fraught with much of interest? Mr Macgillivray, in a highly interesting Essay on the Phænogamous Vegetation of the river Dee, in Aberdeenshire, writes thus:—"An attempt to describe the vegetation of a particular natural district may excite persons better qualified than I profess to be, to present detached pictures of the vegetation of Scotland, from which a complete panorama may ultimately be constructed" This is good in principle, but there is an obvious objection to the manner. If we desired to obtain a large picture on the division-of-labour system, and for this purpose requested a dozen painters each to bring one sheet, the chance of congruity and *keeping* in the materials so brought together, would be very slight indeed. Our proper plan would be, to sketch a comprehensive outline, and then leave the individuals to fill up each his own department. The respective Essays of Messrs Winch and Macgillivray are good pictures, but they would not unite.

Under the impression that little will be effected until there is some general sketch, whose blanks are to be filled up, and whose defects to be retouched, the following *Outlines* have been written, intended for pri-

vate distribution among the author's botanical friends, and as the forerunner of a more ample and more perfect work, when he has brought together a sufficiency of materials for the structure. Meanwhile, he trusts the present one will not be found quite devoid of interest or utility. He deems it proper, however, to enter into a brief explanation in regard to some points, since, by shewing where the liabilities to error are greatest, the value of the details is in reality increased. His principal aim has been, to give as clear an idea as the accessible data enabled him to do, of the range and distribution of plants within Britain, his own personal observations being chiefly made in the north and west; but for the eastern counties of England he has had to rely on the communications of friends and published data. The remarks on the Physical Geography of Britain, and especially on the Geographical Distribution of British Plants, are intended only as temporary sketches, to be extended and corrected in the future edition, the materials for which already considerably exceed what are here exhibited, and he trusts two or three years will add much to them. His indications of the geographical extension of individual species are in many instances taken only on second or third-hand authority. In a published work, the authorities whence derived must of course be added.

It is not unlikely that in *Part II.* occasional errors may be found in the numerals or abbreviations, indi-

cating distribution. To quote the local Floras alone, at least 10,000 references must have been made to the different works; and in noting down those in which a species occurs, transcribing from such notes for the press, and in printing them, it is very improbable that errors should have been wholly avoided, and the more so, as the signification of a sentence remains apparently unaltered, by the omission or interpolation of a single figure, or one name among several others. The county and geographical extension would require a much greater number of references. Critic-friends will please to bear this in mind, if some such errors should appear, and find fault when they have gone through the same tedious labour themselves.

The chief differences between this and other works on British Plants, will be found in the giving of measure altitudes for several species, and the comparative (zonal) altitude of nearly all;—in the substitution of definite and explained divisions of the country, for indicating their topographical extension, in lieu of *north, south, east, west*, with vague and *varying* signification;—in the condensing into a small space the information on this topic, which was scattered through various works;—in the adoption of a comparative scale for expressing the rarity or prevalence of species;—and by the addition of their general geographical extension, thereby, in a great measure, indicating the range of climate for each. The orders of *Ericææ*, *Vacciniææ*,

Coniferae, and *Saxifrageae*, may be referred to as examples of the measurements, &c., which should be equally attended to in all others. The connexions evidently existing between the Vegetation and Physical Geography of Britain, are in great part reserved for a future edition, the *mere facts* being here the main object; since it is necessary to learn the latter accurately, before attempting to connect them in the relations of cause and effect. Neglect of this precaution has caused many blemishes in the writings of some who have been among the most prone to tax botanists with neglecting the former. Examples might appear personally invidious, but to the citation of an anonymous one, the objection scarcely applies. A review of Hooker's *Flora Scotica*, in the Edinburgh Philosophical Journal, is evidently the work of one possessing extensive and varied information, with a highly philosophical mind; yet how naturally would a reader be prejudiced against it, on observing (which surely is the case?), that some of the supposed facts brought in objection to the work reviewed, are merely errors on the part of the reviewer.

The author is anxious to obtain all information that he can, in order to insure accuracy in the charts, tables, &c. intended to be given in the proposed future edition, for the purpose of illustrating the distribution of British plants both at home and abroad. He has it al-

so in contemplation shortly to publish a separate work, somewhat after the plan of the useful *Botanist's Guide* by Turner and Dilwyn. Any communications in furtherance of these designs will be carefully acknowledged when used ; and several of his botanical friends or correspondents having signified their readiness to aid him by local information, the author subjoins the topics in regard to which he most desires this *.

Corrections of any errors, and supplying of any omissions, in the present *Outlines*.

Lists of species, native and naturalized, in any county or smaller district, of which a local Flora has not been published since the last century. To facilitate this, he will send printed catalogues of the British species to any one willing to oblige him with such a list, so that nothing more will be necessary than attaching a mark to the names.

Unpublished stations for any of the species not indigenous in all the six districts subsequently mentioned, with confirmations of those resting on the authority of former botanists

The highest and lowest elevations at which any species has been observed.

Information as to the zone (as afterwards explain-

* The author's address till the end of 1832, will be—"Care of Mrs Stewart, 27 Howe Street, Edinburgh." After that time, "Newport Hill House, near Barnstaple, Devon."

ed) in which any town, hamlet, residence, lake, mountain summit, &c. is situate.

Unpublished (or here omitted) altitudes of towns, hills, lakes, &c. &c. As also, results of observations on the temperature of the air, earth, or springs; and the quantities of rain in different situations.

Facts in regard to the apparent influence of soil and subjacent rocks on vegetation.

The author is desirous of procuring specimens of species not extending into all the six districts, from various stations, and particularly those near their terminal limits. For such he will be glad to return the rarer British species, which may be *desiderata* to any botanist favouring him with the former.

He is also anxious to have plants, or lists of plants, from the summits of hills exceeding 1500 feet, and this whether the plants are in flower or not.

To the friends who have already so obligingly assisted him in this undertaking, the author returns most grateful acknowledgments. To the following friends or correspondents he is indebted for the lists added to their names:—

Miss Bell, Stow Vicarage. Catalogue of the Plants of Norfolk.

Rev. G. Gordon, Elgin. Cat. of the Plants of Murray.

— J. Duncan, Roxburghshire. Cat. of the Plants near Jedburgh.

- Messrs W. Ramplin, { (*per Mr Christy*), London. Cat. of
 ----- W. Hurst, { the Plants in Battersea, and localities
 ----- J. Macnab. Cat. of Plants observed in the Isle of Man.
 ----- Graves, Edinburgh. Cat. of Plants in Surry, Kent,
 and Yorkshire.
 ----- J. Ward, Richmond. Cat. of the Plants near Rich-
 mond, Yorkshire, &c.

The author has also to offer his thanks to Messrs W. C. Trevelyan, N. J. Winch, J. E. Bowman, W. Stables of Cawdor Castle, R. B. Bowman of Newcastle, W. Christy jun. of London, T. S. Scholes of High Bank, Prestwich, R. Embleton of Alnwick, and J. E. Leefe of Richmond, Yorkshire, for various information as to the distribution of plants, localities, &c. &c. And to Drs Hooker, Graham, and Greville, he feels particularly indebted for the liberal manner in which they have offered him the use of books from their extensive botanical libraries. While the MS. has been going through the press, the judgment and information of Mr Neill have supplied the author with many suggestions for its improvement. The value of such to a young writer he has seen cause fully to appreciate*.

* Very near the whole of the MS. was in press, before the receipt of a copious list of the plants of Denbighshire and some adjacent counties, by Mr Bowman, with very useful and interesting notes on several of the species. Unfortunately, they were too late to be made available at present.

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THE FOLLOWING ERRORS HAVE BEEN OVERLOOKED, WHILE
CORRECTING THE PROOFS.

- PART I. Page 9 line 13, for partially read perpetually
 — 23 — 14, for Surrey read Surry
 — 31 — 37, for Ballock read Battock
 — 41 — 6, for bilbery read bilberry
 — 46 — 29, for hem read them
 — 49 — 4, for Lobellia read Lobelia
 — 50 — 31, for *patrea* read *petræa*
 — 60 — 23, erase *Daphne Mezereum*
 — 65 — 11. *Erica cinerea* does not occur in *Flora Suecica*.
 I have not the *Flora Norvegica* to refer to,
 but believe to have seen it there mentioned.—
 H. C. W.
- PART II. Page 77 line 23, for not found read not wild, or not found at
 all
 — 78 — 15, for east read west

N. B.—A few typographical errors in the technical names will be seen and
 corrected by any Botanist.

PART I.

I.—OUTLINE OF THE PRINCIPAL CONDITIONS INFLUENCING THE GEOGRAPHICAL DISTRIBUTION OF PLANTS *.

WITH few exceptions, our earth every where presents the aspect of a natural garden, teeming spontaneously with vegetable life in almost infinite varieties of form, of hue, and of magnitude. The fervid glow of an equatorial clime and the icy atmosphere of arctic regions, the deepest vallies and the loftiest mountains, the wide extent of continents, and the specklike island, though separated from every other portion of land by an immense expanse of intervening ocean,—except where the soil is buried under perpetual snows, or dried and pulverized like the deserts of Africa,—are adapted to the production and support of vegetation ; not indeed equally and indifferently so, but each after its own kind and in its own degree. It has, in consequence,

* A few pages are devoted to this subject in consequence of the Author finding British Botanists rather apt to overlook the more important circumstances on which the distribution of plants is dependent ; their attention being chiefly given to those of minor influence. In a dozen pages not more than the slightest sketch can be attempted.

become a question with the observers of Nature, and the investigators of her laws, how these vegetable forms have originated; by what means they have obtained possession of their present domains; and why it is that the banks of the Orinoco are fringed with trees and herbs, whose counterparts we should in vain seek on the margin of the Rhine; that out of 7000 species of flowering plants found wild in Europe, not 100 have been seen in Australasia; that the Alps of Switzerland and mountains of Nepaul produce perhaps not a greater number common to both; and, in short, that every country of considerable extent has certain species to distinguish it from others, the near as well as the remote.

Investigations concerning the original creation of plants, in the present state of human knowledge, might be deemed by many at best an idle waste of time; and even inquiries into the means by which they occupy their present situations, except in some, and these comparatively but few particular instances, may truly seem a speculation not much more profitable in itself, or likely of ultimate success. This inquiry, nevertheless, has occupied the attention of several excellent botanists, and has led to considerable diversity of opinion amongst them;—one party imagining all plants to have originated in some central point from which they have been gradually spread over the earth's surface; others conceiving that several of such centres must have existed; and a third party believing species for the most part to have originated where they now appear as the natural and untransported products of the soil and climate. Some again suppose, that at first only

genera existed, *species* arising from generic admixture ; while others maintain that all vegetable forms are modifications of each other, or the result of a certain concurrence of molecules dispersed through matter ; hence liable to be produced in any situation where the necessary conditions of their existence occur.

The causes now visibly operating in the extension of species from one part of the earth to another afford us a more tangible subject for inquiry. Millions of seeds are annually ripened and dispersed abroad by the agency of winds, currents of water, or animal locomotion ; and though doubtless a very large proportion of these may be either entirely lost, or, being carried into situations unfavourable to their development, may long remain unchanged, yet some among them must occasionally be deposited under more favourable circumstances, and the conditions requisite for their vegetation being supplied, they are forthwith developed, and add an additional species to the Flora of the district to which they have been carried. How much of vegetable distribution has been thus effected, it is quite impossible now to form any accurate idea of ; but any observer may have evidence that such causes are still operative in our own Flora ; although perhaps not very materially altering the range of its species, except where the interference of human agency is also introduced.

When man transports the vegetable forms of distant regions to his own home, then it may, and does yearly happen in Britain, that their ripened seeds, dispersed by the wind or carried to a distance by streams, spring up, grow, and produce other seeds to be again scattered

farther, until a species once unknown to the country, next limited to one small spot only, is spread over its surface, and at length comes to be regarded as a part of its flora. The turnip, parsley, canary-grass, beech-tree, and many others, have been thus introduced to Britain. Mr Winch enumerates* nearly fifty species not included in the Catalogues of British Plants, which are nevertheless occasionally found wild on the ballast-hills of Northumberland and Durham, to which they have been carried by shipping. The different kinds of corn, the grape, the sugar-cane, the bread-fruit, the potato, and the coffee-shrub, have thus been more or less extensively spread over the earth; and the wide waste of waters formerly bounding the progression of species, by the restless ingenuity of man, has been made a road of communication, over which the plants of Europe may pass to America, and those of America be in turn transported to the fields of Europe; by means of which New Holland may send her showy and fantastic forms to adorn the lawns and conservatories of Britain, receiving in exchange the not less valuable productions of her farms and culinary gardens.

But it is not sufficient for vegetation that the seeds and roots of plants be merely transported from place to place by the agencies already mentioned. Unless carried to a congenial climate and soil, they sooner or later perish, and again disappear from a country unadapted to their nature. Year after year, living seeds are carried from the shores of tropical America and deposited by the Gulf-stream on the coasts of Europe, without securing to themselves any permanent existence

* Trans. of Newcastle Lit. and Phil. Soc. vol. i.

in its flora; and of our cultivated exotics how few have become even imperfectly naturalized. What, then, are the conditions necessary to the successful development of vegetation, and its unaided continuance by descent? Undoubtedly these are various both in kind and degree, each particular species perhaps requiring some modification of the general conditions. In Britain, how often do we see a sharp frost of spring or early summer lay prostrate the gayest beauties of the garden, yet spare the humbler flowers that adorn unbidden our fields and groves. Continued drought at times converts the fresh verdure of an English landscape into brown aridity. And while the sheltered valley may be adorned with lofty trees, on the exposed hills that bound it, these "forest-monarchs" crouching before the blasts of Heaven are scarcely able to raise their distorted and ungraceful boughs a few feet above the surface of the ground. Again, the clear stream and the stagnant morass, the porous gravel and the adhesive clay, the saline soil of the coast and the vegetable earth of the peat-bog, are each distinguished by some peculiarities in the plants they produce; and when by any chance the species flourishing on one of these soils are transferred to another, their feeble growth and altered habit frequently prove sure evidences how little their new situation is congenial to them.

Certain peculiarities of temperature, moisture, soil and situation being thus necessary to the health or existence of plants; upon these conditions must in a great measure depend the present range and distribution of vegetable forms; and on none, perhaps, more intimately than the first. On the quantity of heat and

its modifications from difference of latitude, of elevation above the sea, or other more partial influences, the limits of species, of genera, even of whole families, are found to depend.

TEMPERATURE, *influenced by Latitude*.—It is familiar to all, that the temperature of the earth and atmosphere diminishes as our distance from the Equator is increased; and it is equally well known to botanists, that vegetation undergoes certain changes correspondent with this diminution of temperature. Thus, the whole of the Torrid and adjoining portions of the Temperate Zones of geographers are adapted to the growth of the Palm tribe, these nobles of Flora surrounding the globe wherever there is land, like a belt or zone, from the Equator to about the 30° or 40° parallels of north and south latitude. Oaks, capable of enduring a much greater cold, extend 15° or 20° farther in a polar direction. The Pine tribe, in like manner, being adapted to bear a temperature greatly lower than that requisite for oaks, approaches still nearer to the Polar Regions; while certain small willows, and other diminutive shrubs, are still found many degrees beyond the last of the pines. Every family, genus, and species, has certain determinate limits, both equatorial and polar; but the limits of one differing from those of another tribe or species, it must happen that a line drawn along the boundary of any one shall intersect that of others. Hence vegetation, as a whole, offers no sudden and decided transitions; and though we may be correct in saying that there are floras characteristic of the Arctic, the Temperate, and the Torrid Zones, yet the

first lapses into the second, and the second into the third, in so gradual a manner, that it is quite impossible to draw any *mathematical* line of demarcation.

These districts, or zones of vegetation and temperature, are by no means correspondent with the latitudinal lines of geographers. From the researches and calculations of Humboldt, it appears, that to a certain distance from the Equator, 15° or 20° , the mean annual temperature is nearly the same in all longitudes, varied somewhat by local circumstances. As we recede from the Equator northward, this equality of temperature in similar latitudes becomes less and less exact, any given parallel on the western coasts having a mean temperature considerably higher than is found in the corresponding latitude of the eastern. A comparison of the west of Europe with the opposite or eastern coast of America will make this very apparent. Humboldt carries his isothermal lines (lines of equal mean temperature) of 32° , 50° , and 68° , thus:—

Temp.	W. of Europe.	E. of America.	Diff. of Lat.
32°	71° N. L. North Cape.	57° Labrador.	14
50	$53\frac{1}{2}$ W. of Ireland.	$42\frac{1}{2}$ United States.	11
68	$32\frac{1}{2}$ Madeira.	$29\frac{1}{2}$ Florida.	3

For particular details on this highly interesting subject, we must refer to the works of Humboldt, and to the translation of his treatise on Isothermal Lines, in volumes iii. iv. and v. of the Edinburgh Philosophical Journal. The subject of climate would require volumes rather than pages.

In accordance with this swerving of isothermal from latitudinal parallels, we find vegetation also varying from the latter. Labrador, in the latitude of Britain, does not present so fine a vegetation as Lapland. In Norway, beyond 60° north latitude, pines flourish, and even the oak and beech still grow; while in Greenland, at the same latitude, not a forest tree is seen, stunted alders and birches constituting the only approach to them. In Europe, a species of palm (*Chamærops humilis*) is found on the south coast of France, in lat. about 44° . On the east of America the last of this family (*C. palmetto*), ceases about 34° , and probably near the same point on the east of Asia. Certain differences in the temperature of the seasons exert a modifying power on the influence of mean annual temperature. Several fruits, as the olive and grape, as well as the different kinds of corn and other annuals, depend more on the heat of summer than of the whole year; while others, impatient of cold and not requiring great heat, have their range more influenced by the temperature of winter. Now, it is almost an universal rule, that of two places whose mean temperature is the same, that nearest the sea, and more particularly a western sea, has a more temperate summer and a milder winter. Hence the inland situation is better adapted to the growth of corn and fruits, the maritime one to the preservation of tender plants. In Europe, the northern boundary of the vine and olive rises as we go eastward, though, in so doing, we encounter a lower mean annual temperature. The *Arbutus Unedo*, *Sibthorpia europæa*, *Erica ciliaris*, &c. rise in a westerly direction. The gradual change in botanical productions as we

move from a warm to a cold, or from a cold to a warm climate, is well exemplified by tables shewing the relative proportions between particular families and the whole flora of countries varying much in their *thermal* zones. Thus, *Leguminosæ*, *Melastomaceæ*, and *Convolvulaceæ* become more abundant as we approach the torrid zone; *Saxifragæ*, *Cruciferae*, and *Caryophylleæ* increase in an opposite direction; and *Umbelliferae*, *Labiatae*, &c. attaining their *maximum* in the temperate zones, diminish both in a polar and equatorial course.

TEMPERATURE, *influenced by Altitude*.—As elevated situations are colder than others at the surface level of the ocean, and the summits of high mountains partially covered with snow, we experience similar changes of climate in ascending them to what we should find by journeying from south to north, from the Equator to the Poles. Hence we might naturally expect to meet with changes in the mountain vegetation corresponding to what has been noticed in different latitudes of the low countries. Such, in fact, is the case, and in ascending any mountain reaching the limits of perpetual snow, we observe a similar change in its plants to what we should see by passing from its base towards the nearest pole, along land but little elevated above the sea-level. In ascending the Alps or Pyrenees we find the oaks and vines characteristic of a temperate climate around their base. A little higher these have disappeared, but pines, birches, and alders, still remain. Still higher, the absence of trees, while there yet appear small willows and *Ericææ*, with many cryptogamous plants, saxifrages, &c. recalls the treeless

flora of the Polar Regions. Many of the plants found high on the mountains of South Europe are indeed specifically the same as those of Spitzbergen and Greenland. Below these we have Lapland species. Lower still those of Britain. Nearly one-half the plants of Spitzbergen are found on the hills of Scotland; those of England lower in height have only one-fourth. The altitude at which perpetual snow lies on the mountains of the Equator is about 16,000 feet, becoming lower and lower as we advance towards the poles, resting on the sea-level in 70° or 80° north latitude; but the height varies greatly from local circumstances. As a general rule, it may be said to depend on the temperature of summer more than that of the whole year; lower therefore in maritime countries.

TEMPERATURE, *as modified by Local Causes*.—Of these it will scarcely be necessary to give much explanation. Several of them must be noticed incidentally when we come to a consideration of the climate and floral peculiarities of Britain, and most of them are familiar to every observer of nature. The northern side of a mountain, or any slope from the sun, is colder than the opposite one at equal elevations. Steep rocks shaded from the sun, deep vallies and chasms into which its rays rarely or briefly penetrate, places watered by springs at a low temperature or by streams descending from colder regions above, those shaded by overhanging rocks, damp soils, the neighbourhood of lakes and seas in summer, situations frequently covered by clouds and fogs during day, &c. &c. have, *cæteris paribus*, a lower temperature and inferior vegetation. In

these situations we often find plants adapted to climates less genial than that of the latitude or elevation where such peculiarities enable them to grow. Though the summits of our highest hills are free of snow by the middle of summer, yet on some of them deep fissures and the northern side of steep rocks have perpetual snow a thousand feet below.

MOISTURE.—A supply of moisture is essential to the existence of vegetation. Some plants require to be almost constantly immersed; others are very soon destroyed if not kept nearly dry. Nor is it only in the degree of moisture to which they are adapted, that species differ from each other; the purity, and perhaps also the manner of its application, are of some importance. *Lobelia Dortmanna*, and *Subularia aquatica*, flourish in clear lakes; *Saxifraga aizoides*, and *Oxyria reniformis* are most generally found about running water at their lowest elevation; while several *Potamogetons*, *Hydrocharis Morsus Ranæ*, and *Hottonia palustris*, grow equally well, or even better, in stagnant muddy ditches. The quantity of moisture influences much the vegetation of a country. Marshes tend to increase the number of *Cyperaceæ* and *Junceæ*. Frequent rains cause *cryptogamous* plants and *Gramineæ* to prevail; while dry banks and cloudless skies further the growth of *Cistineæ*, *Malvaceæ*, *Geraniaceæ*, and *Proteaceæ*. Cold and perpetual damp give vigour to the *Saxifrageæ*, both of which must be diminished for their near allies the *Crassulaceæ*. *Azalea procumbens* and *Juncus castaneus* flourish on our hills at the same elevation, but never intermix, the *habitat* of one being too dry for the other.

The vegetation of a country with a damp soil and atmosphere is very different from that of one under opposite circumstances. In the former, the foliage is deep-green, ample and flexile; in the latter, glaucous or brownish, inflexible, and generally smaller in proportion to the more showy flowers. The floras of New Holland and Africa, compared with those of Asia and South America, will exemplify this.

SOIL.—The influence of soil over the vegetable products of land is acknowledged by every farmer and gardener; but the manner and degree of it has caused not a little diversity of opinion among botanists, some resorting to geology, some to chemistry, others to the mechanical properties of the soil, as the grand clew whereby we are to explain this operative influence admitted by all to exist in it. Few species, we believe, can be found exclusively limited to any one kind; but a great many grow more luxuriantly on one soil than on another. Still our own observations induce us to give more weight to mechanical than chemical properties, although the latter have their importance. Connections between vegetation and *formation* are perhaps in almost every case referable to one or other of these causes.

ASPECT.—Under this head are included shelter *from*, or exposure *to*, winds, waters, sun, light, &c. Some species grow best on sunny banks, others scarcely exist save in the deep gloom of the forest; some bear the chafings of the rudest winds, by which others are immediately destroyed. Several species in southern la-

titudes, or at low elevations, will only grow in shaded places, while higher up, or farther north, they love and woo the sun. The summits of hills have a more stunted and more rigid vegetation than vallies of an equal altitude; and the shores of the sea rarely shew trees of so vigorous growth as inland situations. A small belt of trees planted in an exposed situation generally fails, while a large compact mass succeeds, though often at the expense of the external individuals. Thus is vegetation determined by the physical geography of a district; by its latitude and longitude, its position in relation to other countries and to waters, its elevation above the sea-level, the form of its surface, and the nature of its soil. A vast field of inquiry.

II.—OUTLINE OF THE CLIMATE AND PHYSICAL ASPECT OF BRITAIN.

THE form of Britain, including the Hebrides and other neighbouring small islands, may be described as an irregular oblong, extending 8° or $8\frac{1}{2}^{\circ}$ degrees of latitude in length, its breadth varying from 60 to 300 miles. On the north and west its coasts are rocky and deeply indented, with many small islands detached from the mainland. The southern and eastern shores are more entire and rounded in their outline, and for the most part much less abrupt or precipitous. On the west, separated by a channel from 20 to 100 miles broad, is Ireland, less than one-half the size of Britain. On the south-eastern angle, the Continent of Europe approaches within twenty-five miles at its nearest point,

gradually receding in a south-western and north-eastern direction. Numerous hilly or mountainous ridges cross the island in a course more or less varying from north-east to south-west, and becoming gradually higher as they succeed each other on the north and west, until in Wales and the north of England they exceed 3000 feet, and in the Highlands of Scotland rise to upwards of 4000 feet above the sea level.

These differences of latitude and elevation are of course accompanied by corresponding diversities of climate. The mean annual temperature of the south coast appears to be about 52° of Fahrenheit. Good observations are wanting to determine that of the opposite extremity. Perhaps 45° or 46° is about the point; but it is probable that a good deal of difference exists between the eastern and western angles of the north coast. From the observations on record, it would seem that 1° of Fahrenheit corresponds nearly to $1\frac{1}{2}^{\circ}$ of latitude on the east of Britain, as an average. The following table is taken in part from the various observations recorded in the *Philosophical Magazine*, the *Annals of Philosophy*, the *Edinburgh Philosophical Journal*, the *Edinburgh New Philosophical Journal*, and other standard works; in part also from Dr Clarke's excellent treatise on the "Influence of Climate in the Prevention and Cure of Diseases." To these works reference must be made for the particular details and authorities. Most of the places mentioned are very little elevated above the sea-level; the figures following the names of some indicate the height of the thermometer above the sea.

PLACE OF OBSERVATION.	Mean Annual Temperature.	Time or mode of Observation.	Period of ditto in years.
Penzance,	52.16	Mean of extremes.	7
Helston, 106	50.94	Ditto?	2
Sidmouth,	52.10	9 A. M. and 2 P. M.	3
Gosport,	51.42	8 A. M. and 8 P. M.	4
Isle of Wight,	51	9 A. M.	20
Cheltenham,	51.32	Mean of extremes.	3
Chichester,	49.50	8 A. M. and 8 P. M.	3
London,	50.39		20
Environs of ditto,	48.81	Mean of extremes.	9
Bushy Heath,	49.82	Ditto.	2
Oxford,	48.64	Ditto.	5
Boston,	51.10	8½ A. M.	3
Nottingham,	48.75		4
Alderley,	46.80	8, 2, 10 (corrected)	10
Manchester, 290	47.71	8, 2, 10.	8
New Malton,	47.65		2
Isle of Man,	48.40	9 A. M. & 11 P. M. cor-	9
Kendal,	47.04	[rected.	4
Keswick, 250	48		
Jesmond, 200	47.60	9, 2, 10.	7
Edinburgh,	47.31	10 and 10.	2
Leith,	48.36	Hourly.	2
Kinfauns,	47.02	10 and 10.	
Aberdeen,	47.67	Mean of extremes,	7
Inverness,	48.69	9½ A. M. & 8½ P. M.	2
Wick,	46.98	Corrected obs.	2
Shetland,	44.70	7½ A. M. and 8 P. M.	1

The mean yearly temperature of springs is stated to be as follows :—

Gosport,	52.46	Keswick,	46.60
Kendal,	47.20	Leith,	47.3

The influence of elevation on mean annual temperature has not been fixed with any precision in Britain, but it is commonly supposed that 270 feet of ascent sink the thermometer 1° of Fahrenheit. The height of the snow-line, so important in the geographical dis-

tribution of plants, can only be guessed in our island, none of its hills rising sufficiently high to reach this line. According to Professor Leslie, in Lat. 56° it should be at 4782 feet of elevation ; but, when we recollect that so early as July our mountain summits at 4300 feet are free from snow, and that several weeks of the melting season are still to come, it can scarcely be placed below 5000 feet.

In the distribution of heat the seasons of Britain constitute exceptions to the general rule that seasons become more equal as we approach the equator,—a peculiarity owing partly to its geographical position, and partly to the comparative extent of dry land. Insular climates being distinguished by the greater equalization of their seasons, while continental ones have a colder winter and a warmer summer, we find that Scotland, more influenced by maritime proximity, has a winter temperature very similar to that of England, though its summer heat is considerably below. England, on the other hand, lying between Ireland and France, approaches more to a continental climate, a tendency further increased by the breadth of its southern and midland portions. The influence of western winds in reducing the temperature of summer and enhancing that of winter, is also more operative in Scotland, being in part excluded from England by the western position of Ireland. The peninsula of Cornwall and Devon, nearly surrounded by sea, and quite open to the south-west winds, has a more equable climate than any other part of Britain. The influence of position is exemplified in the annexed table of the distribution of heat, viz.

PLACE.	Mean of Year.	Winter.	Spring.	Summer.	Autumn.	Hottest month.	Coldest month.
Penzance,.....	52.1	44.6	49.6	60.5	53.8	61.5	43.0
London,.....	50.4	39.6	48.6	63.2	50.2	64.4	37.8
Edinburgh, ...	47.8	38.6	46.4	58.2	48.4	59.4	38.3
Aberdeen,.....	47.6	33.3	46.8	58.1	48.5	58.5	36.9
Kendal,.....	46.2	36.8	45.2	56.8	46.2	58.1	34.8

Penzance has the equal seasons of a south-western and almost insular position. London, more inland and on the east, has a much colder winter with a warmer summer. Edinburgh and Aberdeen shew the eastern climate, but less than London in consequence of their maritime proximity. The situation of Kendal amongst high western hills, subjecting it to fogs and frequent rains during summer and an atmosphere cooled by the mountain-snows during winter, will explain its lower temperature. The distribution of heat at Aberdeen is calculated from observations recorded in the Edinburgh New Philosophical Journal; for Penzance the observations of Mr Giddy are adopted; the other three are from Humboldt's table.

The climate of the western counties is every where greatly influenced by the quantity of rain and frequency of mists; the vapours of the Atlantic condensed by the land, and arrested in their progress by the elevated ridges on the north and west, rendering those counties much more humid than the eastern coasts. The former are in consequence better adapted for green crops, the latter to the growth of corn and fruits. Attempts to estimate the quantity of rain are liable to many sources

of fallacy, but a relative approximation may be obtained sufficient to convey some idea of the difference between different counties, &c. Thus, we find the mean annual quantity of rain in inches, during the number of years mentioned, to be in the

WESTERN COUNTIES.			MIDLAND AND EASTERN COUNTIES.		
PLACE.	Years.	Yearly Average.	PLACE.	Years.	Yearly Average.
		Inches.			Inches.
Penzance,	7	44	Epping,	5	26
Liverpool,	18	34	London,	20	24
Lancaster,	20	39	Chatworth,	16	27
Isle of Man, ...	4	35	Edinburgh,	2	23
Dumfries,	16	36	Kinfauns,	2	24
Gen. Average,	...	37.6	Gen. Average,	...	24.8

It is to be regretted that we have so few observations on the quantity of rain falling at different elevations, and in different aspects relative to neighbouring hills. The following measurements of the quantities of rain on the line of the Rochdale Canal are obtained from the Memoirs of the Literary and Philosophical Society of Manchester.

SITUATION OF GAGE.	Altitude above the sea.	Inches of Rain.
Moss Loch,	510	27.24
Blackstone Edge,	1500	31.39
Sowerby Bridge,	364	28.80
Stubbins,	268	32.83

“ Blackstone Edge Gage is kept at the reservoir of the canal, near the summit of the mountain separating Lancashire and Yorkshire. Around it is an extensive area of moderate elevation, which supplies the waters of the reservoir. The mountain-range is from the south-east to the north-west, and is consequently flanked on the Lancashire side by the south-west wind, and on the Yorkshire side by the north-east wind, which two may be called the wet and dry winds of this country. The gage at Moss Loch is near Rochdale, about six miles to the south-west of that on Blackstone Edge, and the country to the south-west is flat. The gage at Sowerby Bridge is about seven miles to the north-east of that on Blackstone Edge, at a considerable distance from the mountain. The gage at Stubbins is about five miles to the north of the line of the other three gages, and is situate in a deep narrow and tortuous valley, surrounded by mountains from 300 to 1200 feet of elevation above its level.”

It will be observed from these quantities, that the high ground receives considerably more water than the low country, either to the east or the west of it, where that country is open as well as low; but where surrounded by hills, it receives as much or more than the elevated land.

In a general view of Britain, the elevation of surface may be said to rise step after step from south-east to north-west, although it is not to be imagined from this that the whole surface rises. If we draw a line from the mouth of the river Tees in Durham, through the Vale of York to the Trent, continuing it along the latter to the south of Derbyshire, thence by the Severn

to the Bristol Channel, and from there across the eastern margin of Devon to the English Channel, we trace the course of low plains of the new red sandstone formation, and divide the surface into two very dissimilar portions in respect of their soil and elevation. To the eastward of this line chalk and oolitic hills constitute the most important feature of the district; the former, more to the eastward, scarcely in any instance attaining to 1000 feet of elevation, and the latter, nearly parallel with our line of division, never reaching 2000.

A transverse line from the estuaries of the Dee and Mersey, to join the former between the rivers Trent and Severn, passes through a nearly similar, though perhaps rather more elevated ground than the former, and divides the portion of country north-west of the first line into two nearly equal subdivisions, in their general aspect very much resembling each other. Each of them has hills exceeding 3000 feet of elevation, though more generally their height varies between 1500 and 2500 feet. Commencing with the Cheviots in Northumberland, a long range of hills or elevated moors is continued southwards into Derbyshire, forming the boundaries between the eastern and western counties north of 53°. The Cheviots are a little detached from the rest of the range, and rise at their highest point to 2660 feet. Between this and Teesdale Forest there is a considerable fall, and then the latter rises again to nearly 3000 feet above the sea. In Yorkshire, the highest summits are between 2000 and 2500 feet, and in Derbyshire they have sunk below the former. Here the Penine chain may be said to terminate, unless we join Charnwood Forest to its

southern, as Cheviot to its northern extremity. To the west of this range is the Lake District, the peaks of which exceed 3000 feet, rising very rapidly and including between them numerous low and narrow vallies, in which lie the Lakes so deservedly celebrated for their beauty, and where the southern botanist will find much to give additional zest to the scenery. Grit and limestone may be considered the prevailing composition of the northern hills, but the Cheviots are in part syenitic, and in the Lake District we find grauwacke, porphyry, slate, and granite. South-west of our second or transverse line are Wales and the adjacent English counties. In North Wales, several summits of the Snowdon chain exceed 3000 feet of elevation. In South Wales and England they are always below this, and in the Peninsula of Cornwall and Devon do not attain 2000 feet. Geologically, Wales most resembles the Lake District of England, the rocks being primitive and transition; and as in that portion of England deep narrow vallies and lakes of water are frequently met with. The lakes are smaller and more numerous in Wales than in England. From the Land's End in Cornwall to Dartmoor in Devon, runs a chain of low granite hills flanked on either side by slate or grauwacke. The author does not profess—indeed is unfortunately not competent—to enter into the geology of the country, but must be contented with a reference to the excellent work of Conybeare and Phillips, and the other authorities.

The whole of Scotland is hilly. Even what are called the Lowlands on the south and east have hills exceeding 2000, and it is said that some of them attain

3000 feet ; but perhaps the latter is too high an estimate. An extensive chain, or group of chains, stretches across the Lowlands from Berwick and Haddington on the east to Wigton at the south-western extremity, from which various arms or branches shoot out to the north and south. North-west of Edinburgh, the Campsie, Ochill, and Sidla Hills form a sort of outwork to the Highlands, from which they are separated by a low and fertile strath extending in the direction of Forfar, Cupar-Angus and Crieff. Beyond this, dividing the counties of Forfar and Perth from those of Aberdeen and Inverness, the great Grampian range crosses the island from north-east to south-west. Beyond the Grampians, except a narrow eastern border, the whole surface is little else than a series of mountains, moors, lakes, and glens, on the western coasts cut into innumerable isles and islets, extending southwards to Islay and Cantire, and northwards to the Outer Hebrides. Granite and micaceous schist, with syenite or porphyry, are the prevailing rocks of Scotland north-west of the Forth and Tay, the vegetation varying remarkably as we are on the one or the other of them.

By attending to the direction of their principal rivers and mountains we may distinguish the British counties into six groups or districts, two Scottish and four English. In Scotland we have the counties Sutherland, Caithness, Ross, Cromarty, Inverness, Nairn, Moray, Banff and Aberdeen lying beyond the Grampians. They may constitute a *Northern District* ; and a *Southern District* will include all the remaining counties. Our knowledge of the ranges and distribution of Scottish

plants is too limited to allow of more minute division, though each of these includes several natural tracts.

A line drawn across England from north to south, along the western borders of the counties Northumberland, Durham, York, Derby, Stafford, Leicester, Northampton, Oxford, Wilts and Dorset, will separate the counties whose principal streams flow eastward, from those whose rivers run to the western coasts. A transverse line along the north of Montgomery, Salop, Worcester, Warwick, Northampton and Cambridge, will distinguish the southern from the northern counties, thus dividing England into four districts, viz.

1. *The South-Eastern District*, comprehending the counties Dorset, Wilts, Hants, Sussex, Kent, Surrey, Berks, Middlesex, Essex, Suffolk, Norfolk, Cambridge, Herts, Huntingdon, Bedford, Northampton, Bucks and Oxford.

2. *The South-Western District*, including the counties of Cornwall, Devon, Somerset, Gloucester, Monmouth, Hereford, Worcester, Warwick, Salop, Montgomery, and South Wales.

3. *The North-Eastern District*, embracing the counties of Stafford, Leicester, Rutland, Lincoln, Nottingham, Derby, York, Durham and Northumberland.

4. *The North-Western District* having all the remaining counties, viz. Merioneth, Caernarvon, Anglesea, Denbigh, Flint, Chester, Lancaster, Westmoreland, Cumberland, and the Isle of Man.

In the first district no eminence attains 1100 feet, the general height of its hills being from 500 to 800, not many exceeding the latter. In the second and third districts the highest points are below 3000, com-

monly ranging between 2000 and 2500 feet. In the fourth district the counties of Caernarvon and Cumberland have hills above 3000 feet high. In Scotland, Ben Lawers, the highest hill of the southern district, scarcely exceeds 4000 feet; several attain 3500. In the northern district, Ben Nevis and Ben-na-muic-duich exceed 4300 feet, and various others pass 3500. The elevation of surface being of so great influence in determining the distribution of plants, a table of the reputed height of various hills, stations, &c. is annexed. Some of these, it is to be feared, are not very accurate. The measurements made during the trigonometrical survey under Colonel Mudge, reduced into a pictorial or diagrammatic form by the Rev. J. M. Butt, has supplied those marked *, which may be considered the most accurate. The others are from various sources: Phillips's Introduction to Geology, Evans's Map of North Wales, &c. &c. The figures are the heights above the sea *in feet*. The author does not vouch the orthographical accuracy of the names.

IN ENGLAND.

KENT.		SUSSEX.	
Greenwich Observatory,	214	* Beachy Head,	564
Warren Chalk-hill,	300	Fairlight Down,	599
* Allington Knoll,	329	Brightling Down,	646
* Shooter's Hill,	446	* Bowhill,	702
Dover Castle,	469	* Rook's Hill,	702
* Goudhurst,	497	* Crowborough Beacon,	804
* Folkestone Turnpike,	575	* Chanctonbury Hill,	814
Boxley Hill,	600	* Firle Beacon,	820
* Hollingborn Hill,	616	* Ditchling Beacon,	858
* Paddlesworth,	642		

SURREY.		* Dean Hill,	539
* St Ann's Hill,	240	* Stockbridge Hill,	620
* Norwood,	389	* Dunnose (<i>Isle of Wight</i>),	792
* Hundred Acres,	443	* Highclere Beacon,	900
* Bagshot Heath,	463	* Butser Hill,	917
* Banstead,	576		
* Botley Hill,	880	DORSET.	
* Hind Head,	923	* Charlton Common,	582
* Leith Hill,	993	Black Down,	817
		* Dumbton Hill,	879
MIDDLESEX.		* Bull Barrow,	927
* Hanger Hill (<i>Tower</i>),	251	* Pilsdon Hill,	934
		* Wingreen Hill,	961
ESSEX.			
* Langdon Hill,	620	WILTS.	
* High Beech,	750	Old Sarum,	339
		* Beacon Hill (<i>Amesbury</i>),	690
HERTS.		Westbury Down,	775
* Lillyhoe,	664	* Inkpen Beacon, <i>county?</i>	1011
* Kensworth,	904		
BUCKS.		CORNWALL.	
* Bow Brick Hill,	683	* Trevoze Head,	274
* Muzzle Hill (<i>Brill</i>),	744	* Deadman,	379
* Wendover Down,	904	* Sennan,	387
		* Maker Heights,	402
NORTHAMPTON.		* St Burian,	415
* Arbury Hill,	804	* St Stephen's,	605
		* St Agnes' Beacon,	621
OXFORD.		* Bodmin Down,	645
* Shotover Hill,	599	* Bindown,	658
* Nuffield Common,	757	* Pertinney,	689
* Nettlebed (<i>Windmill</i>),	820	Carn Bonnellis,	805
* Epwell Hill,	836	Carnminnis,	805
		* Cadon Barrow,	1011
BERKS.		* Kit's Hill,	1057
* Scutchamfly,	853	* Carraton Hill,	1258
* White Horse Hill,	893	* Brown Willy,	1368
HANTS.		DEVON.	
Headon Hill (<i>Wight</i>),	400	* Bolt Head,	430
* Portsdown Hill,	447	* Furland,	589
		* Black Down,	817

Haldon Hill,	818	GLAMORGAN.	
* Butterton Hill,	1203	* Cefn Bryn,	583
* Rippin Tor,	1549	* Garth,	981
* Cawsand Beacon,	1792	* Margam Down,	1099
SOMERSET.		* Llangeinor Mountain,	1859
* Dundon Beacon,	360	Craig ar Avon,	1859
* Ash Beacon,	655	CAERMARTHEN.	
* Dundry Beacon,	700	* Marros Beacon,	514
Lansdown Hill,	813	* Llannon Mountain,	914
* Bradley Knoll,	973	* New Inn Hill,	1168
Bagborough,	1270	PEMBROKE.	
* Dunkery Beacon (<i>Ex-</i>		* Brennin Vaur,	1285
<i>moor</i>),	1668	* Precelly Top,	1754
GLOUCESTER.		CARDIGAN.	
* Farley Down,	700	* Aberystwith,	496
* Symond's Hall,	794	* Capel Kynon,	1046
* Stow on the Wold,	883	* Talsarn,	1143
* May Hill,	964	* Tregarron Down,	1747
* Broadway Beacon,	1086	* Plynlymmon,	2463
* Cleave Down,	1134	BRECON.	
WARWICK.		* Dwiggin (<i>Builth</i>),	2071
* Corley,	521	* Cradle,	2545
WORCESTER.		* Trecastle Beacons,	2596
* Malvern Hill,	1444	* Beacons of Brecon,	2862
SALOP.		RADNOR.	
* Hawkeston Obelisk,	812	* Radnor Forest,	2163
* Wrekin,	1320	MONTGOMERY.	
* Long Mount Forest,	1674	* Rodney's Pillar (<i>base</i>),	1199
* Brown Clay Hill,	1805	* Long Mountain,	1330
HEREFORD.		* Llandinam Mountain,	1898
* Stow Hill,	1417	STAFFORD.	
MONMOUTH.		* Bar Beacon,	653
* Treleg Beacon,	1011	* Castle Ring,	715
* Mynydd Mawr,	1568	* Ashley Heath,	801
Sugar Loaf,	1852	* Weaver Hill,	1154

LEICESTER.		Bear's Head, . . .	2017
* Strathern Point, . . .	490	Greygreth, . . .	2059
* Bardon Hill, . . .	853	* Water Crag, . . .	2186
NOTTINGHAM.		Dod Fell, . . .	2188
* Holland Hill, . . .	487	Noughtberry, . . .	2205
Sherwood Forest, . . .	600	Lovely Seat, . . .	2214
DERBY.		Calf, . . .	2221
* Allport Heights, . . .	980	Bow Fell, . . .	2226
Mam Tor, . . .	1350	* Carn Fell, . . .	2245
* Hathersedge, . . .	1377	Pen Hill, . . .	2245
* Lord's Seat, . . .	1751	Colm, . . .	2252
* Axedge, . . .	1756	* Pennigant Hill, . . .	2270
* Holme Moss, . . .	1859	* Whernside (Kettle- well), . . .	2273
YORK.		Wildboar Fell, . . .	2326
* Ledston Beacon, . . .	278	Cotter Fell, . . .	2329
* Clifton Beacon, . . .	417	* Shunner Fell, . . .	2329
* Humsley Beacon, . . .	531	* Ingleborough, . . .	2361
Ingleton, . . .	531	* Whernside (Ingleton),	2384
* Burleigh Moor, . . .	553	DURHAM.	
Settle, . . .	621	* Brandon Mount, . . .	875
* Easington Heights,	681	* Pontop Pike, . . .	1018
* Barnaby Moor, . . .	784	* Collier Law, . . .	1678
Garraby Beacon, . . .	805	* Kirkhope Law, . . .	2196
* Wilton Beacon, . . .	809	NORTHUMBERLAND.	
* Danby Beacon, . . .	966	* Rufflaw, . . .	595
Silfoe Cross, . . .	1000	* Blackeddon, . . .	646
* Roseberry Topping,	1022	* Alnwick Moor, . . .	808
* Black Hambleton Down,	1246	* Simonside, . . .	1407
* Bradfield Point, . . .	1246	* Hedgehope, . . .	2347
Wainstones, . . .	1300	* Cheviot, . . .	2658
Rumbles Moor, . . .	108	CUMBERLAND.	
Egton Moors, . . .	1404	Derwentwater, . . .	228
* Loose Hoe, . . .	1404	Threlkeld, . . .	463
* Burton Head, . . .	1485	* Scilly Bank, . . .	500
Ryssell, . . .	1822	* Dent Hill, . . .	1115
Whaw Fell, . . .	1833	* Black Comb, . . .	1919
Ten End, . . .	1915	Cawsey Pike, . . .	2040
Burkin, . . .	2000		

Cader Fronwen,	2563	ISLE OF MAN.	
* Arrenig,	2809	South Berule,	1684
* Cader Idris,	2914	* North Berule,	1804
* Arran Fowddy,	2955	* Snea Fell,	2004

IN SCOTLAND.

WIGTON.		Dolphington Kirk,	680
Cairn-pat,	800	Clyde at Thankerton,	700
Knock of Luce,	1014	Ditchmont Hill,	700
Mochrum Fell,	1020	Westraw Law,	1000
Cairnbarrow,	1110	Leaven Seat,	1250
Cairnsmuir,	1737	Quothquhanlaw,	1500
Larg,	1750	Walston Mount,	1550
		Lead Hills,	1564
KIRKCUDBRIGHT.		Culter Fell,	1700
Bencairn,	1200	Tinto,	2260
Knockendoch,	1500		
Criffle,	1895	AYR.	
DUMFRIESSHIRE.		Ailsa Craig,	940
Annan Hill,	256	Balagick,	1000
Moffat,	582	Blacksall End,	1540
Constitution Hill,	1004	Carleton Hill,	1554
Erickstane,	1118	Knocknorman,	1554
Langholm Hill,	1204	Knockdoban,	1950
Tennis Hill,	1346	PEEBLES.	
Cairn Kinnon,	2080	Carden Hill,	1400
Ettrick Pen,	2220	Broughton Heights,	1483
Lowther Hill,	2522	Cairn Hill,	1800
Black Larg,	2890	Minchmoor Hill,	2000
Hartfell,	23000	Druid's Hill,	2100
		Pulpit Stane,	2100
LANARK.		Glumseugh,	2200
Strathaven,	450	Scrape,	2560
Douglas,	450	Hartfield,	2916
Airdrie,	500		
Carluke,	500	SELKIRK.	
Carnwath,	600	Meagle,	1480
Biggar,	600	Peat Law,	1694
Lanark,	650	Wardlaw,	1900
Kirk of Shotts,	650	Three Brothers,	1978

Hangingshaw, . . .	1980		
* Whinfell, . . .	2241	FIFE.	
Windlestraw Law, . . .	2295	Kelly Law, . . .	810
Blackhouse Heights, . . .	2360	Largo Law, . . .	952
		East Lomond, . . .	1466

ROXBURGH.

Marto, . . .	850
Dunian, . . .	1021
Ruber's Law, . . .	1419
Meg's Hill, . . .	1480
Carter Fell, . . .	1502
Tudhope, . . .	1830
* Wisp Hill, . . .	1940
Clint Hill, . . .	2000
Whinhead Fell, . . .	2000
* Dunrig, . . .	2408
Cheviots, . . .	2680

BERWICK.

Dunse Law, . . .	630
Derrington Law, . . .	1155
Tippet Knows, . . .	1325
Clint Hill, . . .	1544
Criblaw, . . .	1650

HADDINGTON.

Spartleton Hill, . . .	1615
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EDINBURGH.

Calton Hill, . . .	355
Corstorphine Hill, . . .	470
Craiglockart Hill, . . .	540
Salisbury Craigs, . . .	550
Dalmahoy Hill, . . .	680
Braid Hills, . . .	690
Arthur's Seat, . . .	810
Muirfoot Hills, . . .	1850
Carnethie (<i>Pentlands</i>), . . .	1879

LINLITHGOW.

Cairnape, . . .	1490
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KINROSS.

* West Lomond, . . .	1721
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CLACKMANNAN.

Dunnyalt, . . .	1345
Ochils, . . .	2450

STIRLING.

Campsie, . . .	1500
Alva Hill, . . .	1600
Ben Lomond, . . .	3262

ARGYLE.

Dunaquoich, . . .	1750
Glaschonzie Ben, . . .	1920
Gribon Promont. (<i>Mull</i>), . . .	2000
Crockmoy, . . .	2036
Ben Turk, . . .	2170
Sliagavil, . . .	2228
Ben-na-Chat (<i>Mull</i>), . . .	2296
Ben More (<i>Mull</i>), . . .	2300
Ben Eaton, . . .	2306
Benein, . . .	2389
Cobler, . . .	2389
Paps of Jura, . . .	2420
Cruachan Ben, . . .	2459
Bennahua, . . .	2515
Buachal Etive, . . .	2537
Seur d'Honneil, . . .	2730
Goatfell (<i>Arran</i>) . . .	2945
Beinhaulion (<i>Arran</i>), . . .	2950
Ben Buich, . . .	3070
Bedinam Brawn, . . .	3150
Cruachan Brin, . . .	3390

PERTH.

Lawn at Blair, . . .	425
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Cairn Garidh,	3900	SUTHERLAND.	
Cairngorm,	4020	Betty-Hill Inn,	140
Ben Nevis,	4365	Kirkiboll Inn,	150
<i>Wells near summit, W.</i>		Moors above Farr Kirk,	300
<i>side,</i>	3785	Ben Heal, Hee, or Shith,	1720
<i>Lake on the W. side,</i>	1860	Ben Loyal,	2652
<i>Snow in August, N.</i>		Ben Hope,	3015
<i>side,</i>	3000	Ben Clibrick,	3120
		Ben More (<i>Assynt</i>),	3210
Ross.		CAITHNESS.	
Ben Wyvis,	3720	Scarry Hills,	1876
		Maiden Paps,	2000

It may be proper here to state, that where the author indicates the elevations of plants in the following pages, they are either founded on these heights or (more generally) on his own observations with Adie's sympiesometer, which he has found the most convenient method during botanical rambles. In using this instrument (being alone), he was obliged to make his observations at the lower station previous to each ascent, and again on his return, taking the mean of the two, where any difference occurred, for comparison with the single observation above. When there was the chance of an error approaching to 100 feet, from varying pressure of the atmosphere or other circumstances, the observation was rejected. In North Wales he used the portable barometer. In many instances it happened that he had more than one point for comparison. Thus, the altitude of Ben Nevis being well known, he was able to compare observations on its declivity with others both at the base and summit, the mean of any difference in such cases being adopted. Finding that the sympiesometer generally indicated a somewhat

lower elevation than heights measured by other means, he raised the altitudes ascertained by himself to an equal number (that is a number ending with "0") as being more easily remembered. This only made a few feet of difference, rarely more than a dozen. As an example of the sympiesometer, he adds his measurement of the summit of Ben Nevis at the base of the Cairn. Compared with observations on the shore of Loch Eil

$$\begin{array}{r} 5 \text{ hours before,} \\ 4 \text{ hours after,} \end{array} \quad \begin{array}{l} = 4333\frac{1}{2} \\ = 4295\frac{1}{2} \end{array} \quad \left. \vphantom{\begin{array}{l} 5 \text{ hours before,} \\ 4 \text{ hours after,} \end{array}} \right\} 4314\frac{1}{2} \text{ Mean Alt.}$$

The real height is said to be 4365; the difference, therefore, about 1 *per cent.* Frequently the results were not so near the reputed heights. But any one who makes a series of observations on the altitude of plants will soon come to the conclusion that 100 feet are of very little importance in *his* inquiries. The heights mentioned on the Clova mountains rest on the accuracy of calling Glen Clova 800 feet above the sea level, a height estimated from *single* observations with seven hours intervening; those at Braemar are on the faith of Invercauld Castle being 1070 feet. These explanations apply also to the heights mentioned in Edin. New Phil. Journal for October 1832, page 358 and following, where the manner of ascertaining the elevations given was accidentally omitted.

III.—GENERAL OUTLINE OF THE DISTRIBUTION
OF PLANTS IN BRITAIN.

WITH such differences in climate, soil, and surface, the vegetation and even the Flora * of Britain is greatly varied in different situations. In the Scottish Highlands we have the vegetable physiognomy of Norway and Lapland; in the low and southern counties of England we see that of Belgium and the north of France. For the purpose of illustrating and assisting our inquiries into the peculiarities of vegetable distribution, we may therefore divide the surface into *Zones* or *Regions of Vegetation*, according to the differences caused by more northern latitude, increased elevation above the sea, or other conditions affecting the growth and existence of plants. In attempting this while so few local observations have been made, or at least published, with the same object, it is necessary to confine ourselves to as broad and general distinctions as can be done without becoming vague and indefinite. After an attentive examination of the distribution of plants in Scotland and the West of England, where the varying elevation of surface affords the greatest facilities, it appears to the writer of this that the following will

* The term "Flora" is used in relation to *species*; that of "Vegetation" with reference to *individuals*. Thus, the genera *Calluna* and *Bellis* form a considerable *item* in the Vegetation, but a small one in the Flora of Britain. On the other hand, *Ophrys*, *Orobanche* and *Pyrola*, more conspicuous in its flora, are less so in its vegetation. *Salix*, *Rosa*, *Ranunculus*, *Carex*, prevail in both.

be found the most useful and most generally applicable divisions and subdivisions; to the first of which may be given the name of **REGIONS**; to the secondary or subordinate ones that of **ZONES**; and, when expedient to be more minute, the latter may be again divided into **BELTS**;

- | | | |
|--------------------|---|------------------------------|
| I. WOODY REGION, | { | 1. <i>Agricultural zone.</i> |
| | { | 2. <i>Upland zone.</i> |
| II. BARREN REGION, | { | 3. <i>Moorland zone.</i> |
| | { | 4. <i>Subalpine zone.</i> |
| III. MOSSY REGION, | { | 5. <i>Alpine zone.</i> |
| | { | 6. <i>Snowy zone.</i> |

In order to mark the limits of these **Regions** and **Zones**, it will be necessary to select some species of such universal occurrence and visible size, as to render it an easy matter to determine by their presence or absence to what region or zone any other species or any particular place is to be assigned. For this purpose the *Corylus Avellana* and *Calluna vulgaris*, or hazel and heather, seem to be well adapted; the **Woody Region** terminating with the former, and the **Barren Region** with the latter. All the land rising above the limit of *Calluna vulgaris* will belong to the third or **Mossy Region**. Each of these may be again divided into two zones, the terminal or upper limits of which will be as follows:—

1. Agricultural zone ends where the cultivation of *Wheat* ceases.
2. Upland *Corylus Avellana* ceases.
3. Moorland *Carex rigida* begins.
4. Subalpine *Calluna vulgaris* ceases.
5. Alpine *Empetrum nigrum* ceases.
6. Snowy land terminates.

The absolute height at which these zones begin or terminate is varied several hundred feet in different situations, even under the same parallel of latitude. As an average, it may be said that in 57° north latitude, or about the line of the Grampians and Ben Nevis, *Corylus Avellana* will cease at 1200–1500, and *Calluna vulgaris* about 2500–3000 feet; in particular situations ceasing lower or rising rather higher than these elevations. *Carex rigida* appears about midway between these heights, and *Empetrum nigrum* fails 800 or 900 feet above *Calluna vulgaris*. *Corylus Avellana* passes the cultivation of wheat by 700–1000 feet according to climate and situation, in damp shaded vallies rising higher above this grain than in open situations. Still, all this is very uncertain, as the following measurements will fully show.

Calluna vulgaris ceases

On the north side of Ben Nevis at	2100
On the west side of ditto at	2150
On the north side of Cairn Garidh at	2250
On the west side of ditto at	2650

Empetrum nigrum ceases

On the north side of Ben Nevis about	2800
On the west side of ditto at	3530
On the north side of Cairn Garidh at	2900

The western side of Ben Nevis is a gradual slope to 2000 feet, becoming more steep above this, open and unshaded by any adjacent hills. Cairn Garidh is very similar, but the ascent quite to the summit in a more easy slope than Ben Nevis. On the north side of Ben Nevis are almost perpendicular precipices of 1500 feet

in depth, amongst the rocks of which large patches of snow lie unmelted all the year more than 1000 feet below the summit, which is free of snow in autumn. A narrow valley or glen, open to the west but shut by a high ridge to the east, and inclining from 1200 to 2500 feet of elevation, divides Ben Nevis from Cairn Garidh, being on the north of the former, and south side of the latter. A similar narrow valley lies on the north side of Cairn Garidh, from which to its summit is a very steep ascent, though less rocky and precipitous than the north side of Ben Nevis, and free from snow in August. Ben Nevis is about 500 feet higher than the top of Cairn Garidh. The influence of lofty precipitous hills on the south sides of narrow glens, aided in the case of Ben Nevis by the constant presence of snow, will explain the early cessation of the *Calluna* and *Empetrum* in these situations. The early termination of the former on the western side of Ben Nevis appears in part attributable to the ascent becoming more steep above 2000 feet, and in part to the want of proper soil for its roots. It will probably be found higher in some situations on the hill where there is more soil. In the Edinburgh New Philosophical Journal (vol. xii.), are some averages deduced from various *sympiesometer* measurements of the height of different plants in the counties of Forfar, Aberdeen, Inverness, and Sutherland, from which it appears that the same species begin or cease, at an average, 270 feet lower in the west of Inverness-shire, and 600 feet lower in the north of Sutherland, than they are observed to do on the Grampians of Aberdeenshire.

I. THE WOODY REGION extends over at least three-fourths of the whole surface of Britain. In England, all the south-eastern district and a very large proportion of the others belong to it; the summits of the Penine Chain, the hills in the Lake counties, and the higher ranges in Wales being the exceptions. In several other places, it is true, that now neither wood nor cultivation is seen on the summits of lower hills, as Dartmoor, Egton, &c. which seem nevertheless to belong to this region, the want of proper soil and protection, rather than elevation, appearing to cause the deficiency. The *Flora Devoniensis*, too, would incline us to suppose that positive as well as negative evidence proved Dartmoor to belong to the Barren Region, below which *Carex rigida* and *Silene acaulis* (both in that flora), are not observed to descend in Scotland or the north of England. The authors, indeed, seem not to have assured themselves of the existence of the latter; and in respect to the former, its presence in Devonshire must be looked upon as a very remarkable exception to its general range, being as low as it is found in the north of Sutherland, where vegetation is 1500 or 2000 feet lower than in the south of England.

Mr Winch mentions *Corylus Avellana* at the height of 1600 feet in the north of England, and it grows at nearly the same elevation among the Grampians of Aberdeenshire. This, too, is about the upper limit of cultivation; indeed, so nearly do these two coincide, that all corn-lands may be regarded as belonging to the Woody Region; and in the occasional absence of *Corylus Avellana*, an equivalent test of it. In damp and shaded situations, as in the valleys about Fort-

William in Inverness-shire, this shrub rises higher ; but in dry open aspects less liable to be obscured by fogs, cultivation sometimes a little exceeds *Corylus Avellana*. The oak and ash fail before the hazel ; while the common woodbine is able to rise one or two hundred feet above it, under the shelter of rocks. The alder and holly have about the same elevation as the hazel ; the broom and *Genista anglica* occasionally exceed it by a few hundred feet ; but the boundary of the furze is below, though, when introduced, it will live at the limit of cultivation. *Myrica Gale* and *Pteris aquilina* will flourish three or four hundred feet above the hazel. These data will generally enable us to determine the limits of this region with sufficient precision for geographical botany.

From the wide surface occupied by it, the Woody Region necessarily presents much difference at its two extremes, particularly in the minor details ; yet, on the whole, there is more of *sameness* in its general features than might be anticipated. From one end to the other it is an undulated plain of meadows, pastures, and cultivated fields, separated from each other by hedge-rows of hawthorn or stone-walls, and thickly interspersed with parks, woods, gardens, towns and high roads, altogether betokening a climate where man may attain a high state of civilization, and live for ease and pleasure as well as for laborious occupations. It is the region where flourish the trees and bloom the flowers rendered classic by our poets, and not the less loved by many of us, that their very commonness has made them familiar by vernacular names, without the aid of botanical systems or a dead language. It is, *par ex-*

cellence, the land of the daisy and cowslip, the oak and the hawthorn, the hazel-copse and the woodbine-bower ; the region of fruits and of flowers ; where the trees of the forest unite a graceful beauty with strength and majesty ; and where the fresh green sward of the pasture, commingling with the yellow waves of the corn-field, tells to us that here, at least,

————— “ the cheek of Spring
Smiles in the kiss of Autumn.”

Black swampy moors, such as deface so large a portion of the next region, are in this comparatively of rare occurrence and small extent. The downs and chases in early spring are covered with countless blossoms of the golden gorse or still more gaudy broom, and empurpled with the different kinds of heath during summer and autumn. Little, indeed, as we may regard these shrubs, in Sweden and North Russia the gorse is prized as we prize the myrtles of the south ; and our common heaths (*Erica cinerea* and *E. Tetralix*), are unknown over a wide extent of Europe ; nor does the whole of America produce a single specimen, either of these or any other species of heath. The oak, ash, yew, hornbeam, alder, elms, poplars and willows are the principal native trees of this region, the four first gradually yielding to the pine, white birch and rowan, as we approach the higher portions forming the Upland-Zone. The beech, sycamore and chestnut have been introduced, and the two first now spring up self-sown and readily. A climate in which the heat of summer is rarely excessive, and where rain and clouds are so frequent, is unadapted to the spontaneous growth of

fruits; and we accordingly find our native productions poor in the extreme. The wild cherry, crab, bullace, and native pear are the arborescent fruit-trees. The raspberry, strawberry, blackberry, sloe, hazelnut, hep and haw form a very indifferent catalogue for our shrubby and herbaceous fruit-plants. The cranberry, bilberry, and crowberry, with the fruit of the rowan and juniper, common to this and the Barren Region, are greatly surpassed by one fruit almost peculiar to the latter, viz. the cloudberry. The changes produced by cultivation on some of the first mentioned fruits, it is unnecessary to detail. Lastly, the different kinds of gooseberries and currants cultivated in our gardens are probably derived from species indigenous to Britain, and are very apt to spring up in our woods and hedges from translated seeds.

It were needless to extend the number of pages by giving lists of species in a region where they are so numerous. Those subsequently to be mentioned as common to all the local floras, or to all our six districts, may be looked upon as the species which give a prevailing character to the vegetation of this region, there being scarcely a county in which most of them do not occur, and commonly in great plenty. The more limited species will be mentioned under their respective zones composing the region.

1. *The Agricultural Zone* is distinguished from the upland by the presence of wheat-fields. This, indeed, is an artificial distinction, and yet so intimately is the self-interest of individuals connected with its culture, that we shall rarely fail to see it where the climate is

adapted; and where this is not sufficiently good to ripen the crop, it is of course equally the interest of the agriculturist not to sow it. On the whole, then, we may consider the presence or absence of this grain a very fair criterion of climate, and consequently of vegetation; but very probably some of our grasses or other plants having nearly the same limits may be substituted as our local knowledge becomes increased. Perhaps *Hordeum murinum* or *Petasites vulgaris* will be found nearly correspondent with the wheat climate.

Mr Winch informs us, that the highest elevation at which wheat is now cultivated in the north of England does not exceed 1000 feet. From Headrick's Agricultural Survey of Forfarshire, we learn that wheat is cultivated to 800 feet above the sea within that county; and that in the year 1819, a field was sown with wheat so high as 1000 feet, by the Rev. Mr Inglis, minister of Lochlee. This is about the height of the bed of the Dee in Braemar, where wheat does not succeed, and higher than the valley of Clova, where it has been tried but failed to ripen. It is probable that elsewhere in the Highlands no wheat is cultivated so high; at least the writer of this made many inquiries in Perth, Argyle, and Inverness shires in the summer of 1832, and found only oats, rye, or barley, at much lower elevations than 1000 feet. In the west of Sutherland, Ross, and probably Inverness shires, no wheat is cultivated even at the sea-level; but on the east coast of Scotland it extends northward to Caithness.

As the Agricultural Zone extends from south to north over eight degrees of latitude, and rises so high as 1000

feet in the middle of this length, we may expect many species to become rare or cease altogether considerably short of either extremity, according as they are ascending or descending in their ranges. This is indeed the case, and when a series of local observations can be compared together, without doubt the zone will admit of ready subdivision into natural *belts* or *sub-zones*, which can at present only be indicated in a general manner. The first or lowest belt may be characterized as that of the *Clematis Vitalba*, whose natural termination appears to be between the parallels of 52° and 53° , that is, to the south of Lincoln, Derby, and Caernarvon shires, though occasional stations (often suspicious) occur two degrees farther north, and it grows when planted to at least 57° . *Exacum filiforme*, *Sibthorpia europæa*, *Erica vagans*, *Erica ciliaris*, *Illecebrum verticillatum*, *Euphorbia Peplis*, and several other species, are only seen within this limit. It is here that the vine annually ripens fruit; and, frequently trained over their walls, serves to distinguish the cottages of the south from those of the north. In this belt, also, are the hop-grounds and cider-orchards, which now displace the vineyards formerly existing here, and from which wine was wont to be made in the days of our forefathers. Where the aspect is very favourable, and with sufficient shelter from winds, the myrtle, fuchsia, and some Cape geraniums bear the winter uninjured in the open air; and the potato may be planted before Christmas for an early spring crop. *Empetrum nigrum*, *Andromeda polifolia*, *Lobelia Dortmanna*, *Subularia aquatica*, &c. can scarcely be said to exist in this belt; though found south of 53° , it is only in elevated or unfavourable situations;

even *Pinguicula vulgaris*, *Vaccinium Vitis-idaea*, *V. Myrtillus*, *Myrica Gale*, *Viola lutea*, and others very common a little farther north, or at a few hundred feet of elevation, are seldom seen in the low grounds south of 53° . On the other hand, *Viburnum Lantana*, *Cornus sanguinea*, *Acer campestre*, *Clematis Vitalba*, *Tamus communis*, *Hottonia palustris*, *Butomus umbellatus*, *Agrostis setacea*, *Euphorbia paralia*, *Euphorbia amygdaloides*, *Iris foetidissima*, *Linum angustifolium*, &c. &c. abound in many places here, though scarcely one of them can be said to reach the parallel of 56° .

A second belt of vegetation extends from the line where *Clematis Vitalba* fails, to the cessation of *Acer campestre*, *Statice Limonium* and *Tamus communis*, in the parallel of 55° or $55\frac{1}{2}^{\circ}$. To the north of this, *Empetrum nigrum*, *Polygonum viviparum*, *Rhodiola rosea* and *Habenaria albida* descend almost to the sea-level; and *Ligusticum scoticum* makes its appearance on the shore, where *Statice Limonium* and *Euphorbia paralia* are arrested in their northward course. These two belts will together form what may be termed the *English* or *Lower Agricultural Zone*, when it is expedient to distinguish between the upper and lower, or northern and southern portions. Until we have more complete knowledge of the flora of the south of Scotland and north-west of England, it will be impossible to define the line of demarcation between them with precision; but the enumeration of a few species, peculiar, or nearly peculiar to each, will serve to mark it in a general way.

In the Lower Agricultural Zone.

Hottonia palustris.
Acer campestre.
Statice Limonium.
Tamus communis.
Neottia spiralis.
Linum angustifolium.

In the Upper Agricultural Zone.

Lobelia Dortmanna.
Empetrum nigrum.
Ligusticum scoticum.
Listera cordata.
Habenaria albida.
Primula farinosa.

A third belt of vegetation may be regarded as extending from the line where *Acer campestre* fails, in a northerly direction, to the firths of Tay and Clyde; the great Grampian range of mountains, with their outworks, the Siddla, Ochil, and Campsie Hills, arresting the northward progress of many species. Here *Geranium sylvaticum*, *Viola lutea*, *Primula farinosa*, *Pinguicula vulgaris*, *Pyrola minor*, *Trollius europæus*, *Andromeda polifolia*, *Stellaria nemorum*, &c. are quite at home; where *Salvia verbenaca*, *Serratula tinctoria*, *Pastinaca sativa*, *Silaus pratensis*, *Sinapis tenuifolia* and *Sisymbrium Irio* are lingering their last. Within this space, or at elevations and in situations equivalent to it in England, appear *Arbutus Uva-ursi*, *Listera cordata*, *Sedum villosum*, *Corallorhiza innata*, *Oxytropis uralensis*, and perhaps *Trientalis europæa* and *Linnæa borealis*, but very sparsely. The gardens still produce good fruits, but the vine and the fig-tree very rarely perfect theirs; and the walnuts, chestnuts, mulberries and med-lars * commonly fail, or are produced very sparingly.

The fourth and last belt is found at the sea-level in the parallel of 56° on the west, and 57° on the east coast. Several of the plants mentioned to commence in the second or third belts are here very common. The

* Vide Winch, Geogr. Dis. of Plants through Northumberland, &c.

close proximity to the Upland Zone causes the occasional trespass upon this of some species not to be regarded as appropriate to it on that account merely; *Saxifraga aizoides*, *S. stellaris*, *Salix arenaria*, *Galium boreale*, *Meum athamanticum*, *Pyrola secunda*, *Pyrola uniflora*, *Primula scotica*, some or all of them are perhaps thus circumstanced. The contrast between this and the first belt is very striking if we leave out of view the intermediate stages. The various climbing plants festooning the hedges of the south, as *Bryonia dioica*, *Tamus communis*, *Clematis Vitalba*, *Humulus Lupulus*, &c. are no longer seen, unless introduced by human agency; even the hedges themselves are rapidly giving place to the stiff outline of stone-walls; dark masses of Scotch fir are substituted for the deciduous woods of the south; and the increasing extent of uncultivated moors gives an appearance of sterility greater than would be conveyed by the difference of climate and cultivated vegetation. To the eye of the southern observer there is a bleak, cold, naked look in the most fertile plains and vallies north of the Grampians; and the preponderance of barley over wheat fields deprives them of that seeming richness and exuberance spread around him at home. All these changes indicate the gradual lapse of the Agricultural into

2. *The Upland Zone*, where the plants mentioned as occasional intruders into the limits of the preceding zone are here "living on their own estate," although the corn-fields of man are extremely apt to oust hem of their possessory rights. In sheltered situations, with a favourable aspect, the oak, beech, wild-cherry, ash,

sycamore and lime still form fine timber trees; and the lilac, laburnum, monthly rose and corchorus flourish in the gardens. Apples, pears, cherries, currants and gooseberries ripen; but the peach, plum and apricot do not succeed without artificial warmth and shelter. The Scotch fir is quite at home, attaining a large size, and, with the birch, rowan and trembling poplar, forming natural woods, formerly of great extent, but now very much curtailed of their ancient dimensions. Besides the plants above alluded to, we here find *Thalictrum alpinum*, *Tofieldia palustris*, *Epilobium alsinifolium*, *Saxifraga oppositifolia*, *Draba incana*, *Carex capillaris* and *Luzula spicata*, never found in the Agricultural Zone, and by no means general or frequent in this. *Rubus Chamæmorus* and *Cornus suecica* possibly may exist, without flowers, in the preceding zone; but if at all it is very rarely, and they scarcely produce fruit within the limits of this.

It is chiefly round the lakes and in sheltered vallies that we see woods and corn fields, where the debris from decomposing mountains have formed an agricultural soil, and the mountains themselves afford shelter from winds and reflect the light and warmth of the sun's rays. In such situations, at a considerable elevation, the ash is still a fine tree, and most of the common weeds of the corn-fields, the larger grasses, umbelliferous plants, and the brushwood of the preceding zone, are yet found. The roses, brambles, furze, broom, &c. so common in the exposed situations of the Agricultural Zone, begin to require shelter from winds, and where deprived of it are poor and stunted. They fringe the courses of streams, hang on the rocks, or

surround the lakes, wherever this protection is found; and are thus enabled to meet descending species, between them and which, in open unsheltered aspects, there exists a wide gap. In the narrow vallies, their solar day is of course much shortened, and then the summer becomes too cold and humid for plants, especially shrubby species, of the lower situations; but, from the same circumstance, it is favourable to the descent of others from above. Hence often in vallies very near to each other, or even in different situations of the same valley, we find the vegetation of two zones on the same level. By far the greater number of *species* are to be found in those parts of the Upland Zone, open moors and exposed hills producing few. Indeed, there is scarcely any situation affording so little amusement for the botanist, as do the latter. The frequent burning of the bracken and heather for the purpose of forming pasture, aided by the constant nibbling of sheep, utterly destroys many species that would otherwise be found here; so that a few grasses, mosses and *Cyperaceæ*, *Galium saxatile*, *Rumex Acetosa* and *Vaccinium Myrtillus*, greatly stunted, constitute the prevailing vegetation. As the soil becomes peaty, moorish, or boggy, we begin to see *Arbutus Uva-ursi*, *Pyrola media*, *Listera cordata*, *Polygonum viviparum*, *Tofieldia palustris*, and other plants of quest to botanists from the low southern counties. The principal distinctive features of this zone, besides the absence of many species nearly or quite limited to others, will be found in the *grouping* and greater prevalence of the following, according to the nature of the ground; viz.

<i>Empetrum nigrum.</i>	<i>Polygonum viviparum.</i>
<i>Arbutus Uva-ursi.</i>	<i>Galium boreale.</i>
<i>Myrica Gale.</i>	<i>Trollius europæus.</i>
<i>Genista anglica.</i>	<i>Lobellia Dortmanna.</i>
<i>Juniperus communis.</i>	<i>Habenaria albida.</i>
<i>Vaccinium Myrtillus.</i>	<i>Saxifraga stellaris.</i>
<i>Betula alba.</i>	~~~~~ <i>aizoides.</i>
<i>Populus tremula.</i>	<i>Alchemilla alpina.</i>
<i>Pyrus Aucuparia.</i>	<i>Eleocharis cæspitosa.</i>
<i>Pinus sylvestris.</i>	<i>Juncus squarrosus.</i>
<i>Narthecium ossifragum.</i>	<i>Pinguicula vulgaris.</i>
<i>Viola lutea.</i>	<i>Gymnadenia conopsea.</i>

The woodbine still braids the rocks ; the alder skirts the banks of streams ; the holly is yet occasionally seen on the sloping banks, and the broom not unfrequent, sometimes in considerable patches, growing and flowering luxuriantly in July ; nor do the roses shrink from the deteriorated clime, several varieties still flourishing in high beauty of flower and foliage. Perhaps one half the surface of this zone is uncultivated, and in such cases rapidly degenerates into heathy moors, thus rendering it a matter of difficulty, or rather of fancy, how to draw the line of demarcation between the Woody and

II. THE BARREN REGION, where the plough is no longer seen, and scarcely any human habitation to be found, save perhaps the huts of a few summer shepherds, or here and there the solitary shooting cottage of some devoted sportsman. Formerly, much of this Region must have been covered with forests of pine or birch : now they are comparatively “ few and far between ; ” miles after miles of dreary interval exhibiting nothing but a wide extent of black swamps and cheerless

moors, where the heather and deer-grass (*Eleocharis cæspitosa*) make up almost half of the whole vegetation interspersed largely with *Erica cinerea*, *E. Tetralix*, *Melica cærulea*, *Juncus squarrosus*, *Empetrum nigrum*, *Arbutus Uva-ursi*, *Eriophorum vaginatum*, *E. angustifolium* and various *Carices*, mosses and lichens. The gorse has entirely given way to the juniper. The bog-myrtle and the bracken are still found in the lower situations, but early fail; and are succeeded by the dwarf-birch and prostrate azalea. The cloudberry reigns over large tracts of mossy ground, adorning them with its pure white blossoms in early summer, soon to be followed by those of its frequent companion *Cornus suecica*, and in autumn succeeded by well flavoured fruit, an acceptable banquet to the mountain shepherd or tired sportsman. The two zones into which this Region is divided presenting considerable differences, it will be convenient to notice each in succession. It is in

3. *The Moorland Zone*, that we lose *Myrica Gale*, and where the last roses (*Rosa spinosissima*) are yet seen as occasional stragglers. *Arbutus alpina* here makes its appearance, descending nearer and nearer to the Woody Region as we advance from the 57° parallel (about which it is first seen) towards the north-west corner of our island, where it catches the spray of ocean. In stony and rocky places we find *Gnaphalium supinum*, *Hieracium alpinum*, *Silene acaulis* and *Juncus trifidus* scattered somewhat sparsely; about rivulets and in swampy spots, *Epilobium alpinum* and *Juncus triglumis* begin to prevail; and on the debris of mountain streams *Arabis pætreæ* is occasionally seen. We have not quite lost flowers of gayer bearing. Where the

suffocating heather has been destroyed, the yellow blossoms of *Genista anglica* and occasional tufts of broom become conspicuous; and in various situations *Epilobium angustifolium* and *Digitalis purpurea* rear their pyramids of purple, and the paler spikes of *Orchis maculata* and *Pyrola media* are still seen.

4. In the *Subalpine Zone* we at length reach a purely arctic vegetation. Not a stray rose or briar, not a cupuliferous tree, not a single mallow or red poppy, not a climbing shrub or herb yet lingers. All is rigid and erect, or poverty-stricken and procumbent. No more graceful festoons; no umbrageous foliage; no wide spread boughs, with ample leaves to canopy us against the mountain shower. Pines of diminished stature, distorted birch trees, rowans and small willows, with shrubs of still humbler pretensions, are all that remain to continue the intermediate links between the *Woody* and the *Mossy Regions*. The heaths, *Erica cinerea* and *E. Tetralix*, look poor and sickly, and cease entirely before we reach the upper limit of the *Subalpine Zone*; displaced by the dense tufts of *Azalea* or the matted shoots of *Arbutus alpina*. *Calluna vulgaris* becomes dwarfed, and even the more hardy *Empetrum* is evidently of diminished stature. On the hill summits or about the edge of rocks, *Salix herbacea* and *Carex rigida* struggle successfully against these failing shrubs, and usurp the positions which in lower zones were occupied by them. The gradual failure of the heaths, bracken, bog-myrtle and other plants of companionship opens space for numerous small species, chiefly herbaceous; *Sibbaldia procumbens*, *Cerastium alpinum*, *Silene acaulis*, *Cherleria sedoides*, *Lychnis alpina*

and *Statice Armeria*, with others already mentioned, make their appearance on the exposed and otherwise almost bare summits. Among rocks or about the course of streams we find *Saxifraga nivalis*, *Cerastium latifolium*, *Astragalus alpinus*, *Oxytropis campestris*, *Sonchus alpinus*, *Gentiana nivalis*, *Salix lanata*, *Veronica alpina*, *V. saxatilis*, *Alopecurus alpinus*, *Phleum alpinum*, *Spergula saginoides*, *Poa alpina*, *Aira alpina*, *Carex VahlII*, *Juncus castaneus*, &c. &c. Some of which, carried down by streams or the debris from rocks, are now and then seen within the Moorland Zone, but cannot be regarded as its legitimate inhabitants. In the marshy or boggy grounds are *Carex pulla*, *C. rariflora*, *C. aquatilis*, and several others of the same genus which are also found in the lower zones, as is the case with *Vaccinium uliginosum*, *V. oxycoccus*, *Orchis maculata*, *Comarum palustre*, and other associate species.

III. THE MOSSY REGION, as implied in its name, is distinguished by cryptogamous beginning to prevail over phænogamous plants. Very few of the latter are exclusively limited to this Region, and its peculiar character (leaving the cellular plants out of consideration) depends rather on the absence of heaths and other small shrubby plants common in the Barren Region, than upon the appearance of additional species. Utterly destitute of trees, and furnished only with shrubs of humblest growth, yet is this Region in many respects more attractive than the preceding one. We have lost the dreary swamps, and find instead huge masses of piled-up rock, or mountain summits ground by elemental strife to the semblance of a gravel-walk; while in-

intermediate spaces clothed with *Festuca ovina*, *Carex rigida*, *Juncus trifidus* and *Salix herbacea*, give a verdure and pasture-like appearance in refreshing contrast to the bare rocks of this and the dark moors of the Barren Region. Where there is soil and moisture on slightly undulated ground, or in rocky places, the beautiful purple tufts of *Saxifraga oppositifolia*, *Silene acaulis* and *Statice Armeria*, interspersed with the white flowers of *Cerastium alpinum* and *Saxifraga stellaris*, or the light green of *Cherleria sedoides*, give no mean additional beauty to the scanty vegetation. Nor would the graceful wavings of *Luzula spicata*, *Aira alpina* and *Festuca vivipara* be overlooked by one happy enough to attain this Region in (what is unfortunately of rare occurrence at such an elevation) a clear sunny day. Too often the adventurous botanist or scenery-tourist is greeted instead by howling winds, dense drizzling mists and piercing cold, convincing him that winter may here reign in all his discomfort while dog-days burn 4000 feet below. Snow storms occur at intervals during the whole summer, and considerable patches remain unmelted all the year. In ascents, during July and August, to about 4000 feet of elevation, the writer of this has found the thermometer, in the warmest part of the day, range between 45° and 50° in the shade. In stormy and misty days it descends lower than 40°. It is, in all probability, more owing to the bleak exposure and frequent mist, than to their absolute elevation, that our mountains of 3000 or 4000 feet present so arctic a vegetation. In this Region there are a few plants rarely or never seen below it; viz. *Draba rupestris*, *Saxifraga cernua*, *S. rivularis*, *Luzula*

arcuata, and it may be *Stellaria cerastoides*. *Sibbaldia procumbens*, *Luzula spicata*, *Silene acaulis*, *Gnaphalium supinum*, *Salix herbacea*, *Cherleria sedoides*, *Aira alpina* and *Carex rigida* are more common here than lower down. *Rubus saxatilis* and *Betula alba* are rarely seen. The division of this Region into zones depends on the circumstance of *Empetrum nigrum* not bearing the open exposed summits that exceed 3500 feet, and failing as we approximate to the perennial or nearly perennial patches of snow, while several other species seem to grow as well or better in these situations. More species, however, rise above *Empetrum nigrum* near the snow patches and under the shade of steep wet precipices, than in open exposed places. The relative heights of various plants being thus locally changed, observers choosing different aspects will vary in their arrangement of species accordingly. Duly bearing this in mind, let us hastily retrace our steps from the elevated realms where imagination has just borne us, and in so doing examine the distribution of species within this Region.

First, then, on the exposed summits of our highest hills, from which *Empetrum nigrum* shrinks unequal, we find one shrub, *Salix herbacea*, very small indeed but healthy and fruitful. With it associate *Luzula arcuata*, *L. spicata*, *Carex rigida*, *Festuca vivipara*, and *Silene acaulis*; but we look in vain for *Vaccinium Myrtillus*. Very little lower, but in general before we find the last named shrub, appear *Gnaphalium supinum*, *Sibbaldia procumbens*, *Rumex Acetosa*, *Alchemilla alpina*, *Saxifraga stellaris* and *Leontodon palustre*. Succeeding these, and about at the same limit with *Vaccinium*

Myrtillus, we see *Aira alpina*, *Galium saxatile*, *Cochlearia officinalis*, *Viola palustris*, *Epilobium alpinum*, *Stellaria cerastoides*, *Cerastium latifolium*, *Ranunculus acris*, *Poa alpina*, *Rhodiola rosea*, *Veronica alpina*, *Silene maritima*, *Campanula rotundifolia*, *Cerastium viscosum*, *C. alpinum*, *Polygonum viviparum*, *Cherleria sedoides*, *Saxifraga oppositifolia*, *S. nivalis*, *Saussurea alpina*, *Draba rupestris*, *Myosotis alpestris*, &c. &c. About the usual place of *Empetrum nigrum*, and consequently already at a distance from perennial snow, we have *Vaccinium Vitis-idea*, *Stellaria uliginosa*, *Carex pulla*, *Trollius europæus*, *Poa annua*, *Rubus Chamæmorus*, *Oxalis acetosella*, *Vaccinium uliginosum*, *Juncus squarrosus*, *Caltha palustris*, *Eriophorum angustifolium*, *Pinguicula vulgaris*, *Achillæa Millefolium*, *Scabiosa succisa* and *Solidago Virgaurea*. Lower still, as we approach the Barren Region, are *Anthoxanthum odoratum*, *Viola canina*, *Luzula maxima*, *Gnaphalium dioicum*, *Arbutus alpina*, *Azalea procumbens*, *Adoxa moschatellina*, &c. &c. So much of all this, however, depends on the nature of the ground, the aspect, the quantities of moisture, manner of its application, and other circumstances, that everywhere some change of place between the species above enumerated will be found to take place.

It is scarcely necessary to recapitulate the vegetation of the Barren and Woody Regions, in lieu of which the following table is given to illustrate the usual sequence in the appearance or disappearance of particular species. The names interposed between the double columns indicate species rarely or never changing their relative position with each other, though occasionally absent. Those grouped in double columns are the

names of species commencing about the same elevation, and frequently changing their relative order of sequence with others of the same group, but not often with any included in the groups above or below them. Ascending from the south coast in a northerly direction towards and up the Highland Mountains, we find in nearly the following succession—

<i>Geranium sylvaticum.</i>	<i>Trollius europæus.</i>
<i>Andromeda polifolia.</i>	<i>Saxifraga hypnoides.</i>
—	
<i>Polygonum viviparum.</i>	<i>Listera cordata.</i>
<i>Habenaria albida.</i>	<i>Primula farinosa.</i>
<i>Empetrum nigrum.</i>	
<i>Sedum villosum.</i>	<i>Corallorhiza innata.</i>
<i>Rhodiola rosea.</i>	<i>Oxytropis campestris.</i>
<i>Arbutus Uva-ursi.</i>	
<i>Saxifraga aizoides.</i>	<i>Oxyria reniformis.</i>
<i>~~~~~ stellaris.</i>	<i>Alchemilla alpina.</i>
<i>Pyrola secunda.</i>	<i>Tofieldia palustris.</i>
—	
<i>Carex capillaris.</i>	<i>Draba incana.</i>
<i>Saxifraga oppositifolia.</i>	<i>Luzula spicata.</i>
<i>Thalictrum alpinum.</i>	<i>Epilobium alpinum.</i>
<i>Betula nana.</i>	
<i>Silene acaulis.</i>	<i>Hieracium alpinum.</i>
<i>Juncus triglumis.</i>	<i>Juncus trifidus.</i>
<i>Gnaphalium supinum.</i>	<i>Arbutus alpina.</i>
<i>Azalea procumbens.</i>	
<i>Carex rigida.</i>	<i>Saxifraga nivalis.</i>
<i>Cerastium alpinum.</i>	<i>Sibbaldia procumbens.</i>
<i>Salix herbacea.</i>	<i>Cherleria sedoides.</i>
<i>Veronica alpina.</i>	<i>Salix lanata.</i>
—	
<i>Stellaria cerastoides.</i>	<i>Saxifraga rivularis.</i>
<i>Draba rupestris.</i>	<i>~~~~~ cernua.</i>
<i>Luzula arcuata.</i>	

As we again descend, appear in succession, the uppermost group attaining the highest land of Britain,—

Silene acaulis.
Carex rigida.
Festuca ovina.

Luzula spicata.
~~~~~ *arcuata.*  
*Salix herbacea.*

*Gnaphalium supinum.*  
*Statice Armeria.*  
*Rumex Acetosa.*  
*Saxifraga stellaris.*  
~~~~~ *rivularis.*  
Sibbaldia procumbens.
Oxyria reniformis.
Chrysosplenium oppositifolium.
Veronica humifusa.

Alchemilla alpina.
Aira alpina.
Stellaria cerastoides.
Galium saxatile.
Cochlearia officinalis.
Leontodon palustris.
Poa alpina.
Cerastium latifolium.

Vaccinium Myrtillus.

Campanula rotundifolia.
Cherleria sedoides.
Viola palustris.
Thalictrum alpinum.
Silene maritima.
Ranunculus acris.
Epilobium alpinum.

Veronica alpina.
Cerastium viscosum.
~~~~~ *alpinum.*  
*Saxifraga oppositifolia.*  
~~~~~ *nivalis.*  
Saussurea alpina.
Poa annua.

Empetrum nigrum.

Juncus trifidus.
Aira flexuosa.
Euphrasia officinalis.
Luzula campestris.
Polygonum viviparum.

Rubus chamæmorus.
Solidago virgaurea.
Alchemilla vulgaris.
Vaccinium Vitis-idaea.
Trollius europæus.

Vaccinium uliginosum.
Caltha palustris.
Achillæa Millefolium.
Thymus Serpyllum.

Oxalis acetosella.
Scabiosa succisa.
Eriophorum angustifolium.
Stellaria uliginosa.

Anthoxanthum odoratum.
Nardus stricta.
Eleocharis cæspitosa.
Viola canina.
Gnaphalium dioicum.
Narthecium ossifragum.

Carex pulicaris.
~~~~~ *pilulifera.*  
*Luzula maxima.*  
*Arbutus alpina.*  
*Azalea procumbens.*  
*Tormentilla officinalis.*

*Calluna vulgaris.*



|                          |                           |
|--------------------------|---------------------------|
| Melampyrum pratense.     | Pyrus Aucuparia.          |
| Comarum palustre.        | Betula nana.              |
| Orchis maculata.         | Carex flava.              |
| Juniperus communis.      | Pinus sylvestris.         |
| Polygala vulgaris.       | Melica cœrulea.           |
|                          | Erica Tetralix.           |
| Erica cinerea.           | Cytisus scoparius.        |
| Vaccinium oxycoccos.     | Cnicus palustris.         |
| Pedicularis sylvaticus.  | Stellaria holostea.       |
| Vicia sepium.            | Gymnadenia Conopsea.      |
| Rubus Idæa.              | Trifolium repens.         |
| Epilobium angustifolium. | Lobelia Dortmanna.        |
| Digitalis purpurea.      | Galium verum.             |
| Juncus effusus.          | Veronica Chamædrys.       |
| Carex pallescens.        | Aira caryophyllea.        |
| Genista anglica.         | ~~~~~ præcox.             |
|                          | —————                     |
| Myrica Gale.             | Teucrium Scorodonia.      |
| Rosa spinosissima.       | Lonicera Periclymenum.    |
|                          | Coryllus Avellana.        |
| Alnus glutinosa.         | Fraxinus excelsior.       |
| Ilex aquifolium.         | Quercus Robur.            |
| Cratægus Oxyacantha.     | Hordeum murinum.          |
| Prunus spinosa.          | Fagus sylvatica.          |
|                          | —————                     |
| Daphne Laureola.         | Ligustrum vulgare.        |
| Crithmum maritimum.      | Verbena officinalis.      |
| Salvia verbenaca.        | Cornus sanguinea.         |
| Viburnum Lantana.        | Statice Limonium.         |
|                          | Acer campestre.           |
| Tamus communis.          | Neottia spiralis.         |
| Linum angustifolium.     | Rubia peregrina.          |
| Iris fœtidissima.        | Campanula hybrida.        |
|                          | Clematis Vitalba.         |
| Briza minor.             | Illecebrum verticillatum. |
| Scilla autumnalis.       | Sibthorpia europæa.       |
| Exacum filiforme.        | Erica ciliaris.           |

It was the author's wish to give a chart of Britain, on which the different portions of surface belonging to each Region or Zone should be distinguished ; but he has



found so much difficulty in obtaining the requisite information in any other way than by his own personal observation, that the accomplishment of this desire has for the present been prevented. It would require years of observation by a single individual to insure accuracy. The general lines or positions may be in part indicated in a few words. At Aberdeen, Forfar, Perth, Crieff, Stirling and Dumbarton, wheat is cultivated. At Clova, Spittal of Glen-Shee, Loch Tay and Loch Earn Head, it is not grown. From Aberdeen up the east coast to Caithness, there is wheat cultivation. From the north of Sutherland to the north-west of Argyle, probably none is produced. The line of cessation in passing from east to west the author cannot precisely point out. In 1832 there was fine wheat at Fort-Augustus on the Caledonian Canal. North of Inverness it only extends a few miles inland from the eastern shores. All towns and hamlets, and almost every inhabited house, are in the Woody Region. Hills attaining 2500 feet north of the Firths of Tay and Clyde; those of 2000 feet north-west of the Caledonian Canal; and in the north-west of Sutherland those exceeding 1500 feet, all reach the Subalpine Zone. Mountains of 4000 feet, or perhaps less, in the eastern and central parts of Scotland, and those of 3500 on the western coasts reach the Snowy Zone, as well as all rocks, chasms, &c. containing snow till August, of whatever height. The highest hills of England reach the Subalpine Zone. Perhaps the summit of Snowdon may be Alpine. Llyn Ogwen, on the Holyhead and Shrewsbury road, is in the Upland Zone. The ground between Derwentwater and Bassenthwaite Lake is agricultural.



Such, for the present, must suffice as an outline of the Vegetative Zones; local exceptions and modifications will doubtless occur, but as a generalized arrangement the author trusts it will be found tolerably accurate. If botanists localized in different places would study the particular arrangement of plants within their own limits, as far as possible adopting those lines of demarcation which are found to be most widely applicable, and then communicate the results of their observations to the public, we might ere long complete a very correct botanical map of Britain. In the distribution of plants, however, so many circumstances are operative, besides soil and general climate, that our zones, wherever locally observed, will be found deficient in certain of the species.

#### IV.—OUTLINE OF THE GEOGRAPHICAL DISTRIBUTION OF BRITISH PLANTS.

It being intended to give the geographic range of each of our native plants in the Second Part of this work, it would be mere superfluous repetition to enter into any lengthened details in regard to it at present. A full list of British species, arranged according to their northern limits or commencement, would illustrate their range in relation to climate with tolerable precision, and be of some interest; but it is scarcely worth while to execute it here, since any one wishing it may readily construct such a table from the details in the Second Part. To compare their latitudinal ranges with the altitudes attained in Britain, a few on-



ly of the principal or more interesting species may be cursorily noticed. Beyond the parallel of 70° north latitude, on the small tracts of land yet visited, winter may almost be termed eternal; the mean temperature of the three summer months in the north of Spitzbergen and in Melville Island being below the mean of our winters. Yet in these dreary regions do we find the unsetting sun wake some few flowers of no mean beauty to keep watch with him during—

“ The long, long lapse of a summer day’s light,  
Shining on, shining on——”

Indeed, were it not for the nightless summer of these regions, perhaps no flowering plants would be found to withstand their severity of climate. Be this as it may, we have had several of our native plants brought therefrom chiefly collected during the discovery voyages. From the farthest known land, viz. the polar extremity of Spitzbergen and its adjacent islets, about the 80° parallel of latitude, have been procured the following twenty British species:—

|                      |                       |
|----------------------|-----------------------|
| Cochlearia Danica.   | Saxifraga cernua.     |
| ..... Grœnlandica.   | ..... rivularis.      |
| Silene acaulis.      | ..... cœspitosa.      |
| Arenaria rubella.    | Leontodon palustre.   |
| Cerastium alpinum.   | Polygonum viviparum.  |
| Spergula saginoides. | Oxyria reniformis.    |
| Dryas octopetala.    | Salix herbacea.       |
| Saxifraga aizoides.  | Luzula campestris.    |
| ..... oppositifolia. | Eriophorum capitatum. |
| ..... nivalis.       | Poa laxa.             |
| ..... stellaris??    |                       |

All these, with the exception perhaps of *Dryas octo-*



*petala*, are found in our highest or Mossy Region. The existence of *Saxifraga stellaris* is doubtful; if at all, it is only as *S. foliolosa*. Vide App. to Parry's Voyage.

On Melville Island, its latitude  $5^{\circ}$  further south, but equally cold in climate, we add six more to the list of British plants in Spitzbergen, most of which latter are likewise found in Melville Island. The additions are—

|                                |                           |
|--------------------------------|---------------------------|
| Lychnis alpina.                | Astragalus alpinus.       |
| Chrysosplenium oppositifolium. | Juncus biglumis.          |
| Saxifraga Hirculus.            | Eriophorum angustifolium. |

And if *Luzula hyperborea* be a variety of *L. arcuata*, the latter may be added to them. Excepting *Saxifraga Hirculus*, all these are found in the subalpine or higher zones of Britain. In Greenland, beyond  $70^{\circ}$  north latitude, we meet with the small shrubs that mark the upper limit of our Alpine Zone, viz. *Vaccinium uliginosum* and *Empetrum nigrum*. With the latter also occur—

|                         |                          |
|-------------------------|--------------------------|
| Cochlearia officinalis. | Statice armeria.         |
| Lychnis dioica.         | Tofieldia palustris.     |
| Cerastium latifolium.   | Eriophorum polystachion. |
| Stellaria graminea.     | Carex rigida.            |
| Leontodon Taraxacum.    | Ammophila arundinacea.   |
| Pyrola secunda.         | Festuca ovina.           |

In the same country, cold and icy though it be, between the parallels of  $70^{\circ}$  and  $60^{\circ}$ , we might triple the numbers in these lists by the numerous accessions amongst which are several of our alpine or subalpine woody species, viz. *Vaccinium Vitis-idea*, *Andromeda*



*polifolia*, *Menziesia cœrulea*, *Calluna vulgaris*, *Salix lanata*, *Betula nana*, *B. alba*, and (about the parallel of 60°) *Pyrus Aucuparia*. Here also we first meet representatives of our families *Umbelliferæ*, *Labiatae*, *Gentianeæ* and *Orchideæ*.

In Iceland, though not extending nearly so far south as Greenland, the climate appears to be superior; and, compared with that of Melville Island and Spitzbergen, quite genial; the mean heat of the whole year exceeding that of a Melville Island summer or a Scottish winter, and the mean of summer being about that of an English spring, according to the observations recorded by Sir George Mackenzie. Still there is a total want of trees or shrubs, except those of humblest growth, though it is said that the remains of trees of considerable magnitude are dug from beneath the present surface. *Arbutus Uva-ursi* and *Vaccinium Oxycoccos* here make their appearance, with *Paris quadrifolia*, *Fragaria vesca*, *Geranium pratense*, *Lotus corniculatus*, *Trifolium arvense*, *Orchis Morio*, and various other herbaceous plants not extending further to the north-west.

Crossing from these frozen lands to the European Continent, we find in Lapland several important species of our own Flora making themselves conspicuous in its vegetation, amongst which *Pinus sylvestris* stands pre-eminent. Here also commence *Populus tremula*, *Myrica Gale*, *Prunus Padus*, *Rosa villosa*, *Ribes rubrum*, *Rubus idæus*, *Rhamnus Frangula* and others. Just on the confines of Lapland we see *Corylus Avelana*, a Swedish but scarcely a Lapland shrub, bring-



ing us to a Flora corresponding to that of our Woody Region.

In Scandinavia, south of Lapland, the additions become very numerous; and about the parallel of  $60^{\circ}$  we enter the region of forests abounding with cupuliferous trees, as the oak and beech. It is between Lapland and the Baltic that we begin to see shrubby *Leguminosæ*, and the natural families of *Oleinæ*, *Acerinæ*, *Tiliacæ*, &c. &c. Woody species of various families rapidly succeed each other, amongst which are—

|                      |                        |
|----------------------|------------------------|
| Prunus spinosa.      | Fraxinus excelsior.    |
| Cratægus Oxyacantha. | Quercus Robur.         |
| Pyrus communis.      | Fagus sylvatica.       |
| Rosa canina.         | Populus nigra.         |
| Rubus fruticosus.    | Taxus baccata.         |
| Tilia europæa.       | Carpinus Betulus.      |
| Rhamnus catharticus. | Alnus glutinosa.       |
| Hedera Helix.        | Acer campestre.        |
| Sambucus nigra.      | Ligustrum vulgare.     |
| Cytisus Scoparius.   | Lonicera Periclymenum. |
| Genista pilosa.      | Solanum Dulcamara.     |
| Ononis arvensis.     | Viburnum Opulus.       |
| Erica cinerea.       | Daphne Mezereum        |

The growth of these, indeed, indicates a greatly improved climate; but it is not till we cross the Baltic that the *Clematis Vitalba*, *Tamus communis*, *Cornus sanguinea*, and *Viburnum lantana* appear in the hedges, or *Ulex europæus* overruns the downs and heaths. Though British species compose a greater proportion of the Flora of Scandinavia, it is between the parallels of  $55^{\circ}$  and  $45^{\circ}$  that we find the greatest *number* of them; a more southern latitude and mountains crested with everlasting snows ensuring all the gradations of heat



to be found within our island, and on the western coast not sufficiently differing in its distribution through the seasons, to become prejudicial to the growth of plants adapted to our climate. As we cross this tract eastward, various species, and especially those prevailing on our western coasts, gradually disappear. *Pinguicula lusitanica* is one of the earliest failing of the western species. It reaches the west of France and the Spanish Peninsula, but is not found in Sweden, Belgium, or Switzerland eastward. Our common heaths *Erica cinerea* and *E. Tetralix* extend further towards the east, but are rare anywhere except on the western coasts. Both are found in Sweden and France, but neither of them occur in the Floras of Heidelberg, Switzerland, Carniola, Sicily, or the Balearic Isles. *Eriocaulon septangulare*, *Primula scotica*, *Alopecurus alpinus*, *Sanguisorba media* and *Potentilla tridentata*, appear not to reach the Continent, the three last coming to us from America, and here ceasing. A few northern species, as *Saxifraga nivalis*, *Saxifraga rivularis* and *Arenaria rubella* reach Scotland without crossing the Baltic to the Alps or Pyrenees. *Ulex europæus* also appears to be quite a western species, occurring in France and Central Europe, but not named in the Floras of Sweden, Berlin, Heidelberg, Carniola, Piedmont, Sicily, Greece, or Dmitrieff; and it is of rare occurrence in Switzerland. *Calluna vulgaris*, on the other hand, crosses Europe to Greece, and journeys westward to Greenland and perhaps Newfoundland. *Vaccinium Oxycoccos* and other species encircle the northern hemisphere, being found in Europe, Asia and America, as is the case with various others com-



ing to us from more northern lands. Contrasted with the limited range of some of those above mentioned, the wide diffusion of others is sufficiently remarkable. *Oxalis caniculata* is found in North and South America, Africa, Arabia, China and Japan. *Coronopus didyma*, with several weeds of our corn-fields, grasses and aquatic plants, are as widely dispersed. In general, it may be said that annuals spread more than perennials, herbaceous more than woody plants, and monocotyledons more than dicotyledons.

In regard to the altitude, absolute or relative, at which the same species of plants grow in this and other countries, an extensive field of interesting inquiry is opened out to us, but on which it would be inadmissible to attempt a long ramble just now. The general key to the altitude of plants is the elevation of the snow-line, but most countries present some diversities in the relative position and grouping of their species. In the *Flora Lapponica* of Wahlenberg, *Pinus sylvestris* (vide the Table of Altitudes and Temperatures in that work) is placed at 1280 feet below perpetual snow. In Scotland, 10° further south, the present writer has seen it at upwards of 2200 feet, and probably it grows or has grown some hundred feet higher. The lower line of *Azalea procumbens* in Wahlenberg's table is fixed at 1920 English feet; in the Grampians of Scotland it begins only 200 or 300 feet higher than this, and in the north of Sutherland is 400 feet lower. The upper limit of *Calluna vulgaris* in Lapland is intermediate between 1280 and 1920 feet. In the Grampians it sometimes exceeds 3000 feet: in the north of Sutherland about 2400 appears to be its limit. It would



seem from these examples that the limits of species are not quite in the same relation to each other in Lapland as in Britain. This will be abundantly evident by comparing their relative heights. *Luzula arcuata* in Scotland is seen only on the summits of the higher mountains, while *Saxifraga aizoides* descends to the sea-shore. In Lapland, the former descends lower than the latter. So, in Wahlenberg's Table, the upper limit of *Rubus Chamæmorus* is placed on a level with the lower boundary of *Saxifraga aizoides*, but in Scotland *R. Chamæmorus* may be seen 3000 feet above the lowest specimens of *Saxifraga aizoides*. The lower line of *Cryptogramma crispa* in Lapland appears to be just above that of *Salix herbacea*; in Wales and Scotland the former descends 1500 or 2000 feet lower than the latter. With some other striking exceptions like those mentioned, the general sequence of species, particularly woody ones, is very similar. According to Wahlenberg's Table, in ascending the Lapland Mountains we lose in succession the following species in the order as here placed; the uppermost here ceasing first there:

*Myrica Gale.*  
*Daphne Mezereum.*  
*Pinus sylvestris.*  
*Rubus Idæus.*  
*Populus tremula.*  
*Prunus Padus.*  
*Calluna vulgaris.*  
*Pyrus Aucuparia.*  
*Betula alba.*  
*Arbutus alpina.*  
*Menziesia cœrulea.*  
*Betula nana.*  
*Empetrum nigrum.*  
*Salix herbacea.*



The most decided differences to the relative position of these species in Britain will be observed to occur in those whose rarity prevents our ascertaining their place with precision, as, *Betula nana* and *Daphne Mezereum*, or which the destruction of our native forests has curtailed, viz. *Prunus Padus* and *Populus tremula*. The names in italics would occupy the same relative order in a list for the Scottish mountains.

On the Alps of Switzerland, near the limit of perpetual snow, are found,

|                       |                        |
|-----------------------|------------------------|
| Cerastium latifolium. | Stellaria cerastoides. |
| Azalea procumbens.    | Oxyria reniformis.     |
| Juncus trifidus.      | Salix herbacea.        |
| Veronica alpina.      | Bartsia alpina.        |
| Polygonum viviparum.  | Cherleria sedoides.    |
| Salix reticulata.     | Silene acaulis.        |
| Vaccinium uliginosum. | Saxifraga muscoides.   |
| Erigeron alpinus.     | ~~~~~ oppositifolia.   |
| Ranunculus alpestris. | Draba aizoides.        |

All these, except *Draba aizoides*, belong to our subalpine or higher zones, most of them reaching the Snowy Zone. Near perpetual snow on the Pyrenees are,

|                       |                      |
|-----------------------|----------------------|
| Gentiana verna.       | Saxifraga cæspitosa. |
| Azalea procumbens.    | ~~~~~ oppositifolia. |
| Sibbaldia procumbens. | ~~~~~ muscoides.     |
| Silene acaulis.       | Salix herbacea.      |

Except *G. verna*, these are all mountain plants in Britain, and some of them amongst our highest.

On the Altai Mountains, we learn from Ledebour (Vide Hooker's Bot. Misc. Part v.), that the highest point where corn is cultivated is 4000 Parisian feet above the sea, answering to about 1600 feet in Scot-



land. From 4500 to 6500 feet, where trees cease, were observed *Juncus triglumis*, *Epilobium alpinum*, *Cerastium alpinum*, *Erigeron alpinus*, *Saxifraga Hirculus*, and a number of willows. These chiefly grow in Scotland between 2000 and 3500 feet, except the last named one. Some hundred feet higher were *Betula nana*, *Dryas octopetala*, *Oxyria reniformis*, *Thalictrum alpinum*, *Caltha palustris*, *Epilobium alpinum*, *Luzula spicata* and *Sibbaldia procumbens*. Most of these grow in Scotland more or less extensively between 1500 and 4000 feet. The difference between insular and inland positions, and between exposed mountain summits and elevated plains or valleys, sheltered by higher hills, is here sufficiently apparent, the difference of latitude being otherwise counterbalanced by the colder climate of Northern Asia.

Receding southward, the mountain floras become less and less like that of Britain, the resemblance being chiefly limited to genera. *Erigeron alpinus*, *Saxifraga cæspitosa*, *S. granulata*, *Cerastium alpinum* and *Rumex alpinus*, grow in the higher parts of the Caucasus Chain. On the mountains of tropical America, we appear to lose British plants almost entirely; but several of our northern genera, as *Arenaria*, *Alchemilla*, *Cerastium*, *Ranunculus*, *Gentiana*, *Pyrola*, &c. have representative species; and the same occurs on the mountains of Nepal, where very few British plants are seen.

In Britain no cultivation is carried on above 2000 feet of elevation, a height at which, in favourable situations, the vine may be cultivated on the Alps, and where, within the Tropics, palms and treeferns flourish. On the Alps, between 2000 and 4000 feet, are



forests of oak and beech, and fields of corn. In Britain at this height we find the plants of the Arctic Regions. In the south of Norway, the apple is said to grow at 1000 feet of elevation, and some valleys exposed to the sun cultivated at the height of 1080 feet. There are few situations in Scotland where they will be found so high; and in the north-west we may reduce their limits to half the height.

The relative altitudes of plants in Arctic America we can have but a very poor idea of. It would seem that the species mentioned to have been brought from Spitzbergen, Melville Island, and the north of Greenland, there exist only at or near the sea-level. Even in Iceland, we are told by Dr Hooker, that *Azalea procumbens*, *Arabis petræa*, *Rubus saxatilis*, *Erigeron alpinus*, *Saxifraga nivalis*, *S. rivularis*, *S. cernua*, *S. oppositifolia*, *Silene acaulis*, *Veronica alpina*, and *V. fruticulosa*, grow "on the plains and valleys, and near the shores of the sea." If this means, as we presume it does, plains and valleys near the *sea-level*, there must be a descent of vegetation equal to 2500 or 3000 feet in 10° of latitude.

A few illustrations of the arithmetical distribution of British species and families may conclude the remarks to be offered on their general geography. In Loudon's *Hortus Britannicus*, the vascular plants "introduced to Britain" are stated to be 27,729, and the cellular or cryptogamous species 2859. In the *Prodromus Systematis Naturalis Regni Vegetabilis* of Decandolle, (Vol i. published in 1824), the whole number of known species is said to exceed 50,000, and to be daily increasing. When we consider the vast tracts of



land botanically unknown, it may fairly be assumed that one-third of the earth's flora is still undescribed, and that phænogamous plants alone probably amount to 70,000 species. The flora of Britain, including the doubtful and introduced species, is 1500 strong, or about the one-fiftieth of the whole; and estimating the flora of Europe at 7500 species, Britain has one-fifth of them. Descending to more detailed comparisons, it may be said in round numbers, that the phænogamous plants of Britain are equal to two-fifths of those in France; one-half in Germany; nearly two-thirds in Switzerland; almost the whole in Sicily; thrice those of Lapland; four times those of Iceland; eight times more numerous than what are found in Greenland; and nearly thirty times as many as have been yet brought from Spitzbergen.

With respect to the numerical distribution of species *reputedly* British, (still including what in our Second Part are considered varieties, since they go for species in various other countries,) the following calculations will give a tolerably fair idea, though in few of the countries mentioned will the numbers be exact. In Europe they will be nearly so. Of such reputed British species, there are in

|                              |                              |
|------------------------------|------------------------------|
| Spitzbergen, . . . 22 in 43  | Iceland, . . . 284 in 345    |
| Melville Island, . 19 ... 67 | Lapland, . . . 374 ... 495   |
| Greenland, . . . 122 ... 300 | Norway, . . . 580 ...        |
| British America, 255 ...     | Sweden, . . . 910 ... 1163   |
| United States, 242 ...       | Switzerland, . 1110 ... 2313 |
| Japan, . . . . 140 ... 700   | Greece, . . . 750 ... 2330   |
| Nepaul, . . . . 11 ... 840   | Sicily, . . . . 360 ...      |
| New Holland, . . 45 ... 4200 | N. Africa, . . . 350 ...     |



The *British Flora* contains in all about 1520 phænogamous plants; but of these at least one-tenth have only doubtful claim to admittance. The following nineteen being only found in adjacent islands are of course excluded from a Treatise on the distribution of *British species*; viz. in

## GUERNSEY.

Trichonema Bulbocodium.  
Lagurus ovatus.

## JERSEY.

Juncus capitatus.  
Centaurea Isnardi.

## IRELAND.

Rosa hibernica.  
----- Dicksoni.  
Saxifraga umbrosa.  
----- hirsuta.  
----- Geum.  
----- incurvifolia.  
----- denudata.

Arenaria ciliata.  
Arbutus Unedo.  
Menziesia polifolia,  
Erica mediterranea.  
Pinguicula grandiflora.  
Neottia gemmipara.

As also, *Ledum palustre* and *Papaver nudicaule*, unless some error has caused their introduction into the *British Flora*. In addition, it appears that the following are now extinct; viz.

Glaucium phœnicium.  
Echinophora spinosa.  
Tordylium officinale.

Cotyledon lutea.  
Frankenia pulverulenta.  
Eriophorum alpinum.

To these may be added a number of others probably never seen wild in Britain, being either mistaken, or seen only as accidental escapes from cultivated grounds; viz.

Ranunculus gramineus.  
Cardamine bellidifolia.  
Matthiola incana.  
Koniga maritima.

Vella annua.  
Geranium nodosum.  
Silene Armeria.  
Buffonia annua.



|                      |                   |
|----------------------|-------------------|
| Epimedium alpinum.   | Swertia perennis. |
| Potentilla alba.     | Crocus aureus.    |
| Rubus arcticus.      | ~~~~~ minimus.    |
| Rosa cinnamomea.     | Scilla bifolia.   |
| Hypericum calycinum. | Stipa pennata.    |
| Gentiana acaulis.    | ? Typha minor.    |

A much larger catalogue might be made of others introduced, or supposed to have been introduced, by human agency, but now more or less generally established in Britain.—*Vide* Part II, where they are distinguished by a ? preceding their names; all those above enumerated being there omitted.



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## PART II.

## ABBREVIATIONS, EXPLANATIONS, &amp;c.

THE object of this *Part* is to give in detail the range of each species, both in Britain and abroad. For greater convenience, the notices are divided into three heads, designated by HAB. TOPOGR. GEOGR., abbreviations of *Habitat*, *Topography*, and *Geography*. The first embraces particulars relative to soil, situation, and altitude. The usual indications of *woods*, *meadows*, *rocks*, &c. found in every Flora, are omitted here, attention being chiefly directed to climate or altitude, for expressing which, the names of the zones, abbreviated to the three or four first letters, are adopted, since absolute altitude varies in almost every county. In a few species, and particularly those serving as marks of the zones, a more detailed notice of measured or estimated altitudes has been added. It has only been deemed necessary to name the highest and lowest zone in which the author knows or believes the species to grow. Where doubt attaches to the proper place of any plant, an ? follows the abbreviated name of the zone. Probably various species, on more extended examination, will be found to range a zone higher than is here given to them.

Under the head TOPOGR. he has first mentioned, by numerals, the districts in which the species is reputed to be wild, inclosing within ( ) the Nos. expressing districts in which any given species is believed to be merely naturalized, or to the existence of which, within the limits, some doubt attaches. These Nos. indicate the several districts in the following order, viz.



1. South-eastern counties of England.
2. South-western ditto.
3. North-eastern ditto.
4. North-western ditto.
5. Southern counties of Scotland.
6. Northern ditto.

The local Floras, in which the species occurs, are next quoted in abbreviations easily understood, viz.

|            |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fl. Dev.   | for    | Flora Devoniensis, by Kingston and Jones.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| ... Ton.   | ... .. | Tonbrigiensis, by Forster.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| ... Ox.    | ... .. | Oxoniensis, by Sibthorpe.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| ... Bed.   | ... .. | Bedfordiensis, by Abbot.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| ... Cam.   | ... .. | Cantabrigiensis, by Relhan.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| ... Ang.   | ... .. | of Anglesea, in <i>Welsh Botanology</i> , by Davies.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| ... North. | ... .. | of Northumberland and Durham, by Winch.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| ... Berw.  | ... .. | of Berwick-on-Tweed, by Johnston.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| ... Edin.  | ... .. | Edinensis, by Greville.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| ... Lan.   | ... .. | of Lanarkshire, by Patrick.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| ... Mur.   | ...    | Catalogue of Plants in the Province of Moray, by Rev. G. Gordon of Elgin; taken from a MS. Flora, which, it is to be hoped, the author will soon present to the public. The <i>Province</i> includes the counties of Elgin or Murray, Nairn, and the north-east of Inverness-shire; extending from the sea-shore to the height of 4000 feet. The ? following <i>Mur.</i> indicates that Mr Gordon suspects the species may have been introduced. The ! is added where he feels certain that it is not indigenous there. Perhaps ? may be applied too frequently. |

In this series three Floras are omitted, viz. of South Kent, by Smith,—of Glasgow, by Hopkirk,—and the Midland Flora. The last having no definite limits, can only be regarded as an in-



complete (and from its voluminous "additions," "corrections," appendices, &c. a most inconvenient) Flora of England. The author's booksellers have not been able to procure him copies of the two former works. Understanding that all the unsold copies of the Catalogue for South Kent had been returned to Mr Smith, the writer of this addressed a letter to him, requesting to purchase one from the publishers, but is ignorant whether this letter was received, no answer having been returned. These Floras are in consequence omitted. In those cases where a species appears not to extend into all the six districts, any other counties in which stations have been indicated are then named. Where all the districts contain a species, only those counties are mentioned which are situated more north or south than the range of the Floras including it. The names of counties in italics are on the author's own responsibility, being those in which he has seen the species growing. He believes several of the others will be found erroneous. Unfortunately, too, the mere quoting of a local Flora by no means indicates that the plant is *wild* within its limits. Compilers of these works have commonly evinced a greater anxiety to swell their lists, than to present us with a true catalogue, by separating the doubtful ones, as we find done in Wahlenberg's *Flora Suecica*, for example. The *Flora Edinensis* contains many names of species not found within its limits. This is scarcely the fault of its author, but of amateur botanists endeavouring to beautify their neighbourhood, by sowing seeds of southern plants, which students subsequently discovering have believed to be indigenous. The Floras of Devon, Berwick-on-Tweed, Oxford, and Anglesea are most to be trusted in this respect. The ? preceding the name of any species indicates that it has either a doubtful claim only to be regarded as a genuine Briton, or that it has certainly been introduced, though now more or less perfectly established. The initial letters added to the TOPOGR. indicate the comparative scarcity or commonness of the species with respect to the *whole* of Britain, as follows, *very rare*, *rare*, *rather rare*, *rather common*, *common*, *very common*.

Under the head of GEOGR. some abbreviations are used, which may also need explanation, viz.



- Europe 1. for Lapland.
2. ... Norway and Sweden.
  3. ... France and central Europe. The latter including Prussia, Germany, Holland, Belgium, Switzerland, Italy north of the river Po, and the Austrian dominions.
  4. ... Portugal, Spain, Italy south of the Po, Turkey, Greece, and the Islands of the Mediterranean.
  5. ... Russia.
- N. Asia, ... Siberia from the Altai to the Arctic Sea, from the Oural Mountains to Kamchatka.
- E. Asia, ... All the Chinese empire and adjacent islands, as Japan, &c.
- W. Asia, ... All the country south of Siberia, and east of the Chinese empire and Hindostan.
- British, Brit. or B. America,—All the continent and islands east of the Rocky Mountains and Russian territory, west of Greenland, and north of the United States.
- Western, West. W. America,—The country west of the Rocky Mountains, and between the Russian territory and Mexico.
- Russian, Russ. or R. America,—The continental and insular territories of Russia about Behring's Sea and Straits.

The others are sufficiently intelligible. In giving geographical ranges, the chief attention has been directed to the islands and countries round the Northern Atlantic Ocean. The author not having seen any Flora of the Russian dominions, except that of Dmitrieff in Europe, the omission of "Europe 5." or "N. Asia," is no proof that a species does not grow there. Neither has he any Flora of Italy between Piedmont and Sicily, or of the Spanish peninsula.

The nomenclature is invariably that of Hooker's British Flora, 2d edition. Synonyms are in consequence unnecessary, as every British botanist possesses, or ought to possess, that work.



## DISTRIBUTION OF SPECIES.

## I. RANUNCULACEÆ.

1. CLEMATIS *Vitalba*.

HAB. Calcareous soils seem best adapted to it. Agr.

TOPOGR. 12 (3).—*Fl. Dev. Ton. Ox. Bed. North. Edin.*—Indicated also in the counties of Surry, Hants, Northampton, Norfolk, Cornwall, Somerset, Gloucester, Warwick, York and Stirling. Not indigenous in the N. of England; *Winch.*—Near Richmond, Yorkshire; probably introduced; *J. Ward.*—Not native to Scotland, and perhaps nowhere indigenous in England beyond 53° N. L. r. r.

GEOGR. Europe 3, 4. N. Africa. W. Asia.

2. THALICTRUM *flavum*.

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Berw. Edin. Lan.*—Sandside, Caithness; *T. J. Torrie.* I have no other station north of the Grampians. r. r.

GEOGR. Europe 1, 2, 3, 4, 5. N. E. Asia. Ireland.

3. THALICTRUM *minus*.

*majus.*

HAB. Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Cam. Ang. North. Berw. Edin.*—Wiltshire, Caithness, O. Hebrides. r. c.

GEOGR. Europe 2, 3, 4, 5. N. Asia.



4. *THALICTRUM alpinum*.

HAB. Descends to the sea-shore in the parish of Durness, Sutherland; *Graham*.—Rarely, however, found so low as the Woody Region. Upl.—Sno.

TOPOGR. 3, 4, 5, 6.—*Fl. North. Mur.*—Said to be also found in the counties of York, *Caernarvon*, Cumberland, Dumfries, *Argyle*, *Perth*, *Forfar*, *Aberdeen*, *Inverness*, Sutherland, and the O. Hebrides. r. r.

GEOGR. Europe 1, 2, 3. N. Asia. Greenland. Newfoundland. Iceland. Ireland.

5. ? *ANEMONE apennina*.

HAB. Agr.

TOPOGR. 1.—*Fl. Bed.*—The counties of Surry, Middlesex, Essex and Herts are also indicated for it. An introduced plant in all probability. v. r.

GEOGR. Ireland? Belgium. France. Corsica. Italy. Sicily. Greece. Banks of the Simois.

6. ? *ANEMONE ranunculoides*.

HAB. Agr.

TOPOGR. 1.—*Fl. O.*—Two stations are recorded: King's Langley, Herts; Wrotham, Kent. Introduced. v. r.

GEOGR. Europe 2, 3, 5. N. Asia.

7. *ANEMONE Pulsatilla*.

HAB. Calcareous soils. Agr.

TOPOGR. 1, 2, 3.—*Fl. Ox. Bed. Cam.*—Indicated also in Berks, Northampton, Suffolk, Norfolk, Gloucester, Leicester, Lincoln, York. r.

GEOGR. Europe, 2, 3, 4. N. Asia.

8. *ANEMONE nemorosa*.

HAB. Agr.—Subalp.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall*, *Ross-shire*. c.

GEOGR. Europe, 1, 2, 3, 4. N. W. Asia. British America northward to 53°. U. States, southward to Carolina. Western America.



9. ? *ADONIS autumnalis*.

HAB.

Agr.

TOPOGR. (1, 2, 3, 4, 5.)—*Fl. Ton. Ox. North*.—Has but slight claim to be considered indigenous in the north of England, *Winch*. Occasional stray specimens occur all over Britain; but it has probably been introduced. r. r.

GEOGR. Europe, 3, 4. N. Africa. Cape Charles, Labrador; *Hook. Fl. Bor. Am.*

10. *MYOSURUS minimus*.HAB. In a gravelly or chalky soil, *H. B. F.*

Agr.

TOPOGR. 1, 2, 3.—*Fl. Dev. Ton. Ox. Bed. Cam. North*.—Also indicated in Sussex, Surry, Berks, Middlesex, Essex, Herts, Bucks, Suffolk, Norfolk, Northampton, Somerset, Worcester, Hereford, Warwick, Leicester, Notts, Derby, York. r. r.

GEOGR. Europe, 2, 3, 4, 5.

11. *RANUNCULUS parviflorus*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North*.—Indicated also in Dorset, Hants. Sussex, Surry, Middlesex, Essex, Herts, Bucks, Norfolk, Somerset, Worcester, Warwick, Pembroke, Leicester, York, Denbigh, and *Caernarvon*. Terminates northward in Durham. r. r.

GEOGR. Europe, 3, 4. N. Africa. W. Asia. Ireland.

12. *RANUNCULUS arvensis*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. North. Berw. Edin. Lan.*—Also in Surry, Norfolk, Warwick, Montgomery, York. r. c.

GEOGR. Europe 2, 3, 4. N. Africa. N. W. Asia. Ireland.

13. *RANUNCULUS hirsutus*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. North. Edin. Lan.*—Indicated in Surry, Norfolk, Somerset, Montgomery, Stirling? Argyle, Perth. r. c.

GEOGR. Europe 2, 3, 4. U. States. Ireland.



14. RANUNCULUS *Lingua*.

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Ox. Bed. Cam. Ang. North. Berw. Edin. Lan. Mur.*—Sussex. r. c.

GEOGR. Europe 2, 3, 5. N. Asia. U. States. Ireland.

15. RANUNCULUS *sceleratus*.

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Ross-shire*. c.

GEOGR. Europe 2, 3, 4, 5. N. Africa. N. W. E. Asia. British America from 67° N. L. U. States. South America. Ireland.

16. RANUNCULUS *auricomus*.

HAB. I do not remember to have seen this above the Agricultural Zone, but its geographic range would lead us to expect it higher. Agr.—?

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Edin. Lan. Mur.* c.

GEOGR. Europe 1, 2, 3, 4, 5. N. E. Asia. Greenland. Labrador. U. States. Ireland.

17. RANUNCULUS *aquatilis*.

HAB. Agr.—Upl.?

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Ross-shire*. v. c.

GEOGR. Europe 1, 2, 3, 4, 5. N. Africa. W. Asia. British America from 68. U. States. Unalascha. Iceland. Ireland.

18. RANUNCULUS *hederaceus*.

HAB. Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Sutherland*. c.

GEOGR. Europe 2, 3, 4. N. Africa. U. States. Greenland. Iceland. Siberia.

19. RANUNCULUS *bulbosus*.

HAB. Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—O. Hebrides, *Ross-shire*. c.

GEOGR. Europe 2, 3, 4, 5. N. Africa. Brit. America. U. States. Ireland.



20. *RANUNCULUS repens*.

HAB. Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. om.*—*Cornwall, Sutherland.* v. c.

GEOGR. Europe 1, 2, 3, 4, 5. N. Africa. N. Asia. Quebec.

U. States. Iceland. Ireland.

21. *RANUNCULUS Ficaria*.

HAB. Agr.—Moor.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*,—*Ross-shire.* v. c.

GEOGR. Europe 1, 2, 3, 4. N. Africa. Ireland.

22. *RANUNCULUS Flammula*.

HAB. In low situations, tall and almost perfectly erect; a creeping pigmy on the mountains. Agr.—Subalp.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*.—*Cornwall, Caithness.*

v. c.

GEOGR. Europe 1, 2, 3, 4, 5. N. Africa. N. W. Asia. British America from 69° N. L. U. States. Russian Am. Ireland.

23. *RANUNCULUS acris*.

HAB. On the mountains the flowers are larger in proportion to the plant than in low situations. Agr.—Sno.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*.—*Cornwall, Caithness.*

v. c.

GEOGR. Europe 1, 2, 3, 4, 5. N. Asia. British America from 68°. U. States. Greenland. Iceland. Ireland.

24. *RANUNCULUS alpestris*.

HAB. Subalp.?

TOPOGR. 5.—*Fl. O.*—Exceedingly rare, the only station being “sides of rills on the Clova Mountains.” v. r.

GEOGR. On the mountains of France, Central Europe and Italy.

25. *CALTHA palustris*.

HAB. Small, prostrate or creeping, on the mountains.

Agr.—Alp.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*.—*Cornwall, Caithness.* c.

GEOGR. Europe 1, 2, 3, 4, 5. N. E. W. Asia. British America. U. States. W. America. Iceland. Ireland.



26. *TROLLIUS europæus*.

HAB. Agr.—Alp.

TOPOGR. 2, 3, 4, 5, 6.—*Fl. North. Berw. Edin. Lan. Mur.*—Also in Glamorgan, Radnor, Salop, Derby, York, Merioneth, *Caernarvon*, Chester, Lancaster, Westmoreland, Cumberland, Dumfries, Roxburgh, *Dumbarton*, *Perth*, *Forfar*, *Aberdeen*, Inverness, Ross, Sutherland. r. c.

GEOGR. Europe 1, 2, 3, 4, 5. N. W. Asia. Ireland.

27. *HELLEBORUS viridis*.

HAB. “Especially in a chalky subsoil;” *H. B. F.* Agr.

TOPOGR. 1, 2, 3, 4, (5).—*Fl. Dev. Ox. Bed. Cam. North.*—Indicated in Dorset, Hants, Sussex, Surry, Kent, Middlesex, Bucks, Northampton, Suffolk, Norfolk, Cornwall, Pembroke, Worcester, Warwick, Derby, York, Denbigh, Flint, Lancaster, Westmoreland, Cumberland. If not originally a British plant, now quite naturalized in England, but with very slight claim to the Scottish Flora. r. r.

GEOGR. Europe 3, 4

28. *HELLEBORUS foetidus*.

HAB. “Especially in chalky counties;” *H. B. F.* Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Ox. Bed. Cam. Ang. North. Edin. Lan.*—Also indicated in Wilts, Hants, Sussex, Surry, Essex, Bucks, Suffolk, Norfolk, Glamorgan, Somerset, Gloucester, Worcester, Derby, York and Denbigh. r. r.

GEOGR. Europe 3, 4.

29. *AQUILEGIA vulgaris*.

HAB. Agr.—?

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Edin. Lan. Mur.*?—*Inverness*. r. c.

GEOGR. Europe 2, 3, 4, 5. E. Asia. Ireland.

30. ? *DELPHINIUM Consolidida*.

HAB. Sandy or chalky fields. *H. B. F.* Agr.

TOPOGR. (1, 2, 3).—*Fl. Ton. Bed. Cam. North.*—Indicated in Dorset, Surry, Oxford, Suffolk, Norfolk, Worcester, Leicester,



York. Not truly indigenous in the north of England; *Winch.*  
Shore near Edinburgh; *Graves.* r. r.

GEOR. Europe 2, 3, 4, 5. U. States. Ceases before 61° in  
Sweden; *Wahlenberg.*

31. ? *ACONITUM Napellus.*

HAB. (2, 5).—*Fl. Lan.*— Agr.

TOPOGR. "Teme, Herefordshire. Below Staverton Bridge,  
Devon; Rev. *J. S. Tozer.* A doubtful native." *H. B. F.* r.

GEOR. Europe 2, 3, 4. N. E. Asia. Russian America to 66½°.   
Rocky Mountains between 52° and 56°. Sledge Island on the  
N. W. coast.

32. ? *ACTÆA spicata.*

HAB. "Especially in limestone tracts;" *H. B. F.* Agr. ?

TOPOGR. (1, 3, 4, 5). *Fl. O.*—Stations are assigned to it in  
Essex, York, Westmoreland, Kinross. v. r.

GEOR. Europe 1, 2, 3, 4, 5. N. W. Asia. In Siberia to the  
limit of the beech; *Wahlenberg.*

33. *PÆONIA corallina.*

HAB.

Agr.

TOPOGR. 2. *Fl. O.*—Extremely rare; only found (and there  
sparingly) on the island called "Steep Holmes," in the Severn.  
"Gerard says he found it at Southfleet, Kent, which his editor,  
Johnson, rudely denies." *Rees' Cycl.* v. r.

GEOR. France. Balearic Isles, (*a variety*). Greece. Siberia;  
*Sp. plant.*

## II. BERBERIDEÆ.

1. *BERBERIS vulgaris.*

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5, (6).—*Fl. Dev. Ton. Ox. Bed. Cam. North.*  
*Berw. Edin. Lan. Mur.* !—Introduced in many places, and pro-  
bably native in others. c.

GEOR. Europe 2, 3, 4.—E. W. Asia. Canada. Newfound-  
land. Ireland.



## III. NYMPHÆACEÆ.

1. NYMPHÆA *alba*.

HAB. Agr.—Moor.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang.*  
*North. Edin. Lan. Mur.*—*Cornwall, Sutherland.* r. c.  
 GEOGR. Europe 1, 2, 3, 4, 5. N. Asia. Ireland.

2. NUPHAR *lutea*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—O. Hebrides. r. c.  
 GEOGR. Europe 1, 2, 3, 4, 5. N. W. E. Asia. British Ame-  
 rica, between 54° and 64°. Alleghanies. Ireland.

3. NUPHAR *pumila*.

HAB. Upl.  
 TOPOGR. 3, 5, 6.—*Fl. North. Mur.*—Stirling, Dumbarton,  
 Argyle, Aberdeen. r.  
 GEOGR. Europe 1, 2, 3.

## IV. PAPAVERACEÆ.

1. ? PAPAVER *somniferum*.

HAB. Agr.  
 TOPOGR. (1, 2, 3, 4, 5, 6.)—*Fl. Ton. Ox. Cam. North. Mur.*!  
 Certainly not indigenous, but often seen near cultivated places.  
 r. r.  
 GEOGR. Europe 2, 3, 4, 5, *naturalized*. N. Africa. W. E.  
 Asia. Mauritius Isles. Ireland, *naturalized*.

2. PAPAVER *hybridum*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4.—*Fl. Dev. Ton. Ox. Bed. Cam. North.*—  
 Cornwall, Wilts, Sussex, Surry, Essex, Suffolk, Norfolk, Caer-  
 narvon, Flint, York. r. r.  
 GEOGR. Europe 3, 4. N. Africa. Ireland.

3. PAPAVER *Argemone*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang.*  
*North. Berw. Edin. Mur. ?—Cornwall.* c.  
 GEOGR. Europe 2, 3, 4, 5.—N. Africa. Ireland.

4. PAPAVER *Rhæas*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.* c.  
 GEOGR. Europe 2, 3, 4, 5. N. Africa. E. Asia. Ireland.

5. PAPAVER *dubium*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.—Sutherland.* c.  
 GEOGR. Europe 2, 3, 4, 5. N. Africa. Ireland.

6. MECONOPSIS *cambrica*.

HAB. Agr.—Moor.  
 TOPOGR. 2, 3, 4, (5).—*Fl. Dev. Edin.—Glamorgan, Mont-*  
*gomery, Caernarvon, Denbigh, York, Lancaster, Westmoreland,*  
*Cumberland, Kinross.* Probably not native in Scotland. r. r.  
 GEOGR. France. Russian Empire at the river Jenesei; *Dec.*  
 Ireland.

7. ? GLAUCIUM *violaceum*.

HAB. Agr.  
 TOPOGR. (1).—*Fl. Cam.—Norfolk.* v. r.  
 GEOGR. Europe 3, 4, 5. W. Asia.

8. GLAUCIUM *luteum*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, (6).—*Fl. Dev. Ang. North. Berw. Edin.*  
*Mur. !—Cornwall, Kent, Caernarvon, Chester, Lancaster, Dum-*  
*fries, Roxburgh ? Dumbarton, Argyle.* r. c.  
 GEOGR. Europe 3, 4, 5. N. Africa. U. States. Ireland.

9. ? CHELIDONIUM *majus*.

HAB. Agr.  
 TOPOGR. (1, 2, 3, 4, 5, 6).—*Fl. omnes.—Cornwall.* Quite wild  
 in various places, but where houses are or have been. r. c.  
 GEOGR. Europe 2, 3, 4, 5. N. Asia. U. States. Ireland ?



## V. FUMARIACEÆ.

1. ? *CORYDALIS lutea*.

HAB.

Agr.

TOPOGR. (2, 3, 4).—*Fl. Dev. North*.—Somerset, Worcester, Chester, Derby, York. Scarcely indigenous; *Hook. B. F.* r.

GEOGR. Europe 3, 4. N. Africa.

2. ? *CORYDALIS solida*.

HAB.

Agr.

TOPOGR. (1, 2, 4).—*Fl. O.*—Hants, Worcester, Warwick, Lancaster, Westmoreland. A very doubtful native; *Hook. B. F.* r.

GEOGR. Europe 2, 3, 4, 5. N. Asia.

3. *CORYDALIS claviculata*.

HAB.

Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*El. Dev. Ton. Ang. North. Berw. Edin. Mur.* r. c.

GEOGR. Denmark, Germany, Holland, France, Portugal, Ireland.

4. *FUMARIA officinalis*.  
*capreolata*.  
*parviflora*.

*N. B.*—Mr Arnott has pointed out the distinctions between these and subordinate varieties with great nicety; but believing them to be all from one original stock, I unite them here.

HAB.

Agr.—Upl.

TOPOGR. (1, 2, 3, 4, 5, 6).—*Fl. omnes*.—Introduced, but now perfectly naturalized from *Cornwall* to the north coast of *Sutherland*. *F. parviflora* extends northward to *Edinburgh* and *Inverness*? v. c.

GEOGR. Perhaps originally from the East; now extended over the world. Europe 1, 2, 3, 4, 5. Ireland. N. Africa. Canada, U. States. S. America. Cape of Good Hope.

## VI. CRUCIFERÆ.

1. *MATTHIOLA sinuata.*

HAB. Agr.  
 TOPOGR. (1) 2, 4.—*Fl. Dev. Ang.*—Cornwall, Sussex? Glamorgan, Pembroke, Merioneth, Caernarvon, Flint. r.  
 GEOGR. Europe 3, 4. N. Africa.

2. ? *CHEIRANTHUS Cheiri.*

HAB. Agr.  
 TOPOGR. (1, 2, 3, 4, 5, 6).—*Fl. omnes.*—Introduced? r. c.  
 GEOGR. Europe 3, 4. Ireland.

3. *NASTURTIIUM amphibium.*

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Cam. North. Edin. Lan.*—Surry, Northampton, Leicester, Roxburgh, Dumbarton. Frequent; *Hook. B. F.* r. c.  
 GEOGR. Europe 2, 3, 4, 5. N. Africa. Ireland. E. Asia. British America. U. States.

4. *NASTURTIIUM sylvestre.*

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ox. Bed. Cam. North. Berw.*—Kent, Surry, Berks, Middlesex, Bucks, Worcester, Suffolk, Norfolk, Chester, York, Dumfries, Selkirk, Roxburgh. r. c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland. N. W. E. Asia. New Holland. U. States.

5. *NASTURTIIUM terrestre.*

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Berw. Edin. Lan.*—Surry, Worcester, Norfolk, Leicester, York, Cheshire, Lancashire, Roxburgh, Kinross, Argyle, Forfar. r. c.  
 GEOGR. Europe 2, 3, 4, 5. Iceland. Ireland. N. Africa. N. W. E. Asia. Java.



6. *NASTURTIUM officinale.*

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Ross.*

c.

GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa. Cape of Good Hope. Mauritius. E. W. Asia. U. States. Western America. Jamaica. S. America.

7. ? *BARBARIA præcox.*

HAB.

Agr.

TOPOGR. (1, 2, 3, 5.)—*Fl. Dev. North. Berw. Edin.*—Kent, Surry, Roxburgh. Often the outcast of a garden; *H. B. F.*

r.

GEOGR. Europe 2, 3, 4. British America from 68° to Canada.

8. *BARBARIA vulgaris.*

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—Uncommon in the north of Scotland?

c.

GEOGR. Europe 1, 2, 3, 4, 5. N. Africa, Ireland. N. Asia. W. America.

9. *TURRITIS glabra.*

HAB.

Agr.

TOPOGR. 1, 2, 3, 5.—*Fl. Ox. North.*—Dorset, Somerset, Wilts, Kent, Berks, Middlesex, Essex, Bucks, Worcester, Warwick, Suffolk, Norfolk, Stafford, Derby, York, Forfar. Bowling Bay on the Clyde; *H. B. F.*

r. r.

GEOGR. Europe 2, 3, 4, 5. N. Asia. British America from 64° N. L.

10. *ARABIS stricta.*

HAB.

Agr.

TOPOGR. 2 (4.)—*Fl. O.* St Vincent's Rocks, Somerset, Kirkland Fell pasture, Cumberland; *Hutchinson.*

v. r.

GEOGR. France, Central Europe. Labrador?

11. *ARABIS Turrita.*

HAB.

Agr.

TOPOGR. 1, 3, 5.—*Fl. Ox. Cam.*—Yorkshire; Greaves Kinross-shire; *Arnott.*

r.

GEOGR. France, central and South Europe.

12. *ARABIS hirsuta*.

HAB. Agr.—Subalp.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Cam. Ang. North. Edin.*  
*Lan. Mur.*—Kent, Ross. r. c.  
 GEOGR. Europe 1, 2, 3, 5. Ireland. E. Asia. British  
 America from 68°. Unalashka. Columbia River.

13. *ARABIS pætreæ*.

HAB. ?—Moor.—Alp.  
 TOPOGR. (2) 3, 4, 5, 6.—*Fl. Dev. Mur.*—Merioneth, Caer-  
 narvon, Derby, York, Cumberland, Argyle, *Aberdeen*, Inverness.  
 Sutherland. Salop; *Aiken*. Wigvor Down, Devon; *Hudson*.  
 Are these two last correct? r.  
 GEOGR. Europe 2, 3. Iceland. Faroe. British America.  
 Unalashka.

14. *ARABIS ciliata*.

HAB. Subalp.?  
 TOPOGR. 5.—*Fl. O.*—Rocks near Loch Lea in Glen Esk; *G,*  
*Don*. The only station. v. r.  
 GEOGR. France. Central Europe. Ireland.

15. *CARDAMINE impatiens*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Lan.*—Somerset, Sussex, Worces-  
 ter, Leicester, Denbigh, Chester, Derby, York, Lancaster,  
 Westmoreland, Cumberland, Ayr. r. r.  
 GEOGR. Europe 2, 3, 4.

16. *CARDAMINE amara*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Ton. Ox. North. Berw. Edin.*  
*Lan. Mur.*—Dorset. r. c.  
 GEOGR. Europe 2, 3, 4, 5. Lapland; *Dec*.

17. *CARDAMINE pratensis*.

HAB. Agr.—Subalp.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—Ross. v. c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Ireland. Iceland. N. Asia.  
 Brit. America from Igloolik. Russian America.



18. *CARDAMINE hirsuta*.

HAB. Agr.—Subalp.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*.—*Cornwall, Ross.* v. c.

GEOGR. Europe 2, 3, 4, 5. N. Africa. Ireland. Iceland.  
N. W. Asia. Nepaul. Brit. America from the Arctic coast.  
Unalaschka. West Am. S. Am.

19. *DENTARIA bulbifera*.

HAB. Agr.

TOPOGR. 1, 5.—*Fl. Ton.*—Sussex, Middlesex, Bucks, Edinburgh, Perth. r.

GEOGR. Europe 2, 3, 4, 5. W. Asia.

20. *DRABA muralis*.

HAB. Agr.

TOPOGR. 1, 2, 3, (4, 5).—*Fl. Edin.*—Somerset, Bedford, Derby, York, Westmoreland, Forfar. r.

GEOGR. Europe 2, 3, 4. N. Africa. Ireland. Iceland?  
Montreal.

21. *DRABA aizoides*.

HAB. Agr.

TOPOGR. 2.—*Fl. O.*—Walls and rocks near Swansea. v. r.

GEOGR. Europe 3, 4.

22. *DRABA verna*.

HAB. Agr.—Subalp.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.* v. c.

GEOGR. Europe 2, 3, 4, 5. Ireland. Iceland. British America. U. States.

23. *DRABA incana*.

HAB. Most commonly on limestone or micaceous rocks. In Harris, on granite; *Macgillivray*. Upl.—Alp.

TOPOGR. 3, 4, 5, 6.—*Fl. North.*—Caernarvon, Derby, York, Westmoreland, *Argyle, Perth, Forfar, Aberdeen, Inverness, Sutherland, O. Hebrides.* r.

GEOGR. Europe 1, 2, 3, 5. Ireland. Iceland. Siberia. Greenland. British America. Russian Am. W. Am.

24. *DRABA rupestris*.

HAB.

Alp.—Sno. ?

TOPOGR. 5, 6.—*Fl. Mur.*—Breadalbane Mountains, *Perthshire*. Cairngorm Mountains, between Aberdeen and Inverness-shires. v. r.

GEOGR. This or nearly allied species are found in Europe 1, 2, 3; Greenland, Arctic America, and on the Rocky Mountains.

25. ? *COCHLEARIA Armoracia*.

HAB.

Agr.

TOPOGR. (1, 2, 3, 4, 5, 6).—*Fl. Dev. Ton. Ox. Cam. Ang. North. Edin. Lan. Mur.*!—Probably not indigenous, but often seen on heaps of rubbish, the sea-shore, or in damp fields. *Cornish coast*. r. r.

GEOGR. France. Central Europe.

26. *COCHLEARIA officinalis*.  
*grænlandica*.  
*anglica*.  
*danica*.

HAB.

Agr.—Sno.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Cam. Ang. North. Berw. Edin. Lan.*—*Cornwall, Sutherland*. c.

GEOGR. Europe 1, 2, 3. Ireland. Iceland. Siberia. Spitzbergen. Greenland. British America from the Arctic coast. Russian Am. W. Am.

27. *THLASPI perfoliatum*.HAB. Limestone pastures; *H. B. F.*

Agr.

TOPOGR. 1, (3, 4).—*Fl. Ox.*—York, Westmoreland, Cumberland. Only found in Oxfordshire; *Hook. B. F.* v. r.

GEOGR. Europe 2, 3, 4.

28. *THLASPI arvense*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Cam. North Berw. Edin. Lan. Mur.*?—*Sutherland*. r. c.

GEOGR. Europe 1, 2, 3, 4, 5. Ireland. E. Asia. Canada. U. States.



29. *THLASPI alpestre*.

HAB. Not having seen this plant in its native habitats, I am uncertain of its range. Agr. ?—Subalp. ?

TOPOGR. 2, 3, 4, 5.—*Fl. Dev. North.*—Glamorgan, Denbigh, Derby, York, Cumberland, Forfar. The last is its only Scottish county, discovered there by Dr Graham in 1832. r.

GEOGR. Mountains of France and Central Europe. Canada.

30. *CAPSELLA Bursa-Pastoris*.

HAB. Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—Cornwall, Caithness.

v. c.

GEOGR. Europe 1, 2, 3, 4, 5. N. Africa. Ireland. Iceland. N. E. W. Asia. India. Mauritius. Cape of Good Hope. America, from Great Bear Lake to the Straits of Magellan.

31. *HUTCHINSIA petraea*.

HAB. Agr.—Upl.

TOPOGR. 1, 2, 3, 4.—*Fl. O.*—Somerset, Kent, Surry (*Graves*), Glamorgan, Pembroke, Caernarvon, *Denbigh*, Derby, York. r. r.

GEOGR. Europe 2, 3, 4.

32. *TEESDALIA nudicaulis*.

HAB. Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Bed. Cam. Ang. North. Berw. Lan. Mur. ?*

GEOGR. Europe 2, 3, 4. N. Africa. From 35° to 64° N. L. in the Old World; *Dec.* c.

33. ? *IBERIS amara*.

HAB. Agr.

TOPOGR. (1, 3, 4, 5).—*Fl. Ox. Ang. North. Lan.*—Kent, Surry, Berks, Bucks, Roxburgh. Certainly not indigenous in Scotland or the north of England, perhaps not anywhere. r. r.

GEOGR. France. Central and South Europe.

34. *CAKILE maritima*.

HAB.

Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ang. North. Berw. Edin. Mur.*—*Cornwall, Sutherland.* c.

GEOGR. Europe 1, 2, 3, 4. N. Africa. Ireland. Iceland.

35. ? *HESPERIS matronalis*.

HAB.

Agr.

TOPOGR. (1, 2, 3, 4, 5, 6).—*Fl. Ton. North. Berw. Edin. Lan. Mur.?*—Introduced into the Local Floras to swell their lists of species, but on very slender grounds. Often the outcast of gardens; *Hook. B. F.* r. r.

GEOGR. Almost all Europe, Turkey and Western Siberia; *Dec.* Lake Huron.

36. *SISYMBRIUM Irio*.

HAB.

Agr.

TOPOGR. 1, 3.—*Fl. Ox. Cam. North. Berw.*—Kent, Surry, Middlesex, Bucks, Derby. Its most northern station is on the walls of Berwick; *Dr G. Johnston.* r. r.

GEOGR. Europe 2, 3, 4, 5. Ireland. W. Asia. S. America?

37. *SISYMBRIUM Sophia*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.* c.

GEOGR. Europe 1, 2, 3, 4, 5. Ireland. U. States?

38. *SISYMBRIUM officinale*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Sutherland.* v. c.

GEOGR. Europe 2, 3, 4, 5. N. Africa. Ireland. Greenland. Canada to Carolina. Western America. W. Asia.

39. *SISYMBRIUM thalianum*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.* c.

GEOGR. Europe 2, 3, 4, 5. Ireland. Teneriffe. N. W. Asia. U. States.



40. *ERYSIMUM orientale*.

HAB. Agr.  
 TOPOGR. 1, 2, (3).—*Fl. North.*—Devon, Sussex, Essex, Suffolk. r.  
 GEOGR. Europe 3, 4. E. W. Asia.

41. *ERYSIMUM cheiranthoides*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ox. Cam. North.*—Sussex, Surry, Berks, Bucks, Suffolk, Norfolk, Denbigh, Chester, Derby, York, *Linlithgow*, Argyle. r. r.  
 GEOGR. Europe 1, 2, 3, 5. Ireland. N. Asia. Brit. America from 68°. U. States. W. America from 68° to 44° N. L. Dec.

42. *ERYSIMUM Alliaria*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Berw. Lan. Mur.?* c.  
 GEOGR. Europe 2, 3, 5. W. Asia.

43. ? *CAMELINA sativa*.

HAB. Agr.  
 TOPOGR. (1, 3, 5).—*Fl. Cam. North. Edin. Lan.*—Dorset, Surry, Middlesex, Essex, Derby, York, Fife, Argyle, Forfar. r. r.  
 Introduced.  
 GEOGR. Europe 2, 3, 4, 5. Ireland. N. W. Asia.

44. *CORONOPUS didyma*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4.—*Fl. Dev. North.*—*Cornwall*, Essex, Pembroke, Caernarvon, York. r.  
 GEOGR. Europe 2, 3, 4. Ireland. U. States. S. America. St Helena. New Holland.

45. *CORONOPUS Ruellii*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Berw. Edin. Mur.*—*Cornwall*. c.  
 GEOGR. Europe 2, 3, 4. Ireland. Canaries. U. States.

46. ? *LEPIDIUM Draba.*

HAB.

Agr.

TOPOGR. (1, 2.)—*Fl. 0.*—Somerset, Kent, Glamorgan. Perhaps introduced; now apparently established in its few localities. r.

GEOGR. Europe 3, 4.

47. *LEPIDIUM ruderale.*

HAB.

Agr.

TOPOGR. 1, 2, 3.—*Fl. Cam. North.*—Cornwall, Somerset, Hants, Kent, Essex, Gloucester, Worcester, Suffolk, Norfolk, Glamorgan, York. In *Flora Scotica*, but no station assigned; and it is certainly rare, if at all found north of England. r. r.

GEOGR. Europe 2, 3, 4, 5. N. W. Asia. New Holland. From Hudson's Bay to the Pacific, from 50° to 68°; *Hook. Fl. Bor. Am.* S. America.

48. *LEPIDIUM latifolium.*

HAB.

Agr.

TOPOGR. 1, 3, 4, 5.—*Fl. Cam. Ang. North. Edin. Lan.*—Essex, Suffolk, Norfolk, Denbigh, Flint, Cheshire. r. r.

GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa. NW. Asia.

49. *LEPIDIUM Smithii.*

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. North. Edin. Lan.*—Cornwall, Norfolk, Suffolk, Anglesea (*W. Wilson*), Caernarvon, York, Linlithgow and Fife. Frequent in Scotland; *Hook. B. F.* r. c.

GEOGR. Europe 3, 4. Ireland.

50. *LEPIDIUM campestre.*

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Ang. North. Berw. Lan. Mur. ?*—Perhaps often confounded with *L. Smithii*. r. c.

GEOGR. Europe 2, 3, 4. N. Africa. Iceland.

51. ? *ISATIS tinctoria.*

HAB.

Agr.

TOPOGR. (1, 3, 4, 5.)—*Fl. Cam. North.*—Norfolk, Cheshire,



and in Scotland on the "beach at Dunoon;" *G. Lyell*. Scarcely indigenous; *Hook. B. F.* r.

GEOGR. Europe 2, 3, 4. Ireland? Canaries. W. Asia.

52. ? *BRASSICA oleracea.*

HAB. Agr.

TOPOGR. (1, 2, 3, 4, 5.)—*Fl. Dev. North. Edin.*—Cornwall, Dorset, Kent, Monmouth, Pembroke, Merioneth, Caernarvon, York, Westmoreland, *Stirling*. Perhaps introduced; but now established. r. r.

GEOGR. Europe 3, 4. Ireland?

53. *BRASSICA campestris.*

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. North. Edin.*—Essex, Suffolk, Westmoreland, Argyle, Forfar. r. r.

GEOGR. Europe 1, 2, 3, 4. N. Africa.

54. *BRASSICA monensis.*

HAB. Agr.

TOPOGR. 4, 5.—*Fl. Ang.*—Caernarvon, Cumberland, Isle of Man, Dumfries, Ayr, Argyle. r.

GEOGR. Ireland.

55. ? *BRASSICA Rapa.*

HAB. Agr.—Upl. c.

TOPOGR. (1, 2, 3, 4, 5, 6.)—*Fl. omnes.*—Introduced?

GEOGR. Country unknown; *Dec.* Now general.

56. ? *BRASSICA Napus.*

HAB. Agr.—Upl. v. c.

TOPOGR. (1, 2, 3, 4, 5, 6.)—*Fl. omnes.*—Introduced? Now everywhere in cultivated ground.

GEOGR. Country not exactly known; *Dec.* Now widely spread.

57. *SINAPIS muralis.*

HAB. Agr.

TOPOGR. 1, 2, (3.)—*Fl. North.*—Kent, Somerset, Glamorgan, Introduced (to Northumberland) from the south of England; *W. N. D.* r.

GEOGR. France. Central Europe.

58. *SINAPIS tenuifolia*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. North. Berw. Edin.*—Somerset,  
 Kent, Surry, Middlesex, Suffolk, Chester. r. r.  
 GEOGR. Europe 3, 4. Introduced into Sweden with ballast ;  
*Wahl.*

59. *SINAPIS nigra*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang.*  
*North. Berw. Mur. ?—Cornwall.* r. c.  
 GEOGR. Europe 2, 3, 4. Ireland.

60. *SINAPIS alba*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North.*  
*Berw. Edin. Lan.*—Surry, Norfolk, Caernarvon, Forfar. c.  
 GEOGR. Europe 3, 4. A doubtful native of Sweden ; *Wahl.*  
 Ireland.

61. *SINAPIS arvensis*.

HAB. Agr.—Upl. ?  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes. Caithness.* v. c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa. W. Asia.

62. *CRAMBE maritima*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ang. Berw.*—Cornwall, Dor-  
 set, Sussex, Kent, Essex, Suffolk, Norfolk, Lincoln, Glamorgan,  
 Pembroke, Caernarvon, York, Lancaster, Cumberland, Argyle,  
*Linlithgow.* r. c.  
 GEOGR. Europe 2, 3. Ireland.

63. *RAPHANUS maritimus*.

HAB. Agr.—Upl. ?  
 TOPOGR. 1, 2, 5, 6.—*Fl. Dev.*—“Beachy Head, Sussex.  
 Sea-shore in Bute and Galloway ;” *Hook. B. F.* Abundant in  
 the outer Hebrides ; *Macgillivray.* A plant, I presume to be  
 this, grows on rocks in the Lizard, Cornwall. r. r.  
 GEOGR. Ireland, France, Baleares.



64. *RAPHANUS Raphanistrum.*

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Sutherland.* v. c.  
 GEOGR. Europe 2, 3, 4, 5.

65. *SUBULARIA aquatica.*

HAB. Agr.—Subalp. ?  
 TOPOGR. 2, 4, 5, 6.—*Fl. Ang. Edin.*—Salop, Caernarvon,  
 Denbigh, Dunbarton, Perth, *Aberdeen*, O. Hebrides. “Otter-  
 ston Loch, Fifeshire, Maughan. I fear this station may be er-  
 roneous.”—*Grev. Fl. Edin.* r.  
 GEOGR. Europe 1, 2, 3, 5. Iceland.

## VII. RESEDACEÆ.

1. ? *RESEDA fruticulosa.*

HAB. Agr.  
 TOPOGR. (2, 4, 5.)—*Fl. 0.*—An imperfectly naturalized plant.  
 The stations (copied from *Hook. B. F.*) are the following:  
 An old hedge between Penzance and Marazion, Cornwall,  
 certainly wild, *Rev. J. S. Tozer.* (This station is close by a  
 heap of garden refuse, old thatch, &c. for agricultural manure,  
 and where *Calendula officinalis*, *Datura Stramonium*, *Papaver som-*  
*niferum*, with other garden plants, are also found. Mr Tozer  
 informed me that he had subsequently seen it extending over  
 much ground in a neighbouring field: was this field manured  
 from the *said* heap? H. C. W.) Uninclosed sand-hills, Bootle,  
 Lancashire, *H. C. Watson.* (Now I fear destroyed by the build-  
 ing recently carried on there, H. C. W.) Other stations, ei-  
 ther for this or *R. alba*, have been communicated to me (Dr  
 Hooker). About Dublin; *Mr Drummond.* Between Cork and  
 Glenmire; *Dr Stokes, Mr J. T. Mackay.* Weston super mare,  
 Somersetshire (*R. alba*); *Mr J. Woods.* Near Gossport; *Rev.*  
*W. S. Bayton.*—Recently discovered near Berwick Pier, per-  
 haps brought in ballast; *R. Embleton.* r.  
 GEOGR. Portugal. Spain. Greece. W. Asia.

2. RESEDA *lutea*.

HAB.

Agr.

TOPOGR. 1, 3, 4, 5, 6.—*Fl. Ton. Ox. Bed. Cam. North. Berw. Edin. Mur.*?—Surry, Northampton, Norfolk, Chester, York, Lancaster, Fife, Perth, Forfar.

r. c.

GEOGR. Europe 3, 4. Ireland. N. Africa.

3. RESEDA *Luteola*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—Cornwall, Ross. c.

GEOGR. Europe 2, 3, 4. Ireland. N. Africa.

## VIII. CISTINEÆ.

1. HELIANTHEMUM *polifolium*.

HAB.

Agr.

TOPOGR. 2.—*Fl. Dev.*—Somerset.

v. r.

GEOGR. France. Spain.

2. ? HELIANTHEMUM *ledifolium*.

HAB.

Agr.

TOPOGR. (2.)—*Fl. 0.*—Brent Downs, Somerset; Hudson. It does not appear to have been recently seen there. Perhaps the preceding species was meant.

v. r.

GEOGR. France. Central Europe. Greece. Portugal.

3. HELIANTHEMUM *guttatum*.

HAB. Limestone rocks.

Agr.

TOPOGR. 2, 4.—*Fl. Ang.*—Somerset? Caernarvon?

v. r.

GEOGR. Europe 3, 4.

4. HELIANTHEMUM *canum*.

HAB. Limestone rocks. Altitude 2000 feet on Cronkley Hill.

Agr.—Moor.?

TOPOGR. 2, 3, 4.—*Fl. Ang. North.*—Glamorgan, Caernarvon, Flint, York, Lancaster, Westmoreland, and Cumberland. Included in the Flora of Northumberland and Durham, because it grows in Yorkshire!

r.

GEOGR. France. Central Europe. Spain.



5. *HELIANTHEMUM vulgare*.

HAB. Gravelly or chalky soil; *Hook. B. F.* Limestone; *R. B. Bowman*. Basaltic heights; *Thompson*. Trap-rocks; *G. Johnston*. Limestone in N. Wales, trap and basalt near Edinburgh, alluvial gravel, both of micaceous schist and granite rocks, in the Highland valleys. A good example of a species apparently peculiar to one rock when locally observed. Agr.—Moor.?

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*. r.

GEOGR. Europe 2, 3, 4, 5. Ireland.

## IX. VIOLARIEÆ.

1. *VIOLA odorata*.

HAB. Agr.

TOPOGR. 1, 2, 3, 4, (5.)—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Berw. Edin. Lan.*—Surry, Northampton, Norfolk, *Ches- ter*, Derby, York, Lancaster, Forfar, Stirling. r. c.

GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa. N. E. W. Asia.

2. *VIOLA hirta*.

HAB. In various soils, not at all peculiar to lime. Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Berw. Edin.*—Dorset, Somerset, Sussex, Surry, Berks, Middlesex, Essex, Herts, Bucks, Warwick, Northampton, Suffolk, Norfolk, Leicester, Glamorgan, Caernarvon, Denbigh, Derby, York, Dumfries, Forfar. r. c.

GEOGR. Europe 2, 3, 4, 5. Ireland. Japan.

3. *VIOLA tricolor*.

HAB. Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*.—*Cornwall, Caithness*. c.

GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. W. E. Asia. Brit. America.

4. *VIOLA canina*.

*flavicornis*.

*lactea*.

N. B. A specimen of *Viola flavicornis* from Norfolk, and

one of *V. lactea* from Peebles (*Maughan*), seem scarcely to differ in any respect; and the difference between them and *V. canina* on the shores of the Forth, is exceedingly slight. A roughly dried specimen of *V. lactea* from Bottisham Fen, Cambridge, differs much more from those two, than they do from *V. canina*.

HAB. Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. om.*—*Cornwall, Caithness.* v. c.

GEOGR. Europe 1, 2, 3. Iceland. Ireland. Canaries. N. E. Asia. Greenland from 61°. N. America?

### 5. *VIOLA palustris.*

HAB. Agr.—Sno.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Bed. Ang. North. Berw. Edin. Lan. Mur.*—*Cornwall, Sutherland.* Rare in Bedford; *Abbott.* Rare in the O. Hebrides; *Macgillivray.* c.

GEOGR. Europe 1, 2, 3, 4. Iceland. Ireland. N. E. Asia. Greenland from 61°. N. America.

### 6. *VIOLA lutea.*

HAB. In low situations, small and yellow-flowered specimens are most numerous: high up, they become larger, and generally purple.

Agr.—Subalp.

TOPOGR. 2, 3, 4, 5, 6.—*Fl. North. Berw. Edin. Lan. Mur.*—*Cornwall, Caermarthen, Brecon, Salop, Hereford, Montgomery, Merioneth, Stafford, Denbigh, Derby, York, Cumberland, Isle of Man, Roxburgh, Fife, Kinross, Perth, Forfar, Aberdeen, O. Hebrides.* r. c.

GEOGR. France. C. Europe. Ireland?

## X. DROSERACEÆ.

### 1 *DROSERA longifolia.*

HAB. Agr.—Upl.?

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Bed. Cam. Ang. North.*—*Cornwall. Sutherland; Graham.* r. c.

GEOGR. Europe 1, 2, 3, 5.—Iceland. Ireland. N. Asia. Canada to Carolina; *Pursh.*



2. *DROSERA rotundifolia.*

HAB. Agr.—Subalp.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Caithness.* c.

GEOGR. Europe 1, 2, 3. Iceland. Ireland. British America from the Arctic Circle. Newfoundland. Unalashka. N. Asia.

3. *DROSERA anglica.*

HAB. Agr.—Subalp.?

TOPOGR. 1, (2), 3, 4, 5, 6.—*Fl. Bed. Cam. North. Berw. Mur.*  
—*Devonshire; With. Sutherland.* r. c.

GEOGR. Europe 2, 3, 5. Ireland. British America.

4. *PARNASSIA palustris.*

HAB. By no means peculiar to “limestone,” and in suitable situations found in plenty on “sandstone.” Agr.—Subalp.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Ox. Bed. Cam. Ang. North. Berw. Edin. Lan. Mur.*—*Sutherland, Orkney.* r. c.

GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. Africa. N. Asia. America from the Arctic Circle to Virginia, from Labrador to the West Coast.

## XI. POLYGALÆÆ.

1. *POLYGALA vulgaris.*

HAB. Agr.—Subalp.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. om.*—*Cornwall, Caithness.* v. c.

GEOGR. Europe 2, 3, 4, 5. Iceland. Ireland. N. Africa. Japan.

## XII. FRANKENIACEÆ.

1. *FRANKENIA lævis.*

HAB. Agr.

TOPOGR. 1, (3.)—*Fl. Cam. North.*—*Sussex, Kent. Essex, Suffolk, Norfolk.* On ballast-hills in the N. of England. r.

GEOGR. Europe 3, 4, 5. N. Africa.

## XIII. CARYOPHYLLÆ.

1. *DIANTHUS cæsius*.

HAB.

Agr.

TOPOGR. 2.—*Fl.* 0.—Cheddar rocks, Somerset.

v. r.

GEOGR. France. Central Europe.

2. *DIANTHUS prolifer*.

HAB.

Agr.

TOPOGR. 1, 2.—*Fl.* 0.—Sussex, Middlesex, Norfolk, Worcester.

r.

GEOGR. Europe 2, 3, 4. N. Africa.

3. *DIANTHUS Caryophyllus*.

HAB.

Agr.

TOPOGR. 1, 2, 3.—*Fl. Cam.*—Kent, Essex, Norfolk, Glamorgan, Hereford, Salop, Derby, York.

r. r.

GEOGR. Europe 3, 4. N. Africa.

4. *DIANTHUS Armeria*.

HAB.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Ang. North.*—Surrey, Essex, Worcester, Suffolk, Norfolk, Salop, Perth, Forfar. Not uncommon in England or Scotland; *Hook. B. F.* Certainly not common.

r. r.

GEOGR. Europe 2, 3, 4. New Jersey.

5. *DIANTHUS deltoides*.HAB. In Berwickshire, confined to unstratified (trap) rocks; *G. Johnston*.

Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Bed. Cam. North. Berw. Edin. Mur.*!—Somerset, Middlesex, Ross.

r. r.

GEOGR. Europe 2, 3, 5.—In Sweden ceases at 64°; *Wahl.*6. *SAPONARIA officinalis*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, (5).—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Edin. Mur.*!—Cornwall, Glamorgan, Brecon, Montgomery, Denbigh, Flint, Chester, Derby, York, Westmoreland,



Roxburgh, Kinross. Perhaps not indigenous in Scotland; and generally near houses in England. r. c.

GEOGR. Europe 3, 4, 5. Ireland. A doubtful native; *Wahl. Fl. Suec.*

### 7. *SILENE quinquevulnera.*

HAB. Agr.

TOPOGR. 1.—*Fl. Ton. Mur.!*—Kent, Surry, Suffolk. v. r.

GEOGR. Europe 3, 4. N. Africa. Siberia; *Sp. Plant. Carolina; Pursh.*

### 8. *SILENE Otites.*

HAB. Agr.

TOPOGR. 1, (2).—*Fl. Gam.*—Suffolk, Norfolk, and (probably not) Cardigan. r.

GEOGR. Europe 3, 4. W. Asia.

### 9. *SILENE conica.*

HAB. Agr.

TOPOGR. 1, (3).—*Fl. North.*—Kent, Suffolk. In the north, only on ballast-hills. v. r.

GEOGR. Europe 3, 4. N. Africa. W. Asia.

### 10. *SILENE nutans.*

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Edin.*—Kent, Northampton, Notts, Salop, Caernarvon. Flint, Derby, York, Fife, Forfar. r. r.

GEOGR. Europe 2, 3, 4, 5. N. Africa. In Sweden, terminates before 63°; *Wahl.*

### 11. *SILENE noctiflora.*

HAB. Agr.

TOPOGR. 1, 3, 5.—*Fl. Ox. Bed. Cam. North.*—Hants, Berks, Essex, Suffolk, Norfolk, Derby, York, Forfar. r.

GEOGR. Europe 2, 3, 4.

### 12. *SILENE anglica.*

HAB. Agr.

TOPOGR. 1, 2, 3, 4, (5, 6).—*Fl. Dev. Bed. Cam. Ang. North. Mur.?*—Cornwall, Kent. r. c.

GEOGR. France. Central Europe. Ireland. Introduced into Sweden; *Wahlenberg.*

13. *SILENE inflata.**maritima.*

HAB.

Agr.—Sno.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. om.*—*Cornwall, Sutherland.* c.GEOGR. Europe 1, 2, 3, 4, 5. Ireland. N. Africa. N. Asia.  
British America. United States.14. *SILENE acaulis.*

HAB. On the exposed summits of the highest mountains, Ben Nevis (from want of soil?) excepted; forming a principal feature of their vegetation, and descending with streams or debris almost to the Upland Zone. In Caernarvonshire, under steep rocks, with a northern aspect, I have seen it at only 1400 feet of elevation; and on the western slope of Cairn Garidh at 1200 feet, among the granitic debris of a stream. Moor.—Sno.

TOPOGR. (2), 4, 5, 6.—*Fl. Dev. Mur.*—The authors of *Flora Devoniensis* have not met with it on Dartmoor, where it has been said to grow. *Caernarvon, Stirling, Argyle, Perth, Forfar, Aberdeen, Inverness, O. Hebrides.* r. r.

GEOGR. Europe 1, 2, 3, 5. Iceland. Ireland. N. Asia. Spitzbergen. Greenland. N. America from 54° northwards.

15. ? *AGROSTEMMA Githago.*

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—If introduced, it is now abundantly common. c.

GEOGR. Europe 2, 3, 4, 5. Ireland. Canada and the United States, introduced.

16. *LYCHNIS Flos-Cuculi.*

HAB.

Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Caithness.* c.

GEOGR. Europe 2, 3, 4, 5. Iceland. Ireland.

17. *LYCHNIS dioica.*

HAB. The white variety (*L. vespertina*) is perhaps more common in the eastern than the western counties, but both grow intermixed in various places. The red rises higher.

Agr.—Subalp.



TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. om.*—*Cornwall, Caithness.* v. c.

GEOGR. Europe 1, 2, 3, 4, 5. Faroe. Ireland. N. Africa.  
N. Asia. Greenland. Ceases in Helsingland (62°); *Wahl. Fl. Suec.*

### 18. LYCHNIS *Viscaria.*

HAB. Alpine (?) rocks; *H. B. F.* Agr.—?

TOPOGR. 2, 3, 5.—*Fl. North. Edin.*—Montgomery, Roxburgh, Fife, Perth. r.

GEOGR. Europe 2, 3, 4, 5. In Sweden, terminates about 63°; *Wahl.*

### 19. LYCHNIS *alpina.*

HAB. Subalp. ?

TOPOGR. 5.—*Fl. O.*—Rocks on the summit of the Clova Mountains; *G. Don.* Still there; *Graham in Edin. New. Phil. Journ.* 1832. v. r.

GEOGR. Europe 1, 2, 3, 5. Iceland. N. Asia. Greenland. Melville Island. Labrador.

### 20. SAGINA *apetala.*

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Berw. Lan.*—Surry, Norfolk, Caernarvon, York, Forfar. r. c.

GEOGR. Europe 2, 3, 4. Ireland.

### 21. SAGINA *maritima.*

HAB. Agr.

TOPOGR. 2, 3, 4, 5, 6.—*Fl. North. Berw. Edin. Mur.*—*Cornwall, Caernarvon, Anglesea, Lancaster, Isle of Man, Forfar, Aberdeen, Inverness, Sutherland.* r. c.

GEOGR. Europe 2, 3. Ireland.

### 22. SAGINA *procumbens.*

HAB. Agr.—Subalp.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Caithness.* v. c.

GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. Asia. W. America. U. States. S. America.

23. ELATINE *Hydropiper*.

HAB. Agr.\*  
 TOPOGR. 4.—*Fl.* 0.—East end of Llyn Coron, Anglesea;  
*J. E. Bowman.* v. r.  
 GEOGR. Europe 1, 2, 3. Ireland.

24. ELATINE *hexandra*.

HAB. Agr.?  
 TOPOGR. 1, 2, 4, 5.—*Fl.* 0.—Sussex, Berks, Salop, Anglesea,  
 Stirling. r.  
 GEOGR. France.

25. HOLOSTEUM *umbellatum*.

HAB. Agr.  
 TOPOGR. 1.—*Fl.* 0.—Old walls about Norwich and Bury.  
 v. r.  
 GEOGR. Europe 2, 3, 4.

26. SPERGULA *subulata*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl.* Dev. Ang. North. Berw. Mur.—  
 Kent. r. c.  
 GEOGR. Europe 2, 3. Rocky Mountains in 56° N. L.

27. SPERGULA *nodosa*.

HAB. Agr.—Upl.?  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl.* Dev. Ox. Bed. Cam. Ang. North.  
 Berw. Edin. Lan. Mur.—Ross. r. c.  
 GEOGR. Europe 1, 2, 3, 5. Iceland. Ireland. Brit. Ame-  
 rica from the Arctic Coast to Canada. N. Asia.

28. SPERGULA *arvensis*.

HAB. Agr.—Moor.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl.* omnes.—Cornwall, Caithness. v. c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. Africa.  
 Brit. America. U. States. W. America. N. Asia.

29. SPERGULA *saginoides*.

HAB. Moor.—Subalp.  
 TOPOGR. (2), 5, 6.—*Fl.* 0.—Malvern Hills; *Edwin Lees*, in



*Loud. Mag. Nat. Hist.* No. xii. Frequent on the mountains of *Perth, Forfar, and Aberdeen.* r.

GEOGR. Europe 1, 2, 3. Iceland. Ireland? N. Asia. Spitzbergen. Russian America. Carolina; *Pursh.* N. Asia.

### 30. *STELLARIA glauca.*

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Ton. Bed. Cam. Ang. North. Berw. Edin. Lan.*—Cornwall, Sussex, Berks, Bucks, Worcester, Northampton, Suffolk, Norfolk, Stafford, York. r. c.

GEOGR. Europe 2, 3, 5. Ireland. Greenland. Labrador.

### 31. *STELLARIA graminea.*

HAB. Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Sutherland.* c.

GEOGR. Europe 1, 2, 3, 5. Ireland. Faroe. Greenland. N. Asia.

### 32. *STELLARIA holostea.*

HAB. Agr.—Moor.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Ross.* c.

GEOGR. Europe 2, 3, 4, 5. Ireland.

### 33. *STELLARIA media.*

HAB. Agr.—Moor.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Caithness.* v. c.

GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. Africa. Greenland. British America. U. States.

### 34. *STELLARIA nemorum.*

HAB. Agr.—?

TOPOGR. 3, 4, 5, 6.—*Fl. North. Edin. Lan. Mur.*—Flint, Chester, York, Lancaster, Westmoreland, Cumberland, Dumfries. r. r.

GEOGR. Europe 1, 2, 3. N. Asia.

### 35. *STELLARIA uliginosa.*

HAB. Agr.—Sno.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Sutherland.* v. c.

GEOGR. Europe 1, 2, 3. Faroe. Ireland. Unalashka. Rocky Mountains between 52° and 56°.

36. *STELLARIA scapigera*.

HAB. Subalp. ?  
 TOPOGR. 5.—*Fl.* 0.—Hills to the north of Dunkeld and about  
 Loch Nevis; *G. Don.* v. r.  
 GEOGR.

37. *STELLARIA cerastoides*.

HAB. Among the highest or most arctic of our native plants,  
 being commonly found in situations moistened by snow-water  
 or cold springs. Generally in detritus of granite rocks.  
 Alp.—Sno.

TOPOGR. 5, 6.—*Fl. Mur.*—On the Grampians and Ben Nevis  
 Mountains in *Aberdeen* and *Inverness*. Breadalbane; *Borrer.* r.  
 GEOGR. Europe 1, 2, 3. Iceland. Ireland. Greenland.

38. *ARENARIA tenuifolia*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, (5).—*Fl. Dev. Ox. Bed. Cam. Ang. Edin.*  
 —Cornwall, (*Sagina maritima* grows about the locality men-  
 tioned by Ray), Dorset, Somerset, Worcester, Northampton,  
 Suffolk, Norfolk, York. No one now finds it about the Firth  
 of Forth, and the specimens thus labelled in the Brodie Herba-  
 rium are of *Sagina maritima*. r. r.  
 GEOGR. Europe 3, 4.

39. *ARENARIA trinervis*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—Rare about Elgin;  
*G. Gordon.* c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland. Greenland.

40. *ARENARIA rubra*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall.* c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa. British  
 and Western America.

41. *ARENARIA marina*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Cam. Ang. North. Berw.*  
*Edin. Mur.*—*Cornwall.* c.  
 GEOGR. Europe 1, 2, 3, 4. Ireland. N. Africa.



42. *ARENARIA serpyllifolia*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.* c.  
 GEOGR. Europe 2, 3, 4, 5. Iceland. Ireland. N. Africa.  
 Japan. Nepaul.

43. *ARENARIA peploides*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Ang. North. Berw. Edin. Mur.*  
 —*Cornwall, Sutherland.* c.  
 GEOGR. Europe 1, 2, 3, 5. Iceland. Ireland. Greenland.  
 British and Russian America. N. Asia. “Not extending  
 farther south probably than Bordeaux;” *Hook. Linn. Trans.*

44. *ARENARIA verna*.

HAB. Limestone in Teesdale; *R. B. Bowman*. Trap-rocks  
 in Berwickshire; *G. Johnston*. On similar rocks about Edin-  
 burgh. On serpentine in Aberdeenshire; *Murray*. On the  
 same rock in Cornwall. Agr.—Subalp.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. North. Berw. Edin. Lan. Corn-*  
*wall, Caernarvon, Cumberland.* Not found in the west of Scot-  
 land; *Hooker.* r. c.

GEOGR. Europe 3, 4. Ireland. British America in 54°  
 Columbia River.

45. *ARENARIA fastigiata*.

HAB. Agr. ?—?  
 TOPOGR. 5.—*Fl. 0.*—Fifeshire and the mountains of Angus-  
 shire; *G. Don.* v. r.  
 GEOGR. Europe 3, 4.

46. *ARENARIA rubella*.

HAB. Subalp. ?—Alp.  
 TOPOGR. 5.—*Fl. omnes.*—Breadalbane Mountains on the  
 north side of Loch Tay, *Perthshire.* v. c.  
 GEOGR. Lapland. Spitzbergen. Greenland. Melville Is-  
 land. Arctic America. Rocky Mountains.

47. *CERASTIUM aquaticum.*

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. North. Lan.*—*Somerset, Surry, Norfolk, Chester, York, Roxburgh.* r. r.  
GEOGR. Europe 2, 3, 4, 5. N. Africa.

48. *CERASTIUM arvense.*

HAB.

Agr.

TOPOGR. 1, 3, 5, 6.—*Fl. Ton. Ox. Bed. Cam. North. Berw. Edin. Mur.*—*Surry, Northampton, Norfolk, Gloucester, York, Roxburgh, Forfar.* Apparently an eastern species. r. c.  
GEOGR. Europe 2, 3, 4. Ireland. Brit. and Western America. U. States. S. America. Near Mendoza at 5000 feet elevation; *Gillies.*

49. *CERASTIUM vulgatum.*

HAB.

Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.—Caithness.* c.  
GEOGR. Europe 2, 3, 4, 5. Iceland. Ireland. N. Africa. Canada to Pennsylvania. S. America. Japan.

50. *CERASTIUM viscosum.**semidecandrum.**tetrandrum?*

*N. B.*—Drs Hooker and Greville think these three *specifically* the same. Mr W. Wilson deems the last distinct. *Vide Hook. Fl. Scot., Hook. Br. Fl., and Grev. Fl. Edin.*

HAB.

Agr.—Sno.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.—Cornwall, Caithness.* v. c.  
GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. Africa, N. E. Asia. Greenland. Labrador. Canada to Carolina.

51. *CERASTIUM alpinum.*

HAB.

Subalp.—Sno.?

TOPOGR. 4, 5, 6.—*Fl. omnes.—Snowdon* (now extinct). Lincoln; *Martyn.* Certainly an error. Helvellyn; *Winch.* Per-



haps the only English station. In Scotland, on the mountains of Stirling, *Argyle*, *Perth*, *Forfar*, *Aberdeen*, *Inverness*, *Sutherland*, and O. Hebrides. r.

GEOGR. Europe 1, 2, 3, 5. Iceland. N. Asia. Spitzbergen. Greenland. British and Russian America. From Melville Island to Labrador and the Rocky Mountains. Altai, 4500—6500 feet.

### 52. CERASTIUM *latifolium*.

HAB. Often near patches of snow. Subalp.—Sno.

TOPOGR. 4, 5, 6.—*Fl.* 0.—Caernarvon, Stirling, Dumbarton, *Perth*, *Forfar*, *Aberdeen*, *Inverness*, O. Hebrides. r.

GEOGR. France. Central Europe. Iceland. Greenland. S. America.

### 53. MËNCHIA *erecta*.

HAB. To an altitude of 700 feet in Caernarvonshire. Agr.

TOPOGR. 1, 2, 3, 4.—*Fl.* *Dev.* *Ton.* *Ox.* *Bed.* *Cam.* *Ang.* *North.*—*Hants*, *Surry*, *Worcester*, *Warwick*, *Leicester*, *Caernarvon*, *Chester*, *York*. r. r.

GEOGR. Europe 3, 4.

### 54. CHERLERIA *sedoides*.

HAB. Subalp.—Sno.

TOPOGR. 5, 6.—*Fl.* 0.—On the mountains of *Argyle*, *Perth*, *Forfar*, *Inverness*, and *Sutherland*. r.

GEOGR. France. Central Europe.



## XIV. LINEÆ.

### 1. LINUM *angustifolium*.

HAB. Agr.

TOPOGR. 1, 2, 3, 4.—*Fl.* *Dev.* *Ton.* *Ang.*—*Cronwall*, *Dorset*, *Hants*, *Sussex*, *Suffolk*, *Norfolk*, *Glamorgan*, *York*, *Lancaster*. r. r.

GEOGR. Europe 3, 4. Ireland. Asia and New Holland; *Dec.*

2. *LINUM perenne*.

HAB.

Agr.

TOPOGR. 1, 3, 4.—*Fl. Cam. North.*—Suffolk, Norfolk, Northampton, Rutland, Lincoln, York, Westmoreland. Perhaps some of the stations indicated for this, may belong really to *L. angustifolium*. The vicinity of Marsden, Durham, appears to be its northern limit; *Winch.* r. r.

GEOGR. Europe 3, 4, 5. Ireland. British America. U. States. Western Coast. N. Asia.

3. ? *LINUM usitatissimum*.

HAB.

TOPOGR. (1, 2, 3, 4, 5, 6.)—*Fl. Dev. Ton. Bed. Cam. Ang. North. Edin. Lan. Mur.*!—Cultivated over Britain, and hence occasional stray specimens are met with every where. Probably the Moorland Zone would produce this species, if tried, at a higher limit than corn is cultivated. r. c.

GEOGR. France. Central Europe. Ireland. Nepaul. Probably introduced in Sweden, and S. America.

4. *LINUM catharticum*.

HAB.

Agr.—Subalp.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Caithness.* v. c.

GEOGR. Europe 2, 3, 4, 5. Iceland. Ireland.

5. *RADIOLA millegrana*.

HAB.

Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ang. North. Mur.*—*Cornwall, Ross, Sutherland.* r. c.

GEOGR. Europe 2, 3, 4. Ireland.

## XV. MALVACEÆ.

1. *LAVATERA arborea*.

HAB. Always insulated rocks; *Hook. B. F.*

Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ang. North. Edin.*—*Cornwall,*



Dorset, Hants, Sussex, Norfolk (not there), Pembroke, Isle of Man ; terminating northwards in the Firth of Forth. r.

GEOGR. Europe 3, 4. N. Africa. Ireland.

2. ? *ALTHÆA hirsuta*.

HAB. Agr.

TOPOGR. 1.—*Fl.* 0.—Kent. v. r.

GEOGR. Europe 3, 4. N. Africa.

3. *ALTHÆA officinalis*.

HAB. Agr.

TOPOGR. 1, 2, 5.—*Fl. Cam.*—Cornwall, Suffolk, Norfolk, Kirkcudbright, Stirling. r.

GEOGR. Europe 3, 4, 5. Ireland. Siberia.

4. *MALVA rotundifolia*.

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—Cornwall. Perhaps introduced into Murray ; *G. P. M.* r. c.

GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa. Montreal and Quebec, probably introduced. In Sweden terminates about 61° ; *Wahl.*

5. *MALVA sylvestris*.

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—Cornwall, Ross. r. c.

GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa.

6. *MALVA moschata*.

HAB.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—Cornwall, Sutherland.

GEOGR. Europe 2, 3. Ireland. r. c.

XVI. TILIACEÆ.

1. ? *TILIA grandifolia*.

HAB. Agr.

TOPOGR. (3, 5).—*Fl. North. Mur. !*—York, Perth. Clink Bank, near Richmond, Yorkshire, truly wild ; *J. Ward.* r. r.

GEOGR. Europe 3.

2. ? *TILIA europæa*.

HAB.

Agr.

TOPOGR. (1, 2, 3, 4, 5, 6.)—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Edin. Lan. Mur.*!—York, Argyle. Perhaps some of the localities ought to be attributed to the other species or varieties.

r. c.

GEOGR. Europe 2, 3, 4. Ireland.

3. ? *TILIA parvifolia*.

HAB.

Agr.

TOPOGR. (1, 3, 4.)—*Fl. Ton. Cam. North.*—Suffolk, Lincoln, Essex, Denbigh.

r. c.

GEOGR. "South Europe, France, Carniola. Common in Norway to 63°, fails beyond 65°, rare in the interior of Sweden beyond 61°. All Russia to Petersburg, in the middle of northern Russia on the Dwina at 58°, wanting in Siberia east of the Irtych, follows the course of that river to 58°." *Mirbel.*

## XVII. HYPERICINÆ.

1. *HYPERICUM montanum*.

HAB.

Agr. ?

TOPOGR. 1, 2, 3, 4.—*Fl. Dev. Ox. Ang. North.*—Worcester, Caernarvon, Denbigh, Derby, York.

r. r.

GEOGR. Europe 2, 3, 4, 5. N. Africa. "Its boundary in Sweden seems to be 61°. The eastern limit may be 30° E. Long." *Dec.*

2. *HYPERICUM Elodes*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Bed. Cam. Ang.*—Cornwall, Warwick, Norfolk, York, Wigton, Argyle.

r. c.

GEOGR. Ireland. France. Central Europe. Siberia.

3. *HYPERICUM perforatum*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Berw. Edin. Lan.*—Chester, York, Roxburgh.

r. c.

GEOGR. Europe 1, 2, 3, 4, 5. Ireland. N. Asia. Quebec. "Ubique vulgatissimum." *Dec.*



4. *HYPERICUM quadrangulum.*

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall.* c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland.

5. ? *HYPERICUM barbatum.*

HAB. Agr.  
 TOPOGR. 5.—*Fl. 0.*—Hedge near Aberdalgy in Strathearn,  
 Perthshire; *G. Don.* v. r.  
 GEOGR. Europe 3, 4.

6. *HYPERICUM dubium.*

HAB. Rather mountainous woods; *Hook. B. F.* Agr.—?  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Bed. Ang. North. Lan.*—Sus-  
 sex, Kent, Herts, Worcester, Warwick, Suffolk, Norfolk, Gla-  
 morgan, Cardigan, Hereford, Salop, Caernarvon, Denbigh. Flint,  
 York, Perth. r. c.  
 GEOGR. Europe 3. Ireland.

7. *HYPERICUM hirsutum.*

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 5.—*Fl. Dev. Ton. Ox. Bed. North. Berw.*  
*Edin. Lan.*—Surry, Suffolk, Norfolk, Leicester, York, Rox-  
 burgh, Perth. r. c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland.

8. *HYPERICUM Androsæmum.*

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, (6).—*Fl. Dev. Ton. Ox. Ang. North.*—  
*Cornwall, Inverness.* r. c.  
 GEOGR. Europe 3, 4. Ireland.

9. *HYPERICUM humifusum.*

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall.* Common in  
 the south of England, much less so in Scotland. r. c.  
 GEOGR. Europe 2, 3. Ireland.

10. *HYPERICUM pulchrum*.

HAB.

Agr.—Moor.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*.—*Cornwall, Caithness*. c.

GEOGR. Europe 2, 3, 4. Ireland.

## XVIII. ACERNEÆ.

1. *ACER campestre*.

HAB. Most plentiful on calcareous soils.

Agr.

TOPOGR. 1, 2, 3, 4, (5.)—*Fl. omnes*.—Probably not indigenous beyond the Tyne, *Winch, N. D.* Introduced into Berwickshire, *Johnston, F. B.* Perhaps not indigenous to Scotland; *Hook, B. F.* Introduced into Murray; *Gordon, P. M.* *Somerset, Surry, Gloucester, Denbigh, York*.

r. c.

GEOGR. Europe 2, 3, 4, 5. W. Asia. Ireland.

2. ? *ACER Pseudo-platanus*.

HAB.

Agr.—Upl.

TOPOGR. (1, 2, 3, 4, 5, 6).—*Fl. omnes*.—Hardly indigenous; *Fl. Dev.* Edges of many of our high moors, where it is certainly indigenous; *Winch, N. D.* Introduced into Murray; *G. P. M.* Not indigenous; *Hook. B. F.*

r. c.

GEOGR. Europe 3, 4. Ireland. Caucasus.

## XIX. GERANIACEÆ.

1. *GERANIUM rotundifolium*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, (5.)—*Fl. Dev. Ox. Cam. North. Edin.*—*Kent, Middlesex, Gloucester, Worcester, Salop, Denbigh, Derby, York.* Not now found about Edinburgh.

r. r.

GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa.

2. *GERANIUM columbinum*.

HAB.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Ang. North. Edin. Lan.*—*Surry, Berks, Worcester, Norfolk, Caernarvon, York, Dunbarton.*

r. c.

GEOGR. Europe 2, 3, 4. Ireland. N. Africa.



3. GERANIUM *pyrenaicum*.

HAB. Agr.  
 TOPOGR. 1, 3, 5.—*Fl. Ox. Bed. Cam. North. Edin.*—Hants, Surry, Middlesex, Suffolk, Warwick, Salop, Derby, York, Argyll, Perth. r. r.  
 GEOGR. Europe 3, 4. Ireland. S. America.

4. ? GERANIUM *phœum*.

HAB. Agr.  
 TOPOGR. (1, 2, 3, 4, 5).—*Fl. Dev. Bed. Cam. North. Berw. Edin. Lan.*—Wilts, Worcester, Suffolk, Notts, Hereford, Flint, Stafford, York, Cumberland, Lancaster, *Forfar* (near houses). r. c.  
 GEOGR. Europe 2, 3.

5. GERANIUM *lucidum*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ox. Bad. Cam. Ang. North. Berw. Edin. Lan. Mur. ?*— r. c.  
 GEOGR. Europe 2, 3, 4. Ireland. N. Africa.

6. GERANIUM *sanguineum*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Bed. Cam. Ang. North. Berw. Edin. Mur.*—Ross. r. c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland.

7. GERANIUM *pusillum*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.* r. c.  
 GEOGR. Europe 3, 5. Ireland.

8. GERANIUM *dissectum*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Sutherland.* c.  
 GEOGR. Europe 2, 3, 4. Ireland. N. Africa. U. States. S. America.

9. GERANIUM *molle*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Caithness.* v. c.  
 GEOGR. Europe 2, 3, 4. Ireland. N. Africa.

10. *GERANIUM pratense*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Ox. Cam. Ang. North. Berw. Edin. Lan. Mur.*—Dorset. r. c.  
 GEOGR. Europe 2, 3, 4, 5. Iceland. N. Asia. Unalashka?

11. *GERANIUM robertianum*.

HAB. Agr.—Moor.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Sutherland.* c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa. W. Asia.  
 U. States. S. America.

12. *GERANIUM sylvaticum*.

HAB. Agr.—Subalp.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. North. Berw. Edin. Lan. Mur.*  
 —*Norfolk; Bot. Guide.* r. c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. Africa.  
 N. Asia.

13. *ERODIUM maritimum*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4.—*Fl. Dev. Ang. North.*—*Cornwall, Dorset, Somerset, Sussex, Gloucester, Worcester, Warwick, Pembroke, Caernarvon, Denbigh, Flint, Chester, Suffolk, Norfolk, Isle of Man.* r. r.  
 GEOGR. Europe 3, 4. Ireland. N. Africa.

14. ? *ERODIUM moschatum*.

HAB.  
 TOPOGR. (1, 2, 3, 4).—*Fl. Dev. Ang.*—*Cornwall, Somerset, Sussex, Essex, Bucks, Gloucester, Oxford, Bedford, Suffolk, Norfolk, Pembroke, Salop, Chester, Derby, York, Lancaster, Westmoreland, Cumberland.* r. r.  
 GEOGR. Europe 3, 4, 5. Ireland. N. Africa. N. Asia. Cape of Good Hope. S. America.

15. *ERODIUM cicutarium*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. om.*—*Cornwall, Sutherland.* c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland. North Africa. Columbia River. California. S. America.



## XX. BALSAMINEÆ.

1. ? *IMPATIENS Noli-me-tangere.*

HAB.

Agr.

TOPOGR. (1, 2, 3, 4, 5).—*Fl. Lan.*—Dorset, Wilts, Surry, Montgomery, Merioneth, Chester, York, Lancaster, Westmoreland, Cumberland. I have never seen this plant in a situation *apparently* indigenous. Mrs Captain Wakefield informs me that it grows in plenty by the river side near Guildford.

r. r.

GEOGR. Europe 2, 3, 5.

## XXI. OXALIDEÆ.

1. *OXALIS corniculata* \*.

HAB.

Agr.

TOPOGR. 2, (5).—*Fl. Dev. Lan.*

GEOGR. Europe 3, 4, 5. N. Africa. E. W. Asia. British America from the Saskatchewan. California. S. America. Isle of Bourbon.

2. *OXALIS Acetosella.*

HAB.

Agr.—Alp.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. om.*—Cornwall, Sutherland. c.

GEOGR. Europe 1, 2, 3, 4. Ireland. N. Africa. Greenland. British and Western America. Japan.

## XXII. CELASTRINEÆ.

1. ? *STAPHYLEA pinnata.*

HAB.

Agr.

TOPOGR. (1, 3.)—*Fl. 0.*—Kent, York.

v. r.

GEOGR. Europe 3, 4.

\* An upright species, with long peduncles, was sold to me as a British specimen of *O. corniculata*, by a man named Wigham, of Norwich. Whether it was really indigenous, I am unable to say. Perhaps only a cultivated specimen of *O. stricta*.

2. *EUONYMUS europæus*.

HAB. From the sea-shore to an elevation of 1600 feet in the north of England; *Winch, Geogr. Dist.* Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, (6).—*Fl. omnes*.—Introduced into Murray; *G. P. M.* r. c.

GEOGR. Europe 2, 3, 5. Ireland. Caucasus.

3. *ILEX Aquifolium*.

HAB. Alt. of 900 feet, near Loch Eil, Argyleshire. Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*.—*Cornwall, Sutherland.* c.

GEOGR. Europe 3, 4. W. E. Asia. Virginia (*Sp. Pl.*) A doubtful native of Sweden; *Wahl.*

## XXIII. RHAMNEÆ.

1. *RHAMNUS catharticus*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North.*—Dorset, Sussex, Berks, Middlesex, Essex, Bucks, Gloucester, Worcester, Warwick, Suffolk, Norfolk, Leicester, Lincoln, Notts, Glamorgan, Derby, York, Westmoreland, Dumfries. r. c.

GEOGR. Europe 2, 3, 4. Ireland. Russian empire.

2. *RHAMNUS frangula*.

HAB.

Agr.—?

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Bed. Cam.*—*Cornwall, Norfolk, York, Lancaster, Denbigh, Cumberland, Ayr.* r. c.

GEOGR. Europe 1, 2, 3, 4, 5.

## XXIV. LEGUMINOSÆ.

1. *ULEX europæus*.

*nanus.*

HAB. On the western side of the Caernarvonshire mountains its general line fails from 1000 to 1500 feet above the sea, according to situation; in damp shaded valleys ceasing as low as



500 or 600 feet. The highest point at which I observed it in that county was 2100 feet, on the south-east side of Carnedd David. Round the vale of Llangollin it appears to fail (not by actual admeasurement) at about 1500 feet; but a few specimens were seen at a height of at least 1800 feet. In the north of England (*Winch*), it forms fine fox-covers at 800 or 900 feet, and grows in sheltered situations at 2000. On the Clova mountains, I observed it in one spot (introduced) at 1550 feet; but it more commonly ceases at half this elevation. About Braemar (apparently introduced) small specimens were seen at 1300 feet. It is found on the top of Craig Phadrich, near Inverness, the height of which is said to be 1150 feet above the Ness. About Tongue, in the north-west of Sutherland (introduced but now spreading spontaneously), it scarcely attains 350 feet. The failure of this shrub marks the higher part of the Upland Zone, and being of frequent occurrence, its greater or less vigour, and the elevation at which it grows, are pretty accurate indications of the climate. The dwarf autumnal-flowering variety generally exceeds the common one by 200 feet in N. Wales; but the latter is the one *sown*, and consequently the highest in Scotland. Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*.—Rare in the Highlands and north of Scotland, and perhaps never seen except where it has been originally introduced. c.

GEOGR. France. Central Europe. Ireland.

## 2. GENISTA *pilosa*.

HAB.

Agr.

TOPOGR. 1, 2, 3.—*Fl. omnes*.—*Cornwall*, *Pembroke*, *Suffolk*, *Salop*, *Merioneth*. c.

GEOGR. Europe 2, 3, 4.

## 3. GENISTA *tinctoria*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Ton. Ox. Bed. Cam. Ang. North. Berw. Edin. Lan.*—*Cornwall*, *Essex*, *Northampton*, *Norfolk*, *Leicester*, *Chester*, *York*. r. c.

GEOGR. Europe 2, 3, 4, 5. Ireland.

4. *GENISTA anglica.*

HAB. 1800—2000 feet high on the Grampians of Aberdeenshire. Agr.—Moor.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall.* r. c.

GEOGR. Europe, 3. Formerly found in Sweden.

5. *CYTISUS scoparius.*

HAB. Attains 1800 or 1900 of elevation in the Grampians, but is not common in the Moorland Zone, being destroyed by sheep. Agr.—Moor.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. om.*—*Cornwall, Sutherland.* c.

GEOGR. Europe 2, 3, 4. Ireland.

6. *ONONIS arvensis.*

HAB. Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. om.*—*Cornwall, Sutherland.* c.

GEOGR. Europe 2, 3, 4. Ireland.

7. *ANTHYLLIS vulneraria.*

HAB. Agr.—Moor.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ox. Bed. Cam. Ang. North. Berw. Edin. Lan. Mur.*—*Cornwall, Caithness.* c.

GEOGR. Europe 1, 2, 3, 4. Iceland. Ireland. N. Africa.

8. ? *MEDICAGO muricata.*

HAB. Agr.

TOPOGR. 1.—*Fl. 0.*—*Suffolk?* v. r.

GEOGR. Europe 3, 4.

9. *MEDICAGO minima.*

HAB. Agr.

TOPOGR. 1.—*Fl. 0.*—*Kent, Suffolk, Norfolk, Cambridge.* r.

GEOGR. Europe 2, 3, 4. S. America.

10. *MEDICAGO denticulata.*

HAB. Agr.

TOPOGR. 1.—*Fl. 0.*—*Kent, Sussex, Norfolk.* r.

GEOGR. Europe 3, 4. N. Africa. W. Asia. S. America.



11. *MEDICAGO maculata*.

HAB. Agr.

TOPOGR. 1, 2, 3, 4.—*Fl. Dev. Ton. Ox. Cam. Ang. North.*—  
Cornwall, Surry, Suffolk, Norfolk, Caernarvon. r.

GEOGR. Europe 3, 4. Ireland. N. Africa.

12. ? *MEDICAGO falcata*.

HAB. Agr.

TOPOGR. (1, 3, 4).—*Fl. Cam. North.*—Herts, Suffolk, Norfolk,  
Cumberland. r. r.

GEOGR. Europe 2, 3, 4. W. Asia.

13. ? *MEDICAGO sativa*.

HAB. Agr.

TOPOGR. (1, 2, 3, 4, 5, 6).—*Fl. Ton. Bed. Ang. North. Berw.*  
*Mur.*!—Introduced. r. r.

GEOGR. Europe 3, 4. Introduced into Sweden; *Wahl*.

14. *MEDICAGO lupulina*.

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall.* v. c.

GEOGR. Europe 2, 3, 4, 5. W. Asia. Canada to Carolina,  
perhaps introduced.

15. *MELILOTUS officinalis*.

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang.*  
*North. Berw. Edin. Lan.*—*Cornwall, Warwick, Worcester, Nor-*  
*folk, York.* r. c.

GEOGR. Europe 2, 3, 4. N. Africa. Canada to Virginia,  
probably introduced.

16. *MELILOTUS leucantha*.

HAB. Agr.

TOPOGR. 1, 3, 4, 5.—*Fl. North. Berw.*—Norfolk, Surry, Lan-  
caster, Haddington. r.

GEOGR. Europe 3.

17. ? *TRIFOLIUM stellatum*.

HAB. Agr.

TOPOGR. 1.—*Fl. 0.*—Sussex coast; *Borrer.* Introduced? v. r.

GEOGR. Europe 3, 4. N. Africa.

18. TRIFOLIUM *resupinatum*.

HAB. Agr.  
 TOPOGR. 2.—*Fl.* 0.—Meadows near Bristol; *Drummond*. v. r.  
 GEOGR. Europe 3, 4.

19. TRIFOLIUM *suffocatum*.

HAB. Agr.  
 TOPOGR. 1, 2, 4.—*Fl. Dev. Ang.*—Surry, Kent, Suffolk, Norfolk.  
 GEOGR. Europe 3, 4.

20. TRIFOLIUM *maritimum*.

HAB. Agr.  
 TOPOGR. 1, 2. (3).—*Fl. North.*—Cornwall, Dorset, Somerset, Sussex, Kent, Essex, Suffolk. r.  
 GEOGR. Europe 3, 4. Ireland.

21. TRIFOLIUM *subterraneum*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4.—*Fl. Dev. Ox. Bed. Cam. Ang. North.*—Kent, Surry, Essex, Norfolk, Cornwall. r. r.  
 GEOGR. Europe 3, 4. N. Africa.

22. TRIFOLIUM *ochroleucum*.

HAB. Agr.  
 TOPOGR. 1, 2, 3.—*Fl. Ton. Bed. Cam. North.*—Dorset, Surry, Essex, Herts, Worcester, Suffolk, Norfolk, York. r. r.  
 GEOGR. Europe 3, 4.

23. TRIFOLIUM *glomeratum*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4.—*Fl. Dev. North.*—Kent, Surry, Middlesex, Suffolk, Norfolk, Leicester, Denbigh. r. r.  
 GEOGR. Europe 3, 4.

23. TRIFOLIUM *fragiferum*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Edin.*—Surry, Essex, Norfolk, Worcester, Warwick. r. c.  
 GEOGR. Europe 2, 3, 4. Ireland. N. Africa.



25. *TRIFOLIUM ornithopodioides*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Ang. North.*—Somerset, Surry, Kent, Middlesex, Essex, Suffolk, Norfolk, Denbigh, York, Flint, Haddington. r. r.  
 GEOGR. France. Denmark.

26. *TRIFOLIUM scabrum*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ox. Bed. Cam. North. Berw. Edin.*—Cornwall, Sussex, Kent, Surry, Essex, Suffolk, Norfolk, Gloucester, Leicester, Denbigh, York, Forfar. r. c.  
 GEOGR. Europe 3, 4. Ireland. N. Africa.

27. *TRIFOLIUM striatum*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Berw. Edin.*—Worcester, Northampton, Norfolk, Leicester, Forfar. r. c.  
 GEOGR. Europe 2, 3, 4.

28. *TRIFOLIUM arvense*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.* r. c.  
 GEOGR. Europe 2, 3, 4, 5. Iceland. Ireland. N. Africa. Asia. Canada to Virginia.

29. *TRIFOLIUM procumbens*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. omnes.*—Ross, O. Hebrides. c.  
 GEOGR. Europe 2, 3, 4. Ireland. U. States.

30. *TRIFOLIUM filiforme*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—Ross, O. Hebrides. c.  
 GEOGR. Europe, 2, 3, 4. Ireland.

31. *TRIFOLIUM pratense*.

HAB. Agr.—Moor.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. om.*—Cornwall, Caithness. v. c.  
 GEOGR. Europe 1, 2, 3, 4, 5.—Iceland. Ireland. N. Africa. N. W. Asia. British and Western America.

32. TRIFOLIUM *medium*.

HAB. Agr.—Moor.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang.*  
*North. Berw. Edin. Mur.—Ross.* c.  
 GEOGR. Europe 2, 3, 5. Ireland.

33. TRIFOLIUM *repens*.

HAB. Agr.—Subalp.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.—Cornwall, Caithness.* v. c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. British  
 America from 54°. U. States. W. America. W. Asia.

34. LOTUS *angustissimus*.

HAB. In wet situations and among brushwood it becomes  
*L. hispidus* (of Desf.), in dry exposed places dwindling to *L. an-*  
*gustissimus.* Agr.

TOPOGR. 1, 2, 5.—*Fl. Dev. Ton.—Cornwall, Sussex, Berwick.*  
 I am informed by Mr R. Embleton, that it has recently been  
 discovered near Berwick-upon-Tweed. r.

GEOGR. Europe 3, 4. Russian Empire.

35. LOTUS *corniculatus*.

*tenuis.*

*major.*

HAB. I saw a fine specimen in flower at 2840 of elevation on  
 the Clova Mountains. *L. major* I have not seen above the Ag-  
 ricultural Zone. Agr.—Subalp.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.—Cornwall, Caithness.* I  
 have no station for *L. major* north of the Grampians. v. c.

GEOGR. Europe 1, 2, 3, 4. Iceland. Ireland. N. Africa.  
 N. W. E. Asia.—*L. major.* Europe 2, 3, 4. Ireland. S. Ame-  
 rica.

36. OXYTROPIS *uralensis*.

HAB. Agr.—Upl.  
 TOPOGR. 5, 6.—*Fl. Edin.—Argyle, Ross, Sutherland.* r.  
 GEOGR. Europe 1, 2, 3. N. Asia. British and Russian Ame-  
 rica, from the Arctic shores to Labrador and the Rocky Moun-  
 tains.



37. *OXYTROPIS campestris*.

HAB. The height of its station is about 2000 feet. Subalp. ?  
 TOPOGR. 5.—*Fl.* 0.—Rocks on the *Clova Mountains*. v. r.  
 GEOGR. Europe 2, 3.—British America from the Arctic coast  
 to the Saskatchewan and Rocky Mountains.

38. *ASTRAGALUS hypoglottis*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Ox. Cam. North. Berw. Edin.*  
*Mur.* r. c.  
 GEOGR. Europe 3, 5. N. Africa. British America.

39. *ASTRAGALUS glycyphyllos*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Ox. Bed. Cam. North. Berw.*  
*Edin. Lan. Mur.* r. c.  
 GEOGR. Europe 2, 3, 4, 5.

40. *ASTRAGALUS alpinus*.

HAB. The height of its station (not by measurement) is about  
 2500 feet. Subalp.  
 TOPOGR. 5.—*Fl.* 0.—The only known station is in Glen Dole,  
 near Clova, *Forfarshire*, where it was discovered during Pro-  
 fessor Graham's excursion of 1831. v. r.  
 GEOGR. Europe 1, 2, 3, 5. N. Asia. British America from  
 Melville Island to Newfoundland and the Rocky Mountains.  
 Kotzebue's Sound.

41. *ORNITHOPUS perpusillus*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang.*  
*North. Edin. Mur.* c.  
 GEOGR. Europe 3. Ireland. N. Africa.

42. *HIPPOCREPIS comosa*.

HAB. Generally in calcareous soils. Agr.—Upl. ?  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ox. Bed. Cam. North.*—Suf-  
 folk, Norfolk, Caernarvon, York, Ayr. r. c.  
 GEOGR. Europe 3, 4. N. Africa.

43. *ONOBRYCHIS sativa*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4.—*Fl. Ton. Ox. Bed. Cam. Ang. North.*—  
 Worcester, Norfolk. r. r.  
 GEOGR. Europe 3, 5. N. Africa. N. Asia.

44. *VICIA lævigata*.

HAB. Agr.  
 TOPOGR. 1.—*Fl. 0.*—Dorset coast. v. r.  
 GEOGR.

45. *VICIA hybrida*.

HAB. Agr.  
 TOPOGR. 2.—*Fl. 0.*—Somerset. v. r.  
 GEOGR. Europe 3, 4. N. Africa.

46. *VICIA bithynica*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4.—*Fl. Dev. North.*—Dorset, Hants, Sussex,  
 Kent, Worcester, Flint, York. r.  
 GEOGR. Europe 3, 4.

47. *VICIA lutea*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Edin.*—Dorset, Somerset, Sussex  
 Suffolk, Chester, Derby, Forfar. r. r.  
 GEOGR. Europe 3, 4. N. Africa.

48. *VICIA lathyroides*.

HAB. Agr.—Upl.?  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Bed. North. Berw. Edin.*  
*Mur.*—O. Hebrides. r. c.  
 GEOGR. Europe 2, 3, 4. Ireland.

49. *VICIA sativa*.

*angustifolia.*  
 HAB. Agr.—?  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—Ross. c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa. E. Asia.  
 British America. U. States.



50. *VICIA Cracca.*

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Caithness.* c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. Africa.  
 N. Asia. Greenland. British America. U. States.

51. *VICIA sepium.*

HAB. Agr.—Moor.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Caithness.* c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland.

52. *VICIA sylvatica.*

HAB. Agr.—Subalp.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ox. Bed. Cam. Ang. North.*  
*Berw. Edin. Lan. Mur.*—O. Hebrides. r. c.  
 GEOGR. Europe 1, 2, 3, 5. Ireland. N. Asia.

53. *ERVUM tetraspermum.*

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, (5).—*Fl. Dev. Ton. Ox. Bed. Cam. Ang.*  
*North.*—*Cornwall, Surry, Norfolk, Leicester.* “Rare in Scot-  
 land; and Mr Arnott doubts if it has ever been found there.”  
*Hook. B. F.* r. r.  
 GEOGR. Europe 2, 3, 4. N. Africa. Canada.

54. *ERVUM hirsutum.*

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Caithness.* c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Japan. Fort Vancouver, Ame-  
 rica; perhaps introduced.

55. *LATHYRUS hirsutus.*

HAB. Agr.  
 TOPOGR. 1, 2, 3.—*Fl. North.*—*Somerset, Essex, Derby.* r.  
 GEOGR. Europe 3, 4. N. Africa.

56. *LATHYRUS pisiformis.*

HAB. Agr.  
 TOPOGR. 1, 2, 3.—*Fl. 0.*—*Cornwall, Dorset, Hants, Sussex,*  
*Suffolk, Lincoln.* r.

GEOGR. Europe 1, 2, 3, 5. Iceland. N. E. Asia. In America, from the Arctic coasts to the St Lawrence on the east, and California on the west.

57. *LATHYRUS Nissolia.*

HAB.

Agr.

TOPOGR. 1, 2, 3, 4.—*Fl. Dev. Ton. Ox. Bed. Cam. North.*—Dorset, Wilts, Sussex, Surry, Berks, Herts, Bucks, Suffolk, Norfolk, Worcester, Warwick, Hereford, Stafford, Derby, Hunts, York. r. r.

GEOGR. Europe 3, 4.

58. *LATHYRUS Aphaca.*

HAB.

Agr.

TOPOGR. 1, 2, 3, (5).—*Fl. Dev. Ox. Cam. North.*—Dorset, Somerset, Sussex, Kent, Surry, Middlesex, Essex, Bucks, Gloucester, Warwick, Northampton, Hunts, Suffolk, Norfolk, Leicester, Derby, York. Corn-field near Edinburgh, 1832; *Graves.* Probably brought with seed. r. r.

GEOGR. Europe 3, 4. N. Africa.

59. *LATHYRUS palustris.*

HAB.

Agr.

TOPOGR. 1, 3, 4, (5).—*Fl. Cam.*—Surry, Berks, Norfolk, Lincoln, Leicester, Derby, York, Lancaster, Caernarvon. Scotland? r. r.

GEOGR. Europe 1, 2, 3, 4, 5. N. Asia. British and Western America.

60. ? *LATHYRUS latifolius.*

HAB.

Agr.

TOPOGR. (1, 2, 3, 4, 5).—*Fl. Bed. Cam. North.*—Hants, Kent, Hunts, Worcester, Gloucester, Caernarvon, Cumberland, Wighton, Kirkeudbright. r. r.

GEOGR. Europe 3, 5.

61. *LATHYRUS sylvestris.*

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ox. Bed. Cam. Ang. Edin.*—Dorset, Somerset, Hants, Sussex, Kent, Surry, Berks, Herts,



Bucks, Worcester, Warwick, Northampton, Hunts, Suffolk, Norfolk, Leicester, Notts, Glamorgan, Hereford, Salop, Caernarvon, *Denbigh*, Stafford, York, Cumberland, Berwick, Forfar. r. c.  
 GEOGR. Europe 2, 3, 4. N. Africa.

62. *LATHYRUS pratensis.*

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Sutherland.* c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. W. Asia.  
 S. of Greenland. British and Western America.

63. *OROBUS sylvaticus.*

HAB. Agr.—?  
 TOPOGR. 2, 3, 4, 5, 6.—*Fl. Berw. Lan.*—Cardigan, Radnor, Montgomery, Merioneth, Caernarvon, Denbigh, York, Cumberland, Wigton, Peebles, *Edinburgh*, Forfar, Inverness. r. r.  
 GEOGR. “An potius *Vicia cassubica* floribus pallidis?” *Dec. Prodr.*

64. *OROBUS tuberosus.*

HAB. Agr.—Moor.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Ang. North. Berw. Edin. Lan. Mur.*—*Cornwall, Sutherland.* v. c.  
 GEOGR. Europe 2, 3, 4. Ireland. N. Asia.

65. *OROBUS niger.*

HAB. Upl.  
 TOPOGR. 5, 6.—*Fl. Mur.*—Forfar, Inverness. v. r.  
 GEOGR. Europe 2, 3, 4, 5.

## XXV. ROSACEÆ.

1. *PRUNUS insititia.*

? *domestica.*

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Edin. Lan.*—*Cornwall, Chester, York, Dumfries, Forfar.* r. c.

GEOGR. Europe 3, 4. Ireland. N. Africa. Introduced into Sweden; *Wahl.* In the oases of Upper Egypt, between 25° and 27° (*P. domestica* cultivated); *Mirbel.* Japan.

## 2. PRUNUS *Cerasus.*

HAB. From the shore to the elevation of 1600 feet in the N. of England; *Winch.* Fine trees (probably planted) grow by Loch Tay. Agr.—Upl.

TOPOGR. 1, 2, 3, 4, (5, 6).—*Fl. omnes.*—Introduced into Murray; *Gordon P. M.* Perhaps not indigenous; *Hook. Fl. Scot. Cornwall.* r. c.

GEOGR. Europe 3, 4, 5. Ireland. N. Africa. W. E. Asia. Introduced into Sweden; *Wahl.* “In forests in the Caucasus, Asia Minor, between the Black Sea and the Adriatic. Cultivated in temperate Europe. Its cultivation ceases in Russia beyond 55° or 56°. It grows poorly in Livonia. Malte Brun says cherries sometimes ripen on the coasts of East Bothnia, (63° or 64°). It ripens in favourable situations in Norway to 63°. *Mirbel.*”

## 3. PRUNUS *spinosa.*

HAB. Ends with *Ulex europæus* in N. Wales; but enduring a moister climate, is found in Highland valleys where no gorze is seen. Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Sutherland.* c.

GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa. W. E. Asia. Ceases about Upsal; *Wahl.* America, but introduced.

## 4. PRUNUS *Padus.*

HAB. Attains 1600 feet of elevation in the north of England; *Winch.*

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Ton. Cam. Ang. North. Berw. Edin. Lan. Mur.—Ross.* r. c.

GEOGR. Europe 1, 2, 3, 5. Ireland. N. W. Asia. “Caucasus, Lapland (to 70° but rare above 68°), Russia, Temperate Siberia, common on the Obi, (61° or 62°), Dahuria, Kamchatka.” *Mirbel.*



5. SPIRÆA *Filipendula*.

HAB. Often, but not solely, on lime. Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Edin. Lan. Mur.* r. c.

GEOGR. Europe 2, 3, 5.

6. ? SPIRÆA *salicifolia*.

HAB. Agr.—Upl.

TOPOGR. (2, 3, 4, 5, 6.)—*Fl. Ang. North. Berw. Edin. Lan. Mur. ?*—Cardigan, Worcester, Salop, York, Westmoreland, Roxburgh, Forfar, *Inverness*, (near houses). r. r.

GEOGR. N. W. Asia. America, from Newfoundland and the Saskatchewan to Carolina.

7. SPIRÆA *Ulmaria*.

HAB. Agr.—Moor.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Caithness.* c.

GEOGR. Europe 1, 2, 3, 5. Iceland. Ireland. N. Asia.

8. DRYAS *octopetala*.

HAB. Generally, but not only on limestone. In the north of England, at 2000 feet of elevation; *R. B. Bowman*. In the north-west of Sutherland, at the sea level, in great plenty where there is limestone. Upl.—Subalp.

TOPOGR. 3, 5, 6.—*Fl. North.*—York, Ayr, Dumbarton, Argyll, *Perth, Forfar, Inverness, Ross, Sutherland.* r.

GEOGR. Europe 1, 2, 3, 5. Iceland. Ireland. N. Asia. Spitzbergen, Greenland. America from the Arctic Islands to Lat. 30° on the Rocky Mountains.

9. GEUM *urbanum*.

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.* c.

GEOGR. Europe 2, 3, 4, 5. Ireland. N. W. Asia.

10. GEUM *rivale*.

HAB. Agr.—Subalp.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ox. Bed. Cam. Ang. North. Berw. Edin. Lan. Mur.*—*Sutherland.* c.

GEOGR. Europe 1, 2, 3, 4, 5. Iceland, Ireland. B. America. U. States.

11. *RUBUS cæsius*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Ton. Ox. Bed. Cam. Ang. North. Berw. Edin. Mur.* r. c.

GEOGR. Europe 2, 3, 4, 5. Ireland. N. E. Asia.

12. *RUBUS fruticosus*.*carpinifolius.**rhamnifolius.**leucostachys.**macrophyllus.**Koehleri.**corylifolius.*

*N. B.* Perhaps *R. cæsius* should have been added hereto.

HAB. In one or other of these forms the shrubby bramble abounds in the Agricultural, and is pretty frequent in the Upland Zone; but above this I do not remember to have seen it. Mr Winch gives it (*R. corylifolius*, *R. fruticosus*, *R. Koehleri*,) a similar limit with that of *Ulex europæus*, "2000 feet, in sequestrated denes." Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*, under the name of *R. fruticosus*; under any other name it is wanting in some of them. Brambles are more abundant and much finer in the hedges of England. In the Highlands they form only a secondary feature in the physiognomy of vegetation. *Cornwall, Sutherland.* v. c.

GEOGR. Europe 2, 3, 4. Ireland. N. Africa. N. E. Asia.

13. *RUBUS suberectus*.

HAB. The most frequent species, if *species* it be, in the Upland Zone. Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Mur.*—Hants, Ross. r. c.

GEOGR. Ireland. British America.

14. *RUBUS Idæus*.

HAB.

Agr.—Subalp.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Sutherland.* c.



GEOGR. Europe 1, 2, 3, 4, 5. Ireland. N. E. Asia. Do all the American stations given for this, belong to *R. strigosus*? Vide Hook. *Flora Bor. Am.*

### 15. RUBUS *saxatilis*.

HAB. I have seen it flowering (in August) about 500 or 600 feet below the patches of snow on Ben Nevis, but it is by no means common in the Alpine Zone, and scarcely seen in the lower part of the Agricultural. Agr.—Alp.

TOPOGR. 2, 3, 4, 5, 6.—*Fl. North. Berw. Edin. Lan. Mur.*—Salop, Caernarvon, Denbigh, Derby, York, Lancaster, *Cumberland, Forfar, Aberdeen, Inverness, Sutherland.* r. r.

GEOGR. Europe 1, 2, 3, 5. Iceland. Ireland. N. Asia. The American stations assigned for this are referred to *R. triflorus* in Hook. *Fl. Bor. Am.*

### 16. RUBUS *Chamæmorus*.

HAB. Whether it descends to the Agricultural Zone, I am in doubt, the stations in “Cleghorn and Bonniton Woods” being unknown to me. At an elevation of 1000 feet and upwards in the N. of England; *Winch.* It flourishes in the Barren Region, but I have not seen flowers above this. Upl.—Alp.—?

TOPOGR. (2) 3, 4, 5, 6.—*Fl. North. Berw. Edin. Lan. Mur.*—Montgomery, Merioneth, Caernarvon, Chester, Derby, York, Lancaster, Westmoreland, Cumberland, Roxburgh, Dumbarton *Perth, Forfar, Aberdeen, Sutherland.* r. r.

GEOGR. Lapland, Norway, Sweden, Denmark, Germany. N. Asia. Greenland. America from the Arctic Coast to Newfoundland, Lake Winipeg, and the Rocky Mountains between 52° and 56°. Not further south in Europe than the mountains of Bohemia and Silesia; Hook. *Linn. Trans.* vol. xiv.

### 17. ? FRAGARIA *elatior*.

HAB. Agr.

TOPOGR. (1, 3, 5.)—*Fl. Lan.* Essex, York.—In several places, but scarcely indigenous; Hook. *B. Fl.* r.

GEOGR. Ireland? “In America, China? Bohemia? Pannonia?” *Dec. Prodr.*

18. ? *FRAGARIA calycina*.

HAB. Agr. ?  
 TOPOGR. (3.)—*Fl. North.*—Northumberland; *Lindley*. I  
 know nothing of this strawberry; *Winch, N. D.* v. r.  
 GEOGR. France.

19. *FRAGARIA vesca*.

HAB. Agr.—Moor.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Sutherland*. c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. Africa.  
 N. Asia. Brit. Russ. West. America. U. States. Quito.

20. *TORMENTILLA officinalis*.

HAB. Agr.—Alp.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Caithness*. v. c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. Asia.

21. *POTENTILLA reptans*.*TORMENTILLA reptans*.

*N. B.*—"I am often at a loss to distinguish between the two plants, and while Mr Wilson finds them undistinguishable, Mr Forster and Nestler think them quite distinct."—*Hook. Br. Fl.*

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Berw. Edin. Lan.* *Tormentilla reptans* not in *Flora Cantab.*  
 —*Cornwall, Somerset, Dorset, Middlesex, Essex, Herts, Suffolk, Norfolk, Leicester, Caernarvon, Chester, York, Forfar.*  
 Common in England, rather rare in Scotland. r. c.  
 GEOGR. Europe 2, 3, 4. Ireland. N. Asia.

22. *POTENTILLA argentea*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 5, 6.—*Fl. Ton. Ox. Bed. Cam. North. Berw. Edin. Mur.*—Kent, Surry, Worcester, Warwick, Norfolk, Leicester, *Perth, Forfar.* r. r.  
 GEOGR. Europe 2, 3, 4, 5. Ireland. Canada.



23. *POTENTILLA anserina*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*.—*Cornwall, Caithness*. v. c.  
 Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. Asia. New  
 Holland. Greenland? America, from the Arctic Coast to  
 Pennsylvania, from Labrador to Columbia River.

24. *POTENTILLA Fragariastrum*.

HAB. Agr.—Moor. c.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*.  
 GEOGR. Europe 2, 3, 4. Ireland. N, E. Asia?

25. *POTENTILLA verna*.*alpestris**opaca?*

N. B. “The extreme varieties, it is true, do appear distinct, but they (*P. alp.* and *P. verna*), insensibly pass into each other; an opinion, in which I am happy to be supported by such authority as Mr W. Wilson, who finds at Llandudno, a little above high-water mark, specimens of *verna*, which cannot be distinguished from *alpestris*.”—*Hook. B. F.*

HAB. Limeston, trap, basalt, mica-slate. Agr.—Subalp.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Cam. North. Berw. Edin.*  
 —*Aberdeenshire*. *P. alpestris* in Durham and the Highlands,  
*P. opaca* on the Braes of Balquhidder, Perthshire. r. c.  
 GEOGR. Europe 2, 3, 5. Iceland. N. E. Asia. Greenland.—  
*P. opaca*. Europe 3. Labrador. (Herb. Banks, *fide* Pursh.)  
*Hook. Flora Bor. Am.*

26. *POTENTILLA rupestris*.

HAB. Upl.?  
 TOPOGR. 2.—*Fl. 0*.—*Craig-Wreiddon or Breiddon, Montgo-*  
*meryshire*.  
 GEOGR. Europe 2, 3, 4. N. Asia.

27. *POTENTILLA fruticosa.*

HAB. Upl. ?  
 TOPOGR. 3, 4.—*Fl. North.*—York, Cumberland. v. r.  
 GEOGR. Europe 2, 3. Ireland. N. Asia. Brit. Russ. West.  
 America.

28. *POTENTILLA tridentata.*

HAB. Subalp ?  
 TOPOGR. 5.—*Fl. 0*—Werron and other mountains in Angu-  
 shire. Not found lately. v. r.  
 GEOGR. British America.

29. *COMARUM palustre.*

HAB. At an elevation 2500 feet on the Grampians, slender  
 and without flowers. Agr.—Subalp.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Bed. Cam. Ang. North. Berw.*  
*Edin. Lan. Mur.*—Dorset, Hants, Suffolk, Sutherland. c.  
 GEOGR. 1, 2, 3, 5. Iceland. Ireland. N. Asia. Green-  
 land. Brit. and Russ. America. U. States.

30. *SIBBALDIA procumbens.*

HAB. At 4000 feet elevation on Ben-Nevis, and nearly the  
 same on Ben-na-muic-duich. Its lower limit is a little above that  
 of *Carex rigida*, about 100—300 feet higher. Subalp—Sno.  
 TOPOGR. 5, 6.—*Fl. Mur.*—Stirling, Arygle, Perth, Forfar,  
 Aberdeen, Inverness, Sutherland. r.  
 GEOGR. Europe 1, 2, 3. Faroe. N. Asia. British and  
 Russian America.

31. *AGRIMONIA Eupatorium.*

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—Cornwall. c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland. N. E. W. Asia. Canada  
 to Carolina.

32. *ALCHEMILLA arvensis.*

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*—Cornwall, Sutherland. c.



GEOGR. Europe 2, 3, 4. Ireland. N. Africa. Virginia. New Holland.

### 33. *ALCHEMILLA vulgaris*.

HAB. Rare (and, I believe, not flowering) in the Snowy Zone.  
Agr —Sno.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ox. Bed. Cam. Ang. North. Berw. Edin. Lan. Mur.—Caithness.* c.

GEOGR. Europe 1, 2, 3, 4. Iceland. Ireland. W. Asia. Greenland. Labrador.

### 34. *ALCHEMILLA alpina*.

HAB. Sometimes following the course of streams into the upper part of the Agricultural Zone, but scarcely appropriate to it. Round the summit of Ben Lawers, at an elevation of 4000 feet; almost as high on Ben Nevis, and a little higher on Ben-na-muich-duich. Approaches considerably nearer to the snow patches than does *Empetrum nigrum*. Upl.—Sno.

TOPOGR. 3, 4, 5, 6.—*Fl. Mur.—York, Cumberland, Westmoreland, Dumbarton, Argyle, Perth, Forfar, Aberdeen, Inverness, Sutherland, O Hebrides, N. Wales; Hook. Br. Fl.* r. r.

GEOGR. Europe 1, 2, 3, 4. Iceland. Ireland. Greenland. U. States?

### 35. *SANGUISORBA officinalis*.

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ox. Bed. Cam. North.—Cornwall, Surrey, Leicester, Glanmorgan, Salop, Caernarvon, Flint, Chester, Stafford, Derby, York, Lancaster, Westmoreland, Kircudbright, Dumfries.* r. c.

GEOGR. 2, 3, 4, 5. Iceland. N. Asia.

### 36. *SANGUISORBA media*.

HAB. Agr. ?

TOPOGR. 5.—*Fl. 0.—Pastures in the west of Scotland; G. Don.* v. r.

GEOGR. Canada to Carolina. W. America.



37. *POTERIUM Sanguisorba.*

HAB. Chiefly in calcareous soils. Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Berw. Lan.*—Cornwall, Surry, Northampton, Norfolk, Caernarvon, Chester, Derby, Forfar. r. r.

GEOGR. Europe 3, 4. Ireland. N. America.

## 38.—53. ROSA.

*N. B.*—Until botanists, who undertake the description and distinction of species, shall point out some characters by which one may be separated from another, and the lines between *their* species and varieties drawn with more clearness than has yet been done, any attempt to indicate ranges would be useless. All that could now be done would consist in naming a few detached stations for particular *forms*, on which names and Greek letters have been so liberally bestowed. Any tyro, indeed, can discriminate extreme forms; but having seen so many individual shrubs which it was certainly beyond my power to refer with confidence to particular names, and finding also botanists of first-rate talents for specific distinctions as much at fault, I should be just as likely to mislead as to inform, by endeavouring to specify the range of each reputed species. In Hooker's *Brit. Fl.* there are nineteen species, for two of them, only Irish localities being given, and a third (*R. cinnamomea*) having such faint claim to be included among our indigenous or naturalized plants, the real estimate may be sixteen.

HAB. One (*R. spinossima*) attains the Moorland, and about half a dozen probably reach the Upland Zone, viz. *R. villosa*, *R. tomentosa*, *R. canina*, and *R. Sabini*. To these perhaps *R. cæsia* and *R. involuta* (with which I am unacquainted) should be added. *R. rubiginosa* and *R. inodora* are found high in the Agricultural, and may reach the Upland Zone. All, it is likely, occur in the Agricultural Zone. For the present they may be arranged numerically, thus, Agr. 16.—Upl. 8.—Moor. 1.



TOPOGR. The only *name* common to all the floras is *R. canina*. Their distribution in districts may be—

|               |     |     |     |     |     |     |
|---------------|-----|-----|-----|-----|-----|-----|
| Rosa rubella, | ... | ... | 3   | 4   | ... | ... |
| spinosissima, | ... | 2   | 3   | 4   | 5   | 6   |
| Wilsoni,      | ... | ... | 3   | ... | ... | ... |
| involuta,     | ... | ... | 3   | ... | 5   | 6   |
| Sabini,       | 1   | 2   | 3   | 4   | 5   | ... |
| villosa,      | 1   | 2   | 3   | 4   | 5   | 6   |
| tomentosa,    | 1   | 2   | 3   | 4   | 5   | 6   |
| inodora,      | ... | 2   | 3   | ... | 5   | 6   |
| micrantha,    | 1   | 2   | ... | ... | ... | ... |
| rubiginosa,   | 1   | 2   | 3   | 4   | 5   | 6   |
| sepium,       | ... | 2   | ... | ... | ... | ... |
| canina,       | 1   | 2   | 3   | 4   | 5   | 6   |
| bractescens,  | ... | ... | ... | 4   | ... | ... |
| cæsia,        | 1   | ... | 3   | ... | 5   | ... |
| systyla,      | 1   | ... | ... | ... | 5   | 6   |
| arvensis,     | 1   | 2   | 3   | 4   | 5   | ... |
| TOTAL,        | 9   | 10  | 12  | 9   | 11  | 8   |

GEOGR. *R. villosa* reaches Lapland. *R. canina*, *cinnamomea*, *rubiginosa*, *systyla*, *tomentosa*, are found in Sweden. Most of them (perhaps all) occur in Europe between the Baltic and the Mediterranean. *R. canina*, *rubiginosa*, *villosa*, (if the same?) are found in Greece and Sicily. *R. spinosissima* in Greece. *R. canina* ceases in Sweden at  $63\frac{1}{4}^{\circ}$ , *Wahl*. It grows also in Eastern and Western Asia. Ten are mentioned in Mackay's Cat. of Irish Plants. None of the British ones, the doubtful *R. cinnamomea* excepted, are mentioned in *Hook. Fl. Bor. Am.*

#### 54. CRATÆGUS *Oxyacantha*.

HAB. Rises a little higher than *Ulex europæus*. Agr.—Up.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*—*Cornwall*.

GEOGR. Europe 2, 3, 4. Ireland. N. Africa. Western Asia. Ceases about  $60\frac{1}{2}^{\circ}$  in Sweden; *Wahl*.

#### 55. COTONEASTER *vulgaris*.

HAB.

Agr.

TOPOGR. 4.—*Fl. 0*.—Ormeshead, Caernarvonshire. The

stations indicated for *Salix reticulata* on Penmaen Mawr and the Ormeshead, may perhaps belong to this shrub. v. r.

GEOGR. Europe 2, 3, 4. (N. ?) and W. Asia.

56. ? *MESPILUS germanica*.

HAB.

Agr.

TOPOGR. (1, 2, 4).—*Fl. Dev.*—Sussex, Surry, Chester. r.

GEOGR. Europe 3, 4, 5. W. Asia.

57. *PYRUS domestica*.

HAB.

Agr.

TOPOGR. 1, 2, 3.—*Fl. Dev.*—Cornwall, Hants, Worcester, Stafford, Derby. r.

GEOGR. Europe 3, 4. Iceland? N. Africa. W. Asia.

58. *PYRUS torminalis*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4.—*Fl. Dev. Ton. Ox. Cam. Ang.*—Dorset, Sussex, Middlesex, Essex, Herts, Suffolk, Norfolk, Northampton, Warwick, Worcester, Glamorgan, Hereford, Denbigh. r. r.

GEOGR. Europe 3, 4, 5. W. Asia.

59. *PYRUS communis*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, (5).—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Lan.*—Forfar. r. r.

GEOGR. Europe 2, 3, 4, 5. Japan (cultivated?). "The Pear every where accompanies the Apple. These two trees, the cherry and the oak, may be considered to have almost the same expansive power;" *Mirbel*.

60. *PYRUS Malus*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5, (6).—*Fl. omnes.*—Introduced into Murray; *Gordon, P. M.* r. c.

GEOGR. Europe 2, 3, 4, 5. Ireland. W. Asia. "South Europe, Indian Caucasus, Thibet (at 1455 toises), Sweden to 58° or 59°, West Finland to 62°, rare in Central Russia beyond 55° or 56°, the last at Valdai, where the oak ceases; wanting in Siberia Bangalore, Canton, Oases of Upper Egypt. In Europe its cul-



ture ceases beyond 63° in Norway, between 62° and 63° in Finland; between 56° and 58° on the Don, the Viatka, and the Volga, where it does not succeed at 56° or 55°; on the Oural it grows feebly at 51°, not found to the east of that river, Bucharia, Turkistan, China, and Mantchouria. It appears (Mantchourie excepted) to cease in Asia about 42°." *Mirbel.*

### 61. PYRUS *Aria*,

#### *pinnatifida*.

HAB. Chiefly, but not only on calcareous rocks. Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. North. Edin. Lan. Mur.*!—Dorset, Somerset, Hants, Sussex, Middlesex, Suffolk, Norfolk, Gloucester, Glamorgan, Montgomery, Caernarvon, Derby, York, Argyle, Sutherland. r. c.

GEOGR. Europe 2, 3, 4. Ireland.

### 62. PYRUS *Aucuparia*.

HAB. Small specimens, on the open moor near Loch Esk, Forfarshire, grew at the height of 2500 feet. Agr.—Subalp.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Bed. Cam. Ang. North. Berw. Edin. Lan. Mur.*—Sutherland. c.

GEOGR. Europe 1, 2, 3, 4, 5. Iceland. N. W. Asia. Aleutian Isles. Greenland. Labrador; *Meyer.*

## XXVI. ONAGRARIÆ.

### 1. EPILOBIUM *roseum*.

HAB. Agr.

TOPOGR. 1, 2, 5.—*Fl. Dev. Ton.*—Sussex, Essex, Herts, Worcester, Forfar. r.

GEOGR. Europe 2, 3.

### 2. EPILOBIUM *hirsutum*.

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Berw. Edin. Lan.*—Cornwall, Somerset, Surry, Northampton, Norfolk, Caernarvon, *Chester*, Derby, Lancaster, Roxburgh, Kinross, Perth, Forfar. r. c.

GEOGR. Europe 2, 3, 4, 5. Ireland.

3. *EPILOBIUM parviflorum*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*.—*Cornwall*. r. c.  
 GEOGR. Europe 2, 3, 4. Ireland.

4. *EPILOBIUM tetragonum*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*. r. c.  
 GEOGR. Europe 2, 3, 4, 5. Iceland. Ireland. W. Asia.  
 British America from 64°. U. States to Carolina. North-  
 west coast.

5. *EPILOBIUM montanum*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. om.*—*Cornwall, Sutherland*. c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. Asia.

6. *EPILOBIUM palustre*.

HAB. Agr.—Moor.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. om.*—*Cornwall, Sutherland*. c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. Asia.  
 British America from 64°. U. States.

7. *EPILOBIUM angustifolium*.

HAB. Agr.—Moor.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Ton. Ox. Bed. Ang. North. Berw.*  
*Edin. Lan. Mur.*—*Hants, Sutherland*. r. c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. Asia.  
 Greenland. America, from 69° to Pennsylvania, from New-  
 foundland to Columbia River, and the Aleutian Isles.

8. *EPILOBIUM alpinum*.*alsinifolium*.

HAB. The superior size of *E. alsinifolium* appears to depend partly on a lower elevation, partly on difference of soil. In streamlets where there is some depth of water, and especially in mud, it assumes this form. In very barren soil, in shallow streams, among rocks or debris, and at great elevations, it is *E. alpinum*. *E. alsinifolium* I have not seen above the Subal-



pine Zone, nor *E. alpinum* below the Moorland. The former sometimes appears almost within the limits of the Agricultural Zone; *ex. gr.* in Caernarvonshire, as low as 600 or 650 feet in wet shady places. Upl.—Snow.

TOPOGR. 3, 4, 5, 6.—*Fl. North. Berw. Mur.*—Caernarvon, Derby, York, Cumberland, Dumfries, *Perth, Forfar, Aberdeen, Inverness, Ross, Sutherland.* r. r.

GEOGR. Europe 1, 2, 3, 4, 5. Iceland. N. Asia. Greenland. Brit. Rus. West. America.

### 9. ? *ŒNOTHERA biennis.*

HAB. Agr.

TOPOGR. (1, 2, 3, 4, 5, 6).—*Fl. North. Mur.!*—Surry, Worcester, Suffolk. Not native in Britain, but occasionally seen as an escape from cultivation. r.

GEOGR. Naturalized in Europe, from Sweden to Sicily; but introduced originally from the New Continent. British and Western America from 56°. U. States.

### 10. *ISNARDIA palustris.*

HAB. Agr.

TOPOGR. 1.—*Fl. 0.*—Sussex; *Borrer.* v. r.

GEOGR. Europe 3, 4, 5. N. Africa. Cape of Good Hope. British America from the Saskatchewan. U. States. Mexico.

### 11. *CIRCÆA lutetiana.*

HAB. Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bcd. Cam. Ang. North. Berw. Edin. Lan.*—Cornwall, Surry, Northampton. Norfolk, Leicester, Caernarvon, Denbigh, *Chester, Derby, York, Lancaster, Cumberland, Perth, Forfar.* r. c.

GEOGR. Europe 2, 3, 4, 5. Ireland. N. W. Asia. Canada to Carolina.

### 12. *CIRCÆA alpina.*

HAB. More northern and colder situations than *C. lutetiana*, and perhaps a variety dependent thereon. Upl.

TOPOGR. 3, 4, 5, 6.—*Fl. North. Edin. Lan. Mur.*—Monmouth,

Lancaster, Westmoreland, *Cumberland*, Peebles, Argyle, *Perth*,  
Forfar, Inverness, Ross. r. r.

GEOGR. Europe 1, 2, 3, 5. Ireland. N. Asia. Canada to  
Carolina. W. America.

## XXVII. HALORAGEÆ.

### 1. MYRIOPHYLLUM *verticillatum*.

HAB. Agr.—?

TOPOGR. 1, 2, 3, 4, (6).—*Fl. Ox. Bed. Cam. Ang. North. Mur.*  
—Dorset, Hants, Surry, Berks, Middlesex, Essex, Bucks, War-  
wick, Suffolk, Norfolk, Leicester, Lincoln, Chester, York.  
Loch Callader, Aberdeenshire; *Macgillivray*. Perhaps the other  
species was intended. I am ignorant upon what authority it is  
included in the list of Murray plants. Not in *Flora Scotica*.  
Polam, Durham, the limit of its range to the north; *Winch*,  
*N. D.* r. r.

GEOGR. Europe 2, 3, 5. Iceland. Ireland. N. Africa. Ca-  
nada to Pennsylvania.

### 2. MYRIOPHYLLUM *spicatum*.

HAB. Agr.—Moor.

TOPOGR. 1.—*Fl. omnes*.—Sutherland. c.

GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. Africa.  
N. Asia. In America, from Bear Lake to New Jersey.

### 3. CALLITRICHE *pedunculata*.

HAB. Agr.

TOPOGR. 1.—*Fl. 0*.—Sussex; *Borrer*. v. r.

GEOGR. France.

### 4. CALLITRICHE *autumnalis*.

HAB. Agr.—Upl.?

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang.*  
*North. Berw. Edin.*—Norfolk, Caernarvon, Denbigh, York,  
*Perth?* r. c.

GEOGR. Europe 1, 2, 3. Iceland. N. Africa. N. Asia. Bri-  
tish America from 66°. Columbia River.



5. *CALLITRICHE verna*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.* c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. Africa.  
 N. E. Asia. British America. Bay of Escholtz.

6. *HIPPURIS vulgaris*.

HAB. Agr.—Upl.—?  
 TOPOGR. 1, 3, 4, 5, 6.—*Fl. Ox. Bed. Cam. Ang. North. Berw. Edin. Lan. Mur.*—Hants, Surry, Norfolk, Merioneth, Caernarvon, *Chester*, York, Argyle, Perth, Forfar, O. Hebrides. r. c.  
 GEOGR. Europe 1, 2, 3, 5. Iceland. Ireland. N. Asia. British America from 60°. U. States. Behring's Straits. Greenland. Its southern limit in Europe seems to be 44°; *Dec.*

## XXVIII. CERATOPHYLLÆ.

1. *CERATOPHYLLUM demersum*.  
*submersum.*

HAB. Agr.  
 TOPOGR. 1, 2, 3, 5.—*Fl. Dev. Ton. Ox. Cam. North. Edin.* (*C. submersum* in no Flora).—Sussex, Suffolk, Norfolk, Worcester, Warwick, York, Forfar. r. c.  
 GEOGR. Europe 2, 3, 5. Iceland. Ireland. N. Africa. Japan. Canada.

## XXIX. SALICARIÆ.

1. *PEPLIS Portula*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ox. Bed. Cam. Ang. North. Edin. Lan. Mur.*—Ross. c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Ireland. Labrador; *Meyer.*

2. *LYTHRUM hyssopifolium*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4.—*Fl. Ox. Bed. Cam.*—Surry, Kent, Berks,

Middlesex, Suffolk, Hunts, Notts, Caermarthen, Chester, Lancaster, York. r. r.

GEOGR. Europe 3, 4. Ireland. N. Africa.

### 3. LYTHRUM *Salicaria*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Berw. Lan.*—*Cornwall, Chester, Lancaster, York, Isle of Man, Dumfries, Dunbarton, Argyle.* r. c.

GEOGR. Europe 1, 2, 3, 4, 5. Ireland. E. W. Asia. Canada.

## XXX. TAMARISCINEÆ.

### 1. ? TAMARIX *gallica*.

HAB.

Agr.

TOPOGR. 1, 2.—*Fl. 0.*—*Cornwall* (not indigenous), Hants, Sussex, Suffolk. r.

GEOGR. Europe 3, 4, 5. N. Africa. W. Asia.

## XXXI. CUCURBITACEÆ.

### 1. BRYONIA *dioica*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, (5).—*Fl. Ton. Ox. Bed. Cam. North.*—*Surry, Norfolk, Chester, York.* Not a common plant in the north; *Winch, N. D.* In *Flora Scotica*, but no station given, and probably it is not found in Scotland. r. r.

GEOGR. Europe 3, 4, 5.

## XXXII. PORTULACEÆ.

### 1. MONTIA *fontana*.

HAB.

Agr.—Subalp.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Sutherland.* c.

GEOGR. Europe 1, 2, 3, 4. Iceland. Ireland.



## XXXIII. PARONYCHIEÆ.

1. CORRIGIOLA *littoralis*.

HAB. Agr.  
 TOPOGR. 2.—*Fl. Dev.*—*Cornwall*. v. r.  
 GEOGR. Europe 3, 4.

2. ILLECEBRUM *verticillatum*.

HAB. Agr.  
 TOPOGR. 1.—*Fl. Dev.*—*Cornwall*. r.  
 GEOGR. France. Central Europe.

3. HERNIARIA *glabra*.  
*hirsuta*.

*N. B.* Sprengel has surely done well in uniting these two under the name of *H. vulgaris*; *Hook. B. F.*

HAB. Agr.  
 TOPOGR. 1, 2, 3.—*Fl. 0.*—*Cornwall*, Hants, Middlesex, Suffolk, Norfolk, Lincoln, Cambridge, Derby. r.  
 GEOGR. Europe 2, 3, 4, 5. N. W. Asia.

4. POLYCARPON *tetraphyllum*.

HAB. Agr.  
 TOPOGR. 1, 2, (3).—*Fl. Dev.*—Dorset, Glamorgan, York? r.  
 GEOGR. Europe 3, 4. N. Africa.

5. SCLERANTHUS *annuus*.  
*perennis*.

*N. B.* "I should say that *S. perennis* owed all its characters to flowering late in the season, or having, under favourable circumstances, survived a winter;" *Hook. Fl. Scot.*—"The accurate Mr Wilson finds Smith's character taken from the calyx in *S. perennis* applicable to *S. annuus*."—*Hook. Br. Fl.*

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall*, Ross. c.  
 GEOGR. Europe 2, 3, 4, 5. Iceland. Ireland. U. States.

## XXXIV. CRASSULACEÆ.

1. *TILLÆA muscosa.*

HAB.

Agr.

TOPOGR. 1.—*Fl.* 0.—Suffolk, Norfolk.

r.

GEOGR. Europe 3, 4.

2. *SEDUM sexangulare.*

HAB.

Agr.

TOPOGR. 1, 2, 3.—*Fl. Dev. Cam.*—Wilts, Kent, Surry,  
York.

r.

GEOGR. Europe 2, 3, 4.

3. *SEDUM album.*

HAB.

Agr.

TOPOGR. 1, 2, 3, 4.—*Fl. Ton. Bed. Cam. North.*—Surry,  
Middlesex, Essex, Gloucester, Worcester, Northampton, Pem-  
broke, Denbigh, York, Westmoreland, (*Perth and Forfar*, in-  
troduced).

r. r.

GEOGR. Europe 2, 3, 4.

4. *SEDUM dasyphyllum.*

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, (5).—*Fl. Ox. Bed. Cam. Edin.*—Somerset,  
Sussex, Surry, Middlesex, Berks, Worcester, Huntingdon,  
Montgomery, Merioneth, Caernarvon, Denbigh, York.

r. r.

GEOGR. Europe 3, 4. Ireland. N. Africa.

5. *SEDUM Telephium.*

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5, (6).—*Fl. omnes.*—Introduced into Mur-  
ray; *Gordon P. M.* Cornwall, Surry, Essex, Norfolk, Northamp-  
ton, Warwick, Worcester, Caernarvon, Denbigh, *Chester*, York,  
Cumberland, Roxburgh, *Dunbarton*.

r. c.

GEOGR. Europe 2, 3, 4, 5. Ireland. N. Asia.



6. *SEDUM reflexum*.*Forsterianum*.*rupestre*.*glaucum?*

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5, (6).—*Fl. omnes*.—Apparently wild in the S. of *Fife*, but whether farther north, I am unable to say. Probably introduced into Murray; *Gordon P. M.* r. c.

GEOGR. Europe 2, 3, 4. Ireland. N. Asia.

7. *SEDUM acre*.

HAB.

Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. om.*—*Cornwall, Sutherland.* c.

GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland.

8. *SEDUM anglicum*.

HAB. In North Wales ascends to the elevation of 3000 feet.

Agr.—Moor.—?

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ang. North. Berw. Mur.*—*Cornwall, Norfolk (Miss Bell), Isle of Mull.* More frequent near the western coasts. r. c.

GEOGR. Europe 2, 3, 4. Ireland.

9. *SEDUM villosum*.

HAB. In the upper part only of the Agr. Zone. Agr.—Moor.

TOPOGR. 3, 5, 6.—*Fl. North. Berw. Edin. Lan. Mur.*—*York, Stirling, Forfar, Perth.* r. r.

GEOGR. Europe 1, 2, 3. Iceland. Faroe.

10. *RHODIOLA rosea*.

HAB. Rare in the Agricultural Zone. By the sea-side in *Isla and Iona*; *Lightfoot*. The same near *Berwick*; *G. Johnston*. Agr.—Sno.

TOPOGR. 3, 4, 5, 6.—*Fl. North. Berw. Mur.*—*Merioneth, Caernarvon, York, Lancaster, Westmoreland, Cumberland, Isle of Man, Argyle, Perth, Forfar, Aberdeen, Inverness, Ross, Sutherland, Orkney, Shetland.* r. r.

GEOGR. Europe 1, 2, 3, 5. Iceland. Ireland. N. Asia. Greenland to 65°. British and Russian America.

11. ? *SEMPERVIVUM tectorum.*

HAB.

Agr.

TOPOGR. (1, 2, 3, 4, 5, 6).—*Fl. omnes.*—Introduced into Murray; *Gordon P. M.*

r. c.

GEOGR. Europe 2, 3, 4. Ireland?

12. *COTYLEDON umbilicus.*

HAB. Especially in subalpine countries; *Hook. B. F.* According to my observations, it is finer and more abundant in low southern situations.

Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ox. Ang.*—*Cornwall, Surry, Monmouth, Warwick, Worcester, Northampton, Leicester, Salop, Caernarvon, Denbigh, Chester, Isle of Man, Ayr, Argyle.* Abounds in the Western counties; rare in the eastern.

r. c.

GEOGR. Europe 3, 4. Ireland.

## XXXV. GROSSULARIÆ.

1. *RIBES nigrum.*

HAB

Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Bed. Cam. North. Edin. Lan. Mur.*!—It is difficult to say where this is indigenous and where introduced.

r. c.

GEOGR. Europe 1, 2, 3, 5. Ireland (*naturalized*). N. Asia.

2. *RIBES rubrum.*

HAB.

Agr.—Upl.?

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Cam. North. Lan. Mur.*!—Often seen in woods and hedges as an introduced shrub; where really wild I cannot say.

r. c.

GEOGR. Europe 1, 2, 3, 4. Ireland (*naturalized*). N. Asia. British America, from the mouth of Mackenzie River.

3. ? *RIBES grossularia.*

HAB.

Agr.—Upl.?

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Cam. Ang. North. Edin. Lan. Mur.*!—Ross. Probably introduced, but now general in woods, hedges, &c.

r. c.

GEOGR. Europe 3, 4. Ireland (*naturalized*). Nootka Sound



and Kamchatka; *Penn. Arct. Zool.* Escaping from gardens;  
*Wahl. Fl. Suec.*

4. *RIBES alpinum.*  
*spicatum?*

HAB. Agr.—?

TOPOGR. 2, 3, 4, 5.—*Fl. Ang. North. Lan.*—Caermarthen,  
Caernarvon, Denbigh, Chester, York, *Edinburgh.* *R. spicatum*  
is extinct, except under cultivation. r. r.

GEOGR. Europe 1, 2, 3. N. Asia.

5. *RIBES petræum.*

HAB. Agr.?—Upl.

TOPOGR. 3, 4, 5, 6.—*Fl. North. Mur.*—York, Westmoreland,  
Cumberland, *Perth, Forfar.* r. r.

GEOGR. Europe 1, 2, 3.

XXXVI. SAXIFRAGEÆ.

1. *SAXIFRAGA granulata.*

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Ton. Ox. Bed. Cam. Ang. North.*  
*Berw. Edin. Lan. Mur.* r. c.

GEOGR. Europe 2, 3, 4. Ireland. N. Africa.

2. *SAXIFRAGA tridactylites.*

HAB. Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang.*  
*North. Edin.*—Near Dunrobin Castle, Sutherland. Not com-  
mon in Scotland. r. c.

GEOGR. Europe 1, 2, 3, 4. Iceland. Ireland.

3. *SAXIFRAGA Hirculus.*

HAB. Agr.—?

TOPOGR. 3, 5.—*Fl. North.*—Cheshire, York, Berwickshire. r.

GEOGR. Europe 1, 2, 3, 5. Iceland. Ireland. Siberia.  
America, from Melville Island and Behring's Straits to the Sas-  
chatchewan.

4. *SAXIFRAGA hypnoides*.*denudata*.*elongella*.*læte-virens*.

HAB.

Agr.—Alp.

TOPOGR. 2, 3, 4, 5, 6.—*Fl. North. Edin. Lan.*—Somerset, Glamorgan, Brecon, Hereford, Salop, Montgomery, *Caernarvon*, Derby, York, Lancaster, Westmoreland, *Cumberland*, Dumfries, *Perth, Forfar, Aberdeen, Inverness*.

r. r.

GEOGR. Europe 2, 3. Iceland. Ireland. Greenland; *Giesecke*.

5. *SAXIFRAGA muscoides*.

HAB.

Upl. ?

TOPOGR. 5.—*Fl. 0.*—Westmoreland.

v. r.

GEOGR. France. Central Europe. W. Asia.

6. *SAXIFRAGA aizoides*.

HAB. Occasionally seen at the upper limit of the Agricultural Zone, especially about the base of hills, but scarcely belonging to it. At the sea-level in the north and north-west of Scotland, even on open moors and by road-sides at a distance from hills.

Upl.—Alp.

TOPOGR. 3, 4, 5, 6. — *Fl. North. Mur.* — Chester? Derby, York, Lancaster, *Westmoreland, Cumberland*. Isle of Man. *Argyle, Perth, Forfar, Aberdeen, Inverness, Ross, Sutherland*. r. r.

GEOGR. Europe 1, 2, 3, 5. Iceland. Ireland. Spitzbergen. Brit. America from the Arctic Coast to Newfoundland and the Rocky Mountains.

7. *SAXIFRAGA stellaris*.

HAB. In the valley of Nant Phrauncon, Caernarvonshire, it descends to about 600 feet of elevation; and about Llanberris, probably lower still. In the north of England from 200 to 2000 feet (*Winch*); and in the Highlands from 56° northwards, it is found from the sea-level to 4000 feet or more, flowering close to patches of snow unmelted in July or August. Scarcely belonging to the Agricultural Zone, though verging closely upon it near the mountains.

Upl.—Sno.



TOPOGR. 3, 4, 5, 6.—*Fl. North. Berw. Mur.*—Merioneth, Caernarvon, Flint, York, Lancaster, Westmoreland, Cumberland, Dumfries, Stirling, Dumbarton, Argyle, Perth, Forfar, Aberdeen, Inverness. O. Hebrides. Fissures of rocks near Trereen Castle, Cornwall; *Bot. Guide.* I have twice sought it there in vain; and the Rev. J. S. Tozer informs me he has been equally unsuccessful. The station is most unlikely. r. r.

GEOGR. Europe 1, 2, 3. Iceland. Ireland. N. Asia. Spitzbergen? Melville Island? (*S. foliolosa.*) Greenland. Labrador.

### 8. SAXIFRAGA *oppositifolia.*

HAB. Descends to 1500 feet in N. Wales, under shady precipices. At 2000 feet in the north of England. In Forfarshire at 1400, and at the sea-level in the north of Sutherland, about Farr and Loch Erriboll. Rises to 4000 feet on the Grampians, and is perhaps only prevented reaching the summits of the few mountains exceeding this, by the want of proper soil and moisture. Upl.—Sno.

TOPOGR. 3, 4, 5, 6.—*Fl. Mur.*—Merioneth, Caernarvon, York, Cumberland, Stirling, Dumbarton, Argyle, Perth, Forfar, Aberdeen, Inverness, Sutherland. r.

GEOGR. Europe 1, 2, 3. Iceland. Ireland. N. Asia. Spitzbergen. Greenland. America, from Melville Island to Newfoundland and the Rocky Mountains between 52° and 56°.

### 9. SAXIFRAGA *cæspitosa.*

HAB. Moor. ?—Alp.

TOPOGR. 4, 6.—*Fl. 0.*—Caernarvon, Cumberland, Aberdeen. r.

GEOGR. Europe 1, 2, 3. Iceland. Ireland. Spitzbergen. Greenland. British and Russian America.

### 10. SAXIFRAGA *pedatifida.*

HAB. Subalp.

TOPOGR. 5.—*Fl. 0.*—Forfarshire. v. r.

GEOGR. In Decandolle's Prodrômus it is united (together with *S. irrigua* of the Caucasus, and *S. ladanifera*, &c. of the Pyrenees,) to *S. geranioides*.



11. *SAXIFRAGA nivalis*.

**HAB.** The proper commencement of this species is above that of *Carex rigida*, but, carried down by debris or amongst shaded rocks, it is sometimes first seen in ascending the mountains. Appears adapted to micaceous soils. Attains the summit of Ben Lawers, and in Clova descends to about 1850 feet, among rocks. Subalp.—Sno.

**TOPOGR.** 4, 5, 6.—*Fl.* 0.—Merioneth? Caernarvon, Cumberland, Stirling, *Argyle, Perth, Forfar, Aberdeen, Inverness, O. Hebrides.* r.

**GEOGR.** Lapland. Norway. Sweden. N. Russia. Iceland. Faro. Siberia. Spitzbergen. Greenland. N. America, from Melville Island to the Rocky Mountains, from Labrador to the Russian Territory.

12. *SAXIFRAGA rivularis*.

**HAB.** Generally in situations irrigated by melting snows during the whole or much of the summer. Alp. ?—Sno.

**TOPOGR.** 5, 6.—*Fl.* 0.—High mountains of Perth, Aberdeen, and *Inverness.* v. r.

**GEOGR.** Lapland. Norway. Sweden. N. Russia. Iceland. N. Asia. Greenland. America from Melville Island to Labrador, from Behring's Straits to the Rocky Mountains.

13. *SAXIFRAGA cernua*.

**HAB.** Alp ?—Sno.

**TOPOGR.** 5.—*Fl.* 0.—Breadalbane Mountains on the north side of Loch Tay, *Perthshire.* v. r.

**GEOGR.** Europe 1, 2, 3. Iceland. N. Asia. Spitzbergen, Greenland. From Melville Island to the Rocky Mountains, from Baffin's Bay to Behring's Straits.

14. *CHRYSOSPLENIUM oppositifolium*.

**HAB.** Grows very near the perennial snow. Agr.—Sno.

**TOPOGR.** 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Ang. North. Berw. Edin. Lan. Mvr.*—*Cornwall, Sutherland.* c.

**GEOGR.** France. Central Europe. Ireland. Columbia River. U. States.



15. *CHRYSOSPLENIUM alternifolium*.

HAB. Agr.—Alp.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. North. Edin. Lan. Mur.*—Dorset,  
 Kent. r. r.  
 GEOGR. Europe 1, 2, 3, 5. Ireland. N. E. Asia. British  
 America from Melville Island to the Rocky Mountains.

16. *ADOXA Moschatellina*.

HAB. Agr.—Alp.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.* c.  
 GEOGR. Europe 2, 3, 5. N. E. Asia. British America.

## XXVII. UMBELLIFERÆ.

1. *HYDROCOTYLE vulgaris*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—Ross. c.  
 GEOGR. Europe 2, 3, 4. Iceland. Ireland. N. Africa. E.  
 Asia. New Holland. Canada to Georgia. Jamaica.

2. *SANICULA europæa*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Sutherland.* c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland. W. Asia.

3. *CICUTA virosa*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Bed. Cam. North. Berw. Edin. Lan.*  
 —Somerset, Middlesex, Suffolk, Norfolk, Notts, Lincoln, Salop,  
 Chester, Stafford, York, Kirkcudbright, Kinross, Forfar. r. c.  
 GEOGR. Europe 1, 2, 3, 5. Ireland. N. Asia. Brit. America.

4. *APIUM graveolens*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang.*  
*North. Edin. Mur.*—*Cornwall.* r. c.  
 GEOGR. Europe 2, 3, 4. Ireland. W. Asia. Falkland Isles.

5. ? *PETROSELINUM sativum*.

HAB.

Agr.

TOPOGR. (1, 2, 3, 4, 5.)—*Fl. Edin. Mur.*—Not indigenous, but occasionally seen near cultivated places and on the shore. r. r.

GEOGR. Europe 3, 4.

6. *PETROSELINUM segetum*.

HAB.

Agr.

TOPOGR. 1, 2, 3.—*Fl. Dev. Ton. Ox. Bed. Cam.*—Dorset, Somerset, Surry, Hants, Sussex, Berks, Middlesex, Essex, Bucks, Gloucester, Northampton, Norfolk, York. Isle of Tirez; *Dr Walker*. Probably an error. r. r.

GEOGR. 3, 4. Ireland.

7. *TRINIA glaberrima*.HAB. Limestone; *Hool. B. F.*

Agr.

TOPOGR. 2, 4.—*Fl. 0.*—Somerset, Gloucester, Hereford, Caernarvon. r.

GEOGR. Europe 3, 4.

8. *HELOSCIADIUM repens*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ox. Bed. Cam. Ang. Edin.*—Middlesex, Essex, Bucks, Worcester, Warwick, York, S. coast of Scotland; *G. N. Lloyd*.

GEOGR. France. Central Europe. Ireland.

9. *HELOSCIADIUM nodiflorum*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Berw. Edin.*—Surry, Norfolk, Leicester, York. r. c.

GEOGR. Europe 3, 4. Ireland. W. Asia.

10. *HELOSCIADIUM inundatum*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Berw. Edin. Mur.* r. c.

GEOGR. Europe 2, 3, 5. Ireland.



11. SISON *Amomum*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. North.*—  
 Caernarvon, Chester, Berwick. r. r.  
 GEOGR. Europe 3, 4.

12. ÆGOPodium *Podagraria*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ox. Bed. Cam. North. Berw.*  
*Edin. Lan. Mur. ?* c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland. N. W. Asia.

13. ? CARUM *Carui*.

HAB. Agr.  
 TOPOGR. (1, 2, 3, 4, 5, 6).—*Fl. Bed. Cam. Ang. North. Edin.*  
*Lan. Mur. !*—Suffolk, Norfolk, Leicester, York, Renfrew, Ar-  
 gyle, Forfar. Not native? r. r.  
 GEOGR. Europe 1, 2, 3, 4, 5. N. Asia. Canada, introduced?

14. CARUM *verticillatum*.

HAB.  
 TOPOGR. 2, 4, 5.—*Fl. 0.*—Pembroke, Brecon, Caernarvon,  
 Isle of Man, Dumfries, Renfrew, Dumbarton, *Argyle*. r. r.  
 GEOGR. Ireland. France. Central Europe. Corsica.

15. BUNIUM *flexuosum*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Sutherland*. v. c.  
 GEOGR. Europe 2, 3. Ireland.

16. PIMPINELLA *magna*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4.—*Fl. Dev. Ton. Ox. Bed. Cam. North.*—  
 Dorset, Sussex, (one plant; *Borrer*), Herts, Suffolk, Warwick,  
 Worcester, Hunts, Leicester, Chester, Stafford, York. Scot-  
 land, (Herb. Bruce, in Sm.); *Hook. B. F.* r. r.  
 GEOGR. Europe 2, 3, 4. Ireland. W. Asia.

17. PIMPINELLA *Saxifraga*.

HAB. Agr.—Moor.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*.—*Cornwall, Sutherland.* c.  
 GEOGR. Europe 1, 2, 3, 5. Ireland. W. Asia.

18. SIUM *latifolium*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Ton. Ox. Bed. Cam. Ang. North. Edin.*—Dorset, Hants, Sussex, Surry, Berks, Middlesex, Essex, Bucks, Suffolk, Norfolk, Warwick, Leicester, York, Stirling. r. c.  
 GEOGR. Europe 2, 3. Ireland. N. Asia. British and West. America.

19. SIUM *angustifolium*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Edin. Mur.* r. c.  
 GEOGR. Europe 2, 3, 4. Ireland. W. Asia.

20. BUPLEURUM *Odontites*.

HAB. Agr. ?  
 TOPOGR. 2.—*Fl. Dev.* v. r.  
 GEOGR. Europe 3, 4. N. Africa. W. Asia.

21. BUPLEURUM *tenuissimum*.

HAB. Agr.  
 TOPOGR. 1, 2, 3.—*Fl. Cam. North.*—Dorset, Somerset, Sussex, Kent, Essex, Hunts, Suffolk, Norfolk, Leicester. r.  
 GEOGR. Europe 2, 3, 4. W. Asia.

22. BUPLEURUM *rotundifolium*.

HAB. Agr.  
 TOPOGR. 1, 2, 3.—*Fl. Ton. Ox. Bed. Cam. North.*—Dorset, Wilts, Sussex, Berks, Surry, Middlesex, Essex, Suffolk, Norfolk, Warwick, Worcester, Leicester, York. r. r.  
 GEOGR. Europe 3, 4. N. W. Asia.

23. CENANTHE *peucedanifolia*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, (5).—*Fl. Ox. Bed. Cam. North.*—Hants, Sus-



sex, Berks, Suffolk, Norfolk, Bucks, York. S. coast of Scotland; *G. N. Lloyd*. Perhaps *Æ. pimpinelloides*. r. r.

GEOGR. Europe 3, 4. Ireland.

#### 24. *ÆNANTHE pimpinelloides*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Cam. Ang. North.*—*Cornwall, Dorset, Hants, Essex, Suffolk, Norfolk, Lincoln, Somerset, Glamorgan, York, Renfrew, Argyle.* r. c.

GEOGR. Europe 3, 4, 5.

#### 25. *ÆNANTHE Phellandrium*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 5.—*Fl. Dev. Tcn. Ox. Bed. Cam. North. Berw. Edin.*—*Sussex, Surrey, Warwick, Worcester, Norfolk.* r. c.

GEOGR. Europe 2, 3, 4, 5. Ireland. N. Asia.

#### 26. *ÆNANTHE fistulosa*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Edin. Mur.* r. c.

GEOGR. Europe 2, 3, 4. Ireland. N. Africa.

#### 27. *ÆNANTHE crocata*.

HAB.

Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Ang. North. Berw. Edin. Mur.* r. c.

GEOGR. Europe (2, ?) 3, 4. Ireland. A doubtful native; *Wahl. Fl. Succ.*

#### 28. *ÆNANTHE apiifolia*.

HAB.

Agr.

TOPOGR. 2, 3.—*Fl. 0.*—About Plymouth; *Hook. B. F.* Yorkshire; *J. Ward*. Now found to be universal; *Hook. B. F.* Several of the stations indicated for *Æ. crocata* doubtless belong to this. r. r. ?

GEOGR. Europe 3, 4.

29. *ÆTHUSA Cynapium.*

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall.*

c.

GEOGR. Europe 2, 3.

30. *FÆNICULUM vulgare.*

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Bed. Cam. Ang. North.*—*Cornwall, Suffolk, Caernarvon, Forfar.*

r. r.

GEOGR. Europe 3, 4. N. Africa.

31. *SESELI Libanotis.*

HAB.

Agr.

TOPOGR. 1.—*Fl. Cam.*—Between St Albans and Stony-Stratford; *Hudson.*

v. r.

GEOGR. Europe 2, 3, 5. N. W. Asia.

32. *LIGUSTICUM scoticum.*

HAB.

Agr.—Upl.

TOPOGR. 3, 5, 6.—*Fl. North. Berw. Edin. Lan. Mur.*—*Argyle, Inverness, O. Hebrides.*

r. r.

GEOGR. Europe 1, 2. Iceland. Siberia. Greenland, from 67°. Brit. Rus. West. America.

33. *SILAUUS pratensis.*

HAB.

Agr.

TOPOGR. 1, 2, 3, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. North. Berw.*—*Norfolk, Leicester, York, Roxburgh.*

r. r.

GEOGR. Europe 2, 3. Ireland.

34. *MEUM athamanticum.*

HAB.

Upl.

TOPOGR. 3, 4, 5, 6.—*Fl. North. Mur.*—*Merioneth, York, Lancaster, Westmoreland, Cumberland, Dumbarton, Perth, Forfar, Aberdeen, Inverness.*

r. r.

GEOGR. Europe 3, 4.

35. *CRITHMUM maritimum.*

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ang. North. (extinct) Edin.*—



Cornwall, Hants, Caernarvon, Isle of Man, Wigton, Kirkcudbright, Ayr. r. c.

GEOGR. Europe 3, 4. Ireland. N. Africa.

### 36. ? ANGELICA *Archangelica*.

HAB. Agr.

TOPOGR. (1, 2, 3).—*Fl. North.*—Middlesex, Surry, Norfolk, Warwick. r.

GEOGR. Europe 1, 2, 3, 5.—Iceland. N. Asia. Greenland. Russian America.

### 37. ANGELICA *sylvestris*.

HAB. Agr.—Upl?

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—Cornwall. c.

GEOGR. Europe 1, 2, 3, 4, 5. Ireland. Kamchatka; *Penn. Arc. Zool.*

### 38. PEUCEDANUM *officinale*.

HAB. Agr.

TOPOGR. 1, (3.)—*Fl. 0.*—Kent, Sussex, Essex. Nottinghamshire; *Merret in Bot. Guide.* Perhaps an error. r.

GEOGR. Europe 3, 4.

### 39. PEUCEDANUM *palustre*.

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Cam. North. Edin.*—Somerset, Hants, Norfolk, Lincoln, York, Lancaster, Westmoreland. r. r.

GEOGR. Europe 1, 2, 3, 5. N. Asia.

### 40. ? PEUCEDANUM *Ostruthium*.

HAB. Agr.

TOPOGR. (3, 4, 5.)—*Fl. Edin. Lan.*—York, Westmoreland, Kinross, Argyle. Generally in suspicious places, the plant having been formerly much cultivated as a potherb; *Hook. B. F.* r. r.

GEOGR. Europe 2, 3, 4. Iceland. Newfoundland.

### 41. PASTINACA *sativa*.

HAB. Agr.

TOPOGR. 1, 2, 3, 4.—*Fl. Ton. Ox. Bed. Cam. North.*—Essex, Somerset, Norfolk, Leicester, York, Lancaster. r. r.

GEOGR. 2, 3, 4, 5. Ireland. W. Asia. Brit. America.

42. HERACLEUM *Sphondylium*.

HAB. Agr.—Moor.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*.—*Cornwall, Caithness*. c.  
 GEOGR. Europe 1, 2, 3, 4. Ireland. N. Asia.

43. ? TORDYLIUM *officinale*.

HAB. Agr.  
 TOPOGR. (1).—*Fl. 0*.—London?  
 GEOGR. Europe 3, 4. v. r.

44. TORDYLIUM *maximum*.

HAB. Agr.  
 TOPOGR. 1.—*Fl. Ox.*—Middlesex, Bucks. r.  
 GEOGR. Europe 3, 4.

45. DAUCUS *Carota*.*maritimus*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*.—*Cornwall, Sutherland*. c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa. W. Asia.  
 Introduced (?) to Japan, China, Cochin-China, U. States, &c.

46. CAUCALIS *latifolia*.

HAB. Agr.  
 TOPOGR. 1, 3.—*Fl. Bed. Cam.*—Hants, Norfolk, Derbyshire. r.  
 GEOGR. Europe 3, 4. N. Africa.

47. CAUCALIS *daucoides*.

HAB. Agr.  
 TOPOGR. 1, 3.—*Fl. Ox. Bed. Cam. North.*—Middlesex, Northampton, Suffolk, Norfolk, Lincoln, York. r. r.  
 GEOGR. Europe 3, 4. N. Africa. W. Asia.

48. TORILIS *nodosa*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Berw. Edin.*—*Cornwall, Surry, Worcester, Warwick, Norfolk, York*. r. c.  
 GEOGR. Europe 3, 4. Ireland. N. Africa. W. Asia. S. America, perhaps introduced.



49. *TORILIS infesta*.

HAB.

Agr.

TOPOGR. 1, 2, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam.*—Surry, Norfolk, Caernarvon, Argyle. Road-sides about Edinburgh, common (Greville); *Hook. Fl. Scot.*

r. c.

GEOGR. Europe 3. N. Africa.

50. *TORILIS Anthriscus*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Berw. Edin. Lan.*—Surry, Norfolk, Caernarvon, York. c.

GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa. Nepaul; *Don, Cal.*

51. *SCANDIX Pecten*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall.*

c.

GEOGR. Europe 2, 3, 4. Ireland. N. Africa.

52. ? *ANTHRISCUS Cerefolium*.

HAB.

Agr.

TOPOGR. (1, 2, 3, 4, 5).—*Fl. Bed. North. Lan.*—Berks, Essex, Worcester, Chester. Hedges, and about gardens, whence it has generally escaped; *Hook. B. F.*

r. r.

GEOGR. Europe 2, 3. N. Africa. W. Asia.

53. *ANTHRICUS vulgaris*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Sutherland.*

c.

GEOGR. Europe 2, 3, 4, 5. Ireland.

54. *ANTHRISCUS sylvestris*.

HAB.

Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Sutherland.*

c.

GEOGR. Europe 2, 3, 4, 5. Ireland. W. Asia.

55. *CHÆROPHYLLUM temulentum*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Ross.*

c.

GEOGR. Europe 2, 3, 5. Ireland. N. Asia.

56. ? *CHÆROPHYLLUM aureum*.

HAB. Agr.  
 TOPOGR. (3, 5).—*Fl. Edin.*—York, Forfar. r.  
 GEOGR. France. Central Europe.

57. ? *CHÆROPHYLLUM aromaticum*.

HAB. Agr.  
 TOPOGR. (5).—*Fl. 0.*—Forfarshire; *G. Don.* v. r.  
 GEOGR. Europe 2, 3, 4, 5.

58. *MYRRHIS odorata*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Ox. Ang. North. Edin. Lan. Mur.!*  
 —Worcester, Warwick, Salop, Cardigan, Denbigh, Flint, *Ches-*  
*ter*, Stafford, *Derby*, York, Westmoreland, Cumberland, Dum-  
 fries, Kinross, Perth, Forfar. r. c.  
 GEOGR. Europe 2, 3, 4. W. Asia.

59. *CONIUM maculatum*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Sutherland.* c.  
 GEOGR. Europe 2, 3, 4. Ireland. N. Africa. E. W. Asia.  
 Canada to Virginia, and in Chili, probably introduced.

60. *PHYOSPERMUM cornubiense*.

HAB. Agr.  
 TOPOGR. 2.—*Fl. 0.*—Plentiful around Bodmin in *Cornwall*;  
 the only station. v. r.  
 GEOGR. Central Europe. Greece.

61. *SMYRNIUM Olusatrum*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ox. Bed. Cam. Ang. North.*  
*Berw. Edin.*—*Cornwall*, Surry, Suffolk, Worcester, *Caernarvon*,  
*Cheshire*, Ayr, Dumbarton. r. c.  
 GEOGR. Europe 3, 4. Ireland. N. Africa. W. Asia.

62. ? *CORIANDRUM sativum*.

HAB. Agr.  
 TOPOGR. (1, 3).—*Fl. Cam. North.*—Essex, Norfolk, Lincoln. r.  
 GEOGR. Europe 3, 4. N. Africa. W. Asia. Cuba, intro-  
 duced?



63. *ERYNGIUM maritimum.*

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ang. North. Edin.*—Kent,  
 Essex, Caernarvon, Chester, Lancaster, Ayr, Argyle. r. c.  
 GEOGR. Europe 2, 3, 4. Ireland. N. Africa.

64. *ERYNGIUM campestre.*

HAB. Agr.  
 TOPOGR. 1, 2, (3).—*Fl. Dev. North.*—Northampton. v. r.  
 GEOGR. Europe 3, 4. Ireland. N. Africa.

## XXXVIII. ARALIACEÆ.

1. *HEDERA Helix.*

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—Cornwall, Suther-  
 land. v. c.  
 GEOGR. Europe 2, 3, 4. Ireland. N. Africa. W. Asia. Ne-  
 paul. Japan.

## XXXIX. CAPRIFOLIACEÆ.

1. *CORNUS sanguinea.*

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, (5).—*Fl. Dev. Ton. Ox. Bed. Cam. Ang.*  
*North. Edin. Lan.*—Somerset, Surry, Northampton, Norfolk,  
 Denbigh, Chester, York, Perth. r. c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa. N. W. E.  
 Asia. Canada and New York.

2. *CORNUS suecica.*

HAB. On Cheviot at 1800 feet, without flowers; *R. Embleton.*  
 Does the locality in the Vale of Pickering belong to the Upland  
 Zone? Upl. ?—Subalp.

TOPOGR. 3, 5, 6.—*Fl. North. Berw. Edin. Mur.*—York, Perth,  
 Forfar, Aberdeen, Inverness, Ross, Sutherland. Not found with-  
 in the range of *Flora Edinensis.* r. r.

GEOGR. Europe 1, 2, 3, 5. Faroe. N. Asia. Aleutian Isles.  
 Greenland. Labrador. Newfoundland.

3. SAMBUCUS *Ebulus*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*. r. c.  
 GEOGR. Europe 2, 3, 4. Ireland. W. Asia.

4. SAMBUCUS *nigra*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*.—*Caithness*. Introduced  
 into Murray; *Gordon P. M.* c.  
 GEOGR. Europe 2, 3, 4, 5. Iceland. N. Africa. N. E. W.  
 Asia.

5. ? LONICERA *Xylosteum*.

HAB. Agr.  
 TOPOGR. (1, 3, 5).—*Fl. North*.—Sussex. Not wild in North-  
 umberland; *Winch. Edinburgh*, introduced. r.  
 GEOGR. Europe 2, 3, 4. W. Asia.

6. ? LONICERA *Caprifolium*.

HAB. Agr.  
 TOPOGR. (1, 3, 5).—*Fl. Cam. Edin.*—Sussex, York, Ox-  
 ford. r.  
 GEOGR. Europe 3, 4. N. Africa. W. Asia.

7. LONICERA *Periclymenum*.

HAB. Scarcely belonging to the Barren Region, though some-  
 times seen a little above the hazel. On Ben Hope, Sutherland,  
 at 700 feet above the sea. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. om.*—*Cornwall, Sutherland*. c.  
 GEOGR. Europe 2, 3, 4. Ireland.

8. VIBURNUM *Lantana*.

HAB. Often in a calcareous soil. Agr.  
 TOPOGR. (1, 2, 5).—*Fl. Dev. Ton. Ox. Bed. Cam. Berw.*—Somerset,  
*Hants, Surry, Middlesex, Norfolk, Worcester, Ayr.* r. r.  
 GEOGR. Europe 3, 4, 5. W. Asia.



9. VIBURNUM *Opulus*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*.—*Cornwall, Ross.* c.

GEOGR. Europe 2, 3, 4, 5. Ireland. W. Asia. In Sweden the northern limit is 61°.

10. LINNÆA *borealis*.

HAB. Scarcely found within the Agricultural Zone, its natural climate appearing to be the Upland Zone in woods, and the Moorland on heaths; but it attains about 2400 feet on the Clova mountains, among rocks. Upl.—Subalp.

TOPOGR. 3, 5, 6.—*Fl. North. Mur.*—*Forfar, Perth, Aberdeen, Inverness, Ross.* Banks of the Esk at Dalhousie, Edinburgh; *Archibald*. I am unaware whether the last station is correct. r.

GEOGR. Lapland. Norway. Sweden. Germany. Switzerland. Savoy. Russia. Siberia. Aleutian Isles. British America. U. States. Altai between 4500 and 6500 feet.

## XL. LORANTHÆ.

1. VISCUM *album*.

HAB. Parasitical on the apple. Dog-rose; *Morton. Acer campestre*; *W. Christie*. Rare on the oak. Many other trees; *Dec.* Agr.

TOPOGR. 1, 2, 3, 4, (5).—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North.*—Hants, Surry, Northampton, Norfolk. Meikleour, Scotland; *Murray*. r. r.

GEOGR. Europe 2, 3, 4.

## XLI. RUBIACEÆ.

1. SHERARDIA *arvensis*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*.—*Cornwall.* c.

GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa. N. W. Asia.

2. *RURIA peregrina.*

HAB.

Agr.

TOPOGR. 1, 2, 4.—*Fl. Dev. Ton. Cam. Ang.*—Dorset, Somerset, Hants, Sussex, Gloucester, Monmouth, Glamorgan, Pembroke, Cardigan, *Caernarvon*, Cumberland? r. r.

GEOGR. Europe 3, 4, 5. Ireland. N. W. Asia.

3. *ASPERULA arvensis.*

HAB.

Agr.

TOPOGR. 2.—*Fl. 0.*—Recently discovered near Plymouth by Mr Banks. v. r.

GEOGR. Europe 3, 4.

4. *ASPERULA Cynanchica.*

HAB. Said to grow principally on chalk.

Agr.

TOPOGR. 1, 2, 3.—*Fl. Dev. Ton. Ox. Bed. Cam.*—Northampton, Norfolk, Gloucester, York. r.

GEOGR. Europe 3, 4. N. Asia.

5. *ASPERULA odorata.*

HAB.

Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Sutherland.* c.

GEOGR. Europe 2, 3, 5. Ireland.

6. *GALIUM parisiense.*

HAB.

Agr.

TOPOGR. 1, 2, 3, 4.—*Fl. Ton. Cam.*—Middlesex, Suffolk, Norfolk, Chester, York. r. r.

GEOGR. Europe 3, 4.

7. *GALIUM tricorne.*

HAB.

Agr.

TOPOGR. 1, 2, 3, 4.—*Fl. Cam. North.*—Kent, Surry, Hants, Essex, Suffolk, Norfolk, Oxford, Gloucester, Lincoln, Notts, York. r. r.

GEOGR. Europe 3, 4.

8. *GALIUM erectum.*

HAB.

Agr.

TOPOGR. 1, 2, 5.—*Fl. Ox. Bed. Cam. Edin.*—Sussex, Suffolk, Norfolk, Devon, Berwick, Forfar. r. r.

GEOGR. Europe 3.



9. *GALIMUM cruciatum.*

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. North.*  
*Berw. Edin. Lan.*—Surry, Norfolk, Denbigh, York. c.  
 GEOGR. Europe 3, 4.

10. *GALIMUM saccharatum.*

HAB. Agr.  
 TOPOGR. 3, 5.—*Fl. 0.*—York, Perth. v. r.  
 GEOGR. 3, 4.

11. *GALIMUM spurium.*

HAB. Agr.  
 TOPOGR. 1, 5.—*Fl. Ox. Bed.*—Forfar. r.  
 GEOGR. Europe 2, 3, 4.

12. *GALIMUM cinereum.*

HAB. Agr.  
 TOPOGR. 5.—*Fl. 0.*—Forfar, Edinburgh. “Of this I know nothing, except from the notes of Mr G. Don, which I published in *Fl. Scot.*, and from the description of Smith, who says that it comes very near *G. erectum*, and that experience must prove how far its differences are constant;” *Hook. B. F.* r.  
 GEOGR. Europe 3, 4.

13. *GALIMUM aristatum.*

HAB. Agr. ?  
 TOPOGR. 5.—*Fl. 0.*—Forfar. v. r.  
 GEOGR. Europe 3.

14. *GALIMUM Mollugo.*

HAB. Agr.—Upl. ?  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. North.*  
*Edin. Lan. Mur. ?* r. c.  
 GEOGR. Europe 2, 3, 4, 5. Iceland. Ireland.

15. *GALIMUM Aparine.*

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Sutherland.* c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Ireland. N. Africa. N. Asia.  
 Unalashka. U. States.

16. *GALIUM uliginosum*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang.*  
*North. Berw. Mur.—Sutherland.* c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Ireland. Faroe. N. E. Asia.

17. *GALIUM palustre*.

HAB: Agr.—Moor.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.—Cornwall.* c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Ireland. N. Asia.

18. *GALIUM verum*.

HAB. Agr.—Moor.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.—Cornwall, Caithness.* c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. Asia.  
 Scarcely found in Lapland; *Wahl. Flora Lapponica.*

19. *GALIUM pusillum*.

HAB. Agr.—Subalp.  
 TOPOGR. 1, 3, 4, 5.—*Fl. Bed. Edin.—Derby, York, West-*  
*moreland, Lancaster, Forfar.* I fear some of these localities  
 may prove erroneous: my specimens from Yorkshire by no  
 means agree with the Clova plants. r. r.  
 GEOGR. Europe 2, 3. Iceland. Ireland.

20. *GALIUM saxatile*.

HAB. Agr.—Sno.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.—Sutherland.* v. c.  
 GEOGR. Europe 2, 3. Ireland.

21. *GALIUM boreale*.

HAB. It descends nearly, if not quite, into the Agricultural  
 Zone. Upl.—Moor.  
 TOPOGR. 3, 4, 5, 6.—*Fl. North. Berw. Lan. Mur.—Caernar-*  
*von, York, Lancaster, Westmoreland, Cumberland, Dumfries,*  
*Argyle, Perth, Forfar, Aberdeen.* r. r.  
 GEOGR. Europe 1, 2, 3, 5. Iceland. Ireland. N. Asia.  
 British America. U. States.



## XLII. VALERIANEÆ.

1. FEDIA *mixta*.

HAB. Agr.

TOPOGR. 1.—*Fl.* 0.—Suffolk; *Hook. B. F.* r. r.

GEOGR. Europe 2, 3.

2. FEDIA *eriocarpa*.

HAB. Agr.

TOPOGR. 4.—*Fl.* 0.—Ormeshead, Caernarvonshire; *W. Wilson.* v. r.

GEOGR. Europe 3, 4.

3. FEDIA *dentata*.

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl.* *Dev. Ton. Ang. North. Edin. Lan. Mur. ?—Cornwall.* r. c.

GEOGR. Europe 3.

4. FEDIA *olitoria*.

HAB. Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl.* *Dev. Ton. Ox. Bed. Cam. Ang. North. Berw. Edin. Lan.—Cornwall, Sutherland.* c.

GEOGR. Europe 2, 3, 4. Ireland. N. Africa.

5. ? VALERIANA *rubra*.

HAB. Agr.—Upl. ?

TOPOGR. (1, 2, 3, 4, 5, 6.)—*Fl.* *Dev. Ton. Ox. Bed. Cam. Ang. North. Edin.—O. Hebrides; Macgillivray.* r. r.

GEOGR. Europe 3, 4. Ireland? N. Africa.

6. VALERIANA *dioica*.

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl.* *Dev. Ton. Ox. Bed. Cam. Ang. North. Berw. Edin.—Surry, Norfolk, Leicester, Chester, York.* r. c.

GEOGR. Europe 2, 3.

7. ? *VALERIANA pyrenaica.*

HAB. Agr.  
 TOPOGR. (4, 5).—*Fl. Edin. Lan.*—Kinross, Perth. Pentir,  
*Caernarvonshire*, near houses, 1832. r.  
 GEOGR. France.

8. *VALERIANA officinalis.*

HAB. Ag.—Moor.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.* c.  
 GEOGR. Europe 1, 2, 3, 5. Iceland. Ireland. N. E. Asia.

XLIII. DIPSACEÆ.

1. *DIPSACUS pilosus.*

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4.—*Fl. Ox. Bed. Cam. North.*—Dorset,  
 Somerset, Wilts, Hants, Sussex, Surry, Kent, Berks, Middle-  
 sex, Suffolk, Norfolk, Bucks, Gloucester, Worcester, Warwick,  
 Leicester, Notts, Salop, Montgomery, Denbigh, Flint, Chester,  
 Derby, York. In *Fl. Scot.*; but no station given. r. r.  
 GEOGR. Europe 3.

2. *DIPSACUS sylvestris.*

? *Fullonum.*

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang.*  
*North. Berw. Edin. Lan.*—Somerset, Surry, Norfolk, Chester, Ayr,  
 Renfrew. r. c.  
 GEOGR. Europe 3, 4. N. Africa. N. Asia. U. States, pro-  
 bably introduced.

3. *SCABIOSA columbaria.*

HAB. Generally in calcareous soils. Agr.—Upl. ?  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North.*  
*Berw.*—Surry, Caernarvon, Denbigh, York, Ayr, Forfar. r. c.  
 GEOGR. Europe 2, 3, 4. N. Africa. N. W. Asia.



4. SCABIOSA *succisa*.

HAB. I have not seen flowers above the Barren Region.

Agr.—Alp.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*.—*Cornwall, Ross.* c.

GEOGR. Europe 2, 3, 5. Iceland. Ireland. W. Asia.

5. KNAUTIA *arvensis*.

HAB.

Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*.—*Cornwall, Sutherland.* c.

GEOGR. Europe 2, 3, 4, 5. Iceland. Ireland. N. Africa.

## XLIV. COMPOSITÆ.\*

1. TRAGOPOGON *parvifolius*.

HAB.

Agr.

TOPOGR. 1, 2, 4.—*Fl. 0*.—*Cornwall, Somerset, Middlesex, Essex, Hants, Flint, Lancaster, Cumberland.* r. r.

GEOGR. Europe, 3, 4. N. Asia.

2. TRAGOPOGON *major*.

HAB.

Agr. ?

TOPOGR. 3, 5.—*Fl. North. Berw.*—Probably some of the stations for other species really belong to this. r.

GEOGR. Europe 3.

3. TRAGOPOGON *pratensis*.

HAB.

Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam Ang. North. Edin. Lan. Mur. ?*—(*Sutherland ?* Not seen when in flower). r. c.

GEOGR. Europe 2, 3, 4, 5. Ireland.

4. HELMINTHIA *echioides*.

HAB. Clay; *Hook. B. F.*

Agr.

TOPOGR. 1, 2, 3, 4.—*Fl. Ton. Ox. Bed. Cam. Ang. North.*

\* Thus far the MS. was in the Printers' hands before my copy of the "Botany of Captain Beechy's Voyage" was received. The future pages will include any additional extension which that work makes known in the three first Numbers.

*Berw.* — Cornwall, Somerset, Surry, Norfolk, Caernarvon,  
*Chester.* Ceases in North Durham. r. c.

GEOGR. Europe 3, 4, 5. Ireland. N. Africa.

5. *PICRIS hieracioides.*

HAB. Agr.

TOPOGR. 1, 2, 3, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. North. Lan.*  
 —Surry, Norfolk. r. c.

GEOGR. Europe 2, 3, 4. Ireland. N. Africa. N. W. Asia.  
 New Holland.

6. *SONCHUS palustris.*

HAB. Agr.

TOPOGR. 1, 2, (5).—*Fl. Dev. Cam. Edin.*—Cornwall? Dorset,  
 Surry, Kent, Middlesex, Essex, Suffolk, Norfolk, Notts. A  
 few specimens found near Edinburgh by Mr Neill. r. r.

GEOGR. Europe 2, 3, 4.

7. *SONCHUS arvensis.*

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall.* c.

GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa. U. States.

8. *SONCHUS oleraceus.*

HAB. Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Caithness.* v. c.

GEOGR. Europe 1, 2, 3, 4, 5. Ireland. N. Africa. N. W.  
 E. Asia. Nepaul. U. States. Chili.

9. *SONCHUS alpinus.*

HAB. Subalp.

TOPOGR. 5.—*Fl. 0.*—*Forfar* and Aberdeen. v. r.

GEOGR. Europe 1, 2, 3. Canada.

10. *LACTUCA Scariola.*

HAB. Agr.

TOPOGR. 1, (3).—*Fl. Cam.*—Surry, Middlesex, (extinct?),  
 Essex. Peaks Hole, Derbyshire; *Martyn.* r.

GEOGR. Europe 2, 4, 5.



11. *LACTUCA saligna.*

HAB. Agr.

TOPOGR. 1, 2, 3.—*Fl. Cam.*—Dorset, Sussex, Middlesex, Leicester, Notts, Salop. r.

GEOGR. Europe 3, 4. N. Africa. W. Asia.

12. *LACTUCA virosa.*

HAB. Agr.

TOPOGR. 1, 2, 3, 5.—*Fl. Ton. Ox. Cam. North. Berw. Edin.*—Surry, Warwick, Northampton, York, Roxburgh, *Stirling*, and Perth. r. c.

GEOGR. Europe 2, 3, 4. N. Africa.

13. *PRENANTHES muralis.*

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Ton. Ox. Cam. North.*—Surry, Worcester, Gloucester, Northampton, Suffolk, Leicester, Salop, York, *Chester*. *Flora Scotica*, but no station. r. c.

GEOGR. Europe 2, 3, 4. Ireland.

14. *PRENANTHES hieraciifolia.*

HAB. Agr. ?

TOPOGR. 5.—*Fl. 0.*—Hill of Turin, Forfar; G. Don. v. r.

GEOGR.

15. *LEONTODON Taraxacum.*  
*palustre.*

HAB. In marshy ground, woods, and high on the mountains, it is generally *L. palustre*. I have seen it as *L. Taraxacum* in the Alpine Zone. Agr.—Sno.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Caithness*. v. c.

GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. Africa. N. E. W. Asia. Spitzbergen. Greenland. Brit. Rus. West. America from Melville Island. Pursh believes it to have been introduced to the U. States.

16. *APARGIA hispida.*

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Berw. Edin. Lan.*—Surry, Norfolk, York. c.

GEOGR. Europe 2, 3, 4, 5. Ireland.

17. APARGIA *autumnalis*.

*Taraxaci*.

N. B. Scarcely distinct; *W. Wilson*.

HAB. Agr.—Alp.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*.—(As *L. Taraxaci*, *Fl. 0.*)  
 —*Cornwall, Caithness*. c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. New Eng-  
 land, probably introduced; *Pursh*.

18. THRINCIA *hirta*.

HAB. Agr.—Upl.?  
 TOPOGR. 1, 2, 3, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. North.*  
*Edin. Lan.*—*Surry, Norfolk, Argyle?* r. c.  
 GEOGR. Europe 3, 4. Ireland. “Whether it grows in Bri-  
 tain is still undetermined, because *Hedypnois hirta* of Hudson  
 has many circumstances that distinguish it from this;” *Dec*.

19. HIERACIUM *sabaudum*.

HAB.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang.*  
*North. Berw. Edin. Lan.*—*Aberdeenshire; Macgillivray. Nairn?*  
 I am unacquainted with this; *Hook. B. F.* r. c.?  
 GEOGR. Europe 2, 3, 4. Ireland. The assigned continental  
 range of this is to be received with caution. *Vide Hook. Br. Fl.*

20. ? HIERACIUM *aurantiacum*.

HAB. Agr.  
 TOPOGR. (3, 5, 6).—*Fl. Mur.!*—*Lancashire, Berwick, Perth,*  
*Banff.* Probably not a native. r.  
 GEOGR. Europe, 3.

21. HIERACIUM *umbellatum*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang.*  
*North. Berw.*—*Cornwall. Sutherland; Prof. Graham.* c.  
 GEOGR. Europe 1, 2, 3, 5. Ireland. N. Asia.



22. *HIERACIUM Pilosella.*

HAB. Agr.—Subalp.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Sutherland.* c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland.

23. *HIERACIUM murorum.*

HAB. Agr.—Subalp.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ox. Bed. Cam. Ang. North.*  
*Berw. Edin. Lan Mur.*—*Sutherland.* c.  
 GEOGR. Europe 1, 2, 3. Ireland. N. Asia. Greenland.

24. *HIERACIUM molle.*

HAB. Agr. ?—Upl. ?  
 TOPOGR. 5.—*Fl. 0.*—Dunbarton, Perth, Forfar. Woods in  
 the south of Scotland, (Dickson); *Hook. Fl. Scot.* r. r.  
 GEOGR. Europe 3. Labrador ?

25. *HIERACIUM pulmonarium.*

HAB. Upl. ?  
 TOPOGR. 5, 6.—*Fl. 0.*—Stirling, Inverness. r.  
 GEOGR. Europe 3. Ireland.

26. *HIERACIUM sylvaticum.*

HAB. Agr.—Upl.  
 TOPOGR. 2, 3, 4, 5, 6.—*Fl. Ang. North. Berw. Edin. Lan. Mur.*  
 —Worcester, Leicester, Caernarvon, York, Argyle, *Perth, For-*  
*far, Aberdeen, Inverness, Sutherland.* r. c.  
 GEOGR. Europe 1, 2, 3. Ireland.

27. *HIERACIUM paludosum.*

HAB. Agr.—Moor.  
 TOPOGR. 3, 4, 5, 6.—*Fl. North. Berw. Edin. Lan. Mur.*—  
 —Caernarvon, Denbigh, Derby, York, Westmoreland, Cumber-  
 land, *Argyle, Perth, Forfar, Aberdeen.* r. c.  
 GEOGR. Europe 1, 2, 3. Ireland.

28. *HIERACIUM Lawsoni.*

HAB. Agr.—Subalp.  
 TOPOGR. 4, 5, 6.—*Fl. Edin.*—Wales, Westmoreland, Stirling,  
 Argyle, *Perth, Forfar, Aberdeen, Sutherland.* r. r.  
 GEOGR. Europe 3.

10. *HIERACIUM denticulatum.*

HAB. Agr. ?—Upl. ?  
 TOPOGR. 3, 5, 6.—*Fl. Mur.*—York, Selkirk, Perth, Forfar,  
 Sutherland ? r.  
 GEOGR. Europe 3.

30. *HIERACIUM prenanthoides.*

HAB. Agr.—Upl.  
 TOPOGR. 5, 6.—*Fl. Edin. Mur.*—Forfar, Perth, Aberdeen, In-  
 verness. r.  
 GEOGR. Europe 2, 3. Ireland. America.

31. *HIERACIUM amplexicaule.*

HAB. Agr. ?— ?  
 TOPOGR. (1) 5.—*Fl.* 0.—Oxford (nat.), Kinross, Forfar. If  
 native, it is only in the latter station. v. r.  
 GEOGR. Europe 3.

32. *HIERACIUM dubium.*

HAB. Upl. ? ?  
 TOPOGR. 4, 5.—*Fl.* 0.—Said to have been found in West-  
 moreland and Scotland ; *Hook. B. F.* v. r.  
 GEOGR. Europe 2, 3.

33. ? *HIERACIUM Auricula.*

HAB. Upl. ?  
 TOPOGR. 4.—*Fl.* 0.—Cumberland ? v. r.  
 GEOGR. Europe 1, 2, 3, 4, 5. Iceland.

34. *HIERACIUM alpinum.**Halleri.*

HAB. Rare in the Moorland Zone. Moor.—Alp.  
 TOPOGR. 4, 5, 6.—*Fl. Mur.*—Caernarvon (very rare ; *W. Wil-*  
*son*), Argyle, Perth, *Forfar*, *Aberdeen*, Inverness, Ross, Suther-  
 land. r.  
 GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Faro. N. Asia.  
 Greenland. British America.



35. *HIERACIUM cerinthoides.*

HAB. ?  
 TOPOGR. 5.—*Fl.* 0.—Forfar. Rocks in the Highlands, not  
 uncommon; *G. Don.* r.  
 GEOGR. Europe 3.

36. *CREPIS biennis.*

HAB. Agr.  
 TOPOGR. 1, 3, 4.—*Fl. Cam. North.*—Kent, Essex, Suffolk, Nor-  
 folk, York, Caernarvon. r. r.  
 GEOGR. Europe 2, 3, 4, 5. Ireland. W. Asia.

37. *CREPIS tectorum.*

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.* c.  
 GEOGR. Europe 1, 2, 3, 5. Ireland. N. Asia.

38. *BORKHAUSIA foetida.*

HAB. Agr.  
 TOPOGR. 1, (3).—*Fl. Cam. North.*—Essex, Kent, Norfolk. r.  
 GEOGR. Europe 3, 4.

39. *HYPOCHÆRIS maculata.*

HAB. Agr.  
 TOPOGR. 1, 3, 4, 5.—*Fl. Cam.*—Kent, Surry, Suffolk, Nor-  
 thampton, Caernarvon, York, Lancaster, Westmoreland, Cum-  
 berland, Forfar. r. r.  
 GEOGR. Europe 1, 2, 3. N. Asia.

40. *HYPOCHÆRIS glabra.*

HAB. Agr.  
 TOPOGR. 1, 2, 3, 5.—*Fl. Ton. Bed. Cam. North. Mur.?*—Sur-  
 ry, Worcester, Warwick, Suffolk, Norfolk, York, Forfar. r. c.  
 GEOGR. Europe 2, 3.

41. *HYPOCHÆRIS radicata.*

HAB. Agr.—Moor.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—Cornwall, Sutherland. c.  
 GEOGR. Europe 2, 3, 4. Ireland. W. Asia.

42. *LAPSANA pusilla*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 5.—*Fl. Bed. Cam. Mur.*—Dorset, Middlesex, Essex, Suffolk, Norfolk, Northampton, Worcester, Leicester, Forfar.

r. r.

GEOGR. Europe 2, 3.

43. *LAPSANA communis*.

HAB.

Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Sutherland.* c.

GEOGR. Europe 2, 3, 5. Ireland.

44. *CICHORIUM Intybus*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ox. Bed. Cam. Ang. North. Berw. Edin. Lan. Mur.?*—*Cornwall.*

r. c.

GEOGR. 2, 3, 4, 5. Ireland. U. States, introduced from Europe. W. E. Asia.

45. *ARCTIUM Lappa*.

HAB.

Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Caithness.* c.

GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa. Japan. N. America, introduced.

46. *SERRATULA tinctoria*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Lan.*—*Cornwall, Leicester, Caernarvon, York.*

r. c.

GEOGR. Europe 2, 3, 4, 5.

47. *SAUSSUREA alpina*.

HAB. Without flowers at an elevation of about 4000 feet, on the summits of Ben More and Ben Lawers. Subalp.—Sno.

TOPOGR. 4, 5, 6.—*Fl. 0.*—*Caernarvon, Cumberland, Dumfries, Argyle, Perth, Forfar, Aberdeen, Inverness, Sutherland.* r.

GEOGR. Europe 1, 2, 3, 4. Ireland. N. Asia.



48. *CARDUUS tenuiflorus*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ox. Bed. Ang. North. Berw. Edin. Lan.*—*Cornwall, Dorset, Surry, Kent, Middlesex, Essex, Suffolk, Norfolk, Caernarvon, Denbigh, York, Cumberland, Forfar.* c.

GEOGR. Europe 3, 4. Ireland.

49. *CARDUUS nutans*.

HAB

Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ox. Bed. Cam. Ang. North. Berw. Edin. Lan. Mur.?*—*Cornwall.* Rare in the north. r. c,

GEOGR. Europe 2, 3, 4. 5. Ireland.

50. *CARDUUS marianus*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ox. Bed. Cam. Ang. North. Berw. Edin. Lan. Mur.?* r. c.

GEOGR. Europe 3, 4. Ireland. N. Africa.

51. *CARDUUS acanthoides*.

HAB Very rare in the Upland Zone, where I have only once seen it, viz. at Castleton in Braemar; to which place, perhaps, the seeds had been carried. Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—Rare in the North. r. c.

GEOGR. Europe 2, 3, 4, 5. Ireland.

52. *ONOPORDUM Acanthium*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 5.—*Fl. Ton. Ox. Bed. Cam. North. Berw. Edin. Lan.*—*Surry, Warwick, Worcester, Norfolk, Roxburgh.* r. r.

GEOGR. Europe 2, 3, 4.

53. *CNICUS tuberosus*.

HAB.

Agr.

TOPOGR. 1.—*Fl. 0.*—*Wiltshire; A. B. Lambert.* v. r.

GEOGR. Europe 3.

54. *CNICUS acaulis*.

HAB. Agr.  
 TOPOGR. 1, 2.—*Fl. Dev. Ox. Bed. Cam.*—Dorset, Kent, Surry,  
 Norfolk, Northampton, Worcester. r. r.  
 GEOGR. Europe 2, 3.

55. *CNICUS pratensis*.*Forsteri* ?

N. B. Mr Borrer suspects *C. Forsteri* to be a hybrid pro-  
 duction between *C. pratensis* and *C. palustris*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 5.—*Fl. Dev. Ton. Ox. Cam. North.*—Dorset,  
 Hants, Surry, Berks, Middlesex, Essex, Suffolk, Norfolk, War-  
 wick, Leicester, Glamorgan, York, Argyle. r. c.  
 GEOGR. Europe 3. Ireland. N. Asia.

56. *CNICUS eriophorus*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ox. Bed. Cam. North. Edin.*—  
 Cornwall, Dorset, Somerset, Wilts, Hants, Worcester, War-  
 wick, Northampton, Hunts, Norfolk, Suffolk, Essex, Leicester,  
 Hereford, Salop, Chester, Derby, Lincoln, York, Lancaster,  
 Dunbarton, Argyle. r. c.  
 GEOGR. Europe 3, 4, 5. Ireland. W. E. Asia.

57. *CNICUS arvensis*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Caithness.* v. c.  
 GEOGR. Europe 1, 2, 3, 4. Iceland. Ireland. British Ame-  
 rica. U. States.

58. *CNICUS lanceolatus*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Caithness.* c.  
 GEOGR. Europe 2, 3, 4, 5. Iceland. Ireland. N. Africa.  
 Asia and N. America ; *Sp. Pl.*



59. *CNICUS palustris*.

HAB. Agr.—Moor.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Caithness.* c.  
 GEOGR. Europe, 1, 2, 3, 4. Ireland. N. Asia.

60. *CNICUS heterophyllus*.

HAB. Agr.—Moor.  
 TOPOGR. (1,) 2, 3, 4, 5, 6.—*Fl. North. Berw. Edin. Lan. Mur.*  
 —*Middlesex (Doody in Bot. G.), Norfolk, Glamorgan, Caer-*  
*narvon, Chester, York, Westmoreland, Cumberland, Perth, For-*  
*far, Aberdeen, Inverness.* r. c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Iceland.

61. *CARLINA vulgaris*.

HAB. Agr.—Upl?  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang.*  
*North. Berw.*—*Cornwall, Surry, Worcester, Norfolk, Leicester,*  
*York, Cumberland, Wigton, Forfar, Kincardine.* r. c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland.

62. *BIDENS tripartita*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang.*  
*North.*—*Cornwall, Surry, Suffolk, Norfolk, Leicester, York,*  
*Kinross.* r. c.  
 GEOGR. Europe 1, 2, 3, 4, 5. N. W. Asia.

63. *BIDENS cernua*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall.* c.  
 GEOGR. Europe 2, 3, 4. Ireland. Canada to Pennsylvania.

64. *EUPATORIUM cannabinum*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Sutherland.* c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland. W. Asia.

65. *CHRYSOCOMA Linosyris*.

HAB. Agr.  
 TOPOGR. 2.—*Fl. 0.*—*Devon, Somerset.* v. r.  
 GEOGR. Europe 2, 3, 4, 5.

66. *TANACETUM vulgare.*

- HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Berw. Lan. Mur.*—*Cornwall, Sutherland.* c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Ireland. Faroe. N. Asia. U. States, probably introduced.

67. *ARTEMISIA campestris.*

- HAB. Agr.  
 TOPOGR. 1.—*Fl. 0.*—*Surry, Suffolk, Norfolk.* r.  
 GEOGR. Europe 2, 3, 4, 5. Plains of the Missouri; *Lewis.*

68. *ARTEMISIA maritima.*

- HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Cam. Ang. North. Berw. Edin.*—*Kent, Essex. Norfolk, Chester, York, Isle of Man, Haddington, Forfar, Kincardine.* r. c.  
 GEOGR. Europe 2, 3, 4. Ireland.

69. *ARTEMISIA Absinthium.*

- HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Berw. Edin. Mur. !*—*Surry, Norfolk, York, Haddington, Fife.* r. c.  
 GEOGR. Europe 2, 3, 5. Ireland. N. Africa.

70. *ARTEMISIA vulgaris.*

- HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Sutherland.* c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Ireland. N. Africa. N. E. Asia. Brit. America.

71. *GNAPHALIUM luteo-album.*

- HAB. Agr.  
 TOPOGR. 2.—*Fl. Cam.*—*Sussex, Norfolk.* r.  
 GEOGR. Europe 2, 3, 4. N. Africa.

72. *GNAPHALIUM margaritaceum.*

- HAB. Agr.  
 TOPOGR. 1, 2, 4.—*Fl. 0.*—*Essex, Norfolk, Warwick, Worcester, Merioneth, Stafford.* r.



GEOGR. Europe 3. Ireland. N. Africa. N. Asia. Brit. America. U. States.

73. *GNAPHALIUM gallicum.*

HAB. Agr.  
 TOPOGR. 1, 3, 5.—*Fl.* 0.—Essex, Kent, Derby, Fife, Forfar. r.  
 GEOGR. Europe 3, 4.

74. *GNAPHALIUM germanicum.*

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl.* omnes. c.  
 GEOGR. Europe 2, 3, 4. Ireland. N. Africa. U. States.

75. *GNAPHALIUM minimum.*

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl.* omnes.—Ross. c.  
 GEOGR. Europe 2, 3. Ireland.

76. *GNAPHALIUM uliginosum.*

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl.* omnes.—Cornwall, Caithness. c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. Canada to Virginia.

77. *GNAPHALIUM sylvaticum.*

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl.* Ton. Ox. Bed. Cam. Ang. North. Berw. Edin. Lan. Mur.—Dorset, Sutherland. c.  
 GEOGR. Europe 1, 2, 3, 5. Iceland. Ireland. Greenland. Brit. America. U. States.

78. *GERANIUM dioicum.*

HAB. Agr.—Subalp.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl.* Ox. Cam. Ang. North. Berw. Edin. Lan. Mur.—Cornwall, Sutherland. Rare in the south of England. c.  
 GEOGR. Europe 1, 2, 3, 5. Ireland. N. Asia. B. W. America.

79. *GNAPHALIUM supinum.*

HAB. Often flowering close to patches of snow unmelted in

July or August. Generally near 1000, sometimes only 500 feet between this and *G. sylvaticum*. Moor.—Sno.

TOPOGR. 5, 6.—*Fl. Mur.*—Stirling, *Argyle, Perth, Forfar, Aberdeen, Inverness, Sutherland.* r.

GEOGR. Europe 1, 2, 3. N. Asia.

### 80. *CONYZA squarrosa.*

HAB. Agr.

TOPOGR. 1, 2, 3, 4, (5.)—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North.* — Worcester, Northampton, Norfolk, Caernarvon, Perth? r. r.

GEOGR. Europe 3, 4.

### 81. ? *ERIGERON canadensis.*

HAB. Agr.

TOPOGR. (1, 2, 3).—*Fl. North.*—Somerset, Surry, Middlesex. r.

GEOGR. Europe (naturalized?) 2, 3, 4, 5. Canada to Florida.

### 82. *ERIGERON acris.*

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Ox. Bed. Cam. Ang. North. Berw.*—Surry, Warwick, Worcester, Northampton, Norfolk, Leicester, Salop, *Chester, York, Forfar.* r. c.

GEOGR. Europe 1, 2, 3, 4, 5. Ireland. N. Asia. W. America.

### 83. *ERIGERON alpinus.*

HAB. Subalp.

TOPOGR. 5, 6.—*Fl. 0.*—Perth, *Forfar, Aberdeen.* r.

GEOGR. Europe 1, 2, 3, 4. Iceland. N. Asia. Greenland. B. R. America.

### 84. *TUSSILAGO Farfara.*

HAB. I have seen it growing very near the edges of limekilns in England, and in swampy places upwards of 3000 feet high on the mountains of Scotland. Its range of temperature must consequently be very wide. Agr.—Alp.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Caithness.*

GEOGR. Europe 1, 2, 3, 4, 5. Ireland. N. W. Asia.



85. *PETASITES vulgaris*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*. c.  
 GEOGR. Europe 2, 3, 4. Ireland. N. Africa.

86. ? *SENECIO squalidus*.

HAB. Agr.  
 TOPOGR. (1, 2).—*Fl. 0*.—Oxford, Devon. v. r.  
 GEOGR. Europe 3, 4. N. Africa.

87. *SENECIO paludosus*.

HAB. Agr.  
 TOPOGR. 1, 3, (4).—*Fl. Cam.*—Suffolk, Lincoln. Cheshire ;  
*Waring. in Bot. Guide.* r.  
 GEOGR. Europe 3, 4,

88. *SENECIO tenuifolius*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang.*  
*North. Berw.*—Norfolk, Chester, York, r. c.  
 GEOGR. Europe 3, 5.

89. *SENECIO viscosus*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang.*  
*North. Berw. Edin. Lan.*—Suffolk, Norfolk, Merioneth, Chester,  
 York, Cumberland. c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland.

90. ? *SENECIO saracenicus*.

HAB. Agr.  
 TOPOGR. (2, 3, 4, 5).—*Fl. North. Lan.*—Somerset, Derby,  
 Denbigh, York, Lancaster, Westmoreland, Cumberland, Forfar,  
 Aberdeen. r.  
 GEOGR. Europe 3. Ireland. N. Asia. A doubtful native  
 of Sweden; *Wahl*.

91. *SENECIO vulgaris*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*.—*Caithness*. v. c.

GEOGR. Europe 1, 2, 3, 4, 5. N. Africa. Iceland. Ireland.  
Introduced into the United States.

92. *SENECIO sylvaticus.*

HAB. Agr.—Upl.  
TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—Caithness. c.  
GEOGR. Europe 2, 3, 4. Ireland.

93. *SENECIO aquaticus.*

HAB. Agr.—Upl.  
TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Caithness.* c.  
GEOGR. Europe 2, 3, 4. Ireland.

94. *SENECIO Jacobæa.*

HAB. Rare above the Woody Region. Agr.—Moor.  
TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Caithness.* v. c.  
GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa. W. Asia.  
Nepaul.

95. *ASTER Tripolium.*

HAB. Agr.  
TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Cam. Ang. North. Berw.*  
*Edin. Mur.*—*Cornwall.* c.  
GEOGR. Europe 2, 3, 4. Ireland. Russian Empire.

96. *SOLIDAGO Virgaurea.*

HAB. Agr.—Alp.  
TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Sutherland.* c.  
GEOGR. Europe 1, 2, 3, 4, 5. Ireland. N. E. W. Asia. Rus.  
Brit. America.

97. *INULA Helenium.*

HAB. Agr.  
TOPOGR. 1, 2, 3, 4, 5, (6).—*Fl. Dev. Ton. Ox. Bed. Cam. Ang.*  
*North. Lan. Mur.?*—*Cornwall, Ross, (near houses).* r. r.  
GEOGR. Europe 2, 3, 4. Ireland. Japan. New England  
to Pennsylvania, introduced.

98. *LIMBARDA crithmoides.*

HAB. Agr.  
TOPOGR. 1, 2, 4, 5.—*Fl. Ang.*—Dorset, Hants, Essex, Suf-  
folk, Glamorgan, Pembroke, Wigton, Kirkcudbright. r.  
GEOGR. Europe 3. Ireland. N. Africa.



99. *PULICARIA dysenterica.*

- HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, (6?)—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Berw.*—*Cornwall, Somerset, Surry, Norfolk, Leicester, York, Wigton.* r. c.  
 GEOGR. Europe 2, 3, 4. Ireland. N. Africa.

100. *PULICARIA vulgaris.*

- HAB. Agr.  
 TOPOGR. 1, 2, 3, 4.—*Fl. Ton. Ox. Bed. Cam.*—*Surry, Warwick, Anglesea, York.* r. r.  
 GEOGR. Europe 2, 3, 4, 5.

101. *CINERARIA campestris.*

- HAB. Agr.  
 TOPOGR. 1, 4.—*Fl. Ox. Cam. Ang.*—*Dorset, Hants, Sussex, Berks, Merioneth.* r.  
 GEOGR. Europe 2, 3, 5. N. Asia. Brit. America. U. States.

102. *CINERARIA palustris.*

- HAB. Agr.  
 TOPOGR. 1, 2, 3, 4.—*Fl. Cam.*—*Hants, Suffolk, Norfolk, Lincoln, Glamorgan, Lancaster, Westmoreland.* r.  
 GEOGR. Europe 2, 3, 5. B. America.

103. ? *DORONICUM Pardalianches.*

- HAB. Agr.  
 TOPOGR. (1, 2, 3, 4, 5.)—*Fl. North. Edin. Lan. Mur.!*—*Surry, Norfolk, Salop, York, Dumfries, Fife, Perth, Forfar.* r. r.  
 GEOGR. Europe 3, 4. N. Africa. N. Asia.

104. ? *DORONICUM plantagineum.*

- HAB. Agr.  
 TOPOGR. (1, 5.)—*Fl. 0.*—*Essex, Perth.* v. r.  
 GEOGR. Europe 3, 4.

105. *BELLIS perennis.*

- HAB. Agr.—Subalp.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Caithness.* v. c.  
 GEOGR. Europe 2, 3, 4. Ireland. N. Africa?

106. CHRYSANTHEMUM *segetum*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Caithness.* c.  
 GEOGR. Europe 2, 3, 4. Ireland. N. Africa. N. Asia.

107. CHRYSANTHEMUM *Leucanthemum*.

HAB. Agr.—Moor.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Caithness.* c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Ireland. N. Africa. N. W. Asia. U. States; probably introduced, according to Pursh. Behring's Isle and Nootka Sound; *Penn. Arc. Zool.*

108. PYRETHRUM *Parthenium*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Ross.* c.  
 GEOGR. Europe 2, 3, 5. Ireland.

109. PYRETHRUM *inodorum*.

*maritimum.*

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Caithness.* v. c.  
 GEOGR. Europe 1, 2, 3, 5. Iceland. Ireland. Greenland. B. R. America.

110. MATRICARIA *Chamomilla*.

HAB. Agr.—?  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. North. Edin. Lan.*—*Surry, O. Hebrides.* r. c.  
 GEOGR. Europe 3, 4, 5. Ireland. W. Asia.

111. ? ANTHEMIS *maritima*.

HAB. Agr.  
 TOPOGR. (3.)—*Fl. North.*—It does not appear to be now met with in Durham. *Vide* Winch, *Flora of Northumberland and Durham.* South coast of Scotland; *G. N. Lloyd.* North-east coast; *M. Barry.* I fear the two last stations may belong to *Pyrethrum maritimum.* v. r.  
 GEOGR. Europe 3, 4. N. Africa. W. Asia. A doubtful claim to Sweden; *Wahl.*



112. *ANTHEMIS nobilis*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Ang. North.*—*Cornwall*, Dorset, Hants, Sussex, Surry, Middlesex, Essex, Bucks, Worcester, Merioneth, Stafford, York, Cumrae and Bute. r. r.  
 GEOGR. Europe 3. Ireland.

113. *ANTHEMIS Cotula*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Edin. Lan.*—*Cornwall*, Surry, Norfolk, York. r. c.  
 GEOGR. Europe 2, 3, 5. Ireland.

114. *ANTHEMIS tinctoria*.

HAB. Agr.  
 TOPOGR. 1, (3,) 5.—*Fl. North.*—Essex, Forfar. Not now found in Durham; *W. N. D.* v. r.  
 GEOGR. Europe 2, 3, 4.

115. *ANTHEMIS arvensis*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. North. Berw. Edin. Lan. Mur.?* r. c.  
 GEOGR. Europe 2, 3, 4. Ireland. N. Africa? Pennsylvania to Virginia.

116. *ACHILLÆA serrata*.

HAB. Agr.?  
 TOPOGR. 3.—*Fl. 0.*—Near Matlock, Derbyshire. v. r.  
 GEOGR. Europe 3.

117. *ACHILLÆA tomentosa*.

HAB. Agr.?  
 TOPOGR. 5.—*Fl. 0.*—Spittal Hill, north-west of Balvie, Dunbartonshire; and near Paisley; *H. B. F.* v. r.  
 GEOGR. Europe 3, 4. N. W. Asia.

118. *ACHILLÆA Ptarmica*.

HAB. Agr.—Moor.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall*, *Caithness*. c.

GEOGR. Europe 2, 3, 5. Ireland. N. Asia. B. America.  
U. States.

119. *ACHILLÆA Millefolium.*

HAB. Agr.—Alp.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Caithness.* v. c.

GEOGR. Europe 1, 2, 3, 5. Iceland. Ireland. N. Asia. B.  
R. W. America. U. States. Greenland.

120. *CENTAUREA Calcitrapa.*

HAB. Agr.

TOPOGR. 1, 2, 3.—*Fl. Dev. Bed. Cam. North.*—*Surry, Essex,*  
*Northampton, York.* r. r.

GEOGR. Europe 3, 4. N. Africa? W. Asia. “In Germany  
not beyond 52° N. L. Eastward from Germany it seems to  
have a still more southern limit, since it has not once been  
found in Galicia, although it grows in Hungary and Transyl-  
vania. Towards the south it extends as far as Peloponnesus and  
Sicily.”

121. ? *CENTAUREA solstitialis.*

HAB. Agr.

TOPOGR. (1, 3, 4).—*Fl. 0.*—*Sussex, Kent, Norfolk, Denbigh,*  
*York.* r.

GEOGR. Europe 3, 4. Ireland? N. Africa. New Jersey,  
introduced from Europe.

122. *CENTAUREA Jacea.*

HAB. Agr.

TOPOGR. 1, 3, 5.—*Fl. North.*—*Sussex, Kent, Surry, Forfar.* r.

GEOGR. Europe 2, 3, 4, 5. Ireland.

123. *CENTAUREA Cyanus.*

HAB. Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Sutherland.* c.

GEOGR. Europe 2, 3, 4, 5. Ireland. U. States, brought from  
Europe.

124. *CENTAUREA nigra.*

HAB. Alp?—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Caithness.* c.

GEOGR. Europe 3, 4. Ireland. A very doubtful native;  
*Wahl. Fl. Suec.*



125. *CENTAUREA Scabiosa*.

HAB. Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Edin. Lan. Mur. ?—Cornwall, Sutherland.* r. c.

GEOGR. Europe 3, 4, 5. Ireland.

126. ? *XANTHIUM Strumarium*.

HAB. Agr.

TOPOGR. (1, 3).—*Fl. North.*—Dorset, Hants, Surry, Middlesex. It has scarcely any permanent station in Britain. Not having the Flora of Northumberland and Durham at hand whilst writing this, I cannot be sure of the plant being there mentioned. r.

GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa. W. Asia. Greenland, introduced. U. States.

## XLV. LOBELIACEÆ.

1. *LOBELIA urens*.

HAB. Agr.

TOPOGR. 2.—*Fl. Dev.*—The only county. v. r.

GEOGR. France. Spain.

2. *LOBELIA Dortmanna*.

HAB. Rare in the Agricultural Zone. Agr.—Moor.

TOPOGR. 2, 4, 5, 6.—*Fl. Dev. Lan. Mur.*—Glamorgan, Salop, Merioneth, *Caernarvon*, Lancaster, Westmoreland, *Cumberland*, south of Scotland, *Dunbarton*, *Perth*, Forfar, *Aberdeen*, Inverness, *Sutherland*, O. Hebrides. r. r.

GEOGR. Europe 2, 3. Lapland? Ireland. Hudson's Bay (Michaux); *Pursh*.

## XLVI. CAMPANULACEÆ.

1. *CAMPANULA hybrida*.

HAB. Agr.

TOPOGR. 1, 2, 3.—*Fl. Dev. Ton. Ox. Bed. Cam. North.*—Kent, Essex, Norfolk, Warwick, York. r. r.

GEOGR. Europe 3, 4. N. Africa.

2. *CAMPANULA patula.*

HAB. Agr.  
 TOPOGR. 1, 2, 3.—*Fl.* 0.—Dorset, Somerset, Hants, Kent, Surry, Warwick, Worcester, Salop, Leicester, Brecon, Hereford, Stafford, York. r. r.  
 GEOGR. Europe 2, 3, 5. Iceland. N. Asia.

3. *CAMPANULA Rapunculus.*

HAB. Agr.  
 TOPOGR. 1, 2, 3.—*Fl.* Ang. North.—Hants, Sussex, Kent, Surry, Middlesex, Essex, Herts, Worcester, Northampton, Norfolk, Notts, Stafford, York. r. r.  
 GEOGR. Europe 2, 3. N. Africa.

4. *CAMPANULA Trachelium.*

HAB. Agr.  
 TOPOGR. 1, 2, 3, 5.—*Fl.* Ton. Ox. Bed. Cam. Ang.—Surry, Norfolk, Northampton, Worcester, Roxburgh. Near Glasgow. r. r.  
 GEOGR. Europe 2, 3, 4, 5. Japan.

5. *CAMPANULA hederacea.*

HAB.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl.* Dev. Ton.—Cornwall, Hants, Sussex, Surry, Berks, Essex, Suffolk, Oxford, Glamorgan, Caermarthen, Pembroke, Hereford, Montgomery, Caernarvon, Denbigh, York, Renfrew. r. c.  
 GEOGR. Europe 3. Ireland.

6. *CAMPANULA glomerata.*

HAB. Calcareous soils. Agr.  
 TOPOGR. 1, 3, 5.—*Fl.* Ton. Ox. Bed. Cam. North. Edin.—Surry, Northampton, Norfolk, York, Haddington, Fife, Forfar. r. r.  
 GEOGR. Europe 2, 3, 4, 5.

7. *CAMPANULA rapunculoides.*

HAB. Agr.  
 TOPOGR. 1, 3, 5.—*Fl.* Edin.—Oxford, York, Perth. r.  
 GEOGR. Europe 2, 3, 5.



8. ? *CAMPANULA persicifolia*.

HAB. Agr. ?  
 TOPOGR. (6.)—*Fl.* 0.—Banff, probably not indigenous. v. r.  
 GEOGR. Europe 2, 3, 5. In Sweden to 62½°.

9. *CAMPANULA latifolia*.

HAB. Agr.—Upl. ?  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Bed. Cam. North. Berw. Edin. Lan. Mur.*—Cornwall. r. c.  
 GEOGR. Europe 1, 2, 3, 4. Ireland.

10. *CAMPANULA rotundifolia*.

HAB. Agr.—Sno.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Caithness.* c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. Asia.  
 Greenland. R. B. America. U. States.

11. *PHYTEUMA spicatum*.

HAB. Agr.  
 TOPOGR. 1.—*Fl.* 0.—Sussex. v. r.  
 GEOGR. Europe 3.

12. *PHYTEUMA orbiculare*.

HAB. Agr.  
 TOPOGR. 1.—*Fl.* 0.—Hants, Sussex, Kent, Surry. r.  
 GEOGR. Europe 3.

13. *JASIONE montana*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Lan. Mur.*—*Cornwall.* Rare in the north and north-east of Britain. r. c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa. W. Asia.

## XLVII. VACCINIEÆ.

1. *VACCINIUM Myrtillus*.

HAB. Above the Subalpine Zone it becomes procumbent, and rarely if ever produces flowers. Only the loftiest moun-

tains of Scotland rise sufficiently high to arrest its ascent. It is seen on the summit of Ben Lawers (4000 feet), and rather exceeds this elevation on Ben-na-muich-duich. On the west side of Ben Nevis, it attains 3760 feet. On the steep northern side of the Red Cairn (Cairn Garidh) to the north of Ben Nevis, it ceases between 3500 and 3800 feet. From 200 to 600 feet above *Empetrum nigrum* in these situations. Agr.—Sno.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Ang. North. Berw. Edin. Lan. Mur.*—*Cornwall, Caithness.* Apparently unfrequent in the south-eastern counties, becoming very common as we advance northward. This is one of the species that, if allowed, would over-run Britain, and form, with *Calluna vulgaris* and *Empetrum nigrum*, much of the natural physiognomical character of its vegetation. c.

GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. Africa. N. Asia. Nootka Sound; *Penn. Arct. Zool.*

## 2. VACCINIUM *Oxycoccus.*

HAB. So generally concealed by larger plants, that its altitudinal expansion is not readily ascertained. I have seen it flowering vigorously between 2000 and 2500 feet of elevation on the Grampians of Forfar and Aberdeen; so that probably the range of *Calluna vulgaris* but little exceeds it. Agr.—Subalp.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Bed. Cam. Ang. North. Berw. Edin. Lan. Mur.* r. c.

GEOGR. Europe 1, 2, 3, 5. Iceland. Ireland. N. Asia. B. R. W. America. U. States. “It is chiefly in the highest northern latitudes that this plant grows, namely, Greenland, Iceland, Lapland, Siberia, Kamchatka, Unalashka, and North America as far as Baffin’s Bay. Its most southern limit seems to be 46° N. Lat.; for it is found in the Floras of Switzerland, Carinthia, and Transylvania, but does not grow in Italy or Greece.”—*Dec.*

## 3. VACCINIUM *Vitis-Idæa.*

HAB. Not rising so high as *V. Myrtillus* or *V. uliginosum*. On the summit of Carnedd David (3420 feet) in Caernarvonshire. Agr.—Alp.



TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. North. Berw. Edin. Lan. Mur.*—  
Kent? *Sutherland.* r. c.

GEOGR. Europe 1, 2, 3, 5. Ireland. N. Asia. Greenland.  
B. R. America. U. States.

#### 4. *VACCINIUM uliginosum.*

HAB. Flourishing between 2000 and 3000 feet high on the  
Grampians. In Aberdeenshire, I have seen it at an elevation  
of 3500 feet; and it attains the summit of Ben Hope in Su-  
therland. Mr Winch gives 500—2000 feet as its range in the  
north of England. I have not seen it so low in Scotland, and  
its not rising above 2000 feet is evidently a local peculia-  
rity. Upl.—Alp.

TOPOGR. 3, 4, 5, 6.—*Fl. North. Mur.*—York, Caernarvon,  
Denbigh, Westmoreland, Cumberland, *Argyle, Perth, Forfar,*  
*Aberdeen, Ross, Sutherland.* Leith Hill, Surry; *Graves.* Surely  
this is erroneous? r. r.

GEOGR. Europe 1, 2, 3, 5. Iceland. Faroe. N. Asia. Green-  
land, beyond 72° N. Lat. R. B. America. This species, with  
*Andromeda tetragona*, is said to cover extensive tracts of land on  
the west coast of Greenland, between 70° and 71° N. Lat., and  
to extend from the sea-level to 800 feet of elevation (*Greville,*  
*in Wern. Mem.*) On the Carpathian Mountains, it attains  
6600 feet (*Wahl.*)

### XLVIII. ERICEÆ.

#### 1. *ARBUTUS Uva-ursi.*

HAB. In the north of England, from 300 to 2000 feet of ele-  
vation; *Winch.* In the Grampians, it rises to about 2500, its  
upper limit apparently just above that of the two *Ericæ.* Very  
rare in the Agricultural Zone, except towards the higher part  
of it. Agr.—Subalp.

TOPOGR. 3, 4, 5, 6.—*Fl. North. Mur.*—Chester, Derby, York,  
Lancaster, Westmoreland, Cumberland, Peebles, *Argyle, Perth,*  
*Forfar, Aberdeen, Inverness, Ross, Sutherland, Caithness.* r. r.

GEOGR. Europe 1, 2, 3. Iceland. Ireland. N. Asia. Aleu-  
tian Isles. B. America. U. States.



2. *ARBUTUS alpina*.

HAB. In Inverness-shire, on the western side of the Ben Nevis group of mountains, it appears at about 1800 feet of elevation; and on the south side of the Lochiel mountains in Argyleshire at about 2200. In Sutherland, on the north side of Ben Hee or Heeal, I first saw it at 970 feet above the sea; but on the moors about Loch Erriboll (only fourteen miles westward), it descends to a height certainly not exceeding 250 feet, and may almost be said to reach the Upland Zone. On Ben Hope, in the north of Sutherland, it rises to 2600 feet. Moor.—Alp.

TOPOGR. 5, 6.—*Fl.* 0.—*Argyle* (only in the north), *Inverness*, *Ross*, *Sutherland*, *Orkney*. r.

GEOGR. Europe 1, 2, 3. Iceland. N. Asia. Aleutian Isles. R. B. America. Rocky Mountains.

3. *ANDROMEDA polifolia*.

HAB. In the north of England from 250 to 2000 feet of elevation; *Winch*. Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5.—*Fl.* *North*.—Somerset, Bucks, Norfolk, Glamorgan, Salop, Brecon, *Chester*, York, Lancaster, Westmoreland, Cumberland, Wigton, Dumfries, Renfrew, Stirling, Perth. r. r.

GEOGR. Europe 1, 2, 3, 5. Ireland. N. Asia. Greenland. B. R. America. U. States? "The American plant described by Pursh appears to be a distinct species;" *Hook. Linn. Trans.* xiv.

4. *ERICA ciliaris*.

HAB. Agr.

TOPOGR. 2.—*Fl.* 0.—Only in the west of *Cornwall*. v. r.

GEOGR. France. Spain. Portugal.

5. *ERICA vagans*.

HAB. Not peculiar to serpentine rock. Agr.

TOPOGR. 2.—*Fl.* 0.—In the west of *Cornwall*, plentiful on various downs. Said also to have been found in Devon and Glamorgan, but is not admitted into *Flora Devoniensis*. v. r.

GEOGR. Europe 3, 4. N. Africa.



6. *ERICA cinerea*.

HAB. Its average terminal limit seems to be 300 or 400 feet below that of *Calluna vulgaris*; but it is always small and stunted in the Subalpine Zone. In the mild and moist climate of Ireland, it is said to grow six, eight, or even ten feet high. Agr.—Subalp.

TOPOGR. 1, 2, 3, 4, 5, 6.—In all the *Floras*, except that of Bedford. *Cornwall, Caithness*. c.

GEOGR. Norway. France. Central Europe. Ireland. The East; *Sp. Plant*.

7. *ERICA Tetralix*.

HAB. Very nearly the same limits as *E. cinerea*. Agr.—Subalp.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*.—*Cornwall, Caithness*. c.

GEOGR. Europe 2, 3.

8. *MENZIESIA cœrulea*.

HAB.

Moor.?

TOPOGR. 6.—*Fl. 0*.—The neighbourhood of Aviemore is assigned, whether merely for the purpose of deception I am unaware. Professor Graham and Mr Macnab have seen the station, and do not express any suspicion that it has been introduced there by human agency. v. r.

GEOGR. Europe 1, 2, 3, 5. N. Asia. Greenland. B. R. America. U. States?

9. *CALLUNA vulgaris*.

HAB. Flourishes best in the Upland and Moorland Zones, but descends to the sea-level in the south of England, and occasionally exceeds 3000 feet on the Grampian Mountains; though hardly bearing the exposure of mountain summits at this height. In the north-west of Sutherland it scarcely attains 2500 feet, and seldom exceeds it in the west of Invernessshire. According to Mr Winch, it is found on the tops of hills exceeding 3000 feet in the north of England. Its height on Snowdon I am unaware of; but did not see it on the summit of Carnedd David (3420 feet) in Caernarvonshire. In damp



narrow glens it ceases much lower than in dry open moors. In deciduous woods, it commonly gives place to *Vaccinium Myrtillus* or grasses; but grows under fir-trees. Agr.—Subalp.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. om.*—*Cornwall, Caithness.* v. c.

GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. Greenland. Newfoundland?

### 10. MONOTROPA *Hypopitys.*

HAB. Beech and fir woods; *H. B. F.* Agr.

TOPOGR. 1, 2, 3.—*Fl. Ox. Bed. Cam. North.*—Somerset, Wilts, Hants, Sussex, Surry, Berks, Herts, Bucks, Norfolk, Gloucester, Worcester, Stafford, [Derby, Lincoln. Not now found in either Durham or Northumberland. In *Fl. Scotica*, but no station indicated. r. r.

GEOGR. Europe 2, 3, 5. Ireland. Canada to Pennsylvania.

### 11. PYROLA *media.*

HAB. Agr.—Moor.

TOPOGR. 2, 3, 4, 5, 6.—*Fl. North. Berw.*—Warwick, *Westmoreland*, Cumberland, *Argyle*, Perth, *Forfar*, *Aberdeen*, *Inverness*, *Sutherland?* r. r.

GEOGR. Europe 2, 3. Ireland.

### 12. PYROLA *rotundifolia.*

HAB. Agr.—Subalp.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. North. Berw. Edin.*—Sussex, Suffolk, Norfolk, Gloucester, York, Lancaster, Perth, *Forfar*. In this genus the stations must be received with caution, so much confusion having existed in the nomenclature of *P. media*, *P. minor*, and the present species. I have seen living specimens from the Sands of Southport in Lancashire. Lightfoot gives the "Falls of Clyde" for it. Hopkirk \* says only *P. media* is found there. Patrick makes it *P. minor*. r. r.

GEOGR. Europe 1, 2, 3, 5. Iceland. Faroe. N. Asia. Greenland. R. B. America. U. States.

\* I am indebted to Mr Neill for a sight of *Fl. Glot.* since the former sheets were printed.



13. *PYROLA minor*\*.

HAB. Agr.—Subalp.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Ox. Bed. Ang. North. Berw. Edin. Lan. Mur.*—Gloucester. r. c.

GEOGR. Europe 1, 2, 3, 5. Iceland. N. Asia. B. R. America. U. States.

14. *PYROLA secunda*.

HAB. Perhaps it may occur in the Agricultural Zone, although I have not seen it so low. Upl.—Subalp.

TOPOGR. (3), 4, 5, 6.—*Fl. North. Mur.*—York, Cumberland, Argyle, Perth, *Forfar*, Aberdeen, Inverness, Ross. Not found in Northumberland or Durham; *Winch.* r. r.

GEOGR. Europe 1, 2, 3, 4, 5. Iceland. N. Asia. Greenland. B. R. America. U. States.

15. *PYROLA uniflora*.

HAB.

TOPOGR. 5, 6. — *Fl. Mur.*—Perth, *Forfar*, Ross, Sutherland. r.

GEOGR. Europe 1, 2, 3, 5. N. Asia. Greenland. B. America. U. States.

16. *AZALEA procumbens*.

HAB. Generally commencing about the same elevation as *Carex rigida*, but not extending so far south. On Ben-na-Buird it attains 3500, and on Ben Hope 2600 feet. Subalp.—Alp.

TOPOGR. 5, 6. — *Fl. Mur.*—Stirling, Dunbarton, *Argyle*, Perth, *Forfar*, Aberdeen, Inverness, Ross, *Sutherland.* r.

GEOGR. 1, 2, 3, 5. Iceland. Faroe. N. Asia. Greenland. R. B. America. U. States. In Switzerland scarcely seen below 6000 feet; *Wahl.*

## XLIX. OLEINÆ.

1. *LIGUSTRUM vulgare*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North.*

\* Perhaps there are two species to which this name is applied: if not, the style varies much.

*Berw. Edin. Mur.* !—Somerset, Surry, Northampton, Norfolk, Caernarvon, Chester, York, *Cumberland*, Forfar. r. c.

GEOGR. Europe 2, 3, 4. Ireland. N. Africa. W. E. Asia. Canada to Virginia.

## 2. FRAXINUS *excelsior*.

HAB. Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*.—*Cornwall, Ross*. c.

GEOGR. Europe 2, 3, 5. Ireland. N. Africa. Japan.

# L. APOCYNÆ.

## 1. ? VINCA *major*.

HAB. Agr.

TOPOGR. (1, 2, 3, 4, 5.)—*Fl. Dev. Ton. Bed. Cam. Ang. Edin.*  
—Naturalized in various parts of England, and partly so in Scotland. r. r.

GEOGR. Europe 3, 4. Ireland? N. Africa.

## 2. ? VINCA *minor*.

HAB. Agr.

TOPOGR. (1, 2, 3, 4, 5, 6.)—*Fl. omnes*, but in the northern ones, *ex. gr.* Berwick and Murray, merely noticed as a naturalized plant, and perhaps it is nowhere indigenous in Britain. r. c.

GEOGR. Europe 3. Ireland?

# LI. GENTIANÆ.

## 1. GENTIANA *Pneumonanthe*.

HAB. Agr.

TOPOGR. 1, 2, 3, 4.—*Fl. Ton. Ang.*—Dorset, Sussex, Middlesex, Suffolk, Norfolk, Lincoln, *Chester*, Derby, York, Lancaster, Westmoreland, *Cumberland*. r. r.

GEOGR. Europe 2, 3, 5. N. Asia. B. America. U. States.

## 2. GENTIANA *Amarella*.

HAB. Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ox. Bed. Cam. Ang. North. Berw. Edin. Mur.*—*Cornwall, Caithness*. r. c.



GEOGR. Europe 1, 2, 3, 4. Iceland. Ireland. N. Asia. B. America.

3. *GENTIANA campestris.*

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ox. Bed. Ang. North. Berw. Edin. Lan. Mur.*—*Cornwall, Caithness.* r. c.  
 GEOGR. Europe 2, 3, 4. Iceland. Ireland.

4. *GENTIANA verna.*

HAB. Upl.?  
 TOPOGR. 3, 4.—*Fl. North.*—York, Westmoreland. v. r.  
 GEOGR. Europe 3, 4. Iceland. Ireland. N. Asia.

5. *GENTIANA nivalis.*

HAB. From the stations assigned for it by Mr Wilson and Drs Graham and Greville, I presume it to be Subalp.—Alp.  
 TOPOGR. 5.—*Fl. 0.*—Perth, Forfar. v. r.  
 GEOGR. Europe 1, 2, 3. Iceland. Dahuria. Labrador.

6. *CHLORA perfoliata.*

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4.—*Fl. Dev. Ox. Bed. Cam. Ang.*—Dorset, Somerset, Hants, Sussex, Kent, Surry, Berks, Essex, Herts, Bucks, Suffolk, Norfolk, Northampton, Warwick, Worcester, Leicester, Lincoln, Notts, Glamorgan, Hereford, Salop, Caernarvon, Denbigh, Flint, *Chester*, Stafford, Derby, York, *Lancaster.* v. r.  
 GEOGR. Europe 3, 4. Iceland. N. Africa.

7. *ERYTHRÆA Centaurium.*

*pulchella.*

*littoralis.*

*latifolia.*

HAB. Agr.—Upl.?  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall.* r. c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa. W. Asia.

8. *EXACUM filiforme*.

HAB.

Agr.

TOPOGR. 1, 2.—*Fl. Dev.*—*Cornwall*, Dorset, Sussex, Surry. r.GEOGR. Europe 3, 4. Ireland. Perhaps Chili. *Vide Botany of Captain Beechey's Voyage.*9. *MENYANTHES trifoliata*.

HAB.

Agr.—Moor.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall*, *Sutherland*. c.

GEOGR. Europe 1, 2, 3, 5. Iceland. Ireland. N. Asia. Greenland. B. R. America. U. States.

10. *VILLARSIA nymphæoides*.

HAB.

Agr.

TOPOGR. 1, 2, (3, 4).—*Fl. Ox. Cam. North.*—Sussex, Berks, Middlesex, Essex, Bucks, Northampton, Hunts, Norfolk, Lancaster (Robson in Bot. Guide), York. r.

GEOGR. Europe 3, 4.

## LII. POLEMONIACEÆ.

1. ? *POLEMONIUM cœruleum*.

HAB.

TOPOGR. (1, 3, 5).—*Fl. Ox. Edin. Lan. Mur.!*—Derby, York Not indigenous to Scotland, but has been planted in the neighbourhood of Edinburgh. r.

GEOGR. Europe 1, 2, 3, 5. Ireland. N. Asia. Japan. Greenland. R. W. America.

## LIII. CONVULVACEÆ

1. *CONVOLVULUS Soldanella*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ang. North.*—*Cornwall*. Essex, Norfolk, Caernarvon, *Lancaster*, Ayr, Argyle, Forfar. r. c.

GEOGR. Europe 3, 4, 5. Ireland. N. Africa. Japan. S. America.



2. CONVULVULUS *sepium*.

- HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Berw. Edin. Lan.*—*Cornwall*, Somerset, Surry, Norfolk, Caernarvon, *Chester*, York, *Lancaster*, Dumfries, Dumbarton, Forfar. r. c.  
 GEOGR. Europe 2, 3, 4. Ireland. N. Africa. N. W. Asia. B. America. U. States.

3. CONVULVULUS *arvensis*.

- HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall*. r. c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa. W. Asia. U. States? In Sweden from 60°.

4. CUSCUTA *europæa*.

- HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Ox. Bed. Cam. Edin. Lan.*—Dorset, Hants, Sussex, Kent, Surry, Berks, Essex, Bucks, Warwick, Worcester, Northampton, Suffolk, Leicester, Chester, Forfar, Dumfries. r. c.  
 GEOGR. Europe 2, 3, 4. Ireland. N. Africa. Japan.

5. CUSCUTA *Epithymum*.

- HAB. Agr.  
 TOPOGR. 1, 2, 3, 5.—*Fl. Dev. Ton. Bed. Cam. North. Lan.*—*Cornwall*, Hants, Warwick, Norfolk. r. r.  
 GEOGR. Europe 3, 4.

## LIV. BORAGINEÆ.

1. LITHOSPERMUM *purpuro-cæruleum*.

- HAB. Agr.  
 TOPOGR. 1, 2, 4.—*Fl. Dev.*—Glamorgan, Somerset, Kent, Hereford, Denbigh, Cumberland? r.  
 GEOGR. Europe 3, 4.

2. LITHOSPERMUM *arvense*.

- HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.* c.

GEOGR. Europe 1, 2, 3, 4, 5. Ireland. N. Africa. Japan. Frequent in Pennsylvania, probably introduced from Europe; *Pursh.*

### 3. LITHOSPERMUM *officinale*.

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Edin. Lan.*—*Cornwall, Somerset, Caernarvon, York, Roxburgh, Forfar.* r. c.

GEOGR. Europe 2, 3, 4, 5. Ireland.

### 4. LITHOSPERMUM *maritimum*.

HAB. Agr.—Upl

TOPOGR. (1), 2, 4, 5, 6.—*Fl. Ang. North. (extinct) Edin. Mur.*—*Cardigan, Caernarvon, Lancaster, Cumberland, Argyle, Forfar, Inverness, Ross, Sutherland, O. Hebrides. Kent; Graves. r. r.*

GEOGR. Europe 1, 2, 3, 5. Iceland. Ireland. N. Asia. Aleutian Isles. B. America from the Arctic Coast. Greenland.

### 5. PULMONARIA *angustifolia*.

HAB. Agr.

TOPOGR. 1, (4).—*Fl. 0.*—*Hants, Denbigh, (presumed to be an error), Flint.* v. r.

GEOGR. Europe 2, 3.

### 6. PULMONARIA *officinalis*.

HAB. Agr.

TOPOGR. 1, (3, 5).—*Fl. Bed. North. Edin. Lan. Mur.*—*Hants, York. Is it British at all?* r.

GEOGR. Europe 2, 3, 5. In Sweden from 60°.

### 7. SYMPHYTUM *tuberosum*.

HAB.

TOPOGR. (1), 3, 5, 6.—*Fl. North. Berw. Edin. Lan. Mur. ?*—*Sussex? Kinross, Forfar. Box Hill; Graves.* r. r.

GEOGR. Europe 3, 4.

### 8. SYMPHYTUM *officinale*.

HAB. Agr.—Upl. ?

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. North. Berw. Edin. Lan.*—*Cornwall, Forfar. O. Hebrides; Macgillivray.* r. c.

GEOGR. Europe 2, 3, 4, 5. Ireland.



9. *ECHIMUM vulgare*.

HAB. Agr.—?  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Berw. Edin. Mur.*?—Caithness. c.  
 GEOGR. Europe 2, 3, 4, 5. Iceland. Ireland. N. Africa.  
 “New York to Virginia, rare. Introduced from Europe;”  
*Pursh.*

10. *LYCOPSIS arvensis*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Caithness.* c.  
 GEOGR. Europe 1, 2, 3. Ireland. U. States, imported?  
 Introduced to Chili.

11. *ASPERUGO procumbens*.

HAB. Agr.  
 TOGR 1, 2, 3, 4, 5, 6.—*Fl. Cam. North. Berw. Edin. Mur.*?—  
 Sussex, Caernarvon. r. r.  
 GEOGR. Europe 1, 2, 3, 4, 5.

12. ? *ANCHUSA officinalis*.

HAB. Agr.  
 TOPOGR. (1, 2, 3).—*Fl. North.*—*Cornwall?* *Norfolk?* v. r.  
 GEOGR. Europe 2, 3. N. Africa. In Sweden terminates at  
 60° N. L. with the oak; *Wahl.*

13. ? *ANCHUSA sempervirens*.

HAB. Agr.—Upl.  
 TOPOGR. (1, 2, 3, 5, 6).—*Fl. Dev. Cam. Berw. Lan. Mur.*?—  
 Cornwall, Dorset, Kent, Sussex, Essex, Warwick, Worcester,  
 Suffolk, Norfolk, York, Westmoreland, Fife, *Forfar* (intro-  
 duced). r. c.  
 GEOGR. Europe 3, 4. Ireland.

14. *MYOSOTIS versicolor*.

*N. B.* Nearly the arrangement of Wahlenberg in *Flora Suecica* is here adopted; yet perhaps that of Mr Borrer is a better one.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. North. Berw. Edin. Lan.*  
 —*Surry, Norfolk, Chester, York, Isle of Man, Perth.* c.  
 GEOGR. Europe 2, 3. Ireland.

15. MYOSOTIS *arvensis*.*collina?**sylvatica*.

HAB.

Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes?*—*Caithness*, (*M. arvensis* with large flowers).

GEOGR. Europe 2, 3, 4, 5. Ireland. New York to Pennsylvania, &c. (*M. arvensis*); *Pursh*.

16. MYOSOTIS *palustris*.*cæspitosa?*

HAB.

Agr.—Moor.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*.—*Cornwall*, *Sutherland*. c.

GEOGR. Europe 2, 3, 4, 5. Ireland. *Madeira*, (*M. repens*); *Eng. Bot. Supp.*

17. MYOSOTIS *alpestris*.

*N. B.* Ought it to be joined with *M. sylvatica?*

HAB.

Subalp.—Sno.?

TOPOGR. 5.—*Fl. 0*.—*Perthshire*.

v. r.

GEOGR. Europe 3. *Kotzebue's Sound*.

18. CYNOGLOSSUM *sylvaticum*.

HAB.

Agr.

TOPOGR. 1, 2, 5.—*Fl. Ton. Ox.*—*Sussex*, *Middlesex*, *Essex*, *Warwick*, *Northampton*, *Norfolk*, *Perth*, *Forfar*.

r. r.

GEOGR. Europe 3. Ireland. *Virginia*.

19. CYNOGLOSSUM *officinale*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Berw. Edin. Mur.?*—*Ross*.

r. c.

GEOGR. Europe 2, 3, 4, 5. Ireland. *N. Africa*. *U. States*.

20. BORAGO *officinalis*.

HAB.

Agr.

TOPOGR. (1, 2, 3, 4, 5, 6).—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Berw. Edin. Mur?*—Not indigenous, but like various



other cultivated annuals, occasionally seen in waste ground and near houses. r. c.

GEOGR. Europe 3, 4, 5. Ireland. N. Africa. Introduced from the Levant into Western Europe.

## LV. SOLANEÆ.

### 1. VERBASCUM *thapsiforme*.

HAB. Agr.  
 TOPOGR. 1.—*Fl.* 0.—Kent. v. r.  
 GEOGR. Europe 3.

### 2. VERBASCUM *virgatum*.

HAB. Agr.  
 TOPOGR. 2, 4.—*Fl. Dev.*—Worcester, Hereford, Salop, Den-  
 bigh. r.  
 GEOGR. Ireland.

### 3. VERBASCUM *Blattaria*.

HAB.  
 TOPOGR. 1, 2, 3, 4.—*Fl. Dev.*—*Cornwall*, Dorset, Sussex, Kent, Bucks, Northampton, Suffolk, Worcester, Hereford, Salop, Chester, Stafford, York, Cumberland. r. r.  
 GEOGR. Europe 3, 4. W. Asia. N. America.

### 4. VERBASCUM *nigrum*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. North. Berw. Edin.*—*Cornwall*, Somerset, Warwick, Northampton, Norfolk, Leicester, Notts. r. r.  
 GEOGR. Europe 2, 3, 5.

### 5. VERBASCUM *Lychnites*.

HAB. By no means peculiar to chalk. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Cam.*—*Cornwall*, Sussex, Suffolk, Norfolk, Somerset, Salop, Denbigh, Chester, Stafford, *Stirling*, Dumbarton, Perth. r. r.  
 GEOGR. Europe 3. N. America.

6. *VERBASCUM pulverulentum*.

HAB. Agr.  
 TOPOGR. 1, (6).—*Fl.* 0.—Suffolk, Norfolk, Notts, Norfolk,  
 Banff. r.  
 GEOGR. Europe 3, 5.

7. *VERBASCUM Thapsus*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall.* r. c.  
 GEOGR. Europe 2, 3, 4. Ireland. W. Asia. N. America.

8. *HYOSCYAMUS niger*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang.*  
*North. Berw. Edin. Mur. ?*—*Cornwall, Ross.* r. c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa. U. States,  
 probably introduced.

9. ? *DATURA Stramonium*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Cam. Ang. North. Mur. !*—Not  
 indigenous. r. r.  
 GEOGR. Europe 3, 4, 5. N. Africa. Japan. N. America.

10. *ATROPA Belladonna*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 5, 6.—*Fl. Ox. Bed. Cam. Ang. North. Berw.*  
*Edin. Mur. ?*—Kent. r. c.  
 GEOGR. Europe 3, 4. Ireland.

11. *SOLANUM nigrum*.

HAB.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang.*  
*North. Edin.*—*Cornwall, Surry, Norfolk, Lancaster, Perth, For-*  
*far.* r. c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa. E. W. Asia.  
 U. States. India. Guinea. New Holland. Society Islands.



12. SOLANUM *Dulcamara*.

- HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall.* c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa. W. Asia.  
 U. States.

## LVI. SCROPHULARINEÆ.

1. ANTIRRHINUM *Orontium*.

- HAB. Agr.  
 TOPOGR. 1, 2, 3, 4.—*Fl. Dev. Ton. Ang. North.*—*Cornwall,*  
*Surry, Norfolk, Stafford, York, Caernarvon.* r. r.  
 GEOGR. Europe 2, 3, 4. Ireland. N. Africa. U. States.

2. ? ANTIRRHINUM *majus*.

- HAB. Agr.  
 TOPOGR. (1, 2, 3, 4, 5, 6).—*Fl. Dev. Ton. Ox. Bed. Ang. North.*  
*Lan. Mur.!*—Not indigenous. r. r.  
 GEOGR. Europe 2, 3, 4. Ireland. N. Africa.

3. ? LINARIA *Cymbalaria*.

- HAB. Agr.  
 TOPOGR. (1, 2, 3, 4, 5).—*Fl. Dev. Ox. Bed. Cam. Ang. North.*  
*Edin. Lan.*—Not indigenous. r. r.  
 GEOGR. Europe 3, 4. Ireland.

4. LINARIA *spuria*.

- HAB. Agr.  
 TOPOGR. 1, 2, 3.—*Fl. Dev. Ton. Ox. Bed. Cam. North.*—*Dor-*  
*set, Sussex, Surry, Middlesex, Essex, Herts, Warwick, Nor-*  
*thampton, Worcester, Suffolk, Norfolk, Notts, York.* r. r.  
 GEOGR. Europe 3, 4. N. Africa. W. Asia.

5. LINARIA *Elatine*.

- HAB. Agr.  
 TOPOGR. 1, 2, 3, 4.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North.*  
 —*Cornwall, Surry, Essex, Northampton, Norfolk, York.* r. r.  
 GEOGR. Europe 2, 3, 4. Ireland. N. Africa. U. States.

6. *LINARIA minor*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. North. Berw. Lan.*—*Cornwall*, Dorset, Hants, Sussex, Surry, Berks, Essex, Herts, Bucks, Gloucester, Warwick, Northampton, Norfolk, Lincoln, Hereford, Denbigh, Derby, York. Rare in Scotland, and only in the vicinity of Glasgow; *Hook. B. F.* Near Coldstream, Berwickshire, recently discovered; *R. Embleton*, 1832.

r. r.

GEOGR. Europe 3, 4. Ireland. N. Africa.

7. *LINARIA repens*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 5.—*Fl. Dev. North. Edin.*—*Cornwall*, Sussex, Kent, Berks, Northampton, Glamorgan, Caermarthen, Ayr.

r. r.

GEOGR. Ireland. France.

8. *LINARIA vulgaris*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall*.

c.

GEOGR. Europe 2, 3, 4, 5. Ireland. U. States.

9. *SCROPHULARIA Scorodonia*.

HAB.

Agr.

TOPOGR. 2.—*Fl. 0.*—West of *Cornwall*.

v. r.

GEOGR. Europe 3, 4. Ireland. N. Africa. N. W. Asia.

10. *SCROPHULARIA aquatica*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Edin. Lan.*—*Cornwall*, Somerset, Surry, Norfolk, York.

r. c.

GEOGR. Europe 3, 4, 5. Ireland.

11. ? *SCROPHULARIA vernalis*.

HAB.

Agr.

TOPOGR. (1, 3, 4, 5).—*Fl. Edin. Lan.*—Surry, Essex, Berks, Suffolk, Norfolk, Merioneth, Caernarvon, York, Dumfries, Perth, Forfar, Ayr, Aberdeen. The only station I have



seen is in the Edinburgh district, and there assuredly it is not indigenous. r. r.

GEOGR. Europe 3.

### 12. SCROPHULARIA *nodosa*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Ross.*

GEOGR. Europe 1, 2, 3, 4, 5. Ireland.

### 13. DIGITALIS *purpurea*.

HAB. Possibly it may reach the Subalpine Zone. Agr.—Moor.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Ang. North. Berw. Edin. Lan. Mur.*—*Cornwall, Sutherland.* c.

GEOGR. Europe 2, 3. Ireland. Wahlenberg appears to doubt this being a native of Sweden. In Switzerland it is very rare according to Gaudin. Found in Jutland.

### 14. LIMOSELLA *aquatica*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4.—*Fl. Ox. Bed. Cam. North.*—Sussex, Middlesex, Warwick, Northampton, Leicester, Flint, Chester, York. r. r.

GEOGR. Europe 1, 2, 3, 5. Iceland. N. Asia.

### 15. SIBTHORPIA *europæa*.

HAB.

Agr.

TOPOGR. 2.—*Fl. Dev.*—*Cornwall, Glamorgan.* r.

GEOGR. Europe 3, 4. Ireland.

### 16. EUPHRASIA *officinalis*.

HAB.

Agr.—Sno. ?

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Caithness.* v. c.

GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. Asia. Greenland. B. R. America.

### 17. BARTSIA *viscosa*.

HAB.

Agr.

TOPOGR. 2, 4, 5.—*Fl. Dev.*—*Cornwall, Chester, Lancaster, Renfrew, Dumbarton, Argyle.* r. r.

GEOGR. Europe 3, 4. Ireland.

18. *BARTSIA Odontites.*

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Sutherland.* c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland.

19. *BARTSIA alpina.*

HAB. ?  
 TOPOGR. 3, 4, 5.—*Fl. North.*—York, Westmoreland, Perth.  
 Essex; *Rev. J. S. Palmer in Lond. Mag. Nat. Hist.* Surely an  
 error. r.  
 GEOGR. Europe 1, 2, 3, 5. Iceland. Faroe. Greenland.  
 Labrador. Columbia River. Unalaska. N. Asia.

20. *RHINANTHUS Crista-Galli.*  
*major.*

HAB. Of *R. major*, Mr Backhouse says (*Vide H. B. F.*), that  
 “where the soil approaches to peat, it almost obliterates the  
 crops.” Agr.—Subalp.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*R. major* in *Fl. North.*  
*Berw.*—*Sutherland.* c.  
 GEOGR. Europe 1, 2, 3, 5. Iceland. Ireland. N. Asia.  
 Greenland. B. America.

21. *MELAMPYRUM arvense.*

HAB. Ag.  
 TOPOGR. 1, 2, (4).—*Fl. 0.*—Norfolk, Warwick, Chester,  
 (*Blackstone in Bot. Guide.*) r.  
 GEOGR. Europe 2, 3, 4. E. Asia.

22. *MELAMPYRUM cristatum.*

HAB. Agr.  
 TOPOGR. 1, 2, 3.—*Fl. Bed. Cam.*—Wilts, Bucks, Worcester,  
 Norfolk, Hunts, York. r.  
 GEOGR. Europe 2, 3, 4. In Sweden terminates before 61°.

23. *MELAMPYRUM pratense.*

HAB. Agr.—Subalp.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Sutherland.* c.  
 GEOGR. Europe 1, 2, 3. Ireland.



24. MELAMPYRUM *sylvaticum*.

HAB. Agr. ?—Upl.

TOPOGR. 2, 3, 4, 5, 6.—*Fl. Dev. North. Berw.*—Monmouth, Hereford, Salop, Merioneth, Chester, Derby, York, *Perth*, Forfar, Kincardine, Ross, O. Hebrides. *M. pratense* has been so frequently mistaken for this, that its assigned stations are several of them very doubtful. r. r.

GEOGR. Europe 1, 2, 3, 5. Ireland. N. Asia.

25. PEDICULARIS *palustris*.

HAB. Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*—*Cornwall, Caithness*. c.

GEOGR. Europe 1, 2, 3, 5. Ireland. Faroe. N. Asia.

26. PEDICULARIS *sylvatica*.

HAB. Agr.—Subalp.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*—*Cornwall, Caithness*. c.

GEOGR. Europe 2, 3. Iceland. Ireland.

27. VERONICA *verna*.

HAB. Agr.

TOPOGR. 1.—*Fl. 0.*—Suffolk, Norfolk. v. r.

GEOGR. Europe 2, 3, 4, 5.

28. VERONICA *triphyllus*.

HAB. Agr.

TOPOGR. 1, (2, 3).—*Fl. 0.*—Suffolk, Norfolk. Kent; *Graves*. Yorkshire; *Tofield*. Sandy fields, not rare; *Purton, Midl. Flora*. Are all these accurate? r.

GEOGR. Europe 2, 3, 4. Ireland,

29. VERONICA *spicata*.

HAB. Agr.

TOPOGR. 1, 2, 4.—*Fl. Cam.*—*Cornwall (With.)*, Somerset, Suffolk, Norfolk, Montgomery, Caernarvon, Denbigh, Flint, Chester, Lancaster, Westmoreland, Cumberland. r. r.

GEOGR. Europe 2, 3, 4, 5. N. Asia.

30. VERONICA *polita*.

HAB. Agr.

TOPOGR. 1, 3, 5.—*Fl. North. Berw.*—Sussex? York. r.

GEOGR. Europe 5. Levant; *Sp. Plant.* U. States?

31. *VERONICA montana.*

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.* c.  
 GEOGR. Europe 2, 3. Ireland. B. America.

32. *VERONICA Anagallis.*

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.* c.  
 GEOGR. Europe 2, 3, 4, 5. Iceland. Ireland. N. Africa.  
 E. W. Asia. B. America. U. States.

33. *VERONICA scutellata.*

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Ross.*  
 GEOGR. Europe 2, 3, 5. Ireland. N. Asia.

34. *VERONICA hederifolia.*

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Ross.* v. c.  
 GEOGR. Europe 2, 3, 4. Ireland. N. Africa.

35. *VERONICA arvensis.*

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Sutherland.* v. c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa. Japan.  
 B. America.

36. *VERONICA agrestis.*

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Caithness.* v. c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa.

37. *VERONICA Chamædrys.*

HAB. Agr.—Moor.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Sutherland.* c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Ireland. Japan.



38. VERONICA *officinalis*.*hirsuta*.

N. B. *V. hirsuta* "has all the appearance of a starved plant of *V. officinalis*, and the flowers are very generally abortive;" *Hook. B. F.* In *V. officinalis* the young capsule is entire. May not this form, continuing in the mature state of *V. hirsuta*, be analogous to what physiologists call "monsters by arrest of development."?

HAB. Agr.—Subalp.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*.—*Cornwall, Sutherland.* *V. hirsuta* is found in Ayrshire: perhaps also in Glen Clova, Forfarshire; but the immature state of the specimens there seen, leaves me in doubt.

GEOGR. Europe 1, 2, 3, 4. Iceland. Ireland. N. Asia. Canada to Carolina.

39. VERONICA *Beccabunga*.

HAB. Agr.—Subalp.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*.—*Cornwall, Sutherland. c.*

GEOGR. Europe 2, 3, 4, 5. Iceland. Ireland. N. Africa. U. States.

40. VERONICA *serpyllifolia*.

HAB. On the mountains, the stems become prostrate, with fewer and finer flowers, in which state it is *V. humifusa*; but to what height the common form extends, I have not ascertained.

Agr.—Sno.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*.—*Cornwall, Sutherland.* v. c.

GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. Africa. N. Asia. N. and S. America.

41. VERONICA *fruticulosa*.

HAB.

?

TOPOGR. 5.—*Fl. 0*.—Ben Cruachan, Argyleshire; *Walker.* Ben Lawers, Perthshire; *Brown.* v. r.

GEOGR. Europe 2, 3. Iceland.

42. *VERONICA saxatilis*.

HAB. Subalp.  
 TOPOGR. 5.—*Fl.* 0.—*Perth, Forfar.* v. r.  
 GEOGR. Europe 1, 2, 3. Iceland. Greenland.

43. *VERONICA alpina*.

HAB. This, as well as the preceding, are occasionally carried down below *Carex rigida*, but they are never found except among mountains attaining the Subalpine Zone. Subalp.—Sno.

TOPOGR. 5, 6.—*Fl. Mur.*—*Stirling, Perth, Forfar, Aberdeen, Inverness.* r.

GEOGR. Europe 1, 2, 3, 5. Iceland. Faroe. N. Asia. Greenland. R. B. America.

## LVII. LABIATÆ.

1. *LYCOPUS europæus*.

HAB. Agr.—Upl.?  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North.*—*Cornwall, Ross.* r. c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa. W. Asia. B. America. U. States.

2. *MENTHA citrata*.

HAB. Agr.  
 TOPOGR. 1, 3, 4.—*Fl. Cam. North.*—*Norfolk, Bedford, N. Wales, Chester, York.* r.  
 GEOGR. Europe 2, 3.

3. *MENTHA Pulegium*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, (5).—*Fl. Ox. Cam. Ang. North. Edin.*—*Dorset, Sussex, Surry, Berks, Essex, Bucks, Warwick, Northampton, Suffolk, Norfolk, Leicester, Notts, Salop, Chester, Derby, York, Cumberland.* r. r.  
 GEOGR. Europe 3, 4. Ireland. N. Africa.



4. MENTHA *gentilis*.  
*gracilis* ?

HAB. Scent improved and rendered more powerful by a dry soil; *H. B. F.* Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Cam. Ang. North. Berw.*—Both in *Fl. Dev.*; *M. gracilis* in *Cam.* and *Ang.*; *M. gentilis* in the other three. Dorset, Somerset, Wilts, Hants, Middlesex, Essex, Norfolk, Warwick, Leicester, Salop, Denbigh, Flint, York, Lancaster, Dumfries, Argyle. r. r.

GEOGR. Europe 2, 3, 4. N. Holland.

5. MENTHA *viridis*.

HAB. Agr.

TOPOGR. 1, 2, 3, (5).—*Fl. Dev. Ton. North. Berw.*—Middlesex, Essex, Suffolk, Norfolk, Worcester, York, Edinburgh. r. r.

GEOGR. Europe 3.

6. MENTHA *rotundifolia*.

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Cam. Ang. North.*—Cornwall, Hants, Sussex, Bucks, Northampton, Norfolk, Monmouth, Hereford, Salop, Merioneth, York, Cumberland, Edinburgh. r. r.

GEOGR. Europe 3, 4. Ireland. N. Africa.

7. MENTHA *sylvestris*.

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Cam.*—Hants, Sussex, Middlesex, Essex, Suffolk, Norfolk, Northampton, Leicester, Lincoln, Notts, Flint, Derby, York, Forfar. r. c.

GEOGR. Europe 2, 3, 4. Ireland.

8. MENTHA *Piperita*.

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Cam. North. Berw. Edin.*—Cornwall, Aberdeenshire. r. c.

GEOGR. Ireland. France. Japan ?

9. MENTHA *rubra*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Ang. North. Berw. Lan. Mur. ?*

r. c.

GEOGR. Europe 2, 3. Ireland.

10. MENTHA *hirsuta*.*acutifolia*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—Ross.

c.

GEOGR. Europe 2, 3, 4. Ireland.

11. MENTHA *arvensis*.*agrestis*.

HAB.

Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Ross.*

c.

GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa.

12. THYMUS *Serpyllum*.

HAB.

Agr.—Sno.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Caithness.*

v. c.

GEOGR. Europe 1, 2, 3, 4. Iceland. Ireland. N. Africa.

N. W. Asia. N. America. Greenland.

13. ORIGANUM *vulgare*.

HAB.

Agr.—?

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.* *Cornwall.* Rare in  
Moray; *Gordon.*

c.

GEOGR. Europe 2, 3, 4. Ireland. N. Asia. B. America.  
U. States.14. TEUCRIUM *Scordium*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4.—*Fl. Ox. Bed. Cam.*—Kent, Surry, Nor-  
thampton, Norfolk, Lincoln, Chester, York, Lancaster.

r. r.

GEOGR. Europe 2, 3, 4. Ireland. W. Asia.

15. TEUCRIUM *Chamædrys*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Ox. Bed. North.*—Hants, Sussex,  
Kent, Surry, Norfolk, Salop, Denbigh, York, Forfar, Perth.

r. r.

GEOGR. Europe 3, 4. Ireland.



16. TEUCRIUM *Scorodonia*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*.—*Cornwall, Sutherland*. v. c.  
 GEOGR. Europe 3, 4. Ireland. N. Africa. W. Asia.

17. AJUGA *Chamæpitys*.

HAB. Agr.  
 TOPOGR. 1, 2.—*Fl. Dev. Cam.*—Hants, Sussex, Surry, Essex,  
 Herts, Northampton, Pembroke, Bedford, Salop. r. r.  
 GEOGR. Europe 3, 4. N. Africa. N. America.

18. AJUGA *reptans*.  
*alpina*?

HAB. Agr.—Subalp.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*.—*Cornwall*. c.  
 GEOGR. Europe 3, 4. Ireland. *A. alpina* of *Wahl.*, extending northwards to Lapland, does not agree with the Scottish one, judging from the characters given in *Brit. Fl.* and *Fl. Suec.*

19. AJUGA *pyramidalis*.

HAB. ?  
 TOPOGR. 5, 6.—*Fl. Mur.*—Argyle, Inverness, Caithness,  
 Ross, O. Hebrides. r.  
 GEOGR. Europe 2, 3, 4. S. of Greenland.

20. BALLOTA *nigra*.

HAB. Agr. ?  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Berw. Edin.*—*Cornwall*, Somerset, Sussex, Middlesex, Essex, Norfolk, Caernarvon, Stafford, York. r. c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa. W. Asia.

21. LEONURUS *Cardiaca*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Bed. Cam. Ang. North. Edin. Lan.*—Dorset, Somerset, Sussex, Suffolk, Norfolk, Warwick, Worcester, Leicester, Notts, Monmouth, Hereford, Caernarvon, Flint, Derby, York, Cumberland. r. r.  
 GEOGR. Europe 2, 3, 4, 5. Ireland. N. E. Asia. U. States, introduced ?

22. *GALEOBDELON luteum*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, (5).—*Fl. Dev. Ton. Ox. Bed. Cam.*—Surry, Suffolk, Norfolk, Leicester, *Denbigh, Chester, Haddington?* r. r.

GEOGR. Europe 2, 3, 4, 5. Ireland. "The temperate part of Europe is the native region of this plant. Its most northern limits, as far as yet known, are Wasa in Finland, Jemptland in Sweden, and Drontheim in Norway. Its most southern limit is Hamus (41°). In Lithuania it grows as high as the Wolga Heights;" *Dec.*

23. *GALEOPSIS villosa*.

HAB.

Agr.

TOPOGR. 3, 4.—*Fl. 0.*—Notts, Caernarvon, York, Lancaster. r.

GEOGR. Europe 3.

24. *GALEOPSIS Ladanum*.

HAB. Commonly in calcareous soils.

Agr.

TOPOGR. 1, 2, 3, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. North. Edin.*—York. r. r.

GEOGR. Europe 2, 3, 5. Iceland.

25. *GALEOPSIS versicolor*.

HAB.

Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Ton. Cam. North. Berw. Edin. Lan. Mur.?*—Sussex. r. c.

GEOGR. Europe 1, 2, 3. Ireland.

16. *GALEOPSIS Tetrahit*.

HAB.

Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Caithness.* c.

GEOGR. Europe 1, 2, 3, 5. Iceland. Ireland. N. Asia. N. America.

27. ? *LAMIUM maculatum*.

HAB.

Agr.

TOPOGR. (1, 2, 5).—*Fl. Mur.!*—Somerset, Surry, Ross, Edinburgh.

GEOGR. Europe 2, 3, 4, 5.



28. *LAMIUM album.*

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. North. Berw. Edin. Lan. Mur. ?—Cornwall.* c.

GEOGR. Europe 2, 3. Ireland. N. Africa.

29. *LAMIUM amplexicaule.*

HAB.

Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.—Sutherland.* c.

GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa. Nepaul. Japan.

30. *LAMIUM purpureum.**incisum.*

HAB.

Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.—Cornwall, Sutherland.* v. c.

GEOGR. Europe 2, 3, 4, 5. Iceland. Ireland. Japan.

31. *BETONICA officinalis.*

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Berw. Edin. Lan.—Cornwall, Somerset, Hants, Surry, Worcester, Norfolk, Caernarvon, Chester, York, Kirkcudbright, Stirling, Perth.* r. c.

GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa. W. Asia.

32. *STACHYS annua.*

HAB.

Agr.

TOPOGR. 1.—*Fl. 0.—Between Gadshill and Rochester, Kent; J. Woods.* v. r.

GEOGR. Europe 3.

33. *STACHYS germanica.*

HAB.

Agr.

TOPOGR. 1, 3.—*Fl. Ox.—Lincoln, Derby, Bedford, Berks.* r.

GEOGR. Europe 3, 4. N. Asia.

34. *STACHYS arvensis.*

HAB.

Agr.—Upl?

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Cam. Ang. North. Edin. Lan. Mur.—Cornwall, Sutherland.* c.

GEOGR. Europe 2, 3, 4. Ireland. N. Africa.

35. *STACHYS sylvatica.*

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Sutherland.* c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Ireland.

36. *STACHYS palustris.*

HAB. Agr.—Ulp.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall.* c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland.

37. *STACHYS ambigua.*

HAB. Agr.—Upl. ?  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. North. Berw. Edin.*—*Cornwall,*  
*Sussex, Ross.* r. r.  
 GEOGR. Europe 3. Ireland. N. America ?

38. *NEPETA Cataria.*

HAB Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang.*  
*North. Berw. Lan.*—*Cornwall, Sutherland.* r. c.  
 GEOGR. Europe 2, 3, 5. Ireland. N. America.

39. *GLECHOMA hederacea.*

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall.* v. c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland. N. E. Asia. N. Ame-  
 rica.

40. *MARRUBIUM vulgare.*

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang.*  
*North. Berw. Edin. Mur. ?* c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa. N. America.

41. *ACINOS vulgaris.*

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. North.*  
*Mur. ?* r. c.  
 GEOGR. Europe 2, 3, 4, 5.



42. CALAMINTHA *officinalis*.*Nepeta*.

N. B. "Can hardly be considered distinct;" Hook. B. F.

HAB. Agr.

TOPOGR. 1, 2, 3, 4.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North.*—Sussex, Surry, Berks, Essex, Bucks, Worcester, Northampton, Suffolk, Norfolk, Leicester, Caernarvon, Denbigh, York. r. c.

GEOGR. Europe 3, 4. Ireland. U. States.

43. CLINOPODIUM *vulgare*.

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—Cornwall. c.

GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa. Japan. B. America. U. States.

44. MELITTIS *Melissophyllum*.

HAB. Agr.

TOPOGR. 1, 2.—*Fl. Dev.*—Hants, Sussex, Pembroke. r.

GEOGR. Europe 3, 4.

45. PRUNELLA *vulgaris*.

HAB. Indicative of a poor sterile soil. Agr.—Moor.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Caithness*. c.

GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. Africa. N. Asia. Japan. Nepaul. New Holland. U. States. Unalashka.

46. SCUTELLARIA *minor*.

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ang. North. Lan.*—*Cornwall*, Dorset, Sussex, Surry, Middlesex, Essex, Warwick, Worcester, Leicester, Caernarvon, Chester, Stafford, Derby, York, Wigton, Ayr. r. c.

GEOGR. Europe 3. Ireland.

47. SCUTELLARIA *galericulata*.

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall*. c.

GEOGR. Europe 1, 2, 3, 4, 5. Ireland. N. W. Asia. B. America. U. States.

48. *SALVIA pratensis.*

HAB.

Agr.

TOPOGR. 1, 2, 3.—*Fl. Ox. Bed. Ang.*—Kent, Sussex, Surry, Gloucester, Northampton, Norfolk, Glamorgan, Derby, Northampton.

r.

GEOGR. Europe 2, 3, 5.

49. *SALVIA Verbenaca.*

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Berw. Edin.*—Surry, Warwick, Northampton, Norfolk, Worcester, York, Forfar.

r. c.

GEOGR. Europe 3, 4. Ireland. N. Africa. W. Asia.

## LVIII. VERBENACEÆ.

1. *VERBENA officinalis.*

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, (5).—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Edin.*—*Cornwall, Somerset, Surry, Norfolk, Worcester, Caernarvon, Chester, York.* Common in the south of England. Rare in the north.

r. r.

GEOGR. Europe 3, 4. Ireland. N. Africa. E. W. Asia. Mexico.

## LIX. OROBANCHEÆ.

1. *OROBANCHE caryophyllacea.*

HAB. On the roots of *Galium Mollugo, Rubus fruticosus, &c.*; *Hook. B. F.*

Agr.

TOPOGR. 1.—*Fl. Ton.*—Surry; *Graves.*

v. r.

GEOGR. Europe 3, 4. Siberia.



2. OROBANCHE *ramosa*.

HAB. Agr.  
 TOPOGR. 1, (2).—*Fl. Dev. Cam.*—Somerset, Hants, Suffolk,  
 Norfolk. r.  
 GEOGR. Europe 3, 4, 5. N. Africa.

3. OROBANCHE *cærulea*.

HAB. Agr.  
 TOPOGR. 1.—*Fl. 0.*—Hants, Kent, Surry, Norfolk. r.  
 GEOGR. Europe 3, 4. N. Asia.

4. OROBANCHE *minor*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4.—*Fl. Dev.*—Dorset, Kent, Surry, Sus-  
 sex, Berks, Suffolk, Norfolk, Pembroke, Brecon, Caernarvon,  
 York. r. r.  
 GEOGR. Europe 3, 4. Ireland.

5. OROBANCHE *elatiior*.

HAB. Agr.  
 TOPOGR. 1, 2, 3.—*Fl. Cam. North.*—Hants, Kent, Surry,  
 Essex, Suffolk, Norfolk, Warwick, Salop, Lincoln. r. r.  
 GEOGR. Europe 3.

6. OROBANCHE *majior*.

HAB. On the roots of broom, furze, and other leguminose  
 plants; *H. B. F.* Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang.*  
*North. Edin.*—Inverness. r. c.  
 GEOGR. Europe 3, 4, 5. Ireland. N. Africa. Northern  
 borders of Mongolia.

7. OROBANCHE *rubra*.

HAB. Agr.—Upl.  
 TOPOGR. 5, 6.—*Fl. Edin.*—*Argyle*, O. Hebrides. r.  
 GEOGR. Ireland.

8. LATHRÆA *Squamaria*.

HAB. Parasitic on the roots of hazels, elms, and other trees ;  
*H. B. F.* Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Ox. Bed. North. Berw. Edin.*—  
 Dorset, Somerset, Wilts, Hants, Surry, Kent, Middlesex, War-  
 wick, Salop, Rutland, *Denbigh*, Chester, Derby, York, Lan-  
 caster, Westmoreland, Cumberland, Argyle. r. c.

GEOGR. Europe 2, 3, 5. Ireland.

## LX. LENTIBULARIÆ.

1. UTRICULARIA *minor*.

HAB. Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Bed. Cam. Ang. North. Edin.*  
 —Somerset, Inverness. r. c.

GEOGR. Europe 2, 3. Ireland. Pine Barrens of New Jersey.

2. UTRICULARIA *media*.

HAB. Agr.—Upl.

TOPOGR. 2, 3, 4, 5, 6.—*Fl. Dev. North. Mur.*—Cumberland,  
 Forfar, Sutherland, O. Hebrides. r. c.

GEOGR. Europe 2, 3. Ireland. B. America.

3. UTRICULARIA *vulgaris*.

HAB. Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang.*  
*North. Berw. Edin. Mur.* c.

GEOGR. Europe 2, 3, 4. Ireland. U. States.

4. PINGUICULA *lusitanica*.

HAB. Growing with *Erica vagans* in Cornwall, with *Arbutus*  
*alpina* in Sutherland ; the former belonging to the Mediterra-  
 nean, the latter to the Arctic Flora. Agr.—Moor.

TOPOGR. 1, 2, 4, 5, 6.—*Cornwall*, Dorset, Somerset, Wilts,  
 Hants, Norfolk (*Miss Bell*), Isle of Man, Wigton, Ayr, Ar-  
 gyle, Inverness, Ross, *Sutherland*, O. Hebrides. r. c.

GEOGR. France. Portugal. Ireland.



5. *Pinguicula vulgaris*.

HAB. Agr.—Alp.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Ox. Bed. Cam. Ang. North. Berw. Edin. Lan. Mur.—Sutherland.* c.

GEOGR. Europe 1, 2, 3, 5. Iceland. Ireland. N. Asia. N. America.

6. *Pinguicula alpina*.

HAB. Upl. ?

TOPOGR. 6.—*Fl. 0.*—Between the Beaully and Murray Friths ; *G. Gordon*. “ In a sheet of specimens of *P. lusitanica* in Sir J. E. Smith’s Herbarium, is one marked by Sir J. E. Smith, ‘ Isle of Skye, 1794, Mr J. Mackay,’ and which is certainly *P. alpina*. Mr David Don told me, that he well remembers his father finding a *Pinguicula* in Aberdeenshire or Angus, which he considered to be *P. alpina*, but it does not appear that he preserved specimens ;” *W. Christy*.

GEOGR. Europe 1, 2, 3. Iceland. N. Asia. Greenland.

## LXI. PRIMULACEÆ.

1. *Cyclamen hederæfolium*.

HAB. Agr.

TOPOGR. (1, 2). — *Fl. 0.* — Kent, Suffolk, Pembroke. Mr Christy believes it to be indigenous.

GEOGR. Europe 3, 4.

2. *Primula vulgaris*.*elatior.**veris.*

*N. B.* Professor Henslow seems to have got proof of the specific identity of these three, by seeing them all on one root. The two first I have repeatedly seen thus united in a wild state, and have traced the gradual transition of *P. veris* into *P. elatior*. *P. scotica* and the cultivated auriculas vary with umbels or single-flowered stalks.

HAB. *P. veris* keeps low and loves the sun. Agr.—Subalp.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*.—*Cornwall, Caithness*. c.  
 GEOGR. Europe 2, 3, 4, 5. N. Africa.

### 3. PRIMULA *farinosa*.

HAB. Agr.—Upl.  
 TOPOGR. 3, 4, 5.—*Fl. North. Edin.*—Flint, York, Westmoreland. “I am not aware that *P. farinosa* is found much, if at all, further north in Scotland than Edinburgh. The stations of this in *Fl. Scot.* all belong to *P. scotica*; *Hook. B. F.* r.  
 GEOGR. Europe 2, 3, 5. Iceland. Greenland. Labrador. Siberia.

### 4. PRIMULA *scotica*.

HAB. Scarcely appertains to the Agricultural Zone. Upl.  
 TOPOGR. 6.—*Fl. 0.*—The north coast of *Sutherland*, and the north and east coasts of *Caithness*, with the Orkney Isles, are the only places from which it has yet been recorded. v. r.  
 GEOGR. I am unaware of any extra-Britannic locality; but perhaps some of the northern stations assigned to *P. farinosa* may belong to this.

### 5. TRIENTALIS *europæa*.

HAB. I am ignorant whether it descends into the Agricultural Zone, but have seen it flowering, though small, at an elevation exceeding 2500 feet in Forfarshire. Mr Winch gives 500 to 1500 feet as its altitudinal range in Durham. Upl.—Subalp.  
 TOPOGR. 3, 5, 6.—*Fl. North. Mur.*—York, Peebles, Kinross, Perth, Forfar, Aberdeen, Inverness, Ross. r. r.  
 GEOGR. Europe 1, 2, 3, 5. N. Asia from 70° N. L. If distinct from *T. Americana*, I am unaware whether it is found in the New Continent. Meyer says of the Labrador plant, “*ab Europæa certe non diversa est.*”

### 6. HOTTONIA *palustris*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4.—*Fl. Ox. Bed. Cam. Ang. North.*—Kent, Surry, Northampton, Norfolk, Warwick, Stafford, Lancaster. Not met with north of the Tyne; *Winch.* r. r.  
 GEOGR. Europe 2, 3, 5. Ireland. N. America.



7. *LYSIMACHIA Nummularia.*

HAB. Agr.

TOPOGR. 1, 2, 3, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. North. Lan.*  
—Surry, Norfolk, Leicester, York, Dumfries, Roxburgh. r. r.

GEOGR. Europe 2, 3, 5. Ireland. W. Asia.

8. *LYSIMACHIA punctata.*

HAB. Agr. ?

TOPOGR. 3.—*Fl. North.*—Near Darlington, from whence I  
have specimens sent by Mr James Ward. v. r.

GEOGR. Europe 3. N. Asia.

9. *LYSIMACHIA thyrsiflora.*

HAB. Agr. —?

TOPOGR. 1, 3, 4, 5.—*Fl. Ang. Edin. Lan.*—Herts, Chester,  
York, Perth, Forfar, Dunbarton. r. r.

GEOGR. Europe 1, 2, 3, 5. N. Asia. B. America.

10. *LYSIMACHIA vulgaris.*

HAB. Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang.*  
*North. Berw. Lan.*—Surry, Warwick, Norfolk, York, Dumfries,  
Dunbarton, Perth. r. c.

GEOGR. Europe 1, 2, 3, 4, 5. Ireland. N. Asia.

11. *LYSIMACHIA nemorum.*

HAB. I have seen it at 2500 feet of elevation in Caernarvon-  
shire. Agr.—Moor.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Sutherland.* c.

GEOGR. Europe 3, 4. Ireland. Doubtful whether found in  
Sweden.

12. *ANAGALLIS tenella.*

HAB. Agr. —?

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall.* r. c.

GEOGR. Europe 3, 4. Ireland.

13. *ANAGALLIS arvensis.*

HAB. Rare in the Upland Zone. Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Cornwall, O. Hebrides.* c.

GEOGR. Europe 2, 3, 4. Ireland. N. Africa. W. E. Asia. U. States, introduced? The blue variety was found at Conception during Captain Beechey's voyage.

14. *CENTUNCULUS minimus*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Bed. Cam. Ang. Mur.*—Dorset, Sussex, Kent, Surry, Middlesex, Essex, Suffolk, Norfolk, Denbigh, York, Lancaster, Wigton, Berwick, Forfar. r. c.

GEOGR. Europe 2, 3. Ireland.

15. *SAMOLUS Valerandi*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Berw. Edin. Mur.*—*Cornwall*.

GEOGR. Europe 2, 3, 4. Ireland. N. Africa. Asia. New Holland. N. and S. America.

## LXII. PLUMBAGINEÆ.

1. *STATICE reticulata*.

HAB.

Agr.

TOPOGR. 1, (2, 4).—*Fl. Cam.*—Somerset? Norfolk, Lincoln, Cumberland? r.

GEOGR. Europe 3, 4. N. Asia.

2. *STATICE spathulata*.

HAB.

Agr.

TOPOGR. 1, 2, 4, 5.—*Fl. 0.*—Kent, Sussex, Somerset, Caernarvon, Anglesea, Cumberland, Wigton. r. r.

GEOGR. Europe? Ireland.

3. *STATICE Limonium*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Cam. Ang. North. Berw.*—Kent, Essex, Norfolk, *Chester*, Kirkcudbright. r. c.

GEOGR. Europe 2, 3, 4. Ireland. N. Africa.



4. STATICE *Armeria*.

HAB. Muddy shores, as well as the driest basaltic rocks; appearing again on the summits of hills reaching the Moorland Zone, but scarcely found between. I have seen it on exposed summits exceeding 3800 feet, and it will grow very near perennial snow. Agr.—Sno.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Cam. Ang. North. Berw. Edin. Mur.*—*Cornwall, Sutherland.* c.

GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. Asia. Greenland. B. R. America. U. States. “In Iceland, more abundant perhaps than any other flower;” *Sir Geo. Mackenzie’s Travels.* In pastures near Paris; *Hooker.*

## LXIII. PLANTAGINEÆ.

1. PLANTAGO *media*.

HAB. Often in calcareous soils. Agr.

TOPOGR. 1, 2, 3, 5, (6.)—*Fl. Ton. Ox. Bed. Cam. North. Berw. Edin.*—*Somerset, Surry, Norfolk, York, Aberdeen?* r. c.

GEOGR. Europe 2, 3, 4, 5. Ireland. Conception.

2. PLANTAGO *Coronopus*.

HAB. Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Berw. Edin. Mur.*—*Cornwall, Sutherland.* c.

GEOGR. Europe 2, 3, 4. Iceland. Ireland. N. Africa. W. Asia.

3. PLANTAGO *major*.

HAB. Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Caithness.* v. c.

GEOGR. Europe 1, 2, 3, 4. Iceland. Ireland. N. Africa. N. E. W. Asia. B. W. America. U. States.

4. PLANTAGO *lanceolata*.

HAB. Agr.—Moor.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Caithness.* v. c.

GEOGR. Europe 2, 3, 4, 5. Iceland. Ireland. N. Africa. W. Asia. Nepaul. B. America. U. States.

5. *PLANTAGO maritima.*

HAB.

Agr.—Moor.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Cam. Ang. North. Berw. Edin. Lan. Mur.*—*Cornwall, Caithness.* c.

GEOGR. Europe 1, 2, 3, 4. Iceland. Faroe. N. Africa. N. W. Asia. B. America. U. States.

6. *LITTORELLA lacustris.*

HAB.

Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Cam. Ang. North. Berw. Edin. Lan. Mur.*—*Cornwall, O. Hebrides.* Most frequent in the north of England and Highlands. r. c.

GEOGR. Europe 1, 2, 3. Ireland.

7. *GLAUX maritima.*

HAB.

Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Cam. Ang. North. Berw. Edin. Mur.*—*Cornwall, Sutherland.* c.

GEOGR. Europe 1, 2, 3. Iceland. Ireland. N. Asia.

## LXVIII. AMARANTHACEÆ.

1. *AMARANTHUS Blitum.*

HAB.

Agr.

TOPOGR. 1, 3.—*Fl. Ton. Cam. North.*—Dorset, Surry, Middlesex, Hunts. r.

GEOGR. Europe 3, 4, 5. N. Africa. E. W. Asia. U. States.

## LXIX. CHENOPODEÆ.

1. *SALSOLA Kali.*

HAB.

Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ang. North. Berw. Edin. Mur.*—*Cornwall, Essex, O. Hebrides.* c.

GEOGR. Europe 2, 3, 4. Ireland. N. Africa. W. Asia.



2. CHENOPODIUM *fruticosum*.

HAB. Agr.  
 TOPOGR. 1, 2, (3).—*Fl. Dev. North.*—Norfolk, Suffolk, Dorset,  
 Cornwall. r.  
 GEOGR. Europe 3, 4. N. Africa. W. Asia.

3. CHENOPODIUM *botryoides*.

HAB. Agr.  
 TOPOGR. 1, (3).—*Fl. North.*—Suffolk, Norfolk. r.  
 GEOGR.

4. CHENOPODIUM *glaucum*.

HAB. Agr.  
 TOPOGR. 1, 3.—*Fl. North.*—Dorset, Middlesex, Suffolk, Nor-  
 folk. r. r.  
 GEOGR. Europe 2, 3, 4, 5.

5. CHENOPODIUM *ficifolium*.

HAB. Agr.  
 TOPOGR. 1, 3, (4).—*Fl. Ton. Cam. North.*—Surry, Norfolk,  
 Middlesex, Chester? r. r.  
 GEOGR. Europe 3, 4. N. Africa.

6. CHENOPODIUM *hybridum*.

HAB. Agr.  
 TOPOGR. 1, 3, 5.—*Fl. Ox. Bed. Cam. North. Edin.*—Dorset,  
 Surry, Essex, Suffolk, Norfolk, Middlesex. r. r.  
 GEOGR. Europe 2, 3, 5. New York. Sandwich Islands.

7. CHENOPODIUM *urbicum*.

HAB. Agr.  
 TOPOGR. 1, 3, 5.—*Fl. Ton. Ox. Bed. Cam. North. Edin.*—  
 Surry. r. r.  
 GEOGR. Europe 2, 3, 4, 5.

8. CHENOPODIUM *olidum*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 5.—*Fl. Dev. Ton. Ox. Cam. North. Edin.*—  
 Sussex, Surry, Middlesex, Essex, Bucks, Suffolk, Norfolk, Notts,  
 Derby. r. c.  
 GEOGR. Europe 2, 3, 4. Ireland. N. Africa.

9. CHENOPODIUM *rubrum*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang.*  
*North. Berw. Edin. Lan.*—Surry, Norfolk. r. c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland.

10. CHENOPODIUM *polyspermum*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 5.—*Fl. Dev. Ton. Ox. Cam. Ang.*—*Cornwall,*  
*Surry, Forfar.* r. r.  
 GEOGR. Europe 2, 3, 4.

11. CHENOPODIUM *murale*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. North.*  
*Berw.*—Surry, Norfolk, Forfar. r. c.  
 GEOGR. Europe 2, 3, 4. Iceland. N. Africa. U. States.  
 S. America.

12. CHENOPODIUM *Bonus Henricus*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall.* c.  
 GEOGR. Europe 2, 3, 4. Ireland. N. Asia. Virginia?

13. CHENOPODIUM *maritimum*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ang. North. Berw. Edin.*  
*Mur.*—Ross, O. Hebrides. c.  
 GEOGR. Europe 2, 3, 4. Ireland.

14. CHENOPODIUM *album*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Sutherland.* v. c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Ireland. N. Asia. U. States.

15. ATRIPLEX *erecta*.

HAB. Agr.  
 TOPOGR. 1.—*Fl. 0.*—Surry. v. r.  
 GEOGR. Europe 3. Ireland.



16. *ATRIPLEX pedunculata.*

HAB. Agr.  
 TOPOGR. 1, (3).—*Fl. Cam. North.*—Suffolk, Norfolk. r.  
 GEOGR. Europe 2, 3. Ireland.

17. *ATRIPLEX littoralis.*

HAB. Agr.  
 TOPOGR. 1, 3, 4, 5.—*Fl. Cam. Ang. North. Berw. Edin.*—  
 Norfolk. r. c.  
 GEOGR. Europe 2, 3. Ireland.

18. *ATRIPLEX portulacoides.*

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Cam. Ang. North. Edin.*—  
 Norfolk, Chester, Stirling. r. c.  
 GEOGR. Europe 3, 4. Ireland. N. Africa. W. Asia.

19. *ATRIPLEX laciniata.*

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ang. North. Edin.*—Essex,  
 O. Hebrides. r. c.  
 GEOGR. Europe 2, 3, 4. Iceland. Ireland. U. States.

20. *ATRIPLEX patula.**angustifolia.*

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall.* v. c.  
 GEOGR. Europe 1, 2, 3, 5. Iceland. Ireland. N. Africa?  
 N. Asia? "Distributed from 44° to 64° throughout the whole  
 of Europe; Tauris, Bologna and Montpellier seem to be its  
 southern limit; Umea and Angermanland its northern. The  
 Siberian plants which pass under this name are still doubtful."  
*Dec.* Kotzebue's Sound.

21. *BETA maritima.*

HAB. Agr.—?  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Cam. North. Edin.*—*Corn-*  
*wall, Kent, Caernarvon.* O. Hebrides, (*Macgillivray.*), Rare in  
 Scotland. r. c.  
 GEOGR. Europe 3, 4. Ireland. N. Africa. W. Asia. Japan?

22. SALICORNIA *herbacea*.

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Cam. Ang. North. Berw. Mur.—Cornwall.* c.

GEOGR. Europe 2, 3, 4. Ireland. N. Africa. N. W. Asia. U. States.

23. SALICORNIA *radicans*.

HAB. Agr.

TOPOGR. 1, 2, 3.—*Fl. 0.*—Dorset, Sussex, Kent, Norfolk, Glamorgan, Forfar. v. r.

GEOGR. Europe 3, 4. Ireland.

24. DIOTIS *maritima*.

HAB. Agr.

TOPOGR. 1, 2, 4.—*Fl. Dev. Ang.*—Cornwall, Dorset, Essex, Suffolk. r.

GEOGR. Europe 3, 4. N. Africa.

## LXVI. POLYGONEÆ.

1. POLYGONUM *minus*.

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Ton. Ox. Bed. Cam. Ang. North.*—Sussex, Surry, Middlesex, Essex, Norfolk, Worcester, Leicesters, York, Chester, Lancaster, Forfar. r. c.

GEOGR. Europe 2, 3. Ireland.

2. ? POLYGONUM *Fagopyrum*.

HAB. Agr. ?

TOPOGR. (1, 2, 3, 4, 5, 6.)—*Fl. Dev. Ton. Ox. Bed. Ang. North. Mur.!*—Introduced for cultivation. r. r.GEOGR. Europe 2, 3, 4, 5. Said to have been introduced into Europe and N. America from Asia; but the native country I am not aware of. It is mentioned in the *Flora Japonica*.3. POLYGONUM *Bistorta*.

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ox. Bed. Cam. Ang. North. Edin. Lan. Mur.?* c.

GEOGR. Europe 2, 3, 4, 5. Iceland. Ireland. N. E. Asia.



4. *POLYGONUM lapathifolium.*

HAB. Agr.—?  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall.* c.  
 GEOGR. Europe 2, 3, 4. Ireland.

5. *POLYGONUM Persicaria.*

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Caithness.* c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. Africa.  
 W. Asia. U. States. Society Islands.

6. *POLYGONUM Hydropiper.*

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. omnes.*—*Cornwall.* c.  
 GEOGR. Europe 2, 3, 4, 5. Iceland. Ireland.

7. *POLYGONUM Convolvulus.*

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Sutherland.* c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Ireland. N. E. Asia. U. States.

8. *POLYGONUM amphibium.*

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Caithness.* c.  
 GEOGR. Europe, 2, 3, 4, 5. Iceland. Ireland.

9. *POLYGONUM aviculare.*

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Caithness.* v. c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. Africa.  
 W. Asia. Nepaul. Japan. Greenland. U. States.

10. *POLYGONUM viviparum.*

HAB. Ascending from the sea-level in 56° to the height of 4000 feet on the Grampians. Its fullest perfection is probably in the Upland Zone. Rare in the Agricultural. Agr.—Sno.

TOPOGR. 2, 3, 4, 5, 6.—*Fl. North. Mur.*—*Caernarvon, Westmoreland, York, Perth, Forfar, Aberdeen, Inverness, Sutherland.*

Lincoln Heath; *Martyn, in Bot. Guide*. I feel very doubtful of this last station, and should be glad to have it confirmed or contradicted.

r. r.

GEOGR. Europe 1, 2, 3, 4, 5. Iceland. N. Asia. Spitzbergen. Melville Island. Greenland. R. B. America. Summit of the White Mountains.

### 11. OXYRIA *reniformis*.

HAB. Descends to the verge of the Agricultural Zone, and rises to 4000 feet above the sea.

Upl.—Sno.

TOPOGR. 4, 5, 6.—*Fl. Mur.*—Merioneth, *Caernarvon*, York, Westmoreland, Cumberland, *Argyle*, *Perth*, *Forfar*, *Inverness*, O. Hebrides. On walls at Totworth, Gloucestershire; *Baker in Bot. Guide*. Probably an error.

r. r.

GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. Asia. Spitzbergen. Greenland. British and Russian America from Melville Island. Rocky Mountains, on James' Peak at 10,000 feet of elevation, near perpetual snow. Some doubt attaches to the identity of the species found on James' Peak.

### 12. RUMEX *aquaticus*.

N. B. It appears (Vide Hook. Br. Fl.) that *R. aquaticus* of Eng. Bot., of Fl. Scot., and of several local Floras, is really *R. Hydrolapathum*.

HAB.

Agr.

TOPOGR. 5.—Moist places near Ayr; *Goldie*.

v. r.

GEOGR. Europe 2, 3. Ireland. N. W. Asia. U. States.

### 13. RUMEX *acutus*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Cam. Ang. North. Berw. Edin. Lan.*—Surry, Norfolk, York, Denbigh.

r. c.

GEOGR. Europe 2, 3. Iceland. Ireland. W. Asia. B. America.

### 14. RUMEX *pulcher*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Bed. Cam. North. Lan.*—Norfolk, Cumberland, Forfar.

r. c.

GEOGR. Europe 3, 4. Ireland. N. Africa.



18. *RUMEX palustris*.

HAB.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Cam. North.*—Surry, Worcester, Leicester, Cumberland, Forfar. r. c.

GEOGR. Europe 2, 3. Ireland.

16. *RUMEX maritimus*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Cam. North. Edin.*—Dorset, Worcester, Northampton, Suffolk, Norfolk, Leicester, Lincoln, Notts, Salop, Flint, Derby, York, Dumfries. r. c.

GEOGR. Europe 2, 3, 5. Ireland.

17. *RUMEX Hydrolapathum*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Lan.*—Surry, Gloucester, Worcester, Norfolk, York, Dunbarton, Perth. r. c.

GEOGR. Europe 1, 2, 3, 4, 5.

18. *RUMEX sanguineus*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—Cornwall. c.

GEOGR. Europe 3, 4. Ireland. B. America. U. States.

19. *RUMEX crispus*.

HAB.

Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Satherland.* v. c.

GEOGR. Europe 2, 3, 4, 5. Ireland. Japan. U. States. In Sweden from 60°.

20. *RUMEX obtusifolius*.

HAB.

Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Caithness.* v. c.

GEOGR. Europe 2, 3, 4. Ireland. N. Africa. W. Asia. U. States.

21. ? *RUMEX alpinus*.

HAB.

Agr.—?

TOPOGR. (3, 5).—*Fl. 0.*—“Wayside on the road from Helensburgh to the head of the Gare Loch. Glen Luss, near Loch-Lomond;” *Hook. Br. Fl.* I have seen it in plenty in a mea-

dow by a farm-house, near Chapel en le Frith, Derbyshire. The station is a doubtful one, and rendered more so by the owners of the farm calling it "rhubarb," and believing it to have medicinal virtue, "if they understood its use." v. r.

GEOGR. Europe 3, 4.

### 22. RUMEX *Acetosella*.

HAB. Agr.—Moor.—?

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*.—*Sutherland*. v. c.

GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. Asia. Greenland. U. States.

### 23. RUMEX *Acetosa*.

HAB. Agr.—Sno.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*.—*Caithness*. v. c.

GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. R. America.

## LXVII. THYMELEÆ.

### 1. ? DAPHNE *Mezereum*.

HAB. Agr.

TOPOGR. (1, 2, 3).—*Fl. North*.—Dorset, Hants, Sussex, Berks, Oxford, Suffolk, Worcester, Stafford, Derby, York. r.

GEOGR. Europe 1, 2, 3, 4. N. Asia.

### 2. DAPHNE *Laureola*.

HAB.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Berw. Edin. Lan*.—Hants, Surry, Essex, Warwick, Northampton, Suffolk, Norfolk, Leicester, York. r. r.

GEOGR. Europe 3, 4.

## LXVIII. SANTALACEÆ.

### 1. THESIUM *linophyllum*.

HAB. Agr.

TOPOGR. 1.—*Fl. Ox. Cam*.—Dorset, Hants, Sussex, Surry, Berks, Bucks, Suffolk, Norfolk. r.

GEOGR. Europe 3, 4. N. Africa. N. W. Asia.



## LXIX. ELEAGNEÆ.

1. HIPPOPHAE *rhamnoides*.

HAB. Agr.

TOPOGR. 1, 3.—*Fl.* 0.—Essex, Norfolk, York, Edinburgh?  
Haddington? r.

GEOGR. Europe 1, 2, 3, 5. Between 450 and 550 toises high in the Caucasus. In Switzerland supplies the place of the rare *Ulex europæus*; *Boue, Inaug. Diss.*

## LXX. ASARINEÆ.

1. ? ASARUM *europæum*.

HAB. Agr.

TOPOGR. (1, 3, 4, 5).—*Fl. North.*—Berks, York, Lancaster, Westmoreland, Cumberland, Linlithgow. r.

GEOGR. Europe 2, 3, 4, 5. "It must grow as far north as 60°, but not beyond this. Towards the south it grows in Peloponnesus;" *Dec.*

2. ARISTOLOCHIA *Clematitis*.

HAB. Agr.

TOPOGR. 1.—*Fl. Ox. Cam.*—Berks, Essex, Suffolk, Norfolk. r.

GEOGR. Europe 3, 4, 5. Tartary.

## LXXI. EUPHORBIACEÆ.

1. ? EUPHORBIA *pilosa*.

HAB. Agr.

TOPOGR. (1).—*Fl.* 0.—Naturalized in Sussex. v. r.

GEOGR. Europe 3, 4. Siberia; *Sp. Plant.* U. States.

2. EUPHORBIA *hiberna*.

HAB. Agr.

TOPOGR. 1.—*Fl.* 0.—Kent. v. r.

GEOGR. Ireland. France.

3. EUPHORBIA *Peplis*.

HAB. Agr.  
 TOPOGR. 1, 2.—*Fl. Dev.*—*Cornwall*, Dorset, Cardigan. v. r.  
 GEOGR. Europe 3, 4. N. Africa.

4. ? EUPHORBIA *Characias*.

HAB. Agr.  
 TOPOGR. (3).—*Fl. 0.*—Needwood Forest, Staffordshire. v. r.  
 GEOGR. Europe 3, 4. Only in the Olive Region ; *Arnott*.

5. EUPHORBIA *amygdaloides*.

HAB. Agr.  
 TOPOGR. 1, 2.—*Fl. Dev. Ton. Ox. Bed. Cam.*—*Somerset*, *Hants*,  
*Gloucester*, Northampton, Suffolk. r. r.  
 GEOGR. Europe 3. Ireland.

6. EUPHORBIA *paralia*.

HAB. Agr.  
 TOPOGR. 2, 3, 4.—*Fl. Dev. Ang. North.*—*Cornwall*, *Pembroke*,  
*Lancaster*, *Cumberland*. r.  
 GEOGR. Europe 3, 4. Ireland. N. Africa.

7. EUPHORBIA *platyphylla*.

HAB. Agr.  
 TOPOGR. 1, 2, 3.—*Fl. Cam. Ox. Bed. North.*—*Dorset*, *Wilts*,  
*Hants*, *Sussex*, *Middlesex*, *Essex*, *Suffolk*, *Hunts*, *York*, *Wor-*  
*cester*. r. r.  
 GEOGR. Europe 3, 4. Canada.

8. EUPHORBIA *portlandica*.

HAB. Agr.  
 TOPOGR. 1, 2, 4, 5.—*Fl. Dev. Ang.*—*Cornwall*, *Dorset*, *Gla-*  
*morgan*, *Pembroke*, *Caernarvon*, *York*, *Kent*, *Isle of Man*.  
*Galloway coast*, *Scotland* ; *J Smith in H. B. F.* r. r.  
 GEOGR. Ireland. Greece ?

9. EUPHORBIA *Esula*.

HAB. Agr.  
 TOPOGR. 1, 3, 5.—*Fl. Berw. Edin.*—*Sussex*, *Stafford*, *Rox-*  
*burgh*. r.  
 GEOGR. Europe 2, 3, 5. W. Asia.



10. ? EUPHORBIA *Lathyris*.

HAB. Agr.  
 TOPOGR. (1, 2, 3, 5.)—*Fl. North. Lan.*—Berks, Ayr. Steep  
 Holms in the Severn, "not wild;" *H. B. F.* r.  
 GEOGR. Europe 3, 4. U. States. Chili?

11. EUPHORBIA *Cyparissias*.

HAB. Agr.  
 TOPOGR. 1, 3, 4, 5.—*Fl. North. Edin.*—Bedford, Caernarvon,  
 Stafford. r.  
 GEOGR. Europe 2, 3, 4.

12. EUPHORBIA *exigua*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Cam. Ton. Ox. Bed. Ang. North.*  
*Berw. Edin.*—*Cornwall*, Surry, Norfolk, *Chester*, York, Fife. r. c.  
 GEOGR. Europe 2, 3, 4. Ireland. N. Africa.

13. EUPHORBIA *Peplus*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*—*Cornwall*. c.  
 GEOGR. Europe 2, 3, 4. Ireland. N. Africa. E. W. Asia.  
 U. States.

14. EUPHORBIA *helioscopia*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*.—*Cornwall*, *Caithness*. c.  
 GEOGR. Europe 2, 3, 4. Ireland. N. Africa. E. W. Asia.

15. MERCURIALIS *annua*.

HAB. Agr.  
 TOPOGR. 1, 3, 4, 5.—*Fl. Ton. Ox. Cam. Ang. North. Edin.*—  
 Surry. r. r.  
 GEOGR. Europe 3, 4. Ireland. N. Africa. W. Asia.

16. MERCURIALIS *perennis*.

HAB. Agr.—Moor.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*.—*Ross*. c.  
 GEOGR. Europe 2, 3, 4, 5. N. Asia.

17. *BUXUS sempervirens.*

HAB. Agr.  
 TOPOGR. 1, (3).—*Fl.* 0.—Kent, Surry, Yorkshire? r.  
 GEOGR. Europe 3, 4, 5. W. Asia.

## LXXII. URTICEÆ.

1. *URTICA pilulifera.*

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4.—*Fl.* Ang. North.—Cornwall, Suffolk.  
 Norfolk. r.  
 GEOGR. Europe 3, 4. Ireland. N. Africa.

2. *URTICA urens.*

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl.* omnes.—Cornwall, Caithness. c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Ireland. N. Africa. N. W.  
 Asia. B. America and the U. States, perhaps introduced.

3. *URTICA dioica.*

HAB. Agr.—Subalp.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl.* omnes.—Cornwall, Caithness. v. c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. Africa.  
 N. E. Asia. B. America. U. States.

4. *PARIETARIA officinalis.*

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl.* omnes.—Cornwall. r. c.  
 GEOGR. Europe 3, 4. Ireland. N. Africa. W. Asia.

5. ? *HUMULUS Lupulus.*

HAB. Agr.—Upl.  
 TOPOGR. (1, 2, 3, 4, 5, 6.)—*Fl.* Dev. Ton. Ox. Bed. Cam. Ang.  
 North. Edin. Lan. Mur. !—Cornwall. Braemar, Aberdeenshire;  
 but near Castleton, and perhaps introduced. Some doubt at-  
 taches to this plant as a native of Britain; it is now perfectly  
 naturalized, if not indigenous. Uncommon in Scotland. r. c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland. W. Asia. Japan?



## LXXIII. ULMACEÆ.

1. *ULMUS stricta*.

HAB. Agr.  
 TOPOGR. 2.—*Fl.* 0.—Cornwall, Devon. r.  
 GEOGR.

2. *ULMUS carpinifolia*.

HAB. Agr.  
 TOPOGR. 2.—*Fl.* 0.—Four miles from Stratford-upon-Avon,  
 on the road to Alcester; *Lindley*. v. r.  
 GEOGR.

3. *ULMUS glabra*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4.—*Fl. Ton. Ang. North.*—Kent, Essex. r. r.  
 GEOGR. Europe 3.

4. *ULMUS suberosa*.  
*major?*

*N. B.*—"Probably not specifically distinct;" *H. B. F.*

HAB. Agr.  
 TOPOGR. 1, 3, 4.—*Fl. Ton. Ang. North.*—Kent, Chester,  
 York, Scotland. r. r.  
 GEOGR. Europe 3, 4, 5.

5. *ULMUS campestris*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ox. Bed. Cam. Ang. North.*  
*Edin. Lan.*—Somerset, Hants, Sussex, Kent, Surry, Norfolk,  
 Forfar. r. c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa. W. Asia.

6. *ULMUS montana*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*. c.  
 GEOGR. Europe 2, 3. Ireland.

## LXXIV. AMENTACEÆ.

1. *QUERCUS sessiliflora*.

HAB.

Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Bed. Ang. North. Berw. Edin. Lan.*—Sussex, Surry, Northampton, Warwick, Merioneth, Caernarvon, Denbigh, Flint, *Chester*, Stafford, Derby, York, Lancaster, Westmoreland, Cumberland, Perth. Not uncommon; *Hook. B. F.* Perhaps occasionally mistaken for *Q. Robur*, from which it is not readily distinguished when having leaves only, or during winter. I would rather call it a variety than a species. c.

GEOGR. Europe 2, 3, 4.

2. *QUERCUS Robur*.

HAB. Either this or the preceding species grows, as a small tree, at 760 feet above Loch Eil, Argyleshire; but native oaks are so rare in the Highlands that I have not been able to make proper observations on their natural limit. In the north of England it ceases at 1600 or 1700 feet of elevation; *Winch.*

Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Ross.* c.

GEOGR. Europe 2, 3, 4, 5. Ireland. E. W. Asia. “Mountains of Asia Minor, Armenia, Caucasus, Greece, South of Italy, Valencia, Norway coasts to 63° feebly; grows well at Christiana in 60°; coast of Finland to Abo, 60° 27'; stunted in Livonia, 56° 30'–59° 30'; very rare in Russia above 56°; is arrested at the mountains of Waldai, and on the river Msta, 58°; in forests at Kazan, 56°; is arrested on the Wolga between 57° and 58°; is arrested in Pernie, at Ossa, on the Kama between 57° and 58°; no where from the east of the Oural Mountains, till the rivers Amur and Agroun in Dahuria, where it reappears between 50° and 55°. Has been supposed to grow near Peking, and in Chinese Tartary.” *Mirbel*, (including *Q. sessiliflora*).

3. ? *FAGUS sylvatica*.

HAB. Planted in, but has scarcely established itself as a denizen of, the Upland Zone.

Agr.—Upl.



TOPOGR. (1, 2, 3, 4, 5, 6).—*Fl. omnes*.—Said to have been originally imported, but now general and self-sown. c.

GEOGR. Europe 2, 3, 4, 5. Ireland? W. Asia. New Hampshire to Georgia; *Pursh*. Is the American species the same? "Palestine, Asia Minor, Armenia, Mazanderan, Greece, Sicily, South Italy, Valencia; naturalized in Britain, Norway to 59° in favourable situations; Sweden to 58° 30', in Westrogoth to 57°, in Smoland, to Calmar (56° 40') on the shores of the Baltic, in great forests in Scania and Smoland, Russia, Lithuania, and Poland (55°), South Crimea, Caucasus to Terek, no other part of Russia, not even in Podolia nor Volhynia; *Mirbel*. Between 45½° and 46½° N. L., the line of beeches on the Alps rises to 5132 feet, the snow line being 3848 feet higher; *Von Buch*.

#### 4. ? *CASTANEA vulgaris*.

HAB. Planted in the Upland Zone. The fruit ripens in Cheshire, where the mean temperature is scarcely 47°. Agr.—?

TOPOGR. (1, 2, 3, 4, 5, 6).—*Fl. Dev. Ton. Bed. Ang. North. Edin. Lan. Mur.*!—Not native. r. c.

GEOGR. Europe 3, 4, 5. N. Africa. W. E. Asia. N. America? "Canaries, Teneriffe, Asia Minor, Armenia, Caucasus, whole of South Europe, (does not ripen fruit in the northern counties of England between 54° and 55°; *Winch*), unknown in Scandinavia. According to Pallas it bears the climate of the Ukraine, latitude 48°–51°, but does not grow spontaneously to the north of Terek in the Russian Empire. It appears that this tree does not ripen its fruit except where the vine is successfully cultivated. Japan, according to Thunberg, Cochin China, and at Canton and Peking (if the same species?);" *Mirbel*.

#### 5. *CORYLUS Avellana*.

HAB. In the north of England it attains 1600 feet of elevation (*Winch*), and is seen about the same height on the hills of Forfar and Aberdeen shires. In Lochiel, Argyleshire, between 700 and 800 feet above the sea, there is a small (natural?) wood of nut-trees, producing plenty of fruit (1832), some of which exceed a foot in the circumference of their stems. They must,



from these circumstances, be considerably below their true terminal limit. In the north of Sutherland I saw no hazels above 400 or 500 feet, perhaps from want of shelter. Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Sutherland.* c.

GEOGR. Europe 2, 3, 4, 5. Ireland. E. W. Asia. The line of nuts on the Alps, between  $45\frac{1}{4}^{\circ}$  and  $46\frac{1}{2}^{\circ}$ , rises to 3798 feet, the snow-line being 9080; difference 5282 feet. This would make the snow-line in Scotland upwards of 6000 feet; but probably the difference between them becomes less as we advance northward.

### 6. CARPINUS *Betulus.*

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, (5).—*Fl. Dev. Ton. Cam. Ang. North. Edin.*—Kent, Norfolk, Caernarvon, *Chester, Lancaster.* Forms a principal part of the ancient forests on the north and east sides of London; *Smith.*

r. c.

GEOGR. Europe 2, 3, 4, 5. Ireland. W. Asia. “Ghilan, Mazanderan, Caucasus, Armenia, Asia Minor, whole of South Europe, Sweden, in forests in Scania between  $55^{\circ}$  and  $56^{\circ}$ , scattered in Smoland; does not pass the north of Scania; absent from Livonia, Poland, Russia, in the countries of the Don and Dnieper to  $51^{\circ}$  or  $52^{\circ}$ , wanting on the Wolga;” *Mirbel.*

### 7. BETULA *alba.*

HAB. I regret being unable to give the limits of this tree with precision. On Ben Nevis, under the snow-rocks of the northern precipice, I observed a seedling almost at the upper limit of *Empetrum nigrum*, there, in consequence of the cold, humid, sunless situation, failing between 2700 and 3000 feet, though attaining 3500 on an open western declivity. This is the only specimen I remember to have seen certainly above the limit of *Calluna vulgaris*, but believe it will be found higher than the latter on Ben-More in Perthshire. In the north of England, it is remarkable that the birch, according to Mr Winch, “is not found on the mountains higher than *Acer Pseudo-platanus.*” Agr.—Alp.?

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Sutherland.* c.

GEOGR. Europe 1, 2, 3, 5. Iceland. Ireland, N. E. W. Asia. Greenland. Aleutian Isles. Altai Mountains to 4500



feet. "In an Icelandic Forest the most stately birch rises to the height of only ten feet;" *Sir George Mackenzie's Travels in Iceland*. "Mountains of the whole of South Europe, Caucasus, Bucharia, Eastern shores of the Caspian ( $37^{\circ}$ ), Lapland to  $70\frac{1}{2}^{\circ}$ , Siberia, at the Eastern Ocean, on the Oby near Obdorsk ( $67^{\circ} 31'$ ), on the Jenisei towards  $68^{\circ}$ , on the Kolyma in fine forests between  $65^{\circ}$  and  $66^{\circ}$ , scattered towards  $67^{\circ}$  and beyond, Kamchatka in forests at  $58^{\circ}$ , Dahuria, Japan, West Greenland, rare and stunted;" *Dec. Von Buch* considers the birch to require a mean temperature above  $26^{\circ}$  of Fahrenheit. In Lapland, according to the same author, the line of birches is 1937 feet below the snow-line, and 802 feet above that of Scotch firs. Wahlenberg gives 1950 feet for its termination under  $68^{\circ}$  N. L., the snow-line being 3640. On the Alps it only rises to 4680, the snow-line 4100 feet higher.

### 8. *BETULA nana*.

HAB. Most plentiful on the granite mountains. Notwithstanding that this shrub rises so nearly to the snow-line in other countries, it appears to be arrested at a comparatively moderate elevation in the Highlands of Scotland. The highest measured point at which I have seen it was about 2750 feet in the north of Forfarshire. It begins at about 1600 feet of elevation in Braemar, Aberdeenshire. Moor.—Subalp.

TOPOGR. 5, 6. — *Fl. Lan. Mur.* — Perth, Forfar, Aberdeen, Ross. r.

GEOGR. Europe 1, 2, 3, 5. Iceland. N. Asia. Greenland. B. R. America. At 6500 feet of elevation on the Altai; *Ledebour*.

### 9. *ALNUS glutinosa*.

HAB. Nearly the same altitudinal range as *Corylus Avellana*. Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Cornwall, Sutherland*. c.

GEOGR. Europe 2, 3, 5. Ireland. N. Africa. N. E. W. Asia. B. America and N. W. Coast. "The whole of South Europe, Caucasus, Sweden to Gothland, absent from Lapland, Russia to the White Sea, rare in Siberia, Japan, North America, from Canada to the Frozen Ocean;" *Mirbel*. Is it the same species in all these places?



10. *POPULUS canescens*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, (5).—*Fl. Dev. Ton. Cam. Ang. North.*  
*Berw.* r. r.  
 GEOGR. Europe 3.

11. *POPULUS nigra*.

HAB. Ag  
 TOPOGR. 1, 2, 3, 4, 5, (6).—*Fl. omnes*.—Introduced into Mur-  
 ray; *G. Gordon*. r. c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa. Nearly the  
 same range as *P. alba*; *Mirbel*.

12. *POPULUS alba*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*.—Introduced into Mo-  
 ray; *G. Gordon*. A few stunted plants of this species compose  
 all the trees of the island of Lewis; *Macculloch*. c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa. N. W.  
 Asia. "Atlas, all South Europe, Caucasus, Persia, in Sweden  
 to 56° or 57°, temperate Russia. Absent north of Moscow,  
 Kazan, Siberia, scattered at the Oby, Kamchatka, Buchar-  
 ia, Dahuria, near Lake Baikal; *Mirbel*."

13. *POPULUS tremula*.

HAB. On Ben More in Mull, at an elevation of 1500 feet  
 (W. C. Trevelyan); *Hook. B. F.* At about 1600 feet in Brae-  
 mar. Probably it may be found higher than these stations.

Agr.—Moor.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*.—*Sutherland*. c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Ireland. N. E. W. Asia.  
 "The whole of South Europe, Asia Minor, Armenia, Caucasus,  
 Lapland to the Frozen Ocean. Very abundant in Russia, from  
 the Baltic to Lena, beyond which it is rare, as in the neighbour-  
 hood of Ockhorsk and in Kamchatka, at the source of the Koly-  
 ma near 62°, but it does not follow the borders of this river to  
 65°, Dahuria;" *Mirbel*.



## SALIX.

*N. B.* In the preceding *genera*, the species follow each other according to the zones they inhabit. This plan has been departed from in the present genus, on account of my being unacquainted with many of the supposed species, and not having any means of determining their *zonal* place. I certainly prefer the views as to the limits of species given by Dr Hooker in *Flora Scotica*; but, being too ignorant of the individuals, to venture on unions similar to what have been adopted in other *genera*, I have followed precisely the arrangement in the second edition of the *British Flora*, substituting a \* for a No. to the names of reputed species, whose claims to be so considered appear doubtful. Both topographical and geographical ranges are to be received with caution.

14. SALIX *purpurea*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 5.—*Fl. Dev. Ox. Cam.*—Leicester, York, Dumfries, Roxburgh, and Forfar.

GEOGR. Europe 1, 2, 3, 4. Iceland. Ireland. B. America.

\* SALIX *Helix*.

HAB.

Agr.

TOPOGR. 1, 3, 4, 5.—*Fl. Ox. Bed. Cam. Ang. North. Berw. Lan.*—Norfolk, York, Perth, Forfar.

GEOGR. Europe 3, 4. Ireland. N. Africa.

\* SALIX *Lambertiana*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 5.—*Fl. Edin.*—Wilts, Sussex, Middlesex, Warwick, Suffolk, Norfolk, Worcester, York, Berwick, Forfar.

GEOGR. Europe 3, 4.

15. SALIX *Woolgariana*.

HAB.

Agr.

TOPOGR. 1.—*Fl. 0.*—Sussex (scarcely wild), Surry.

GEOGR.

16. *SALIX Forbyana.*

HAB.

Agr.

TOPOGR. 1, 3.—*Fl. Cam. North. Berw.*—Norfolk, York.

GEOGR. Central Europe?

17. *SALIX rubra.*

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Cam. Ang. North.*—Hants, Wilts, Kent, Berks, Middlesex, Suffolk, Norfolk, York, Cumberland, Forfar.

GEOGR. Europe 3. Ireland. B. America.

18. *SALIX undulata.*

HAB.

TOPOGR. 1, (5).—*Fl. Cam.*—Sussex (not native?) Forfar.

GEOGR. Europe 3.

19. *SALIX triandra.*

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. Edin.*—Norfolk, Warwick, York, Forfar.

GEOGR. Europe 3, 4, 5. N. W. Asia.

\* *SALIX Hoffmanniana.*

HAB.

Agr.

TOPOGR. 1.—*Fl. 0.*—Sussex, Cambridge.

GEOGR. Europe 3. ?

\* *SALIX amygdalina.*

HAB.

Agr.

TOPOGR. 1, 2, 3, (5).—*Fl. Ton. Cam. North.*—Dorset, Sussex, Suffolk, Norfolk, Warwick, York, Scotland?

GEOGR. Europe 2, 3.

20. *SALIX pentandra.*

HAB.

Agr.—?

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Ang. North. Berw. Edin. Lan. Mur.*—Sussex.

r. c.

GEOGR. Europe 1, 2, 3, 5. Iceland. Ireland. N. Asia.



\* *SALIX Meyerina.*

HAB.

TOPOGR. 4.—*Fl.* 0.—Westmoreland.

GEOGR. Europe 3. Iceland.

\* *SALIX decipiens.*

HAB.

Agr.

TOPOGR. 1, 3, 5.—*Fl.* *Ton.* *North.* *Berw.* *Edin.*—Sussex, Norfolk, Cambridge, York.

GEOGR. Europe 3. B. America. U. States, introduced.

21. *SALIX fragilis.*

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl.* *Dev.* *Ox.* *Bed.* *Cam.* *Ang.* *North.* *Edin.* *Lan.*—Kent, *Inverness.*

GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa? W. Asia. B. America.

22. *SALIX Russeliana.*

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl.* *Dev.* *Cam.* *Ang.* *North.* *Berw.* *Edin.* *Lan.* *Mur.*—Kent, Ross.

GEOGR. Europe 3. Ireland.

23. *SALIX alba.*

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl.* *Dev.* *Ton.* *Ox.* *Bed.* *Cam.* *Ang.* *North.* *Berw.* *Edin.* *Lan.*—Nairn.

GEOGR. Europe 2, 3, 4, 5. Ireland. N. E. W. Asia. U. States, introduced.

\* *SALIX vitellina.*

HAB.

Agr.

TOPOGR. 1, 3, 4, 5.—*Fl.* *Ton.* *Ox.* *Ang.* *North.* *Lan.*—Kent, Middlesex, Norfolk, Northampton, York, Dunbarton, Forfar.

GEOGR. Europe 3. Ireland. U. States, introduced.

24. *SALIX petiolaris.*

HAB.

TOPOGR. 5.—*Fl.* 0.—Forfarshire; *G. Don.* “I have never seen native specimens;” *Hook. Br. Fl.*

GEOGR. Ireland. America?

\* *SALIX rosmarinifolia.*

HAB.

TOPOGR. (1, 3).—*Fl. Ton. North.*—Sussex; *Forster.* York; *Curtis.* I know not how to reconcile these express stations with the following vague locality in Smith, and copied without comment into the *British Flora*, viz. "Found by Sherard; *Dill.* Sent by Mr Dickson, probably from Scotland, to Mr *Crowe*;" *Eng. Flora.*

GEOGR. Europe 2, 3, 5. U. States.

\* *SALIX angustifolia.*

HAB.

TOPOGR. 5—*Fl. 0.*—Dumfries, Forfar.

GEOGR. Europe? On the Caspian?

\* *SALIX Doniana.*

HAB.

TOPOGR. (5).—*Fl. 0.*—Scotland.

GEOGR.

25. *SALIX fusca.*

HAB.

Agr.—?

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Caithness.* Whenever botanists see a little willow on a moor or a sandhill, they may call it *S. fusca*, and will be correct in forty-nine times out of fifty,—a degree of accuracy that can scarcely be surpassed in British willows!

GEOGR. Europe 2, 3. Iceland. Ireland. N. Asia. Nova Scotia. Newfoundland.

26. *SALIX ambigua.*

HAB.

Agr.—?

TOPOGR. 1, 5.—*Fl. 0.*—"Epping Forest, Suffolk, Isle of Staffa, Forfar, and between Balnagard and Aberfeldy;" *Hook. B. F.*

GEOGR. Europe 3. U. States. Japan.

27. *SALIX reticulata.*

HAB.

Moor.—Alp.

TOPOGR. 3, 4, 5, 6.—*Fl. 0.*—Caernarvon? York, Westmoreland, Cumberland, *Perth, Forfar, Aberdeen.* Penmaen Mawr,



and Llandidno; *Griffith*. Perhaps Griffith saw *Cotoneaster vulgaris* without fructification, and mistook it for a willow. The alleged stations are too low for *S. reticulata*.<sup>r.</sup>

GEAGR. Europe 1, 2, 3. Iceland. Siberia. Greenland.  
B. R. America to Newfoundland. N. W. America.

### 28. *SALIX glauca*.

HAB.

TOPOGR. 5.—*Fl.* 0.—Forfarshire.

v. r.

GEAGR. Europe 1, 2, 3, 5. Iceland. Siberia. Greenland.  
B. America.

### 29. *SALIX arenaria*.

HAB.

Upl.—Alp.

TOPOGR. (3,) 5, 6.—*Fl.* North. Edin.—Nottingham; *Martyn*.  
Surely an error? *Perth, Forfar, Aberdeen, Inverness, O. He-*  
*brides.*<sup>r.</sup>

GEAGR. Europe 1, 2, 3, 5. Iceland. B. R. America. Siberia.

### \* *SALIX Stuartiana*.

HAB.

TOPOGR. 5.—*Fl.* 0.—Breadalbane Mountains, Perthshire. v. r.

GEAGR.

### 30. *SALIX viminalis*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl.* Dev. Ton. Ox. Bed. Cam. Ang.  
*North. Berw. Edin. Lan.*—Norfolk, York, Forfar.<sup>r. c.</sup>

GEAGR. Europe 2, 3, 4. Ireland. U. States. Kamchatka.

### 31. *SALIX stipularis*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl.* Dev. Ang.—Sussex, Middlesex,  
Essex, Suffolk, Warwick, York, Perth, Forfar.

GEAGR. Europe 3. Ireland.

### 32. *SALIX Smithiana*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl.* Dev. Ton. Ang. North.—Essex,  
Suffolk, Somerset, Glamorgan, Lancaster, York.<sup>r. c.</sup>

GEAGR. Europe 3.

\* *SALIX ferruginea.*

HAB.

Agr

TOPOGR. 1, 3. — *Fl. North.*—Sussex.

GEOGR.

33. *SALIX acuminata.*

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Cam. Ang. North.*  
*Berw. Edin. Lan.*—York.

r. c.

GEOGR. Europe 2, 3, 4. Ireland.

\* *SALIX holosericea.*

HAB.

TOPOGR. 1.—*Fl. 0.*—Sussex.

GEOGR. Europe 3.

34. *SALIX cinerea.*

HAB.

Agr.—?

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. North. Berw. Edin.*  
*Lan.*—*Sutherland.*

c.

GEOGR. Europe 1, 2, 3. Ireland. Kamchatka.

\* *SALIX aquatica.*

HAB.

Agr.—?

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Ton. Cam. Ang. North. Berw. Edin.*  
*Lan.*—York, Forfar.

r. c.

GEOGR. Europe 2, 3.

\* *SALIX oleifolia.*

HAB.

Agr.—?

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Ton. Cam. Ang. North. Berw. Edin.*  
—Sussex, Essex, Norfolk, York, Perth, Forfar.

r. c.

GEOGR. Europe 3.

\* *SALIX aurita.*

HAB.

Agr.—Moor.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang.*  
*Berw. Lan.*—*Cornwall, Caithness.*

c.

GEOGR. Europe 1, 2, 3. Ireland.



35. *SALIX caprea*.

HAB. Agr.—?  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang.*  
*North. Berw. Edin. Lan.*—Nairn. c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. E. W. Asia.

\* *SALIX sphacelata*.

N. B. "Mr Borrer doubts if it be a good species;" H. B. F.

HAB.  
 TOPOGR. 5.—*Fl. 0.*—Perthshire.  
 GEOGR. Europe 3.

36. *SALIX cotinifolia*.

HAB. Agr.  
 TOPOGR. 1, 5.—*Fl. 0.*—Norfolk, Wigton, Forfar.  
 GEOGR. Europe 3. Ireland.

\* *SALIX hirta*.

HAB. Agr.  
 TOPOGR. 1, 3.—*Fl. 0.*—Norfolk, Yorkshire.  
 GEOGR. Europe 3.

37. *SALIX nigricans*.

HAB. Agr.  
 TOPOGR. 1, 2, 5.—*Fl. Ton. Edin.*—Norfolk, Hereford. Forfar.  
 GEOGR. Europe 1, 2, 3.

38. *SALIX Andersoniana*.

HAB. Agr.—Upl.  
 TOPOGR. 3, 5, 6.—*Fl. North. Berw.*—York, Argyle, Perth,  
 Forfar, Aberdeen.  
 GEOGR. Europe 3. Ireland.

39. *SALIX Forsteriana*.

HAB.  
 TOPOGR. 3, 5.—*Fl. North. Berw.*—Perth.  
 GEOGR. Europe 3. Kamchatka?

\* *SALIX rupestris.*

HAB.

TOPOGR. 3, 5, 6.—*Fl. North.*—Perth, Forfar, O. Hebrides.

GEOGR. Europe 3.

\* *SALIX petraea.*

HAB.

TOPOGR. .—*Fl. 0.*—Britain; *G. Anderson.*

GEOGR.

\* *SALIX tenuior.*

HAB.

TOPOGR. 5.—*Fl. 0.*—Perth.

GEOGR.

40. *SALIX laurina.*

HAB.

TOPOGR. 1.—*Fl. 0.*—Norfolk.

GEOGR. Europe 3.

41. *SALIX radicans.*

HAB.

TOPOGR. 3, 4, 5.—*Fl. North.*—Caernarvon, Perth.

GEOGR. Europe 3.

42. *SALIX Borreriana.*

HAB.

TOPOGR. 5, 6.—*Fl. 0.*—Perth, Inverness.

GEOGR.

\* *SALIX Davalliana.*

HAB.

TOPOGR. ?—*Fl. 0.*—Scotland.

GEOGR.

\* *SALIX tetrapla.*

HAB.

TOPOGR. 5.—*Fl. 0.*—Perth.

GEOGR.

43. *SALIX Weigeliana.*

HAB.

TOPOGR. 4, 5.—*Fl. 0.*—Westmoreland, Perth.

GEOGR. Germany.



\* *SALIX tenuifolia.*

HAB.

TOPOGR. 4.—*Fl.* 0.—Westmoreland.

GEOGR. Europe 2, 3. Ireland.

\* *SALIX nitens.*

HAB.

TOPOGR. ? —*Fl.* 0.—Mountains of Scotland.

GEOGR.

44. *SALIX Croweana.*

HAB.

TOPOGR. 1, 3.—*Fl.* North.—Norfolk, York.

GEOGR. Europe 3.

45. *SALIX bicolor.*

HAB.

TOPOGR. 5.—*Fl.* Ton. North. Lan.—York, Forfar, Perth.  
Probably some of these are incorrect.

GEOGR. Europe 2, 3.

64. *SALIX phillyreifolia.*

HAB.

TOPOGR. 5, 6.—*Fl.* 0.—Perth, Inverness.

GEOGR.

\* *SALIX Dicksoniana.*

HAB.

TOPOGR. (5).—*Fl.* 0.—Highlands.

GEOGR.

\* *SALIX vaccinifolia.*

HAB.

TOPOGR. 5.—*Fl.* 0.—Dumfries, Perth.

GEOGR. Europe 3.

?—Subalp.—?

\* *SALIX carinata.*

HAB.

TOPOGR. (5).—*Fl.* 0.—Highlands.

GEOGR.

47. *SALIX prunifolia*.

HAB.

TOPOGR. 5, 6.—*Fl.* 0.—Argyle, Perth, Forfar, Aberdeen.

GEOGR. Europe 3.

\* *SALIX venulosa*.

HAB.

TOPOGR. (5).—*Fl.* 0—Highlands.

GEOGR.

48. *SALIX myrsinites*.

HAB.

TOPOGR. (3), 5, 6.—*Fl. Mur.*—York (*Curtis*), Argyle, Perth, Forfar.

GEOGR. Europe 1, 2, 3, 5. W. Asia. Greenland. Labrador.

49. *SALIX procumbens*.

HAB.

TOPOGR. 5, 6.—*Fl. Mur.*—Argyle, Perth.

GEOGR.

50. *SALIX herbacea*.

HAB. I am not quite prepared to fix the height at which this species commences, though, from its general extension in Britain and over other countries, it is desirable to make it a point of reference. The lowest station at which I have measured it is near the lake on Ben Nevis, about 1850 feet above the sea. More usually it does not appear before we pass 2000, or often 2500 feet in open situations on the Scottish mountains. I am not aware that it is found on any of the Lowland hills, nor does Cheviot or even Teesdale produce it; but the summits of Skiddaw, Saddleback, and the Snowdon chain rise to its climate. From these facts I should have fixed 2800 to 3000 feet, in England, as the proper elevation for it; but it is said to grow on the north and west sides of Ingleborough, and on the Beacons of Brecon. If these are accurate, we must conclude its lowest limit (probably in unfavourable situations) to be below 2300 feet in England. *Carex rigida* usually appears first by 100—300 feet. It flourishes, though small, on the summits of the highest hills of Scotland.

Subalp.—Sno.



TOPOGR. (2, 3), 4, 5, 6.—*Fl. Mur.*—Brecon? York? Caernarvon, Cumberland, *Argyle, Perth, Forfar, Inverness, Aberdeen, Sutherland.* r. r.

GEOGR. Europe 1, 2, 3. Iceland. Ireland. N. Asia. Spitzbergen. Greenland. British and N. W. America. Everywhere, almost, in the Arctic countries. In Greenland beyond 70° it grows at the sea-level. According to Wahlenberg's Table in *Flora Lapponica*, its lower limit is above 1900 feet. On many of the mountains of Europe it is the last shrub seen as we approach the line of perpetual snow. In Lapland, under 68°, the respective limits of this species and perpetual snow are 2925 and 3640 feet, the difference being 715 feet. In Switzerland they are 8190 and 8739, difference 590 feet. The mean of these would give 652½; which, being adopted for Scotland, would fix the line of perpetual snow above 5000 feet in the 57° parallel, since *Salix herbacea* occurs plentifully on the summit of Ben-na-muich-duich, considered to be 4390 feet above the sea. This confirms the opinion previously given, that Leslie's calculation places the line of snow below its true height for Britain, as it has been proved by observation to be for other more northern countries.

### 51. SALIX *hastata*.

HAB.

TOPOGR. (1), 5.—*Fl. 0.*—Middlesex? Norfolk? Forfar.

GEOGR. Europe 1, 2, 3.

### 52. SALIX *lanata*.

HAB.

Subalp.

TOPOGR. 5, 6.—*Fl. 0.*—*Forfar, Aberdeen.*

v. r.

GEOGR. Europe 1, 2. Iceland. Greenland. N. Asia.

### 53. MYRICA *Gale*.

HAB. At the sea-level on the south coast of Cornwall. On the Grampians of Aberdeenshire it is rarely seen above 1300 or 1400 feet of elevation. On the Ben Nevis group it ceases between 1000 and 1200 feet. Yet, in several situations, it appears capable of flourishing considerably above the hazel. Agr.—Moor.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Cam. Ang. North. Berw. Lan. Mur.*—*Cornwall, Sutherland.* r. c.



GEOGR. Europe 1, 2, 3. Ireland. N. Asia. Canada. Pennsylvania.

LXXV. CONIFERÆ.

I. PINUS *sylvestris*.

HAB. Seldom now seen very high. Mr Winch says, that the roots and trunks of very large pines are seen protruding from the black peat moss, at an elevation of nearly 3000 feet in the north of England. In Scotland it is rare above 2000 feet. I observed a small tree of it growing at 2300 feet on Ben-na-Buird in Aberdeenshire; and perhaps on Loch-na-garr this height may be exceeded. I have heard 2700 feet fixed as the limit on the Grampians, but am not aware on what evidence.

Agr.—Subalp.

TOPOGR. (1, 2, 3, 4), 5, 6.—Perhaps no native trees of this species are now found in England, beyond occasional seedlings in plantations of it, but it is still included in the local Floras. In Scotland a few forests of considerable extent yet remain; but they are fast diminishing.

r. c.

GEOGR. Europe 1, 2, 3, 4, 5. Ireland. N. E. W. Asia. Nootka Sound? Mirbel indicates its range to be "Caucasus, Peloponnesus, Calabria, Valencia, Pyrenees, Lapland to 70° N. L., Bucharia, Western Siberia, on the Oby under 64°, perhaps beyond, Eastern Siberia at the Stanavoi Mountains in 62° or 63°, Kamchatka between 55° and 57°, Dahuria, Japan." The elevation to which it attains on the mountains, according to the same author, is in Lapland, under 70°, to 125 toises\*, on the Carpathians to 500, on the Alps of Switzerland and Dauphiny to 870, on the Pyrenees from 600 to 1250, on the Caucasus to 900 toises. Von Buch considers the space between it and perpetual snow in Norway to be 2771 feet, and that the mean temperature where it ceases is 31° of Fahrenheit. Wahlenberg makes the mean temperature of the earth 1° 8. c. (about 35° Fahrenheit), and the elevation 1278 feet, where it ceases in Swedish Lapland.

\* The *toise* I presume to be 6 French feet, about equal to 6½ English feet, though some translators make it only 6 English feet.



2. JUNIPERUS *communis*.

HAB. In the north of England from the coasts to the mountains 1500 feet high; *Winch. Geogr. Dist.* Much higher in Scotland. At 2500 feet on the Clova Mountains; at 2650 in Braemar. I have not seen it above *Calluna vulgaris*.

Agr.—Subalp.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Ton. Ox. Bed. Cam. Ang. North. Berw. Edin. Lan. Mur.—Sutherland.* r. c.

GEOGR. Europe 1, 2, 3, 4. Iceland. Ireland. N. E. Asia. Greenland to 66° (Giesecke). B. America. New York. According to Mirbel (*Geographie des Coniferes*; Mem. de Museum, tom. xiii.), it rises on the Pyrenees and Swiss Alps to 1500 toises; on the Carpathians to 1000; and is also found on the mountains of Nepaul. On the continent of America the Pine-tribe appears to attain more northern latitudes than *J. communis*; but in the eastern islands, as Iceland and Greenland, this shrub is found without arborescent Coniferæ, as on the hills of Scotland.

3. TAXUS *baccata*.

HAB. Calcareous cliffs of Castle Eden; *Winch.* On limestone rocks about Llangollin, but not observed on other hills there; perhaps the dry fissures, rather than the chemical composition, were the allurements.

Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Ton. Ox. Cam. Ang. North. Berw. Lan. Mur.—Dorset.* r. c.

GEOGR. Europe 2, 3, 4, 5. Ireland. E. W. Asia. In Sweden to 58° N. L. Not in the Russian Empire, except the Crimea and Caucasus; *Mirbel.* Warsaw.

## LXXVI. EMPETREÆ.

1. EMPETRUM *nigrum*.

HAB. It is only on the highest hills of Scotland that we can rise above this shrub. The summit of Ben-na-muich-duich, Ben-na-Buird, Nen-Nevis, and the Red Cairn (all near the parallel of 57°), are destitute of it. Their heights are from 3800



to 4360, or a little more. On the first of these hills I saw a specimen at an elevation of 4100 feet; but it fails 500 or 600 feet lower on the western declivity of the Ben-Nevis range. Probably 3600 feet is about the average for 57° N. L. in Britain. In the north of Sutherland it occurs on the summit of Ben Hope 3000 feet above the sea. In North Wales, on the summit of Carnedd David, 3400 feet in height. Scarcely seen below the middle of the Agricultural Zone. Agr.—Alp.

TOPOGR. 2, 3, 4, 5, 6.—*Fl. North. Berw. Edin. Lan. Mur.*—Warwick, Glamorgan, Cardigan, Brecon, Hereford, Salop, Merioneth, *Caernarvon, Denbigh, Flint, Chester, Stafford, Derby, York, Cumberland*, and perhaps every county of Scotland. r. c.

GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. Asia. Greenland between 70° and 71° on the west coast (*Grev. Wern. Mem.*) B. R. W. America. Fails a little below *Salix herbacea* in Lapland.

## LXXVII. HYDROCHARIDÆ.

### 1. HYDROCHARIS *Morsus-ranæ.*

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, (5).—*Fl. Dev. Ton. Ox. Bed. Cam. North. Edin.*—*Surry, Suffolk, Norfolk, Leicester, Chester, York.* r. c.

GEOGR. Europe 2, 3, 5. Ireland.

### 2. STRATIOTES *aloides.*

HAB. Flowering in the smoky atmosphere and sooty water of the Infirmary Pond in Manchester.

Agr.

TOPOGR. 1, 3, (5).—*Fl. Cam. North. Edin.*—Northampton, Suffolk, Norfolk, Lincoln, York, Chester.

r. r.

GEOGR. Europe 2, 3, 5.

## LXXVIII. ALISMACEÆ.

### 1. SAGITTARIA *sagittifolia.*

HAB.

Agr.

TOPOGR. 1, 2, 3, 4.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North.*—*Surry, Norfolk, York, Salop.*

r. r.

GEOGR. Europe 1, 2, 3, 5. Ireland. Siberia. Kamchatka.



2. *ACTINOCARPUS Damasonium.*

- HAB. Agr.  
 TOPOGR. 1, 2.—*Fl. Ton.*—Cornwall, Sussex, Kent, Surry,  
 Berks, Middlesex, Essex, Herts, Suffolk, Salop. r.  
 GEOGR. Europe 3. Siberia.

3. *ALISMA Plantago.*

- HAB. Agr.—?  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—Cornwall. c.  
 GEOGR. Europe 1, 2, 3, 4, 5. N. Africa. Ireland. N. W.  
 Asia. New Holland.

4. *ALISMA ranunculoides.*

- HAB. Agr.—Upl. ?  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—Cornwall, Ross. c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa.

5. *ALISMA natans.*

- HAB. Agr.—Upl. ?  
 TOPOGR. 2, 3, 4, 5.—*Fl. Ang.*—Worcester, Hereford, Salop,  
 Merioneth, Caernarvon, York, Cumberland. Black Loch, six  
 miles from Stranraer (*J. Smith*); *Hook. B. F.* r. r.  
 GEOGR. Europe 2, 3. Ireland. N. Asia. Banks of the St  
 Lawrence.

## LXXIX. BUTOMEÆ.

1. *BUTOMUS umbellatus.*

- HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, (5).—*Fl. Dev. Ton. Ox. Bed. Cam. North.  
 Edin.*—Somerset, Sussex, Essex, Worcester, Warwick, Nor-  
 thampton, Suffolk, Norfolk, Leicester, Caernarvon, Chester,  
 York, Perth. "I consider the county of Durham as the nor-  
 thern limit of *Butomus umbellatus*; for, thirty years since, the  
 late Mr Mackay assured me, that this elegant aquatic had been  
 planted in Duddingstone Loch; and Loch Clunie, bordering on  
 the Highlands, is a still more unlikely original habitat for it;"  
*Winch, N. D.* r. r.  
 GEOGR. Europe 2, 3, 4, 5. Ireland. N. W. Asia.

## LXXX. JUNCAGINEÆ.

1. SCHEUCHZERIA *palustris*.

HAB. Agr. ?  
 TOPOGR. 3.—*Fl.* 0.—Thorne Moor, Yorkshire. v. r.  
 GEOGR. Europe 1, 2, 3, 4, 5. N. Asia. B. America. New York.

3. TRIGLOCHIN *maritimum*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl.* Dev. Cam. Ang. North. Berw. Edin. Mur.—Sutherland. c.  
 GEOGR. Europe 1, 2, 3. Iceland. Ireland. Siberia. B. America. U. States.

4. TRIGLOCHIN *palustre*.

HAB. Agr.—Moor.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl.* omnes.—Caithness. c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. Africa. Siberia. R. B. America. New York.

## LXXXI. ORCHIDEÆ.

1. ORCHIS *fusca*.

HAB. Chalk hills. Agr.  
 TOPOGR. 1.—*Fl.* 0.—Kent, Surry. v. r.  
 GEOGR. Europe 3.

2. ORCHIS *tephrosanthos*.

HAB. Chalk hills. Agr.  
 TOPOGR. 1.—*Fl.* 0.—Kent, Oxford, Berks. r.  
 GEOGR. Europe 3, 4. N. Africa.

3. ORCHIS *militaris*.

HAB. Chalk hills. Agr.  
 TOPOGR. 1.—*Fl.* Ox.—Kent, Middlesex, Bucks, Berks, Hunts. r.  
 GEOGR. Europe 2, 3, 4, 5.



4. ORCHIS *hircina*.

HAB. Chalk hills. Agr.

TOPOGR. 1, (3).—*Fl. 0*.—Kent, Surry, Suffolk. Notts; *Deering* in *Bot. Guide*. Derby; *Colne*, in *Bot. Guide*. r.

GEOGR. Europe 2, 3.

5. ORCHIS *ustulata*.

HAB. Dry chalky pastures; *Hook. B. F.* Sand; *R. B. Bowman*. Agr.

TOPOGR. 1, 2, 3, 4.—*Fl. Dev. Ox. Bed. Cam. North*.—Dorset, Wilts, Hants, Sussex, Kent, Surry, Middlesex, Gloucester, Northampton, Norfolk, Leicester, Lincoln, Notts, Hereford, Salop, Derby, York, Cumberland. r. r.

GEOGR. Europe 2, 3, 5.

6. ORCHIS *Morio*.

HAB. Agr.

TOPOGR. 1, 2, 3, 4.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Edin*.—Dorset, Wilts, Hants, Sussex, Kent, Surry, Middlesex, Gloucester, Northampton, Suffolk, Norfolk, Leicester, Lincoln, Notts, York. It has probably never been found in Scotland. r. r.

GEOGR. Europe 2, 3, 4. Iceland. Ireland. W. Asia.

7. ORCHIS *pyramidalis*.

HAB. Agr.

TOPOGR. 1, 2, 3, 4, (5).—*Fl. Dev. Ox. Bed. Cam. Ang. North*.—Hants, Kent, Surry, Salop, Worcester, Warwick, Suffolk, Norfolk, Caernarvon, York. Colonsay; *Lightfoot*. r. r.

GEOGR. Europe 2, 3, 4. Ireland.

8. ORCHIS *mascula*.

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*. c.

GEOGR. Europe 2, 3, 4, 5. Iceland. Ireland. N. Africa.

9. ORCHIS *latifolia*.

HAB. Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*.—*Ross*, O. Hebrides. c.

GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. Siberia.  
Kamchatka ?

10. *ORCHIS maculata*.

HAB. Agr.—Subalp.  
TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*.—*Cornwall, Caithness*. c.  
GEOGR. Europe 1, 2, 3, 4. Iceland. Ireland. Siberia.

11. *GYMNADENIA conopsea*.

HAB. Agr.—Moor.  
TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Ton. Ox. Bed. Cam. Ang. North. Berw. Edin. Lan. Mur.*—*Hants, Caithness*. c.  
GEOGR. Europe 1, 2, 3, 5. Ireland. Siberia.

12. *HABENARIA bifolia*.

HAB. Agr.—Upl.  
TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*.—*Sutherland*. c.  
GEOGR. Europe 1, 2, 3, 4, 5. Iceland. N. W. Asia.

13. *HABENARIA viridis*.

HAB. Finer but not so frequent on subalpine rocks.  
Agr.—Subalp.  
TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Bed. Cam. Ang. North. Berw. Edin. Lan. Mur.*—*Dorset, Sutherland*. c.  
GEOGR. Europe 1, 2, 3. Iceland. Ireland. N. Asia. U. States. On the Altai above 6500 feet high.

14. *HABENARIA albida*.

HAB. Agr.—Subalp.  
TOPOGR. 3, 5, 6.—*Fl. North. Edin. Lan. Mur.*—*Cardigan, Caernarvon, Chester, York, Cumberland, Stirling, Argyle, Perth, Forfar, Aberdeen, Inverness*. r. r.  
GEOGR. Europe 1, 2, 3, 5. Iceland. Ireland. Greenland.

15. *ACERAS anthropophora*.

HAB. Agr.  
TOPOGR. 1.—*Fl. Cam.*—Also in *Sussex, Kent, Surry, Berks, Suffolk, Norfolk*. r.  
GEOGR. Europe 3, 4.



16. *HERMINIUM monorchis*.

HAB.

Agr.

TOPOGR. 1.—*Fl. Cam.*—Hants, Sussex, Surry, Middlesex,  
Essex, Bucks, Suffolk, Norfolk. r.

GEOGR. Europe 2, 3. Siberia.

17. *OPHRYS fucifera*.

HAB.

Agr.

TOPOGR. 1.—*Fl. 0.*—Kent. v. r.

GEOGR. Europe 3.

18. *OPHRYS arachnites*.

HAB.

Agr.

TOPOGR. 1.—*Fl. 0.*—Kent. v. r.

GEOGR. Europe 3, 4.

19. *OPHRYS aranifera*.

HAB.

Agr.

TOPOGR. 1, 3.—*Fl. Ox. Bed. Cam.*—Surry, Northampton,  
Suffolk, Lincoln. r.

GEOGR. Europe 3, 4.

20. *OPHRYS muscifera*.

HAB. In calcareous soils, as well as most or all of the other  
species. Agr.

TOPOGR. 1, 2, 3.—*Fl. Ton. Bed. Cam. Ang. North.*—Somerset, Hants, Sussex, Surry, Berks, Middlesex, Essex, Herts, Bucks, Worcester, Northampton, Suffolk, Norfolk, Notts, Derby, York. r. r.

GEOGR. Europe 2, 3, 4. "Sweden, found only in Gothland and Oeland, 57° N. L. In Norway, at Snaasen, 64°; and, according to *Flora Danica*, on the island of Langoe, 69°. Its southern limit seems to be the Peleponnesus, in 38°."

21. *OPHRYS apifera*.

HAB.

Agr.

TOPOGR. 1, 2, 3.—*Fl. Dev. Ton. Ox. Bed. Cam. North.*—Dorset, Wilts, Hants, Sussex, Surry, Berks, Middlesex, Herts, Bucks, Worcester, Northampton, Suffolk, Norfolk, Glamorgan,

Salop, Derby, York. The northern limit of the genus is in Durham. r. r.

GEOGR. Europe 3, 4. Ireland.

## 22. GOODYERA *repens*.

HAB.

Upl. ?

TOPOGR. 5, 6.—*Fl. North. Mur.*—Perth, Forfar, Aberdeen, Inverness, Ross. Not now, and perhaps never, found in England. r.

GEOGR. Europe 1, 2, 3. N. Asia. Mountains of Virginia.

## 23. NEOTTIA *spiralis*.

HAB. In chalky or gravelly soils; *Hook. B. F.* In sand on the coasts of Cornwall, Cheshire, and Lancashire. Agr.

TOPOGR. 1, 2, 4.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang.*—*Cornwall*, Hants, Surry, Essex, Worcester, Warwick, Northampton, Suffolk, Norfolk, *Chester, Lancaster, York.* r. r.

GEOGR. Europe 3, 4. Ireland. Siberia.

## 24. LISTERA *Nidus-avis*.

HAB. Often under beech trees.

Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. North. Berw. Edin. Lan.*—Dorset, Somerset, Hants, Sussex, Surry, Berks, Middlesex, Essex, Worcester, Warwick, Suffolk, Norfolk, Glamorgan, Salop, York, Lancaster, Westmoreland, Cumberland, Isle of Man, *Argyle, Perth* r. c.

GEOGR. Europe 2, 3, 5. Iceland.

## 25. LISTERA *ovata*.

HAB. Often on limestone,

Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Sutherland.* c.

GEOGR. Europe 2, 3, 4, 5. Iceland. Ireland.

## 26. LISTERA *cordata*.

HAB. Rare in the Agricultural Zone.

Agr.—Subalp.

TOPOGR. 3, 4, 5, 6.—*Fl. North. Berw. Edin. Lan. Mur.*—*Chester, Derby, York, Lancaster, Cumberland, Wigton, Stirling, Argyle, Perth, Forfar, Aberdeen, Inverness, Ross.* r. r.

GEOGR. Europe 1, 2, 3. Ireland. Siberia.



27. *EPIPACTIS rubra.*

HAB.

TOPOGR. 3.—*Fl.* 0.—York, Gloucester.

GEOGR. Europe 2, 3, 4.

Agr. ?

r.

28. *EPIPACTIS grandiflora.*

HAB.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Ox. Cam.*—Dorset, Wilts, Sussex, Kent, Surry, Berks, Bucks, Gloucester, Worcester, Derby, Westmoreland, Argyle, Perth.

GEOGR. Europe 3, 4. Ireland.

Agr.

r. r.

29. *EPIPACTIS ensifolia.*

HAB.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. North.*—Wilts, Kent, Surry, Warwick, Worcester, Caernarvon, York, Westmoreland, Perth.

GEOGR. Europe 2, 3, 4.

Agr.

r. r.

30. *EPIPACTIS palustris.*

HAB.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ox. Bed. Cam. Ang. North. Berw.*—Dorset, Somerset, Hants, Kent, Surry, Middlesex, Warwick, Worcester, Suffolk, Norfolk, Leicester, Salop, Hereford, Caernarvon, Denbigh, York, Edinburgh, Fife.

GEOGR. Europe 2, 3, 5. Ireland.

Agr.

r. c.

31. *EPIPACTIS latifolia.**purpurata.*

HAB. Often on limestone.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Edin. Lan. Mur.*—Sutherland.

GEOGR. Europe 2, 3, 4, 5. Ireland.

Agr.—Upl.

r. c.

32. *MALAXIS paludosa.*

HAB.

TOPOGR. 1, 3, 4, 5, 6.—*Fl. Ton. Bed. Cam. North.*—Hants, Herts, Norfolk, York, Lancaster, Wigton, Fife, Kinross, Perth, Forfar. Ross; Wilson.

GEOGR. Europe 2, 3. Ireland. Siberia.

Agr.—Upl.

r. c.

33. LIPARIS *Loeselii*.

HAB. Agr.  
 TOPOGR. 1.—*Fl. Cam.*—Suffolk, Norfolk. r.  
 GEOGR. Europe 2, 3.

34. CORALLORHIZA *innata*.

HAB. Agr.—?  
 TOPOGR. 5, 6.—*Fl. Edin.*—Ayr, Forfar, Perth (destroyed),  
 ROSS. r.  
 GEOGR. Europe 1, 2, 3, 5. Iceland. Siberia. B. R. America.

35. CYPRIPIEDUM *Calceolus*.

HAB. ?  
 TOPOGR. 3, 4.—*Fl. North.*—York, Lancaster, Westmoreland.  
 Ingleborough Hill and near Kendal; *Graves*. v. r.  
 GEOGR. Europe 2, 3, 5. Siberia. Japan.

## LXXXII. IRIDEÆ.

1. IRIS *fetidissima*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4.—*Fl. Dev. Ton. Bed. Cam. Ang. North.*—  
 Cornwall, Dorset, Somerset, Wilts, Hants, Sussex, Surry, Mid-  
 dlesex, Essex, Bucks, Warwick, Suffolk, Norfolk, Leicester,  
 Caernarvon, Denbigh, York. r. r.  
 GEOGR. Europe 2, 3, 4. Ireland. N. Africa.

2. IRIS *Pseud-acorus*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Caithness*. c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa.

3. ? CROCUS *vernus*.

HAB. Agr.  
 TOPOGR. (1, 2, 3, 4.)—*Fl. Ang.*—Warwick, Worcester, Suf-  
 folk, Norfolk, Lincoln, Chester, Notts, Surry. r.  
 GEOGR. Europe 3, 4. N. Africa.



4. ? *CROCUS sativus*.

HAB. Agr.  
 TOPOGR. (1, 3, 4).—*Fl. Cam. Ang.*—Essex, Derby, York. r.  
 GEOGR. Europe 3, 4. N. Africa.

5. ? *CROCUS speciosus*.

HAB. Agr.  
 TOPOGR. 4.—*Fl. 0.*—Lancashire. This species is found in various parts of Lancashire, and perhaps some other of the northern stations attributed to *C. nudiflorus*, may belong to it. r.  
 GEOGR. Europe 3.

6. ? *CROCUS nudiflorus*.

HAB. Agr.  
 TOPOGR. (2, 3).—*Fl. 0.*—Warwick, Lincoln, Notts, York. r.  
 GEOGR. Europe 4.

## LXXXIII. AMARYLLIDÆ.

1. ? *NARCISSUS poeticus*.

HAB. Agr.  
 TOPOGR. 1.—*Fl. Ton.*—Surry, Suffolk, Norfolk. Has very slight claim to the British Flora. r.  
 GEOGR. Europe 3, 4.

2. ? *NARCISSUS biflorus*.

HAB. Agr.  
 TOPOGR. (1, 2, 3, 4).—*Fl. Dev. Ton. Ang. North.*—Surry, Middlesex, Herts, Chester, York. r.  
 GEOGR. Europe 3, 4. Ireland ?

3. ? *NARCISSUS Pseudo-Narcissus*.

HAB. Agr.  
 TOPOGR. (1, 2, 3, 4, 5).—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Edin.*—Surry, Essex, Herts, Worcester, Norfolk, Chester, Perth. I am induced to consider it really native from the profusion with which it occurs in some parts of Cheshire, remote from houses ; though several botanists doubt this. r. r.  
 GEOGR. Europe 3, 4. Ireland ?

4. ? *LEUCOJUM æstivum*.

HAB.

Agr.

TOPOGR. (1, 2, 3, 4).—*Fl.* 0.—Kent, Berks, Bucks, Suffolk, Warwick, Westmoreland, Northumberland. “It is difficult to say where this plant is truly native;” *Hook. B. F.* r.

GEOGR. Europe 3, 4.

5. ? *GALANTHUS nivalis*.

HAB.

Agr.

TOPOGR. (1, 2, 3, 4, 5).—*Fl. Dev. Bed. Ang. North. Edin. Lan.*  
—Introduced, but from its general cultivation often found half-wild in old neglected gardens, shrubberies, and other places near houses. r. r.

GEOGR. Europe 3, 4.

## LXXXIV. TAMEÆ.

1. *TAMUS communis*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4,—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North.*  
—Cornwall, Surry; Norfolk, Leicester, *Caernarvon, Chester.*  
York. r. r.

GEOGR. Europe 3, 4. N. Africa.

## LXXXV. SMILACEÆ.

1. *RUSCUS aculeatus*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Cam. North. Lan. Mur. !*—Cornwall, *Hants*, Surry, Ayr. r. r.

GEOGR. Europe 3, 4. N. Africa.

2. *CONVALLARIA Polygonatum*.

HAB.

Agr.

TOPOGR. 1, 2, 3.—*Fl. North. Berw.*—Kent, Somerset, Wilts, Hants, Surry, Pembroke, York. Mr Embleton informs that



it is now extinct on Kyloe Rocks near Berwick, so that it should be expunged from the two Floras quoted. r.

GEOGR. Europe 2, 3, 4, 5. Japan. In Sweden from 60°.

### 3. CONVALLARIA *multiflora*.

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Bed. North. Lan.*—Dorset, Hants, Surry, Kent, Berks, Bucks, Gloucester, Suffolk, Derby, York, Lancaster, Westmoreland, Dumfries. r. r.

GEOGR. Europe 2, 3, 4, 5. Japan. Canada to Carolina.

### 4. CONVALLARIA *majalis*.

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Ton. Ox. Bed. Cam. North. Edin. Lan. Mur.*—Hay Woods (Warwickshire?); *Bree in Mid. Flora. Cheshire*; *Dr Bostock in Withering's Brit. Plants.* r. c.

GEOGR. Europe 1, 2, 3, 4, 5. Siberia. U. States.

### 5. CONVALLARIA *verticillata*.

HAB. Upl. ?

TOPOGR. 5.—*Fl. 0.*—Perthshire. v. r.

GEOGR. Europe 1, 2, 3. Siberia.

### 6. PARIS *quadrifolia*.

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Ox. Bed. North. Edin. Lan. Mur.* r. c.

GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. Siberia. Japan.

## LXXXV. ASPHODELEÆ.

### 1. ANTHERICUM *serotinum*.

HAB. Subalp. ?

TOPOGR. 4.—*Fl. 0*—On Snowdon and mountains immediately adjacent. v. r.

GEOGR. Europe 3. Siberia. R. America.

2. ORNITHOGALUM *pyrenaicum*.

HAB. Agr.  
 TOPOGR. 1, 2.—*Fl. Bed. Cam.*—Somerset, Wilts, Sussex,  
 Middlesex. r.  
 GEOGR. Europe 3, 4. N. Africa.

3. ? ORNITHOGALUM *nutans*.

HAB. Agr.  
 TOPOGR. (1, 3.)—*Fl. North.*—Suffolk, Norfolk, Bedford, Not-  
 ingham, Derby. r.  
 GEOGR. Europe 4.

4. ? ORNITHOGALUM *umbellatum*.

HAB. Agr.  
 TOPOGR. (1, 2, 3, 4, 5.)—*Fl. Dev. Ox. Bed. Cam. Ang. Lan.*  
*Mur.!*—Cornwall, Sussex, Surry, Bucks, Gloucester, Warwick,  
 Suffolk, Norfolk, Pembroke, Denbigh, Chester, York. Intro-  
 duced. r. r.  
 GEOGR. Europe 3, 4. N. Africa.

5. GAGEA *lutea*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ox. North. Edin.*—Somerset,  
 Chester, Derby, York, Westmoreland, Perth, Forfar. r. r.  
 GEOGR. Europe 2, 3, 5. N. Asia. In Sweden from 60½°.

6. SCILLA *autumnalis*.

HAB. Agr.  
 TOPOGR. 1, 2, 4.—*Fl. Dev.*—*Cornwall*, Somerset, Hants,  
 Kent, Surry. Isle of Man; *J. Macnab*. r.  
 GEOGR. Europe 3, 4. N. Africa.

7. SCILLA *verna*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Ang. North. Berw.*—Cornwall,  
 Hants, Glamorgan, Pembroke, Cardigan, *Caernarvon*, Argyle,  
 Sutherland, Caithness, O. Hebrides. r. r.  
 GEOGR. Europe 3, 4. Ireland. Faroe.



8. *HYACINTHUS non-scriptus*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*.—*Cornwall*, Ross. c.  
 GEOGR. Europe 2, 3, 4. Ireland. W. Asia.

9. ? *MUSCARI racemosa*.

HAB. Agr.  
 TOPOGR. (1.)—*Fl. 0*.—*Suffolk*, *Norfolk*. Not indigenous. r.  
 GEOGR. Europe 3, 4.

10. *ALLIUM Ampeloprasum*.

HAB. Agr.  
 TOPOGR. 2, (4).—*Fl. 0*.—*Holmes Island* in the *Severn*. *Cum-*  
*berland*, probably an error. v. r.  
 GEOGR. Europe 3, 4.

11. *ALLIUM Schænoprasum*.

HAB. Agr.—?  
 TOPOGR. 2, 3, 4, 5.—*Fl. North. Berw. Edin. Lan.*—*Cornwall*,  
*York*, *Lancaster*, *Westmoreland*, *Argyle*. r. r.  
 GEOGR. Europe 1, 2, 3.

12. *ALLIUM vineale*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang.*  
*North. Berw. Edin. Lan.*—*Surry*, *Northampton*, *Caernarvon*,  
*York*. r. c.  
 GEOGR. Europe 2, 3. Ireland. Siberia. U. States.

13. *ALLIUM carinatum*.

HAB. Agr.  
 TOPOGR. 1, 3, 4, 5.—*Fl. 0*.—*South-east coast of England*;  
*Hook. B. F.* *York*, *Westmoreland*, *Forfar*. r. r.  
 GEOGR. Europe 2, 3, 5. Ireland.

14. *ALLIUM oleraceum*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Cam. North. Berw. Edin.*—*Somer-*  
*set*, *Surry*, *Essex*, *Norfolk*, *York*, *Westmoreland*, *Cumberland*,  
*Forfar*. r. c.  
 GEOGR. Europe 1, 2, 3. W. Asia.

15. *ALLIUM arenarium.*

HAB. Agr.  
 TOPOGR. 3, 4, 5.—*Fl. North. Berw.*—York, Lancaster, West-  
 moreland, Cumberland, Perth, Forfar. r. r.  
 GEOGR. Europe 2, 3. Ireland. Japan.

16. *ALLIUM ursinum.*

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—Ross. c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland. N. W. Asia. Aleu-  
 tian Isles.

17. *ASPARAGUS officinalis.*

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ang. Edin.*—Cornwall, Dorset,  
 Somerset, Hants, Kent, Gloucester, Norfolk, Lincoln, Glamor-  
 gan, Lancaster. r. c.  
 GEOGR. Europe 2, 3, 4, 5.

## LXXXVII. TULIPACEÆ.

1. *TULIPA sylvestris.*

HAB. Agr.  
 TOPOGR. (1, 2, 3, 4, 5).—*Fl. Dev. Bed. North. Lan.*—Dorset,  
 Middlesex, Warwick, Worcester, Suffolk, Norfolk, Herts, For-  
 far. Scarcely a naturalized plant in Scotland. r.  
 GEOGR. Europe 3, 4. Siberia.

2. *FRITILLARIA Meleagris.*

HAB. Agr.  
 TOPOGR. 1, 2, 3.—*Fl. Ox. Bed. Cam.*—Dorset, Surry, Berks,  
 Middlesex, Bucks, Suffolk, Norfolk, Leicester, Warwick, Staf-  
 ford. r.  
 GEOGR. Europe 2, 3. N. Africa. Siberia.

## LXXXVIII. MELANTHACEÆ.

1. *COLCHICUM autumnale.*

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ox. Bed. Cam. North.*—Dor-



Wilts, Hants, Somerset, Worcester, Warwick, Northampton, Suffolk, Nottingham, Hereford, Flint, Chester, Stafford, Derby, York, Lancaster, Clackmannan. r. r.

GEOGR. Europe 3, 4.

## 2. TOFIELDIA *palustris*.

HAB. Upl.—Subalp.

TOPOGR. 3, 5, 6.—*Fl. North. Mur.*—York, Argyle, Perth, Forfar, Inverness. r.

GEOGR. Europe 1, 2, 3, 5. Iceland. Siberia. Greenland. B. R. America.

# LXXXIX. TYPHINÆ.

## 1. TYPHA *angustifolia*.

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Ton. Bed. Cam. Ang. North.*—Dorset, Surry, Essex, Suffolk, Norfolk, Leicester, Chester, York, Fife. r. c.

GEOGR. Europe 2, 3, 4, 5. N. Africa. Cape of Good Hope. New Holland. U. States. At the Cape, it grows in a warm stream, temperature 102° Fahrenheit. *Vide Bot. Misc.* A great range of temperature from this to the waters of northern Europe.

## 2. TYPHA *latifolia*.

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.* c.

GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa. Asia. B. America. U. States.

## 3. SPARGANIUM *simplex*.

HAB. Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—O. Hebrides. c.

GEOGR. Europe 2, 3, 5. Ireland. N. Africa. Siberia. B. America. U. States.

## 4. SPARGANIUM *ramosum*.

HAB. Agr.—Upl.?

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—Cornwall. c.

GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa. Siberia. B. America. U. States.

5. SPARGANIUM *natans*.

HAB.

Agr.—Moor.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Cam. Ang. North. Edin. Lan. Mur.*—Essex, Warwick, *Sutherland*. r. c.

GEOGR. Europe 1, 2, 3, 5. Iceland. Ireland. U. States. R. America.

## XC. AROIDEÆ.

1. ACORUS *Calamus*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Bed. Cam. North. Lan.*—Dorset, Somerset, Surry, Middlesex, Essex, Warwick, Worcester, Suffolk, Norfolk, Leicester, Stafford, Chester, Derby, York, Wigton, Ayr. r. r.

GEOGR. Europe 2, 3, 4, 5. B. America. U. States. India ?

2. ARUM *maculatum*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—Rare in Scotland. r. c.

GEOGR. Europe 2, 3, 4. Ireland. N. Africa.

## XCI. FLUVIALES.

1. POTAMOGETON \* *oblongus*.

HAB.

Agr.

TOPOGR. 1.—*Fl. 0.*—Sussex ?

v. r.

GEOGR. Europe 3.

2. POTAMOGETON *acutifolius*.

HAB.

Agr.

TOPOGR. 1.—*Fl. 0.*—Sussex.

v. r.

GEOGR. Europe 3, 4.

\* The species of this genus I am very little acquainted with, and find the published *data* insufficient for determining their ranges.



3. POTAMOGETON *densus*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Edin. Lan.*—Surry, Norfolk, York, Roxburgh. r. c.  
 GEOGR. Europe 3, 4. N. Africa.

4. POTAMOGETON *gramineus*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ox. Bed. Cam.*—Dorset, Norfolk, Leicester, Flint, Chester, York, Forfar. r. c.  
 GEOGR. Europe 1, 2, 3, 4. New Holland.

5. POTAMOGETON *zosteræfolius*.

HAB. Agr.  
 TOPOGR. 3, 5.—*Fl. 0.*—York, Forfar. r.  
 GEOGR. Europe 2, 3.

6. POTAMOGETON *rufescens*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Ang. North. Berw. Edin. Lan.*—Suffolk, Norfolk, Salop, Forfar, Aberdeen. r. c.  
 GEOGR. Europe 2, 3.

7. POTAMOGETON *lanceolatus*.

HAB. Agr.  
 TOPOGR. 3, 4, 5, 6.—*Fl. Ang. Mur.*—York, Forfar, Kincardine. r. r.  
 GEOGR. Europe 3.

8. POTAMOGETON *pectinatus*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Ton. Ox. Bed. Cam. Ang. North. Berw. Edin. Mur.* c.  
 GEOGR. 2, 3, 4, 5. Iceland. Ireland. B. America. U. States.

9. POTAMOGETON *pusillus*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Berw. Edin. Mur.* c.  
 GEOGR. Europe 1, 2, 3, 5. Iceland. Ireland. B. America. U. States.

10. POTAMOGETON *crispus*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.* c.  
 GEOGR. Europe 2, 3, 5. Iceland. Ireland. New Holland.  
 Canada to Virginia.

11. POTAMOGETON *perfoliatus*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang.*  
*North. Berw. Lan. Mur.* c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Iceland. N. Africa. Siberia.  
 New Holland. B. America. U. States.

12. POTAMOGETON *heterophyllus*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Cam. Ang. North. Berw. Lan.*  
*Mur.*—Norfolk, Salop, O. Hebrides. c.  
 GEOGR. Europe 2, 3, 5. Ireland. U. States.

13. POTAMOGETON *lucens*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang.*  
*North. Berw. Edin. Lan.*—O. Hebrides. c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa. U. States.

14. POTAMOGETON *natans*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—O. Hebrides. c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. Af-  
 rica. N. W. Asia. New Holland. U. States.

15. RUPPIA *maritima*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Cam. North. Edin.*—Corn-  
 wall, Dorset, Wilts, Hants, Essex, Suffolk, Norfolk, Caernar-  
 von, York. r. r.  
 GEOGR. Europe 2, 3, 4. Ireland. U. States. Sandwich Is-  
 lands.



16. *ZOSTERA marina*.

HAB. The most truly *marine* of all our phænogamous plants. Agr.—?

TOPOGR. 2, 3, 4, 5, 6.—*Fl. Dev. Ang. North. Edin. Mur.*—  
Kirkcudbright, Forfar. r. c.

GEOGR. Europe 1, 2, 3, 4. Iceland. Ireland. N. Africa.  
New Holland. U. States.

17. *ZANNICHELLIA palustris*.

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Cam. Ang. North. Berw. Edin. Lan.*—Gloucester, Warwick, Suffolk, Norfolk, Isle of Man. r. c.

GEOGR. Europe 2, 3, 4, 5. Ireland. U. States.

18. *LEMNA gibba*.

HAB. Agr.

TOPOGR. 1, 2, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Edin.*—Sussex, Surry, Warwick, Suffolk. r. r.

GEOGR. Europe 2, 3. Ireland. U. States.

19. *LEMNA polyrhiza*.

HAB. Agr.

TOPOGR. 1, 2, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Edin.*—Sussex, Surry, Suffolk. r. c.

GEOGR. Europe 2, 3, 5. N. Africa? U. States.

20. *LEMNA trisulca*.

HAB. Agr.

TOPOGR. 1, 2, 3, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. North. Berw. Edin.*—Sussex, Surry, Suffolk, Norfolk, Worcester, Forfar. c.

GEOGR. Europe 1, 2, 3, 5. Ireland. B. America.

21. *LEMNA minor*.

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.* v. c.

GEOGR. Europe 2, 3, 5. Ireland. N. Africa. E. W. Asia.  
B. America. U. States.

## XCII. JUNCEÆ.

1. NARTHECIUM *ossifragum*.

HAB. Agr.—Alp.  
 TOPOGR. 1, 2, 3, 4, 5, 6. — *Fl. Dev. Ton. Bed. Cam. Ang.*  
*North. Berw. Edin. Lan. Mur.*—*Cornwall, Sutherland.* c.  
 GEOGR. Europe 1, 2, 3. Ireland. Faroe.

2. LUZULA *Forsteri*.

HAB. Agr.  
 TOPOGR. 1, 2, 5. — *Fl. Dev. Ton.* — Sussex, Surry, Berks,  
 Essex, Cardigan, Ayr, Forfar. r. r.  
 GEOGR. Europe 3.

3. LUZULA *pilosa*.

HAB. Agr.—Moor.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—Ross, O. Hebrides. c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. Africa.  
 N. E. Asia. Greenland. Labrador.

4. LUZULA *campestris*.

HAB. Agr.—Alp.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Sutherland.* v. c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. E.  
 Asia. New Holland. Spitzbergen? Greenland. R. B. Ame-  
 rica. U. States.

5. LUZULA *sylvatica*.

HAB. Agr.—Alp.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Ang. North.*  
*Berw. Edin. Lan. Mur.*—*Sutherland.* c.  
 GEOGR. Europe 1, 2, 3, 4. Ireland. Labrador? Wahlen-  
 berg considers it a doubtful native of Sweden; but, from the  
 great height to which it reaches in Britain, we might expect a  
 long northern range.

6. LUZULA *spicata*.

HAB. Very rare in the Upland Zone, but it occurs on stone-  
 walls in a fir-wood between Castleton in Braemar and Inver-



cauld Bridge, at the elevation of about 1100 feet above the sea. Hence it rises to the summit of Ben-na-muich-duich, above 4300 feet high, where it flowers freely. Upl.—Sno.

TOPOGR. (4), 5, 6.—*Fl. Mur.*—Caernarvon? (Griffith), *Argyle, Perth, Aberdeen, Inverness, Sutherland.* r.

GEOGR. Europe 1, 2, 3, 5. Iceland. N. Asia. Greenland. Labrador. R. America.

### 7. *LUZULA arcuata.*

HAB. On Ben-na-muich-duich its range is between 4000 feet and the summit. I have not seen the other stations. Alp.?—Sno.

TOPOGR. 6.—*Fl. Mur.*—Cairngorum range between Aberdeen and Inverness shires, and on Fonniven in Sutherland. v. r.

GEOGR. Lapland. If *L. hyperborea* be the same species, it is found in America from Melville Island to Labrador and the Rocky Mountains? Kotzebue's Sound.

### 8. *JUNCUS acutus.*

HAB. Agr.

TOPOGR. 1, 2, 4, 5.—*Fl. Dev.*—Cornwall, Dorset, Suffolk, Norfolk, Glamorgan, Caermarthen, Pembroke, Merioneth, Caernarvon, Flint, Chester, Kirkcudbright. r. r.

GEOGR. Europe 3, 4. Ireland. N. Africa. U. States.

### 9. *JUNCUS obtusiflorus.*

HAB. Agr.

TOPOGR. 1, 2, 3, 5.—*Fl. Ton. Cam. Ang. North. Edin.*—York, Salop, Forfar. r. c.

GEOGR. Europe 1, 2, 3, 4. Ireland. Siberia.

### 10. *JUNCUS glaucus.*

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Berw. Edin. Lan.*—Somerset, Norfolk, Chester, Derby, Forfar. r. c.

GEOGR. Europe 1, 2, 3, 4, 5. Ireland. B. America.

11. *JUNCUS maritimus*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ang. North. Mur.*—Norfolk, Ayr, Fife. r. c.  
 GEOGR. Europe 3, 4. Ireland. N. Africa. New Holland.

12. *JUNCUS lampocarpus*.

HAB. Agr.—?  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Cam. Ang. North. Berw. Edin. Lan. Mur.*—Cornwall. r. c.  
 GEOGR. Europe 2, 3. Ireland.

13. *JUNCUS compressus*.

HAB. Agr.—?  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*, (if *J. bulbosus* of *Fl. Cant.* and *Welsh Bot.* belongs to it.) c.  
 GEOGR. Europe 2, 3.

14. *JUNCUS filiformis*.

HAB. Agr.—?  
 TOPOGR. 4.—*Fl. 0.*—Chester? Lancaster, Westmoreland, Cumberland. “Ben Lawers (Mr Dickson), and several parts of Scotland (G. Don), but I have never seen Scottish specimens;” *Hook. Br. Fl.* r.  
 GEOGR. Europe 1, 2, 3. Kamchatka. B. America.

15. *JUNCUS acutiflorus*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Cam. Ang. North. Berw. Edin. Mur.*—Cornwall, Sutherland. c.  
 GEOGR. Europe 2, 3, 4. Ireland.

16. *JUNCUS conglomeratus*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.* c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland.

17. *JUNCUS Balticus*.

HAB. Agr.—Upl.  
 TOPOGR. 5, 6.—*Fl. Mur.*—Forfar, Sutherland, O. Hebrides. r.  
 GEOGR. Europe 2, 3. Newfoundland.



18. *JUNCUS uliginosus*.

HAB. Agr.—Moor.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*.—*Cornwall, Caithness*. v. c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland.

19. *JUNCUS effusus*.

HAB. Agr.—Moor.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*.—*Cornwall, Caithness*. c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. Africa.  
 E. W. Asia. New Holland. N. America; *Sp. Plant*.

20. *JUNCUS bufonius*.

HAB. Agr.—Moor.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*.—*Cornwall, Caithness*. c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. Africa.

21. *JUNCUS squarrosus*.

HAB. Agr.—Alp.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*.—*Caithness*. c.  
 GEOGR. Europe 1, 2, 3, 4. Iceland. Ireland.

22. *JUNCUS triglumis*.

HAB. At 2500 feet in the north of England; *Winch*.  
 Moor.—Alp.  
 TOPOGR. 3, 5, 6. — *Fl. North. Mur.* — *Caernarvon, York,*  
*Westmoreland, Cumberland, Argyle, Perth, Forfar*. r.  
 GEOGR. Europe 1, 2, 3. Iceland. Faroe. N. Asia. B. Ame-  
 rica? Altai, between 4500 and 6500 feet of elevation.

23. *JUNCUS trifidus*.

HAB. Most abundant on the granite mountains, and forming  
 a principal component of their vegetation between 3000 and  
 3500 feet of elevation. Moor.—Sno.  
 TOPOGR. 5, 6.—*Fl. Mur.*—*Perth, Forfar, Aberdeen, Inverness,*  
*Ross, Sutherland*. r.  
 GEOGR. Europe 1, 2, 3. Iceland. Faroe. Greenland.

24. *JUNCUS castaneus*.

HAB. Subalp.—Alp.  
 TOPOGR. 3, (5), 6.—*Fl. North.*—Perth, *Forfar*, *Aberdeen*.  
 Extremely rare, if at all found, in England. v. r.  
 GEOGR. Europe 2, 3. B. America.

25. *JUNCUS tenuis*.

HAB. ?  
 TOPOGR. 5.—*Fl. 0.*—Clova Mountains; *G. Don*. v. r.  
 GEOGR. America and various parts of Europe; *Hook. Br. Fl.*  
 Sir James Smith says, that the Scottish and American plants  
 are not the same species, whilst Dr Hooker affirms, on the tan-  
 gible authority of American specimens, that they are identical.

26. *JUNCUS biglumis*.

HAB. Subalp.—Alp.  
 TOPOGR. 5, 6.—*Fl. Mur.*—Arran, Stirling, Argyle, *Perth*,  
*Forfar*, Inverness. r.  
 GEOGR. Europe 1, 2. Iceland. Faroe. B. America, from  
 Melville Island.

## XCIII. RESTIACEÆ.

1. *ERIOCAULON septangulare*.

HAB. Upl. ?  
 TOPOGR. 6.—*Fl. 0.*—Hebrides. v. r.  
 GEOGR. Ireland.

## XCIV. CYPERACEÆ.

1. *ERIOPHORUM pubescens*.

HAB. Agr.—?  
 TOPOGR. 1, 3, 4, 5, (6).—*Fl. North. Berw.*—Caernarvon,  
 York, Ross? Cambridge, Kent. “Not unfrequent;” *Sup. Eng.*  
*Bot.* r. c.  
 GEOGR. Europe 3.



2. *ERIOPHORUM vaginatum*.

HAB. Agr.—Subalp.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. North. Berw. Edin. Lan. Mur.*—Cornwall, Sutherland. c.  
 GEOGR. Europe 1, 2, 3, 5. Iceland. Ireland. Siberia. U. States.

3. *ERIOPHORUM polystachion*.*angustifolium*.*gracile*.

N. B. "Mr Wilson has examined these three, all growing together, and has sought carefully, but in vain, for permanent characters;" *Hook. Br. Fl.*

HAB. Agr.—Alp.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—Sutherland. c.  
 GEOGR. Europe 1, 2, 3, 5. Iceland. Ireland. Siberia. America, from Melville Island to the U. States, from Greenland to Behring's Straits.

4. *ERIOPHORUM capitatum*.

HAB. Sno. ?  
 TOPOGR. 5.—*Fl. 0.*—Perthshire. v. c.  
 GEOGR. Europe 1, 2, 3. Iceland. Greenland. Spitzbergen. R. B. America, from Melville Island southward.

5. *ELYNA caricina*.

HAB. Altitude of 2000 feet on Cronkley Fell. Upl. ?—Subalp.  
 TOPOGR. 2, 3, 5.—*Fl. Dev. North.*—York, Perth. r.  
 GEOGR. Europe 2, 3.

6. *CYPERUS fuscus*.

HAB. Agr.  
 TOPOGR. 1.—*Fl. 0.*—Meadows near Little Chelsea. v. r.  
 GEOGR. Europe 2, 3, 4, 5. N. Africa.

7. *CYPERUS longus*.

HAB. Agr.  
 TOPOGR. 1, 2.—*Fl. 0.*—Wilts, Kent, Somerset, Pembroke. v. r.  
 GEOGR. Europe 3, 4. N. Africa.

8. *SCIRPUS triquetus*.

HAB. Agr.  
 TOPOGR. 1.—*Fl.* 0.—Kent, Middlesex, Norfolk. v. r.  
 GEOGR. Europe 3. New Holland. S. America.

9. *SCIRPUS carinatus*.

HAB. Agr.  
 TOPOGR. 1, 3.—*Fl. North.*—Sussex, London. v. r.  
 GEOGR. Europe 3.

10. *SCIRPUS Holoschænus*.

HAB.  
 TOPOGR. 1, 2, (4).—*Fl. Dev.*—Somerset, Hants, Worcester.  
 Cumberland; *Hutchinson* in *Bot. Guide*. Perhaps an error. v. r.  
 GEOGR. Europe 3, 4. N. Africa.

11. *SCIRPUS maritimus*.

HAB.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Cam. Ang. North. Berw.*  
*Edin.*—*Cornwall*, Ross. c.  
 GEOGR. Europe 2, 3, 4. Ireland. N. Africa. New Hol-  
 land. B. America.

12. *SCIRPUS sylvaticus*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. North. Berw. Edin.*  
*Lan.*—Dorset, Sussex, Surry, Berks, Middlesex, Essex, War-  
 wick, Pembroke, Herts, Worcester, Northampton, Suffolk, Nor-  
 folk, Leicester, Nottingham, Salop, York, *Lancaster*, Dumfries,  
 Stirling, Perth, Forfar. r. c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa. B. Ame-  
 rica. In Sweden terminates with the oak, about 60°; *Wahl*.

13. *SCIRPUS setaceus*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall*, *Sutherland*. c,  
 GEOGR. Europe 2, 3, 4. Iceland. Ireland. New Holland.

14. *SCIRPUS lacustris*.

HAB. Agr.—Moor.?  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang.*  
*North. Berw. Edin. Mur.*—*Cornwall*, *Sutherland*. r. c.



GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. Africa.  
New Holland. Siberia. Canada. U. States.

15. *ELEOCHARIS acicularis*.

HAB. Agr.—?

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Cam. Ang. Edin.*—  
Dorset, Berks, Essex, Bucks, Gloucester, Worcester, Warwick,  
Suffolk, York, Cumberland, Perth, Forfar. r. c.

GEOGR. Europe 1, 2, 3, 5. Iceland. Ireland. Siberia. U.  
States.

16. *ELEOCHARIS fluitans*.

HAB.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Ang. North. Berw.*  
*Edin. Lan. Mur.*—*Cornwall*. c.

GEOGR. Europe 2, 3. Ireland.

17. *ELEOCHARIS multicaulis*.

HAB. Agr.—Upl.?

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Cam. Ang. North. Edin.*  
—*Cornwall, Inverness, Sutherland?* r. c.

GEOGR. Europe 1, 2, 3.

18. *ELEOCHARIS palustris*.

HAB. Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*. c.

GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. Africa.  
Siberia. B. America. U. States.

19. *ELEOCHARIS pauciflora*.

HAB. Agr.—Moor.?

TOPOGR. 1, 3, 4, 5, 6.—*Fl. Ox. Cam. Ang. North. Berw. Edin.*  
*Mur.*—Hants, Sussex, Essex, Herts, Suffolk, Norfolk, York,  
Kinross, Perth, Forfar. r. c.

GEOGR. Europe 3. Ireland.

20. *ELEOCHARIS cæspitosa*.

HAB. Agr.—Alp.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Bed. Cam. Ang. North.*  
*Berw. Edin. Lan. Mur.*—*Cornwall, Sutherland*. v. c.

GEOGR. Europe 1, 2, 3. Iceland. Ireland. N. Asia. Green-  
land. B. America.

21. CLADIUM *Mariscus*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Cam. Ang. North.*—*Cornwall*, Dorset, Kent, Surry, Worcester, Northampton, Suffolk, Norfolk, Leicester, Glamorgan, Warwick, Chester, York, Westmoreland, Galloway, Forfar (now extinct). r. r.

GEOGR. Europe 2, 3, 4. Ireland. N. Africa. New Holland.

22. RHYNOSPORA *fusca*.

HAB.

Agr.

TOPOGR. 2, (3).—*Fl. 0.*—*Glamorgan*, York?

r.

GEOGR. Europe 2, 3. Ireland.

23. RHYNOSPORA *alba*.

HAB.

Agr.—Moor.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Bed. Cam. North. Lan. Mur.*—*Cornwall*, *Sutherland*. c.

GEOGR. Europe 1, 2, 3, 5. Ireland.

24. SCHÆNUS *nigricans*.

HAB.

Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ox. Bed. Cam. Ang. North. Berw. Edin. Mur.*—*Cornwall*, *Sutherland*, Suffolk. r. c.

GEOGR. Europe 2, 3, 4. Ireland. N. Africa.

25. BLYSMUS *compressus*.

HAB.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Cam. North. Berw. Edin.*—Kent, Suffolk, Norfolk, Flint, York, Westmoreland, Cumberland, Dunbarton, Argyle. r. c.

GEOGR. Europe 2, 3, 5. Iceland.

26. BLYSMUS *rufus*.

HAB.

TOPOGR. 3, 4, 5, 6.—*Fl. Ang. North. Edin. Mur.*—Lancaster, Westmoreland, Argyle, Dunbarton, Forfar, Inverness, *Sutherland*, Shetland. r. r.

GEOGR. Europe 1, 2, 3. Ireland.



27. *CAREX tomentosa.*

HAB. Agr.  
 TOPOGR. 1.—*Fl.* 0.—Near Mearston Measey, Wiltshire. v. r.  
 GEOGR. Europe 2, 3.

28. *CAREX clandestina.*

HAB. Limestone rocks; *Hook. B. F.* Agr.  
 TOPOGR. 2.—*Fl.* 0.—Somerset. v. r.  
 GEOGR. Europe 3.

29. *CAREX digitata.*

HAB. In limestone countries; *Hook. B. F.* Agr.  
 TOPOGR. 2, 3.—*Fl.* 0.—Somerset, York. v. r.  
 GEOGR. Europe 1, 2, 3, 4, 5.

30. *CAREX elongata.*

HAB. Agr.  
 TOPOGR. 3, 4.—*Fl.* 0.—Chester, York. v. r.  
 GEOGR. Europe 2, 3, 4, 5. Iceland. In Sweden, from 63°  
 N. Lat.

31. *CAREX Pseudo-Cyperus.*

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Cam.*—Dorset, Sussex,  
 Berks, Middlesex, Essex, Bucks, Worcester, Suffolk, Norfolk,  
 Leicester, Denbigh, York, Argyle. r. c.  
 GEOGR. Europe 2, 3, 5. Iceland. Ireland. New Holland.  
 U. States.

32. *CAREX divulsa.*

HAB. Agr.  
 TOPOGR. 1, 3, 5.—*Fl. Ton. Ox. Bed. Cam. North.*—Norfolk,  
 York. Near Glasgow. r. r.  
 GEOGR. Europe 2, 3, 4. U. States.

33. *CAREX Davalliana.*

HAB. Agr.  
 TOPOGR. 2, (3, 5).—*Fl. Edin.*—Somerset, York. v. r.  
 GEOGR. Europe 3. Ireland.

34. *CAREX extensa.*

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ang. North. Edin.*—*Cornwall, Essex, Norfolk, Lancaster.* r. r.  
 GEOGR. Europe 3, 4. Ireland.

35. *CAREX strigosa.*

HAB. Agr.  
 TOPOGR. 1, 3, 4, 5.—*Fl. Ton. Ox. Bed. Cam. Edin.*—*Sussex, Essex, Norfolk, Denbigh, York.* r. r.  
 GEOGR. Europe 3. Ireland.

36. *CAREX depauperata.*

HAB. Agr.  
 TOPOGR. 1, 5.—*Fl. Dev.*—*Kent, Surry, Forfar.* r.  
 GEOGR. Europe 3, 4.

37. *CAREX divisa.*

HAB. Agr.  
 TOPOGR. 1, 2, 3, 5.—*Fl. Dev.*—*Sussex, Middlesex, Essex, Norfolk, York, Forfar.* r. r.  
 GEOGR. Europe 3. Ireland.

38. *CAREX levigata.*

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ang. North. Berw. Edin. Lan.*  
 —*Cornwall, Hants, Sussex, Berks, Essex, York, Forfar.* r. c.  
 GEOGR. Europe 3, 4. Ireland.

39. *CAREX intermedia.*

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ox. Bed. Cam. Ang. North. Berw. Edin.*—*Norfolk, York, Forfar.* r. c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland.

40. *CAREX pendula.*

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Bed. Cam. North. Berw. Edin. Lan.*—*Dorset, Sussex, Kent, Middlesex, Essex, Herts, Worcester, Warwick, Suffolk, Leicester, Hereford, Salop, Caernarvon, Denbigh, York, Ayr, Perth, Forfar.* r. c.  
 GEOGR. Europe 3, 4. Ireland.



41. *CAREX limosa.*

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Ang. North. Berw.*—Somerset, Norfolk, York, Lancaster, Westmoreland, Cumberland, Perth, Forfar, Argyle.

r. c.

GEOGR. Europe 1, 2, 3, 5. Iceland. Siberia. B. America.

42. *CAREX acuta.*

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*

c.

GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. Siberia. U. States.

43. *CAREX paniculata.*

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*

c.

GEOGR. Europe 1, 2, 3. Ireland. Siberia? U. States.

44. *CAREX vulpina.*

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*

c.

GEOGR. Europe 2, 3, 4, 5. Iceland. Ireland. Japan.

45. *CAREX hirta.*

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*

c.

GEOGR. Europe 2, 3, 4, 5. Iceland. Ireland.

46. *CAREX paludosa.*

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Cam. Ang. North. Berw. Edin. Lan. Mur.*

r. c.

GEOGR. Europe 2, 3, 4, 5. Ireland.

47. *CAREX muricata.*

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Edin. Lan. Mur.*

c.

GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa. Siberia. States.

48. *CAREX teretiuscula.*

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Cam. Ang. Edin. Lan. Mur.* c.  
 GEOGR. Europe 2, 3.

49. *CAREX remota.*  
*tenella?*

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. North. Berw. Edin. Lan. Mur.*—*C. tenella* was found by Mr Don in Forfarshire. Dr Hooker suggests its being a starved state of *C. remota.* c.  
 GEOGR. Europe 3, 4. Ireland. Japan. B. America. U. States.

50. *CAREX filiformis.*

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Cam. Ang. Edin.*—Inverness. r. c.  
 GEOGR. Europe 1, 2, 3, 5. Ireland.

51. *CAREX fulva.*

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Cam. Ang. North. Mur.*—Sussex. r. c.  
 GEOGR. Europe 2, 3. Ireland.

52. *CAREX præcox.*

HAB. Agr.—?  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.* c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland.

53. *CAREX ampullacea.*

HAB. Agr. ?  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ox. Bed. Cam. Ang. North. Berw. Edin. Lan. Mur.* c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. Siberia. British America.



54. *CAREX axillaris*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Cam. Edin.*—Essex, Suffolk,  
 Norfolk, Chester, York, Perth. r. r.  
 GEOGR. Europe 3. Ireland.

55. *CAREX riparia*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang.*  
*North. Berw. Edin. Lan.*—Ross, O. Hebrides. c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland.

56. *CAREX ovalis*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Sutherland.* c.  
 GEOGR. Europe 3, 4, 5. Ireland. N. Asia. U. States.

57. *CAREX arenaria*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ang. North. Berw. Edin.*  
*Mur.*—*Cornwall,* O. Hebrides. c.  
 GEOGR. Europe 2, 3, 4. Iceland. Ireland. U. States.

58. *CAREX incurva*.

HAB. Agr.—Upl.  
 TOPOGR. 5, 6.—*Fl. Mur.*—Fife, Aberdeen, Sutherland, Caith-  
 ness. r.  
 GEOGR. Europe 1, 2, 3, 4.

59. *CAREX sylvatica*.

HAB. Agr.—Moor.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang.*  
*North. Berw. Edin. Lan.*—Suffolk, Norfolk, York, Forfar. r. c.  
 GEOGR. Europe 3, 4. Ireland.

60. *CAREX recurva*.

HAB. Agr.—Moor.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Sutherland.* v. c.  
 GEOGR. Europe 3, 4. Ireland.

61. *CAREX stricta*.

HAB.

Agr.—Moor.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Cam. Ang. North. Edin. Lan. Mur.—Sutherland?* c.

GEOGR. Europe 2, 3, 4, 5. Ireland. Greenland. R. America.

62. *CAREX pallescens*.

HAB.

Agr.—Moor.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. North. Berw. Edin. Lan.—Sutherland.* r. c.

GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. Siberia.

63. *CAREX curta*.

HAB.

Agr.—Subalp.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Cam. Ang. North. Berw. Edin. Lan. Mur.* r. c.

GEOGR. Europe 1, 2, 3. U. States. Iceland. N. Asia.

64. *CAREX vesicaria*.

HAB.

Agr.—Subalp.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ox. Cam. Ang. North. Edin. Lan. Mur.* c.

GEOGR. Europe 1, 2, 3, 5. Iceland. Ireland. N. Africa. Siberia. U. States.

65. *CAREX flava*.*Æderi.*

HAB.

Agr.—Subalp.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.—Cornwall, Sutherland.* v. c.

GEOGR. Europe 1, 2, 3, 5. Iceland. Ireland. U. States.

66. *CAREX stellulata*.

HAB.

Agr.—Subalp.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.—Sutherland.* v. c.

GEOGR. Europe 1, 2, 3. Ireland.

67. *CAREX cæspitosa*.

HAB.

Agr.—Subalp.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.—Cornwall, Sutherland.* v. c.

GEOGR. Europe 1, 2, 3, 5. Ireland. Siberia. New Holland. Greenland. B. R. America. U. States.



68. *CAREX binervis*.  
*distans*.

HAB. Agr.—Alp.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Cam. Ang. North. Berw. Lan. Mur. Edin.*—*Cornwall, Sutherland.* c.  
 GEOGR. Europe 2, 3, 4. Ireland. U. States.

69. *CAREX dioica*.

HAB. Agr.—Alp.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Ton. Ox. Bed. Cam. Ang. North. Edin. Berw. Lan. Mur.*—*Dorset, Sutherland.* r. c.  
 GEOGR. Europe 1, 2, 3, 5. Iceland. Ireland. Greenland. B. America.

70. *CAREX panicea*.

HAB. Agr.—Alp.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Sutherland.* v. c.  
 GEOGR. Europe 1, 2, 3, 5. Iceland. N. Asia.

71. *CAREX pilulifera*.

HAB. Agr.—Alp.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Sutherland.* c.  
 GEOGR. Europe 2, 3. Ireland.

72. *CAREX pulicaris*.

HAB. Agr.—Alp.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Sutherland.* c.  
 GEOGR. Europe 2, 3. Iceland. Ireland.

73. *CAREX pauciflora*.

HAB. Upl.—Moor.  
 TOPOGR. 3, 5, 6.—*Fl. North.*—*Stirling, Argyle, Perth, Forfar, Aberdeen, Inverness.* r.  
 GEOGR. Europe 2, 3. Labrador. Carolina. Are all these accurate?

74. *CAREX capillaris*.

HAB. Upl.—Subalp.  
 TOPOGR. (2), 3, 5, 6.—*Fl. North.*—*Hereford?* (Malvern Hills; *Duncomb's Hist., quoted in Bot. Guide*), *Perth, Forfar, Aberdeen, Sutherland.* r.  
 GEOGR. Europe 1, 2, 3. Iceland. B. America.

75. *CAREX phæostachya* \*.

HAB. Subalp. ?  
 TOPOGR. 5, 6.—*Fl.* 0.—Cairngorum and Clova Mountains ;  
*G. Don.* v. r.  
 GEOGR.

76. *CAREX atrata*.

HAB. Subalp.  
 TOPOGR. 4, 5, 6.—*Fl.* 0.—Caernarvon, *Perth, Forfar, Aberdeen.* r.  
 GEOGR. Europe 1, 2, 3. Iceland. N. Asia. R. B. America.

77. *CAREX Vahlîi*.

HAB. Subalp.  
 TOPOGR. 5, 6.—*Fl.* 0.—Forfar, Aberdeen. v. r.  
 GEOGR. Europe 1, 2, 3.

78. *CAREX aquatilis*. *Wahl. ? †*

HAB. At an elevation of about 2500 to 3000 feet on the Clova Mountains. Subalp.

TOPOGR. 5.—*F.* 0.—In great plenty on the mountain plain south-west of Glen Dole, Forfarshire, and now that it has got a name, right or wrong, will probably be found in other stations. v. r.

GEOGR. Europe 1, 2.

\* I am not aware that any botanist had found this *Carex* since the time of Mr Don, until July 1832, when the Rev. G. Gordon showed me specimens just gathered on the Clova Mountains, and which I too hastily imagined to be *Carex panicea*, rendered more rigid by elevation, and was thus perhaps instrumental in preventing a notice of the re-discovery of it being communicated to Dr Graham for his account of the botanical expeditions of the season. Mr Gordon judged better, and informs me that he has since determined his specimens to belong to this species. Among the plants dried at that time, I find a few specimens of a *Carex*, which may be those brought by Mr Gordon, and which agree in part with Smith's character of *C. phæostachya*, but they have not "scales of the barren spikes pointed." The seeds appear to have been triangular, otherwise the specimens seem midway between *C. fulva* and *C. flava*.

† Dr Greville believes it to be this species, yet there are some slight discrepancies: "*Spicis subsessilibus*," "*Capsulis suborbiculatis*," in strictness hardly apply to my specimen. The size mentioned by Wahlenberg to which the large specimens attain, "*sæpe altitudinem fere humanam attingens*," is no very weighty objection, since his var.  $\beta$ . is described as "*plerumque semipedalis*."



79. *CAREX rariflora*.

HAB.

Subalp.

TOPOGR. 5.—*Fl.* 0.—*Forfarshire*.

v. r.

GEOGR. Europe 1, 2.

80. *CAREX pulla*.

HAB.

Subalp.—Alp.

TOPOGR. 5, 6.—*Fl.* 0.—*Stirling, Argyle, Perth, Forfar, Inverness*.

r.

GEOGR. Europe 1, 2.

81. *CAREX rigida*.

HAB. The average altitude at which *Carex rigida* appears on the Scottish mountains is in the north of Forfarshire 2325 feet above the sea level, in the west of Aberdeenshire 2300, at the west end of the Caledonian Canal 2070, in the north of Sutherland 1550. I have seen it as low as 2000 feet in Forfarshire, 1800 feet in Aberdeenshire, and 1850 feet in the south-west of Inverness. From thence it attains and flowers freely on the highest land of Britain, the summit of Ben Nevis (destitute of soil) only excluded. Except in Sutherland, I have never seen it on or amongst hills lower than 2000 feet; yet, it is included in *Flora Devoniensis*, in which county its height must be lower than it is in Sutherland, unless there is some error. Since it is only a doubtful species, it would perhaps be better to consider *Azalea procumbens* the test of our Subalpine Zone, this shrub having almost the same lower line as *C. rigida*. Sub alp.—Sno.

TOPOGR. (2), 3, 4, 5, 6.—*Fl. Dev. North. Berw. Mur.*—*Caernarvon, Cumberland, Argyle, Perth, Forfar, Aberdeen, Inverness, Sutherland*.

r. r.

GEOGR. It is yet undermined whether this is identical with any exotic reputed species. *C. saxatilis* of *Wahl.* is suggested, which is found in N. Europe and N. Asia. By many it is supposed to be merely a variety of *C. cæspitosa*.

82. *CAREX speirostachya*.

HAB.

TOPOGR. 5, (6).—*Fl. Lan.*—*Berwick, Perth, Forfar? Aberdeen?*

r.

GEOGR. Danish Territory? Switzerland?

83. *CAREX Melichoferi*.

HAB.

TOPOGR. 5, (6).—*Fl. Mur.*—Perth, Forfar? Aberdeen? v. r.

GEOGR. Europe 3.

84. *CAREX angustifolia*.

HAB.

TOPOGR. 5.—*Fl. 0.*—Forfar. A doubtful species. v. r.

GEOGR.

85. *CAREX stictocarpa*.

HAB.

TOPOGR. 5.—*Fl. 0.*—Forfar. Unknown to Scottish botanists  
of the present day. v. r.

GEOGR.

86. *CAREX hordiformis*.

HAB.

TOPOGR. 5.—*Fl. 0.*—Forfar.

v. r.

GEOGR. Europe 3.

87. *CAREX ustulata*.

HAB.

TOPOGR. 5.—*Fl. 0.*—Perthshire.

v. r.

GEOGR. Europe 1, 2, 3. Iceland; *Sp. Plant.* Repulse Bay,  
N. America.

## XCV. GRAMINEÆ.

1. *ANTHOXANTHUM odoratum*.

HAB.

Agr.—Alp.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Caithness.* v. c.GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. Africa.  
Siberia. Greenland. U. States.2. *NARDUS stricta*.

HAB.

Agr.—Alp.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Sutherland.* c.

GEOGR. Europe 1, 2, 3. Iceland. Ireland. N. Asia.



3. *ALOPECURUS bulbosus*.

HAB. Agr.  
 TOPOGR. 1, 2.—*Fl.* 0.—Somerset, Gloucester, Glamorgan,  
 Sussex, Suffolk, Norfolk. r.  
 GEOGR. Europe 3, 4.

4. *ALOPECURUS agrestis*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4.—*Fl.* Dev. Ton. Ox. Bed. Cam. North.—  
 Surry, Essex, Suffolk, Norfolk, York, Lancaster. In *Flora*  
*Scotica* without any express station; but in none of the local  
 lists, or district Floras that I have seen.  
 GEOGR. Europe 2, 3. N. Africa.

5. *ALOPECURUS pratensis*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl.* omnes.—Sutherland. c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Ireland. N. Africa. U. States.  
 Chili. Some doubt attaches to the Lapland plant, since it is  
 an alpine variety, and our form is not found in the low grounds  
 of that country.

6. *ALOPECURUS geniculatus*.*fulvus?*

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl.* omnes.—Caithness. c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. Africa.  
 N. E. Asia.

7. *ALOPECURUS alpinus*.

HAB. Subalp.  
 TOPOGR. 5, 6.—*Fl.* Mur.—Perth, Forfar, Aberdeen. v. r.  
 GEOGR. Spitzbergen. Greenland. The northern parts of  
 British and Russian America.

8. ? *PHALARIS canariensis*.

HAB. Agr.  
 TOPOGR. (1, 2, 3, 4, 5).—*Fl.* Dev. Ton. Ox. Ang. North. Berw.  
 Edin. Lan.—Cornwall, frequent. Edinburgh, very rare. In-  
 troduced. r. r.  
 GEOGR. Europe 3, 4. N. Africa. W. Asia.

9. *PHALARIS arundinacea.*

- HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*, except that of Tonbridge  
 Wells.—*Caithness*. c.  
 GEOGR. Europe 1, 2, 3. Faroe. N. E. Asia. B. America.  
 U. States.

10. *AMMOPHILA arundinacea.*

- HAB.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Bed. Ang. North. Berw.*  
*Edin. Mur.*—Cornwall, *Caithness*. c.  
 GEOGR. Europe 1, 2, 3, 4. Iceland. Ireland. N. Africa.  
 Greenland. B. America. U. States.

11. *PHLEUM Bochmeri.*

- HAB. Agr.  
 TOPOGR. 1.—*Fl. Cam.*—Norfolk. r.  
 GEOGR. Europe 2, 3, 5.

12. *PHLEUM asperum.*

- HAB. Agr.  
 TOPOGR. 1, 2.—*Fl. Ox. Cam.*—Gloucester, Bedford. r  
 GEOGR. Europe 3.

13. *PHLEUM arenarium.*

- HAB.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Cam. Ang. North. Berw. Edin.*  
 —Norfolk, *Chester*, Forfar. r. c.  
 GEOGR. Europe 2, 3. Ireland.

14. *PHLEUM pratense.*

- HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Sutherland*. c.  
 GEOGR. Europe 1, 2, 3, 5. Iceland. Ireland. N. Africa.  
 Siberia. U. States.

15. *PHLEUM Michellii.*

- HAB. Subalp. ?  
 TOPOGR. 5.—*Fl. 0.*—Clova Mountains ; *G. Don*. v. r.  
 GEOGR. Europe 3, 4.



16. *PHLEUM alpinum*.

HAB. Subalp.—Alp.  
 TOPOGR. 5, 6.—*Fl.* 0.—*Forfar, Aberdeen, Perth.* v. r.  
 GEOGR. Europe 1, 2, 3, 4. Iceland. Ireland. • Siberia.  
 Greenland. Labrador. Said to have been found at the Straits  
 of Magellan. “Making the principal part of the turf in the  
 most elevated pastures of Switzerland;” *Eng. Bot.*

17. *MILIUM effusum*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang.*  
*North. Edin. Lan. Mur.* c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland.

18. *GASTRIDIDIUM lendigerum*.

HAB. Agr.  
 TOPOGR. 1, 2, 4.—*Fl. Dev. Ton.*—Dorset, Somerset, Hants,  
 Sussex, Surry, Essex, Denbigh, Flint. r.  
 GEOGR. Europe 3, 4. N. Africa.

19. *POLYPOGON littoralis*.

HAB. Agr.  
 TOPOGR. 1, (2).—*Fl.* 0.—Kent, Essex, *Cornwall?* Norfolk. r.  
 GEOGR. Europe 3.

20. *POLYPOGON monspeliensis*.

HAB. Agr.  
 TOPOGR. 1, (3).—*Fl. North.*—Hants, Essex, Norfolk. r.  
 GEOGR. Europe 3, 4. N. Africa. S. America.

21. *CALAMAGROSTIS lanceolata*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4.—*Fl. Dev. Ton. Bed. Cam.*—Dorset, Sus-  
 sex, Suffolk, Northampton, Hunts, Leicester, Lincoln, York,  
 Cumberland. In *Flora Scotica*, but no station indicated. r. c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Ireland. N. Africa. Siberia.  
 B. America.

22. *CALAMAGROSTIS Epigejos*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Ton. Ox. Bed. Cam. Ang. North.*—

Dorset, Somerset, Sussex, Middlesex, Essex, Norfolk, Leicester, Lincoln, Caernarvon, York, Cumberland, Ayr, Argyle. r. c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Iceland. N. Africa. N. W. Asia.

23. CALAMAGROSTIS *stricta*.

HAB. Agr.  
 TOPOGR. 5.—*Fl.* 0.—Forfar. v. r.  
 GEOGR. Europe 1, 2, 3, 5. Greenland. B. R. America.

24. AGROSTIS *setacea*.

HAB. Agr.  
 TOPOGR. 1, 2, (3, 5).—*Fl.* Dev.—*Cornwall*, Dorset, Hants, Sussex, Surry. York and Scotland, but perhaps erroneously. r.  
 GEOGR. Europe 3, 4. Ireland.

25. AGROSTIS *spica-venti*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl.* Ton. Bed. Cam. North. Edin.—Sussex, Surry, Berks, Middlesex, Essex, Herts, Warwick, Suffolk, Norfolk, York, Lancaster, Cumberland, Caernarvon, Isle of Man. r. r.  
 GEOGR. Europe 2, 3, 4, 5. N. Africa. U. States, introduced from Europe.

26. AGROSTIS *vulgaris*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl.* omnes.—O. Hebrides. v. c.  
 GEOGR. Europe 1, 2, 3, 5. Iceland. Ireland. U. States.

27. AGROSTIS *canina*.

HAB. Agr.—Moor. ?  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl.* Dev. Ton. Ox. Bed. Cam. Ang. North. Edin. Lan. Mur.—Rather remarkable that it should not occur in the Flora of Berwick. c.  
 GEOGR. Europe 2, 3, 5. Iceland. Ireland. N. America, introduced from Europe.

28. AGROSTIS *alba*.

HAB. Agr.—Moor. ?  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl.* omnes.—*Cornwall*, *Caithness*. v. c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa.



29. *CATABROSA aquatica.*

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Ton. Ox. Bed. Cam. Ang. North.*  
*Berw. Edin. Mur.* c.  
 GEOGR. Europe 2, 3, 4, 5. Iceland. Ireland. B. America.  
 U. States.

30. *AIRA canescens.*

HAB. Agr.  
 TOPOGR. 1.—*Fl. 0.*—Dorset, Suffolk, Norfolk. r.  
 GEOGR. Europe 2, 3, 4.

31. *AIRA cristata.*

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ox. Bed. Cam. Ang. North*  
*Berw. Edin. Lan. Mur.—Sutherland.* c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland. Columbia River.

32. *AIRA caryophyllea.*

HAB. Agr.—Moor.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.—Sutherland.* v. c.  
 GEOGR. Europe 2, 3, 4. Ireland. Chili?

33. *AIRA præcox.*

HAB. Agr.—Moor.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.—Sutherland.* It comes  
 up abundantly on the Highland moors, where the soil has been  
 turned over in making roads, drains, &c.  
 GEOGR. Europe 2, 3. Iceland. Ireland. N. America.

34. *AIRA cæspitosa.*

HAB. Agr.—Subalp.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.—Caithness.* c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. Siberia.  
 Canada.

53. *AIRA flexuosa.*

HAB. Agr.—Sno.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.—Sutherland.* c.  
 GEOGR. Europe 1, 2, 3, 4. Iceland. Ireland. Canada to  
 Carolina.

36. *AIRA alpina*.

HAB. Subalp.—Sno.  
 TOPOGR. 3, 4, 5, 6.—*Fl. North. Mur.*—Caernarvon, Dunbar-  
 ton, Stirling, Argyle, *Perth, Forfar, Aberdeen, Inverness, Suther-*  
*land.* r.  
 GEOGR. Europe 1, 2, 3. Iceland.

37. *MELICA nutans*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. North. Berw. Edin. Mur.*  
 —Ross. r. c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Siberia.

38. *MELICA uniflora*.

HAB. Rare in the Barren Region. Agr.—Subalp.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—Rare in Murray; *Rev.*  
*G. Gordon.* c.  
 GEOGR. Europe 2, 3, 4. Ireland.

39. *MELICA cærulea*.

HAB. Agr.—Subalp.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Sutherland.* c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Ireland. Faroe. Siberia.

40. *HOLCUS mollis*.

HAB. Agr.—?  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.* c.  
 GEOGR. Europe 2, 3. Ireland. N. Africa.

41. *HOLCUS lanatus*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Caithness.* v. c.  
 GEOGR. Europe 2, 3, 4. Ireland. N. Africa.

42. *ARRHENATHERUM avenaceum*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Caithness.* c.  
 GEOGR. Europe 2, 3. Ireland. N. Africa.



43. *HIEROCHLOE borealis*.

HAB. Subalp. ?

TOPOGR. 5.—*Fl.* 0.—Valley of Kella, Forfarshire; *G. Don.*  
I am not aware that any other botanist has gathered this plant  
in Britain. v. r.

GEOGR. Europe 1, 2, 3. Kamchatka. R. America.

44. *SESLERIA cœrulea*.

HAB. Subalp.

TOPOGR. 3, 4, 5.—*Fl.* North.—York, Westmoreland, Northumberland, Stirling, *Perth.* r.

GEOGR. Europe 2, 3, 4. Iceland. Ireland.

45. ? *PANICUM Crus-galli*.

HAB. Agr.

TOPOGR. 1.—*Fl.* 0.—Hants, Surry. v. r.

GEOGR. Europe 2, 3, 4, 5. N. Africa. U. States.

46. ? *SETARIA viridis*.

HAB. Agr.

TOPOGR. (1, 3).—*Fl.* Cam. North.—Surry, Suffolk, Norfolk. r.

GEOGR. Europe 2, 3, 4, 5. N. Africa. U. States.

47. ? *SETARIA verticillata*.

HAB. Agr.

TOPOGR. (1, 3).—*Fl.* North.—Middlesex, Norfolk. r.

GEOGR. Europe 3, 4. N. Africa. E. W. Asia. U. States.

48. *POA bulbosa*.

HAB. Agr.

TOPOGR. 1.—*Fl.* Dev.—Sussex, Suffolk, Norfolk. r.

GEOGR. Europe 3, 4. N. Africa.

49. *POA procumbens*.

HAB. Agr.

TOPOGR. 1, 2, 3, 5.—*Fl.* Dev. North. Berw.—Dorset, Somerset, Sussex, Essex, Gloucester, York. r. r.

GEOGR. Europe 3. Ireland.

50. *POA distans*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 5.—*Fl. Dev. Bed. Cam. North.*—Kent, Forfar. r. c.  
 GEOGR. Europe 2, 3, 4. Ireland.

51. *POA rigida*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Ton. Ox. Bed. Cam. Ang. North. Berw. Edin.*—Surry, Suffolk, Norfolk, Caernarvon, York. r. c.  
 GEOGR. Europe 3, 4. Ireland. N. Africa.

52. *POA aquatica*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 5.—*Fl. Dev. Ton. Ox. Bed. Cam. North. Edin.*—Somerset, Surry, Suffolk, Norfolk, York, Dunbarton, Perth, Forfar. r. c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland. Canada to Virginia.

53. *POA maritima*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Cam. Ang. North. Berw. Edin. Lan. Mur.*—Hants, Ross. c.  
 GEOGR. Europe 1, 2, 3, 4. Iceland. Ireland.

54. *POA nemoralis*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Ox. Bed. Cam. Ang. North. Mur.*—Kent. c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Ireland. N. Asia. R. America. U. States.

55. *POA trivialis*.

HAB. Agr.—?  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.* c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. E. W. Asia. N. America.



56. *POA compressa*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Ton. Ox. Bed. Cam. Ang. North. Edin. Lan.*—O. Hebrides. c.  
 GEOGR. Europe 2, 3, 4, 5. Iceland. Ireland. N. America.

57. *POA pratensis*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—O. Hebrides. c.  
 GEOGR. Europe 1, 2, 3, 5. Iceland. Ireland. N. Asia.  
 U. States.

58. *POA fluitans*.

HAB. Agr.—Moor. ?  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Caithness.* c.  
 GEOGR. Europe 2, 3, 4, 5. Iceland. Ireland. N. Africa.  
 New Holland. N. America.

59. *POA annua*.

HAB. Agr.—Sno.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Sutherland.* v. c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. Africa.  
 N. and S. America. N. Asia.

60. *POA alpina*.

HAB. Subalp.—Sno.  
 TOPOGR. 4, 5, 6.—*Fl. 0.*—*Caernarvon, Perth, Forfar, Aberdeen, Inverness, Sutherland.* r.  
 GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. Greenland.  
 B. America. Alleghanies.

61. *POA laxa*.

HAB.  
 TOPOGR. 6.—*Fl. 0.*—Ben Nevis. v. r.  
 GEOGR. Europe 1, 2, 3. Spitzbergen. Greenland.

62. *TRIODIA decumbens*.

HAB. Agr.—Moor.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Sutherland.* c.  
 GEOGR. Europe 2, 3, 4. Ireland.

63. *BRIZA minor*.

HAB. Agr.  
 TOPOGR. 2, (4).—*Fl.* 0.—*Cornwall*, Somerset. Ormeshead,  
 Caernarvonshire; *Thomson, in Memoirs of Manchester Lit. Phil.*  
*Soc.* r.  
 GEOGR. Europe 3, 4. N. Africa. Guernsey and Jersey.

64. *BRIZA media*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall.* c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland.

65. *DACTYLIS glomerata*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Caithness.* v. c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa. U. States  
 perhaps introduced.

66. *CYNOSURUS echinatus*.

HAB.  
 TOPOGR. 1, 2, (3).—*Fl. North.*—*Cornwall, Kent, Sussex.* r.  
 GEOGR. Europe 3, 4. N. Africa. W. Asia.

67. *CYNOSURUS cristatus*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—*Cornwall, Caithness.* v. c.  
 GEOGR. Europe 2, 3, 4. Ireland. N. Africa.

68. *FESTUCA uniglumis*.

HAB. Agr.  
 TOPOGR. 1, 2, 4.—*Fl. Dev. Ang.*—*Dorset, Sussex, Essex, Suf-*  
*folk.* r.  
 GEOGR. Europe 3. Ireland.

69. *FESTUCA elatior*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Ton. Ox. Bed. Cam. Ang. North.*  
*Berw. Edin. Lan.*—*Surry, Norfolk, York, Forfar.* r. c.  
 GEOGR. Europe 2, 3, 4, 5. Iceland. Ireland. U. States,  
 introduced.



70. *FESTUCA Myurus.*

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Ton. Ox. Bed. Cam. Ang. North. Edin.*—Suffolk, Norfolk, York, Dunbarton, Forfar. r. c.  
 GEOGR. Europe 3, 4. Ireland. N. Africa. U. States.

71. *FESTUCA bromoides.*

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Bed. Cam. Ang. North. Berw. Mur.* c.  
 GEOGR. Europe 3, 4. Ireland.

72. *FESTUCA Calamaria.*

HAB. Agr.  
 TOPOGR. 2, 4, 5, 6.—*Fl. Mur.*—Worcester, Westmoreland, Kinross, Dunbarton, Perth. “Not uncommon;” *Hook. Br. Fl.* r. r.  
 GEOGR. Europe 3. Ireland.

73. *FESTUCA loliacea.*

HAB. Agr.—Upl. ?  
 TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ton. Ox. Cam. Ang. North. Berw. Edin. Lan.*—Sussex, Surry, Middlesex, Essex, Herts, Bucks, Suffolk, Salop, York, Denbigh. c.  
 GEOGR. Europe 3. Ireland.

74. *FESTUCA pratensis.*

HAB. Agr.—Upl. ?  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.* c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Ireland.

75. *FESTUCA duriuscula.*  
*rubra.*

N. B. “The only characteristic (of *F. rubra*) exists in the creeping root; and may not this be owing to a peculiarity in soil and other accidental circumstances?” *Hook. Br. Fl.*

HAB. Agr.—Subalp.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.*—O. Hebrides. v. c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. America.

71. *FESTUCA ovina*.

HAB. A general range from the south of Cornwall to the summits of the Grampians, upwards of 4300 feet in elevation. On Ben Nevis it exceeds 4000 feet. Agr.—Sno.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*.—*Cornwall, Sutherland*. v. c.

GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. Siberia. Greenland. R. B. America.

77. *BROMUS velutinus*.

HAB. Agr.

TOPOGR. 1, 3, 5.—*Fl. Cam. North. Edin.* r.

GEOGR. Europe 3. Ireland.

78. *BROMUS arvensis*.

HAB. Agr.

TOPOGR. 1, 2, 3, 5.—*Fl. Dev. Bed. Cam. North. Lan.*—Somerset, Hants, Kent, Surry, Gloucester, Norfolk, York. r. r.

GEOGR. Europe 1, 2, 3, 5. Ireland. W. Asia.

79. ? *BROMUS squarrosus*.

HAB. Agr.

TOPOGR. (1, 2, 5).—*Fl. Ton.*—Sussex, Kent, Surry, Somerset. Scotland; *G. Don*. Not indigenous. r.

GEOGR. Europe 3, 4. N. Africa. N. Asia.

80. *BROMUS diandrus*.

HAB. Agr.

TOPOGR. 1, 2, 3, 5.—*Fl. Dev. Ox. North. Edin.*—Somerset, Surry, Kent. r. r.

GEOGR. Europe 3.

81. *BROMUS erectus*.

HAB. Agr.

TOPOGR. 1, 4, 5.—*Fl. Ox. Ang. Edin.*—Kent. r.

GEOGR. Europe 2, 3. Ireland.



82. *BROMUS giganteus.*

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Ton. Ox. Bed. Cam. Ang. North. Edin. Lan.*—Surry, Norfolk, York, Denbigh, Argyle, Forfar. r. c.

GEOGR. Europe 2, 3, 5. Ireland.

83. *BROMUS secalinus.*

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang. North. Edin. Mur.?*

GEOGR. Europe 1, 2, 3, 5. Ireland. N. America, introduced.

84. *BROMUS sterilis.*

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.* c.

GEOGR. Europe 1, 2, 3. Iceland. N. Africa.

85. *BROMUS asper.*

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.* c.

GEOGR. Europe 2, 3, 4, 5. Ireland.

86. *BROMUS mollis.*

*racemosus.*

HAB. Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes*—*Cornwall, Caithness.*

GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa. N. America.

87. *AVENA fatua.*

HAB. Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Ox. Bed. Cam. Ang. North. Berw.*—Dorset, Somerset, Sussex, Surry, Berks, Essex, Bucks, Gloucester, Suffolk, Norfolk, Leicester, Cardigan, Caernarvon, Denbigh, Chester, York. r. c.

GEOGR. Europe 1, 2, 3, 4, 5. Ireland. N. Africa. E. W. Asia.

88. *AVENA pubescens*.

HAB. Agr.—?  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Ox. Bed. Cam. Ang. North.*  
*Berw. Edin. Mur.* c.  
 GEOGR. Europe 2, 3, 5. Ireland.

89. *AVENA flavescens*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Cam. Ang.*  
*North. Berw. Edin.—Aberdeen.* c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa.

90. *AVENA strigosa*.

HAB. Agr.—Upl.  
 TOPOGR. 2, 3, 4, 5, 6.—*Fl. Ang. North. Edin.—Cornwall,*  
*York, Forfar, Aberdeen, Inverness.* r. c.  
 GEOGR. Europe 3. Ireland. Sweden, introduced.

91. *AVENA pratensis*.

HAB. Agr.—Subalp.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Ox. Bed. Ang. North.*  
*Berw. Edin. Mur.*  
 GEOGR. Europe 1, 2, 3, 4. Ireland.

92. *AVENA planiculmis*.

HAB.  
 TOPOGR. 5.—*Fl. 0.—Isle of Arran; Murray.* v. r.  
 GEOGR. Europe 3.

93. *AVENA alpina*.

HAB.  
 TOPOGR. 5.—*Fl. 0.—Forfarshire; G. Don.* v. r.  
 GEOGR.

94. *ARUNDO Phragmites*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.—Cornwall, Sutherland. c.*  
 GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. Africa.  
 N. E Asia. New Holland. B. America. U. States.



95. *ELYMUS geniculatus*.

HAB. Agr.  
 TOPOGR. 1.—*Fl.* 0.—Near Gravesend. v. r.  
 GEOGR.

96. *ELYMUS europæus*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4.—*Fl.* Ox. Bed. North.—Wilts, Herts,  
 Bucks, Hunts, Denbigh, Derby, York. r. r.  
 GEOGR. Europe 2, 3,

97. *ELYMUS arenarius*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl.* Dev. North. Mur.—Dorset,  
 Caithness. r. c.  
 GEOGR. Europe 1, 2, 3, 4. Iceland. Ireland. N. W. Asia.  
 R. B. America.

98. *HORDEUM pratense*.

HAB. Agr.  
 TOPOGR. 1, 3, 4, 5.—*Fl.* Ton. Ox. Bed. Cam. North. Berw.  
 Edin.—Surry, Norfolk, Lancaster. r. r.  
 GEOGR. 2, 3. Ireland.

99. *HORDEUM maritimum*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 5.—*Fl.* Dev. Cam. North.—Dorset, Sussex,  
 Suffolk, Norfolk, Somerset, Gloucester, Glamorgan, Forfar.  
 Very rare, except in the southern counties of England. r.  
 GEOGR. Europe 3, 4. Ireland. N. Africa.

100. *HORDEUM murinum*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl.* Dev. Ton. Ox. Bed. Cam. Ang.  
 North. Berw. Edin. Mur. ?—Cornwall. Skelbo Castle, Suther-  
 land; G. Gordon. c.  
 GEOGR. Europe 2, 3, 4. Ireland. N. Africa. W. Asia.  
 Chili.

101. ? TRITICUM *cristatum*.

HAB. Agr.  
 TOPOGR. (5).—*Fl.* 0.—Between Arbroath and Montrose, Forfarshire; *G. Don.* Not indigenous? v. r.  
 GEOGR. Europe 3.

102. TRITICUM *caninum*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.* c.  
 GEOGR. Europe 1, 2, 3. Iceland. Ireland. Siberia.

103. TRITICUM *lohiaceum*.

HAB. Agr.—Upl. ?  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Cam. Ang. North. Edin.*—Kent, O. Hebrides. r. r.  
 GEOGR. Europe 3. Ireland.

104. TRITICUM *junceum*.

HAB.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ang. North. Berw. Edin. Mur.*—Cornwall, Kent, *Sutherland.* c.  
 GEOGR. Europe 2, 3, 4, 5. Ireland. N. Africa. W. Asia.

105. TRITICUM *repens*.

HAB. Agr.—Upl.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.* v. c.  
 GEOGR. Europe 1, 2, 3, 4, 5. Iceland. Ireland. N. W. Asia.

106. BRACHYPODIUM *pinnatum*.

HAB.  
 TOPOGR. 1, 2, 3, (4, 5).—*Fl. Dev. Ox. Bed. Cam. Edin.*—Dorset, Somerset, Sussex, Kent, Suffolk, Norfolk, Gloucester, Worcester, Leicester, York, Cumberland. r. c.  
 GEOGR. Europe 2, 3, 4.

107. BRACHYPODIUM *sylvaticum*.

HAB. Agr.  
 TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.* c.  
 GEOGR. Europe 3, 4, 5. Ireland.



107. *LOLIUM temulentum*.*arvense*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. Dev. Ton. Bed. Ang. North. Berw. Mur. ?—Ross.* r. c.

GEOGR. Europe 2, 3, 4. Ireland. N. Africa. Japan. S. America.

109. *LOLIUM perenne*.

HAB.

Agr.—Upl.

TOPOGR. 1, 2, 3, 4, 5, 6.—*Fl. omnes.—Cornwall, Caithness.* v. c.

GEOGR. Europe 1, 2, 3, 4, 5. Ireland. N. Africa. W. Asia.

110. *ROTTBOLLIA incurvata*.

HAB.

Agr.

TOPOGR. 1, 2, 3, 4, 5.—*Fl. Dev. Cam. Ang. North. Edin.—Essex, Norfolk.* r. c.

GEOGR. Europe 3, 4. Ireland. N. Africa.

111. *KNAPPIA agrostidea*.

HAB.

Agr.

TOPOGR. 1, 4.—*Fl. Ang.—Essex.* r.

GEOGR. Europe 3.

112. *SPARTINA stricta*.

HAB.

Agr.

TOPOGR. 1.—*Fl. 0.—Hants, Essex, Suffolk.* r.

GEOGR. Europe 3.

113. *CYNODON Dactylon*.

HAB.

Agr.

TOPOGR. 2.—*Fl. 0.—Sands in the south-west of Cornwall.* v. r.

GEOGR. Europe 3, 4. N. Africa. W. Asia. U. States.

114. ? *DIGITARIA sanguinalis*.

HAB.

TOPOGR. (1, 4).—*Fl. North.*—" It formerly grew in Battersea fields, near London. Other habitats, given in the British

Floras for this plant, belong, in Mr Borrer's opinion, to the next species;" *Hook. B. F.* v. r.

GEOGR. Europe 2, 3, 4. Ireland. N. Africa. Not really found in Sweden, according to *Eng. Bot. Supp.* America?

115. *DIGITARIA humifusa.*

HAB.

Agr.

TOPOGR. 1.—*Fl.* 0.—Sussex, Surry, Suffolk? Norfolk. r.

GEOGR. Europe 3. Sweden; *Eng. Bot. Supp.* America?





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