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A

COMPENDIUM

OF THE

CYBELE BRITANNICA;

OR

*British Plants in their Geographical Relations.*

BY

HEWETT COTTRELL WATSON.

“There is scarcely any well-informed person, who, if he has but the will, has not also the power to add something essential to the general stock of knowledge, if he will only observe regularly and methodically some particular class of facts which may most excite his attention, or which his situation may best enable him to study with effect.”—HERSCHELL.

LONDON:

LONGMANS, GREEN, READER, & DYER.

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1870.

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QK306  
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@ 37697

LONDON :  
E. NEWMAN, PRINTER, DEVONSHIRE STREET,  
BISHOPSGATE.



## PREFACE.

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THIS Volume was printed in three successive Parts in the years 1868, 1869, 1870; the manuscript for the several portions having been prepared chiefly in the years preceding those dates. Attention to the dates is requested, because they will shew that the earlier pages of the volume could scarcely take into account any facts ascertained or records made later than 1867; although in the pages last printed some few discoveries and records even of 1870 have been noted while the proof sheets passed through hand. The additions given under the head of "Notes and Corrections," on pages 606—615, will bring the whole volume nearly up to actual knowledge about British plants and their distribution at the beginning of 1870.

The Author's personal experiences in British botany may be said to extend over most of the forty years preceding the last mentioned date. In course of those years he has observed and collected plants in many different counties, from Cornwall and Kent southwards to Sutherland and Caithness northwards, from the coast line to the summits of the highest hills. But most of his botanical ramblings were done in years before the railways had grown into such a network of locomotive facilities as they now afford for botanical purposes. Thus, while much was seen, much also has remained unseen by him; advancing age and other conditions having latterly interfered to render him

sedentary at home, or locomotive only to the range of a single-day journey to and fro. Books and the manuscript communications of botanical friends have been largely resorted to, in order to extend and supplement the knowledge acquired by personal investigation. His writings are thus to be looked upon as a combination between actual observation at first-hand and rather elaborate compilation at second-hand.

This present volume may be taken as a condensed summary from thousands upon thousands of individual facts, real or alleged, actually ascertained or accepted on faith. It is not to be expected that such a summary has been made without errors and oversights on the part of the Author himself, besides those which may have been taken on trust from other writers or communicators. The attempted elimination of old errors, over and over again repeated in books, and of the many others of more recent date continually increasing their numbers, has been found one of the most unsatisfactory among the emendatory tasks undertaken.

On the whole, however, it is believed that the present Compendium may be accepted by the botanists of Britain, as a fairly reliable exposition of that department of botanical science to which it relates. If so accepted, it may claim to constitute a new and advanced starting ground for further investigations. At any rate, the Author must himself feel well assured that his own past efforts would have been very greatly assisted, if he could have found any similar book forty years ago. For want thereof he has been compelled to sacrifice much time and labour in the accumulation of small facts, to be methodically arranged and then selected

from. The course has been always onward, indeed, but at the deliberate pace of the tortoise. Successors may march forward all the faster and surer for this slowness hitherto.

A work like the *Cybele Britannica* or its *Compendium*, the first of its kind, unavoidably assumes a good deal the character of being critical and polemical. Distribution is primarily based on *localities* observed and recorded; and records of localities give frequent occasion to weigh critically the personal testimony, in reliance upon which the records are to be accepted and made use of as scientific truths or facts. Distribution, again, deals with plants as so many *species*; and under existing conditions of technical botany, that term itself immediately suggests controversial discrepancies of opinion about the validity of those entities intended by the specific names used.

It is not the Author's disposition to accept opinions on faith or facts non-inquiringly. His creed is, that intellectual truth should be held paramount over all other considerations. Such a creed is certain to give offence to individuals when practically carried out. The official and the influential are prone to think it quite proper that they should receive the largest amount of personal laudation, and yet they will inconsistently object against the smallest degree of personal censure, in reference to their published opinions or public practices in science. While the Author has refused to be restrained by rules so inconsistent, he has never wittingly either misrepresented or misquoted the writers whom he has had occasion to criticize. Not seldom he has himself been subjected to garbled quotation and intentional misrepresentation, usually anonymous or

editorial. But there is nothing surprising in the fact, that those who are base enough to be intentionally false, should also be mean enough to be covertly false.

The name *Cybele* has been variously pronounced. The two first vowels are short, the final *e* is sounded long. This correct pronunciation is insured by making the two first syllables end with the consonants thus, *Cyb-el-e*. Some persons insist on *Cy-bel-e*, and others even on *Cy-be-le*. The Author prefers to sound the name nearly as if it were written *Sib-el-e*.

The Address of the Author remains at Thames Ditton, near Kingston, Surrey. But the town of Kingston-on-Thames having been changed under postal arrangements to a Head country office, it is no longer proper to add the letters "S.W." which are the initials of a Metropolitan district. Correspondents are requested to note this change in postal address.

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## I. INTRODUCTORY EXPLANATIONS.

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PHYTO-GEOGRAPHY traces out the history and distribution of plants, in connexion with the geographical position of countries, their conditions of climate, and the physical peculiarities of their surface. It has been more specially described under two names or divisions, according to the different modes in which the subject matter is chiefly taken under consideration. 1. *Geographical Botany* is understood to begin with the plants themselves, whether by individual species or in generic or ordinal groups, and to trace the distribution of the species or groups over the surface of the Earth, or over any portion of it immediately under consideration. 2. *Botanical Geography* regards the Earth's surface itself primarily, and examines the floral peculiarities of its various parts or divisions; investigating the diversities and correspondences of their respective floras, and endeavouring to ascertain the circumstances or influences which have determined the existing conditions of plant-distribution. Briefly, the former may be said to treat about the places of the plants; the second, conversely, to treat about the plants of the places. If reduced into brief questions, the distinction may become still more clear. 1. In what places, and under what conditions, does this plant or group of plants occur? 2. By what kind of plants, or combination of plants, is this country inhabited and characterized?—how did they first get to it?—how maintained there?

This present volume will be devoted to geographical botany. Each British species will be treated separately and successively, and its geographical distribution will be indicated in accordance with a fixed form. The ample details thus condensed within a

small compass, and the uniformity of treatment ensured by adherence to one fixed formula of distribution, will be found advantageous to phyto-geographers. All the leading facts are thus placed ready for use, whether it be wished to compare the botanical geography of Britain with that of any other country,—or, to compare one part of Britain with any other part of itself, under the like view,—or, to compare the distribution of one species with that of another, or with the distribution of all others by means of general lists.

Many of such comparisons have been shown in the fourth volume of the *Cybele Britannica*. Those readers who may desire to see and understand such an application of the details of geographical botany, can readily do so by consulting that fourth volume; which may be regarded, indeed, as a second volume also to the present more epitomized work. The three earlier volumes of the *Cybele Britannica* having been longer in print (1847—1852) their details were brought up of course less near to the actual knowledge of to-day; while the later date of the fourth volume (1859) places it less in arrear, and more especially so on account of the more generalised character of its contents. The present work will be understood to replace the three earlier volumes of the *Cybele Britannica* almost exclusively, and with only brief explanations drawn from the fourth volume and the Supplement. But it is not simply an epitome of these three volumes; being in fact almost a re-written work on a similar plan.

### 1. TOPOGRAPHICAL DIVISIONS.

For the purposes of phyto-geography it was found expedient to form and name some other partitions of the surface of Britain, besides those in current use for social or political geography. The three antient divisions of the island—England, Wales, Scotland—were too few and too unequal; while ninety counties and islet-groups were too numerous, and also too unequal, for some of the objects. Intermediate divisions were especially required, and these were easily formed by uniting the counties into less numerous



groups. At the same time, it was sought to obviate the practical inconvenience of new sections and new names as far as possible. A close adherence to county-boundaries was consequently resolved upon, for a basis of all the new divisions. To this rule some slight exceptions will be found, where small portions of one county lie apart, being imbedded or insulated within the outline limits of other adjacent counties.

*Provinces.* — In forming the intermediate sections, by grouping the counties, a wavy middle line was first traced from the south coast of England northwards into the Highlands of Scotland; this line corresponding with the boundaries of counties, and being traced in that course which would best divide the counties whose rivers flow to the eastern coasts, from those other counties the waters of which are emptied into the western seas or ocean. These two longitudinal portions of the island were then transversely subdivided into *Provinces*, or groups of counties which together constitute the basin of a principal river, or have some other physical peculiarity in common. The mesial line was not continued northward of Inverness, where Scotland becomes very narrow, and where counties extend from the east to the west coast, as Ross and Sutherland. The wide county of Inverness itself, also extending from east to west, is bisected by the longitudinal line; the eastern portion being thus divided from the western portion; its two portions being severally named East-Inverness and West-Inverness, abbreviated into Easternness and Westernness. The small eastern county of Nairn is included with Easternness; while that detached part of Argyle, situate on the north-west side of Loch Linhe, is taken along with Westernness.

In this manner eighteen Provinces, or groups of counties, have been traced on the map of Britain; and though still being arbitrary or conventional partitions of the surface, through conforming with county boundaries, they will be found on examination to be more natural sections of the island, than are the counties themselves. It will be observed that any needful new names are given to the provinces in accordance with some physical peculiarity or character, usually that of a principal river basin, as Thames or

Severn. If other names were already in familiar use and sufficiently applicable, those customary names have been retained in preference; as in the case of North or South Wales, or Highlands and Lowlands of Scotland.

In order to render these Provinces suitable for phyto-geographical comparisons among themselves, it was sought to give to each a considerable portion of coast line; as otherwise maritime plants in some of them, and not in others, would have rendered their local floras less comparable. But the inland province of Severn was unavoidably left with a coast line of less extent than elsewhere. For convenience of geographical nomenclature it was deemed better to keep the twelve counties of Wales to themselves; and to have included all Somerset with the Severn counties, more strictly so designated, would have intruded their province too far into that of the Peninsula. The existing conditions of botanical knowledge and records, at the date of 1840—5, likewise in some degree affected the provincial boundaries, more especially those of the Highland provinces. The counties were so grouped that the then existing records should furnish a tolerably full list of the species for each group. Otherwise, it would have been preferable to group the Highland counties into four provinces instead of three only; also, to keep the Western isles of Scotland, Ebudes and Hebrides, united together as one province, apart from the two sub-groups of Northern isles, Orkney and Shetland. But the botanical data on record a quarter century ago, though much increased by the present writer's own manuscript notes, were still too incomplete and imperfect to allow a compilation of local Floras for six instead of four Highland and Insular provinces. By a subsequently adopted arrangement, presently to be explained, the same counties and isles can now be treated as ten sub-groups, instead of four chief groups, in cases where the more numerous partitions are likely to prove more useful.

Before proceeding to explain the other divisions and subdivisions of Britain, more numerous than these eighteen provinces, it seems advisable to present a list of the counties enumerated under their respective provinces; this first grouping

of the counties into the eighteen primary provinces being the guide to all other divisions and combinations, whether larger and fewer, or smaller and more numerous sections. Through a reference to the subjoined list, any plain county map of Britain may readily be converted into a provincial map, by colouring such of the outlines of counties as constitute any portion of the boundaries of the provinces. For example, a coloured line along the contiguous boundaries of Devon and Somerset, on the one side, with Dorset and Wilts on the other side, will separate the province of the Peninsula from that of the Channel; and in like manner a coloured line traced along the northern boundaries of Wilts, Hants and Sussex, will separate the Channel province from that of the Thames.

*List of Provinces and their included Counties.*

1. PENINSULA.—Cornwall, Devon, Somerset.
2. CHANNEL.—Dorset, Wilts, Isle of Wight, Hants, Sussex.
3. THAMES.—Kent, Surrey, Berks, Oxford, Bucks, Middlesex, Herts, Essex.
4. OUSE.—Suffolk, Norfolk, Cambridge, Bedford, Huntingdon, Northampton.
5. SEVERN.—Gloucester, Worcester, Warwick, Stafford, Salop, Hereford, Monmouth.
6. SOUTH WALES.—Glamorgan, Caermarthen, Pembroke, Cardigan, Brecon, Radnor.
7. NORTH WALES.—Montgomery, Merioneth, Caernarvon, Denbigh, Flint, Anglesea.
8. TRENT.—Leicester, Rutland, Lincoln, Notts, Derby.
9. MERSEY.—Cheshire, Lancashire.
10. HUMBER.—York.
11. TYNE.—Durham, Northumberland.
12. LAKES.—Westmoreland, Cumberland. (Isle of Man).
13. WEST LOWLANDS.—Dumfries, Kirkeudbright, Wigton, Ayr, Lanark, Renfrew.
14. EAST LOWLANDS.—Berwick, Roxburgh, Peebles, Selkirk, Haddington, Edinburgh, Linlithgow.
15. EAST HIGHLANDS.—Fife, Kinross, Clackmannan, Stirling, Perth, Forfar, Kincardine, Aberdeen, Banff, Moray (including Nairn, Elgin, and the north-east of Inverness).
16. WEST HIGHLANDS.—Dumbarton, Argyle, Inverness, westward of Loch Erricht. Isles adjacent, from Arran to Skye.
17. NORTH HIGHLANDS.—Ross and Cromarty, Sutherland, Caithness.
18. NORTH ISLES.—Hebrides, Orkney, Shetland.

*Sub-provinces.* — The varying width of the island in its different latitudes, and the necessity also for taking into account the then actual state of botanical records, caused the provinces to be less equalized in size or area than was desirable; although they were made much less disproportionate than the counties themselves. As the distribution of the plants became better ascertained, it was found to become practicable and useful to equalize the provinces more closely, by further subdividing the larger of them, and leaving the smaller undivided. By this course the eighteen primary provinces were increased into thirty-eight subordinate provinces, to which the designation of *Sub-province* was given; the original names being retained for the undivided provinces, and a prefix added to the original names for the severed portions of the others. The great county of York, constituting alone the province of Humber, thus became apportioned between two sub-provinces, — those of East Humber and West Humber. In other respects county boundaries were still adhered to in forming the sub-provinces; several of which are identical with large counties. There is one important difference between the provinces and sub-provinces, which is to be kept in recollection in all comparisons between their floras; namely, that some of the English sub-provinces are entirely inland, presenting no coast line for maritime plants. Thus, while several species of the sea-shore can be stated to occur generally in all the provinces, the like character of generality cannot be assigned to them, when their distribution is traced by the sub-provinces in England.

*Vice-Counties.* — The still greater inequality and disproportion in the size of the counties, frequently rendering any comparison between their floras quite unsatisfactory and delusive, was also sought to be partially removed by cutting the larger counties into two or more sections designated *Vice-counties*, and leaving the smaller counties whole. Some few of the smallest counties had previously been sunk or included in those adjacent to them, as Rutland in Leicestershire, and Kinross in Fifeshire; and the fragmentary county of Cromarty was held as part of Ross, within which its detached portions are situate. Through this course of

subdivision, the counties and vice-counties together are increased to 112. The familiar names of the counties are almost always retained, the vice-counties being distinguished by a prefixed word, usually denoting the points of the compass,—North, South, East, West, or Mid,—as being obvious and easily remembered. Some few exceptions to this rule of nomenclature are introduced, where a familiar name already existed, as Isle of Wight, or else in order to avoid the awkwardness of writing, for instance, “North Northumberland with North Durham;” the name of “Cheviotland” being substituted for this latter compound. The vice-counties, equally as the sub-provinces, came into use only in the fourth volume and Supplement of the *Cybele Britannica*; the distribution of the species being traced by the provinces and counties only in the three earlier volumes. In this work, the sub-provinces and the vice-counties will come fully into use in forming a ‘Census’ scale; and hence the necessity for explaining what they are and what their names represent.

*Divisions of Britain.*—Taking the 18 Provinces as a basis, we are now prepared to trace larger divisions of the surface, which can often serviceably be substituted for the old divisions into England and Scotland, or England and Wales. The single mesial line traced from south to north, as before explained, will make two longitudinal divisions into East and West Britain. Two transverse lines will in turn divide the island into South, Mid, and North Britain. These three longitudinal divisions are thus shown on the map prefixed to this volume:—

S. Britain includes provinces 1—7; sub-provinces 1—18

M. Britain . . . . . 8—14; . . . . . 19—28

N. Britain . . . . . 15—18; . . . . . 29—38

In subdividing the whole island longitudinally by provinces only, there comes the difficulty before mentioned, of the two most northerly provinces being partly eastern and partly western. This difficulty is somewhat lessened by founding the two longitudinal divisions on the sub-provinces. On this basis, the two sub-provinces of Lower and Upper North Highlands, together with the Hebrides, and also the West Channel in England, are to be

reckoned in the nineteen Western Sub-provinces, forming West Britain ; while Shetland and Orkney, with Mid Channel and East Channel, are to be reckoned among the nineteen Eastern Sub-provinces, forming East Britain.

A clear understanding of these various divisions or sections of the whole area of Britain, more or less in use through this present work, as well as in the volumes of the original *Cybele Britannica*, is quite necessary to those readers who may consult either of the works. The subjoined enumeration of them in detail, with the aid of the map, will shew all the provinces and their subordinate partitions, as well as the three series of consecutive Nos. by which they are respectively distinguished.

**I.—Divisions of Britain into Eighteen PROVINCES, as indicated by Nos. on the margin of the Map.**

I. PENINSULA.	X. HUMBER.
II. CHANNEL.	XI. TYNE.
III. THAMES.	XII. LAKES.
IV. OUSE.	XIII. WEST LOWLANDS.
V. SEVERN.	XIV. EAST LOWLANDS.
VI. SOUTH WALES.	XV. EAST HIGHLANDS.
VII. NORTH WALES.	XVI. WEST HIGHLANDS.
VIII. TRENT.	XVII. NORTH HIGHLANDS.
IX. MERSEY.	XVIII. NORTH ISLES.

**II.—Subdivisions of the primary Provinces into the 38 SUB-PROVINCES, and 112 Counties and Vice-Counties.**

I.	II.
I. SOUTH PENINSULA.	IV. WEST CHANNEL.
1 West Cornwall.	7 North Wilts.
2 East Cornwall.	8 South Wilts.
II. MID PENINSULA.	9 Dorset.
3 South Devon.	V. MID CHANNEL.
4 North Devon.	10 Isle of Wight.
III. NORTH PENINSULA.	11 South Hants.
5 South Somerset.	12 North Hants.
6 North Somerset.	VI. EAST CHANNEL.

- |                 |              |
|-----------------|--------------|
| 13 West Sussex. | 39 Stafford. |
| 14 East Sussex. | 40 Salop.    |

## III.

- VII. SOUTH THAMES.  
 15 East Kent.  
 16 West Kent.  
 17 Surrey.

- VIII. NORTH THAMES.  
 18 South Essex.  
 19 North Essex.  
 20 Herts.  
 21 Middlesex.

- IX. WEST THAMES.  
 22 Berks.  
 23 Oxford.  
 24 Bucks.

## IV.

- X. SOUTH OUSE.  
 25 East Suffolk.  
 26 West Suffolk.

- XI. NORTH OUSE.  
 27 East Norfolk.  
 28 West Norfolk.

- XII. WEST OUSE.  
 29 Cambridge.  
 30 Bedford.  
 31 Hunts.  
 32 Northampton.

## V.

- XIII. SOUTH SEVERN.  
 33 East Gloucester.  
 34 West Gloucester.  
 35 Monmouth.

- XIV. MID SEVERN.  
 36 Hereford.  
 37 Worcester.  
 38 Warwick.

- XV. NORTH SEVERN.

## VI.

- XVI. SOUTH EAST WALES.  
 41 Glamorgan.  
 42 Brecon.  
 43 Radnor.

- XVII. SOUTH WEST WALES.  
 44 Caermarthen.  
 45 Pembroke.  
 46 Cardigan.

## VII.

- XVIII. NORTH WALES.  
 47 Montgomery.  
 48 Merioneth.  
 49 Caernarvon.  
 50 Denbigh.  
 51 Flint.  
 52 Anglesea.

## VIII.

- XIX. EAST TRENT.  
 53 South Lincoln.  
 54 North Lincoln.

- XX. WEST TRENT.  
 55 Leicester.  
 56 Notts.  
 57 Derby.

## IX.

- XXI. MERSEY.  
 58 Chester.  
 59 South Lancaster.  
 60 West Lancaster.

## X.

- XXII. EAST HUMBER.  
 61 South East York.  
 62 North East York.

- XXIII. WEST HUMBER.  
 63 South West York.  
 64 Mid West York.  
 65 North West York.
- XI.
- XXIV. TYNE.  
 66 Durham.  
 67 Northumberland.  
 68 Cheviotland.
- XII.
- XXV. LAKES.  
 69 Westmoreland.  
 70 Cumberland.  
 71 Isle of Man.
- XIII.
- XXVI. SOUTH WEST LOWLANDS.  
 72 Dumfries.  
 73 Kirkeudbright.  
 74 Wigton.
- XXVII. NORTH WEST LOWLANDS.  
 75 Ayr.  
 76 Renfrew.  
 77 Lanark.
- XIV.
- XXVIII. EAST LOWLANDS.  
 78 Peebles.  
 79 Selkirk.  
 80 Roxburgh.  
 81 Berwick.  
 82 Haddington.  
 83 Edinburgh.  
 84 Linlithgow.
- XV.
- XXIX. SOUTH EAST HIGHLANDS.  
 85 Fife, Kinross.
- 86 Stirling.  
 87 West Perth, Clackmannan.  
 88 Mid Perth.  
 89 East Perth.
- XXX. MID EAST HIGHLANDS.  
 90 Forfar.  
 91 Kincardine.  
 92 South Aberdeen.  
 93 North Aberdeen.
- XXXI. NORTH EAST HIGHLANDS.  
 94 Banff.  
 95 Elgin.  
 96 Easternness.
- XVI.
- XXXII. INNER W. HIGHLANDS.  
 97 Westernness.  
 98 Main Argyle.  
 99 Dumbarton.  
 100 Clyde Isles.  
 101 Cantire.
- XXXIII. OUTER W. HIGHLANDS.  
 102 South Ebudes.  
 103 Mid Ebudes.  
 104 North Ebudes.
- XVII.
- XXXIV. LOWER N. HIGHLANDS.  
 105 West Ross.  
 106 East Ross.
- XXXV. UPPER N. HIGHLANDS.  
 107 East Sutherland.  
 108 West Sutherland.  
 109 Caithness.
- XVIII.
- XXXVI. NORTH WEST ISLES.  
 110 Hebrides.
- XXXVII. LOWER NORTH ISLES.  
 111 Orkney.
- XXXVIII. UPPER NORTH ISLES.  
 112 Shetland.



## 2. ASCENDING OR CLIMATIC ZONES.

If a Botanist, while standing on the summit of one of our loftiest hills, will make out a list of all the plants he can see close around him, he will find that his list includes very few flowering plants. Suppose that, while slowly descending from summit to base, he carefully sets down the names of all the other phanerogamous plants successively as they may come under his notice. His list will thus shew the highest point, or upper limit, attained by each species on that particular hill, and in that particular line of descent from its summit; of course, not the absolute heights, but the upper limits of the species relatively to each other, or one above another.

If the Botanist should now reverse his course of observation, in ascending from base to summit, he will first make a much more numerous list of species at and about his starting point at the foot of the hill. The species quite on the summit being very few, those of the base will be found gradually disappearing from his view as he ascends higher and higher towards that summit. At the same time, a smaller number of other species, not descending so low as the base of the hill, will gradually come under his notice; some of which will again disappear from view, while probably some others will continue to be found at intervals nearly or quite up to the actual summit. All the species which were not seen at the base of the hill, and which first became obvious in succession during the ascent, may be said to have a lowest point, or lower limit on the hill supposed to be under examination.

By a further supposition, our Botanist shall make like observations on some other adjacent hill, one of nearly equal elevation, and in the character of its surface also resembling the hill before ascended and descended. Often repeated experience warrants an expectation that the Botanist will find a nearly similar series or succession of species on this second hill, if comparing its plants with those on the former hill. He would never find two lists corresponding precisely, if so made on different hills. Some of the species seen on the one hill, might likely not be observed at all

on the other hill. Those really seen would seldom or never be found exactly in the same series or order of succession on both. Real differences would be traced, through some of the species themselves not invariably keeping the same upper and lower limits relatively to each other. Apparent differences would arise, through the Botanist failing to observe the highest or lowest points for some of the species. But the absolute heights by measurement, at which the same single species appeared or disappeared on the two hills respectively, would usually be found to differ more than the relative heights of the several species, one compared with another.

Again, the Reader will please to suppose that our botanical observer has repeated the described process on numerous hills within Britain; making out so many lists of the species, as they were first observed in ascending or descending the hills. The series of names in his various lists will present an approximate similarity, although not an actual sameness. The closest approximation towards sameness will be found among the very common species which occur almost everywhere; the rarer species in general being less uniform in their relative position. For instance, it will be found almost invariably that *Erica cinerea* ascends higher than *Ulex europæus*; that *Calluna vulgaris* ascends higher than the *Erica*; that *Vaccinium Myrtillus* ascends higher than the *Calluna*. Conversely, *Saxifraga stellaris* will almost always be found to descend lower than *Saxifraga nivalis*; *Empetrum nigrum* will be seen lower down than *Azalea procumbens*; and *Luzula spicata* will appear at a much lower elevation than the rarer *Luzula arcuata* is ever found at in Britain.

This tendency of plants to cease at different altitudes, to have upper and lower limits, and for several also usually to keep an approximate similarity in the distance apart of those limits, one species relatively to another, affords the facility for forming ascending zones of plants. Common and conspicuous species are selected, which usually cease at some considerable distance from each other, a distance tolerably uniform in measurement. The intervening spaces between the limits of these species are taken to

apportion the whole height of the hills into successive stages, which are denominated *Ascending Zones*. If, for example, on one hill the *Ulex europæus* should cease at 1000 feet of altitude, *Erica cinerea* at 2000 feet, *Calluna vulgaris* at 3000 feet, and *Vaccinium Myrtillus* at 4000 feet,—in such a case, their upper limits would divide the hill into four ascending zones of 1000 feet each. Again, on some more northerly hill, if the same shrubs should cease respectively at 500, 1500, 2500, and 3500 feet,—in this case, their upper limits would still form equivalent zones, relatively to each other, although their absolute altitudes differed by 500 feet on the two hills.

The low horizontal surface of the island equally admits of zonal division. A large number of the species which are seen in the southern counties of England, fail to reach the northern counties of Scotland; disappearing or being left behind successively as a traveller proceeds from south to north. Conversely, various other species which flourish in the northern counties, will be found to run out and disappear as the traveller returns southward. But it is less easy to make or mark out horizontal zones on the low grounds, although in their general character they correspond with the vertical or montane zones, one single country being under view. Zones must be bounded by imaginary lines, while species seldom or never cease thus abruptly in hard lines. In the usual mode of cessation, especially on the horizontal surface, a species first becomes less abundant and less continuous in its distribution; its localities gradually becoming wider and wider apart, and often less productive; finally, a few outlying localities may be found, far separated from each other, in which the species almost seems to re-appear after a cessation. These extreme localities constitute the actual or true limits of the species, southerly or northerly, easterly or westerly, as the case may be. But if they were correctly marked on a map, such localities would be only minute dots wide apart, and not real lines. It is the conventional custom, however, to connect these dots on a map by tracing lines from one to another, and thus to make the terminal limits of plants to appear linear, instead of distantly dotted. Something of

the linear character may often be really traced along the upper limits of species, as seen on the acclivities of mountains; although, even on the hill-sides, there is the like tendency to run out gradually in detached spots, rather than to cease suddenly along a continuous line.

The mode in which it has been found most convenient to divide the surface of Britain into floral zones, horizontal and vertical taken together, is that of first tracing a line along the upper limit of grain crops, and then subdividing the two spaces above and below that line into three zones each. The two primary divisions have been designated the *Agrarian Region*, or region of cultivation, and the *Arctic Region*, or region of (so-called) alpine plants. The three subordinate zones into which each of these two regions is subdivided, are similarly named by prefixing the words *Infer Mid Super* to the names of the regions. Tracing them upwards,—that is, from south to north, from lower grounds to higher grounds,—they may be said to stand thus

- |                         |                       |
|-------------------------|-----------------------|
| I. Agrarian Region.     | II. Arctic Region.    |
| 3. Super-agrarian Zone. | 6. Super-arctic Zone. |
| 2. Mid-agrarian Zone.   | 5. Mid-arctic Zone.   |
| 1. Infer-agrarian Zone. | 4. Infer-arctic Zone. |

The manner in which they succeed and overlap each other, is shown by a diagram at the lower corner of the map. These zones represent the facts of nature, but represent them by an artificial or conventional method. The zones are arbitrary sections, in so far as the selected species and fixed boundary lines are concerned; and yet they do correspond with and represent differences which actually exist in nature, inasmuch as the flora (the species) and vegetation (general mass of plants) of each single zone differ considerably from those of the other zones above or below. In truth, however, the natural changes in flora and vegetation being everywhere gradual, any *line* will unavoidably sever that which is nearly alike; the vegetation being more similar on the contrary sides of any single dividing line, than it is on the two sides of the wide space between any two lines.

It is to be observed also, that climatic or ascending zones of plants are designed to indicate the relative distribution of species under the joint influence of altitude and latitude, with other conditions of more local character, such as proximity to seas or mountains, the state of exposure or shelter, etc. Connexions may be traced between the distribution of plants and each of those conditions singly; but everywhere the influence of any one condition is more or less disturbed and modified by the influence of other conditions. Their effect upon the species-flora, or upon the general vegetation, is mostly indirect or remote; that is, the flora varies with the climate, and the climate varies with altitude, latitude, and other conditions of place and surface. On a single isolated mountain floral stages are strongly marked in accordance with height; some species disappearing, other species appearing, one above another, as we gradually ascend from base to summit. Yet on a single mountain the regularity of its ascending zones will be somewhat disturbed by local differences in the character of its surface, as even or rocky, dry or damp; and through differences of aspect on its acclivities, as facing to or from the sun. On an extended range of mountains the disturbing effect of local peculiarities will become much more obvious. And when we require to generalize our zones from the facts noted on several groups of mountains, dissimilar in extent, elevation, latitude, maritime proximity and other circumstances, it then becomes difficult to define them with any exactness.

This difficulty is experienced within Britain. The absolute elevation at which the same species is found to grow, varies by several hundred feet on the different mountain ranges of our own island. And as this variation is by no means uniform among the different species, we find local changes in their relative elevation also, when the limit of some one species is constantly compared with the limit of some other species. Notwithstanding such local exceptions, however, the general rule may still be held true, that *a species which ascends decidedly higher than another on one range of mountains, will also usually be found higher on other ranges;*

and the commoner the species, the more constant is this rule found to be.

The primary division into Agrarian and Arctic Regions, adopted as the one best applicable in Britain, is ostensibly founded upon an artificial character; namely, the presence or absence of cultivation. In the spontaneous flora or vegetation of Britain we can find no character equally obvious and general as is that afforded by the cultivation of grain. The interests of mankind are so closely connected with the production of corn, that we shall everywhere find cultivated fields as far up the valleys and acclivities of the mountains as their climate will allow. We may doubtless see many spots where the nature of the soil or surface, rather than the climate by itself, forbids success in cultivation. But a correct observer can scarcely be misled in such instances, since he will usually find cultivation sufficiently near to those spots, to show that it has not been prevented by inferiority of climate. Moreover, nature will afford us a second test of the Agrarian region, in the presence of a very common and conspicuous fern, the *Pteris aquilina*. This fern is abundantly distributed through the lower region, and from one extremity of our island to the other; its upper limit usually running almost uniform with the climatic limit of corn cultivation; so that the two characters in connexion afford a satisfactory test of the region.

The height to which cultivation ascends among the mountains varies much with aspect and position. Among the Grampian mountains of Scotland, about the latitude of 57, the general line of corn cultivation runs from 1000 to 1200 feet; rising in some favorable situations in Aberdeenshire even to 1500 or 1600 feet. So likewise with the *Pteris*; which is seldom seen above 1200 feet on the exposed moors of the Highlands, unless in sheltered depressions of the surface, or on acclivities which front to the sun; while in the woods of Lochnagar, in Aberdeenshire, it was observed in two spots respectively estimated, and perhaps somewhat over-estimated, to be 1760 and 1900 feet of elevation. In the North of England, we are told by Mr. J. G. Baker, oats have been grown as a field crop at 1650 feet, and that in Weardale he

saw oats at 1340 feet, barley at 1000 feet, and wheat at 750 and 800 feet. Turnips and potatoes can be grown up to the extreme limit of the oat, or somewhat higher. The highest point at which the *Pteris* has been noted in Yorkshire by Mr. Baker, is about 1500 feet; and 1680 feet is the highest point indicated for it in the Lake province, at page 337 of the fourth volume of the *Cybele Britannica*.

The *Arctic Region* is conveniently subdivided into its three zones by the upper limits of *Erica Tetralix* and *Calluna vulgaris*; the Mid-arctic zone being understood to include any spaces which lie between the upper limits of these two heath shrubs on the acclivities of the mountains. The spaces situate above the limit of cultivation, and below the limit of *Erica Tetralix*, belong to the Infer-arctic zone. Those above the limit of the *Calluna*, being only the upper portions of the highest hills, belong to the Super-arctic zone. Of course, it is only in places where the upper limits of these shrubs are determined by general climate, that they can be correctly taken as tests and indications of the zonal stages. On very arid ground, at any elevation, the *Calluna* might still be present, while the *Erica Tetralix* might be absent owing to lack of sufficient moisture; and in any such case the absence of the latter would be no indication that the ground in question was really a portion of the Mid-arctic zone. Neither would the absence of both always suffice to show that the surface spaces destitute of them were certainly within the uppermost or Super-arctic zone. In England, we often find green pasturages, instead of heath-bearing moors, quite within the natural limits of those heaths. The test derived from the presence or absence of either of those shrubs, indeed, is more obvious and more readily applied in the Highland provinces, than is found to be the case in those more southward, where the ericaceous shrubs are more frequently and completely destroyed by fire, in order to the production of a pasturage suitable for sheep. The three Arctic zones are further distinguishable by the presence or absence, respectively, of several other common plants; so that we do not depend absolutely on any one species as a test of a zone. Thus, in the absence of *Erica Tetralix* on dry

ground, the presence of *Erica cinerea* might be taken for a test instead.

*The Agrarian Region* cannot be subdivided into its three zones rigidly by the presence or absence of single species. As corn cultivation of some kind extends through the whole length of Britain, even into Shetland where crops of oats and barley are still grown, the whole low surface of the country has to be apportioned between the three Agrarian zones, along the sea coast, and thence upwards to the line or spots where cultivation ceases on the acclivities of the hills, and where the *Pteris aquilina* also usually disappears. If we had to deal with a truly level or only slightly undulated surface, the region might conveniently be divided into three zones simply in accordance with latitude; namely, South—Middle—North. But the three zones must also be considered to overlap each other in succession on the lower acclivities of the mountains, and in their intervening valleys; increasing elevation above the level of the sea, in any more southerly province, corresponding in a general manner with increasing latitude in a northerly direction. Our indications of the zones must thus keep in view both elevation and latitude, and be adapted to both conditions. On comparing a flora of one of the south-eastern provinces of England with a flora of the Highland valleys, or of the plains near the north coast of Scotland, the differences would be found decidedly marked, and this both in the species and in their comparative numbers or frequency; and an intermediate tract between these two extremes of the agrarian region, would be sufficiently well characterised by its own distinctive features taken in the aggregate. But the difficulty is always renewed when we attempt to divide natural gradations by abrupt lines, or to lay down distinctions which rest upon single characteristics to be applied under varying circumstances. Keeping this practical difficulty in recollection, the three Agrarian zones may now be shortly described, rather than very rigidly defined.

*The Super-agrarian zone* may be said to comprise three different kinds or portions of the surface of Britain. First, all the coast-line and low plains or moors in the north and north-west of



Scotland, where plants of an alpine character are found descending to the sea level or sea shore, such as *Thalictrum alpinum*, *Draba incana*, *Saxifraga oppositifolia*, *Arbutus alpina*, and *Dryas octopetala*. Secondly, all other spaces in any parts of the island, where the elevation of the ground leads to the production of the same or usually associated species; *Arbutus Uva-Ursi*, *Saxifraga stellaris*, *Alchemilla alpina*, *Tofieldia palustris*, *Luzula spicata*, and *Juncus triglumis* being examples of the latter. Thirdly, those tracts of slight elevation, upon which a corresponding flora and general vegetation prevail, apparently in consequence of simple proximity to the high mountains; *Saxifraga aizoides* growing so low as 300 feet among the mountains of Cumberland, and *Epilobium alsinifolium* at 500 or 600 feet in Carnarvonshire; although these plants are never seen at so low an elevation in the English counties remote from the higher hills. In addition to the species mentioned, which are to be regarded as descending from the Arctic into the Agrarian region, this upper zone of the latter region is characterised by the presence of *Ilex*, *Quercus*, *Fraxinus*, *Lonicera*, *Cratægus*, and the fruticose *Rubi*, which can scarcely be said to occur above the limits of cultivation or of *Pteris aquilina*; equally so, by the absence of other species which are not seen truly wild until we descend into the next lower zone.

The *Mid-agrarian zone* will comprehend all the low grounds, clear from the mountains, which are situate between the estuaries of the Clyde and Tay, on the north, and those of the Humber and Dee, on the south; also, a narrow coast tract of the East Highlands, extending from Perth to Aberdeen. To this space is to be added a narrow belt winding around and amid the hills of Wales, and characterised by the vegetation of the present zone, rather than by that of the zones above or below this intermediate one. The higher hills of Wales rise to the Arctic region; and as the surrounding coast line and low grounds inland belong to the lowest Agrarian zone, the middle and upper Agrarian zones will be found represented above the bases and below the summits of the Cambrian hills. In descending from the Super-agrarian into the present zone, we find some of its characteristics in the first

appearance of *Convolvulus sepium*, *Bryonia dioica*, *Tamus communis*, *Acer campestre*, *Rhamnus catharticus*, *Ulex nanus*, *Viburnum Lantana*, *Euonymus europæus*, and *Cornus sanguinea*; all of which occur also in the lowest zone, and more plentifully there; while none of them are ascertained to occur truly native in the uppermost portion of the Agrarian region; and all certainly fail far below the upper limit of *Pteris aquilina* or of cultivated crops.

*The Infer-agrarian zone* will embrace all the country southward from the Dee and Humber (continued into the river Trent) excepting the mountainous tracts of Wales and the higher hills and moors in the provinces of the Severn and the Peninsula. This zone is more particularly characterised by the increased prevalence of the species before mentioned as commencing in the zone above. *Clematis Vitalba* is one of the conspicuous species almost (if not quite) restricted to this zone as a truly native shrub. *Rubia peregrina* is another characteristic species, partially prevalent in the southern and western counties; while the *Clematis* affects the calcareous tracts of the southern, eastern and inland counties, where it is often abundant and conspicuous. Though several species are quite peculiar to this lowest, or most southern, of the six zones, they are usually too scarce or too local to be relied upon as characteristic tests. Examples occur in *Erica ciliaris*, *Illecebrum verticillatum*, *Sibthorpia europæa*, *Cyperus longus*, *Scilla autumnalis*, *Pulicaria vulgaris*, and *Actinocarpus Damasonium*.

The six climatic zones, into which the two regions are thus subdivided, may be better understood and borne in memory, after presentation to the eye in closer connexion with each other. Their Nos. are reversed here because it has been found more convenient to describe or explain the zones downwards, although the plants themselves are in general traced more readily upwards, that is, from south to north, from low to high grounds, from the open country to the montane valleys and acclivities:—

## II. Arctic Region.

6. Super-arctic zone—*Salix herbacea*, without *Calluna*.
5. Mid-arctic zone—*Calluna vulgaris*, without *Erica*.
4. Infer-arctic zone—*Erica Tetralix*, without *Pteris*.

## I. Agrarian Region.

3. Super-agrarian zone—*Pteris aquilina*, without *Rhamnus*, &c.
2. Mid-agrarian zone—*Rhamnus catharticus*, without *Clematis*.
1. Infer-agrarian zone—*Clematis*, *Rubia*, *Cyperus longus*.

“ Unless the highest part of Snowdon can be deemed to attain the super-arctic zone, none of the before-explained provinces will include the full series of six zones. Elsewhere the hills are not sufficiently lofty to pass the mid-arctic zone, until we arrive at the Highland provinces, all three of which have their highest summits clearly above the limits of the *Calluna*; but the lowest portions of these provinces, near their coast-line and southern boundary, fall barely within the mid-agrarian zone.”

“ It is probable that six such zones are quite as many as can be satisfactorily distinguished when attention must be directed to the whole surface of Britain. Even with six only, it would be useless to attempt very great precision in assigning the species to their respective zones. We must disregard the occasional and slight trespass of a species into a zone above or beneath those to which it is otherwise restricted by its natural adaptation to their climate. Such trespasses (if the expression be allowable) are usually found in connexion with some local peculiarity by which the true climate is varied, or its influence on the plants modified. For example, the cool spray of a waterfall, or the efflux of a cold spring, will support the species of a colder climate than is natural to the latitude and elevation. And, on the contrary, the plants of a warmer climate will grow on the south face of rocks which are raised above the altitude where the same species cease to exist in more bleak situations. These apparent exceptions come inconveniently in the way of precise lines on botanico-geographical maps. Though such lines may be made to look very clear and

satisfactory upon paper, nature refuses to trace them on her own domains.

“To take an example:—*Gnaphalium supinum* has been seen at the level of a corn-field by Loch Callater (1600 feet) in Aberdeenshire, and *Pteris aquilina* has been found much above the same altitude, at a distance of half a dozen miles; namely, at or near 1700 and 1900 feet. Yet in ascending the gradual declivities of the same mountains, under equal conditions of surface and shelter, the *Pteris* always ceases before we attain the altitude at which the *Gnaphalium* commences. On this account, they are assigned to different zones, although their limits can thus cross in respect of absolute elevation. They belong to different climates, and are so placed by nature when under equal conditions of exposure, &c. So, again, a bush of *Corylus Avellana* has existed during many years against the sunny face of a steep rock on the Clova Mountains, at nearly 2000 feet of elevation; rather below which, and at a slight distance, some weakly plants of *Saxifraga nivalis* have been observed. Nevertheless, this solitary instance cannot warrant the assignment of these two species to the same zone; because the upper-line of the *Corylus* is usually 500 to 1000 feet below the lower-line of *Saxifraga nivalis*. In studying the climatic affinities of plants, we must reason as well as observe, and estimate as well as measure.

“Though examples of each may thus occur, it is more usual to find ‘trespasses’ downwards than upwards. The descending course of water conduces much to this result in the mountain districts, not only by bringing down the seeds of plants from the higher zones, but also by bringing down the cold of the mountains; so that the first appearance of alpine species, as we ascend the mountains, is usually by the side of the water-courses, or upon wet rocks which are kept cool by the dripping and oozing of water. In such situations, *Silene acaulis* may be found a thousand feet lower than it is seen as a constituent of the drier and sun-exposed sward. And there is also another circumstance which makes the lower limits appear more irregular and exceptional than the upper; namely, the fact that mountain species

will re-appear on maritime cliffs, although absent from the open plains and low hills between the coast and the mountains. Thus, on the southern acclivities of the Grampian mountains, *Saxifraga oppositifolia* is seldom seen below a thousand feet of elevation; although still farther south, it was found on the west-coast of Scotland, by Professor Balfour, very little above the sea-level. On the coast, consequently, this 'alpine plant' intermingles with species which never occur at alpine elevations on the mountains."

### 3. TYPES OF DISTRIBUTION.

In addition to their distribution traced horizontally through provinces and counties, or northwards and upwards through ascending zones, a third mode of indicating the geographical relations of plants requires explanation here. Many species are spread over the whole island; at any rate, are so spread near the coast level; while others are limited to one, two, three, or more of the provinces. The same holds true of their distribution in ascending zones; some species being found in all of the six zones, others only in one or more of them. Perhaps no two species have exactly the same distribution or uniform frequency of repetition; and yet certain general similarities can be traced, by which the native species can be grouped together under a few leading *Types of Distribution*,—as they are at present named, in the want of some better designation. The groups into which it has been found convenient to congregate the plants of Britain, are primarily six; to which two others are subordinate or supplementary. They may be briefly shown thus:—

1. British type,—species widely spread through S. M. N. Britain.
  2. English type,—species chiefly seen in S. or S. M. Britain.
  3. Scottish type,—species chiefly seen in N. or in N. M. Britain.
  - Intermediate type,—species chiefly seen in Mid Britain.
  4. Highland type,—species chiefly seen about the mountains.
  5. Germanic type,—species chiefly seen in East England.
  6. Atlantic type,—species chiefly seen in West England.
- Local species, restricted to single or few provinces.

No decided lines of separation can be traced between these Types of Distribution. They may be said to pass gradually into each other; the distribution of some of the species presenting a character so intermediate, as to render the choice of type to express it either dubious or optional. Still, the differences between them are real, inasmuch as a prevailing tendency to such peculiarities of distribution among the plants of this country has been made quite evident through the *Cybele Britannica*, and was also earlier shown, though perhaps less clearly shown, in the same Author's "Remarks on the Geographical Distribution of British Plants," published so long back as 1836. The transition from one group or type into another, is gradually brought about through some species having less of the distinctive character of the group to which they must be assigned on the general view, and thus in so far partially resembling the plants of some other group also. Many of the species assigned to the British type, in becoming less plentiful towards the northern or southern extremities of the island, will thus approximate to the English or Scottish types. In like manner, some of those placed under the English type may be regarded as passing into the Germanic or Atlantic type by their lessened frequency in the westerly or easterly provinces of England. And between the Highland and Scottish types (or arctic and boreal types) the distinction is occasionally very slight indeed; certain species being assignable to either with almost equal fitness. Still, it is repeated, these geographic types do represent real peculiarities of distribution, thrown into combination according to some common points of similarity. They will now be briefly described, each in succession, simply as facts in nature, and apart from all the idle and hypothetical fancies which have been spuriously connected with them.

1. *The British Type.*— In this group will be included those species which are found in all, or in nearly all, of the eighteen provinces before explained; and which, moreover, are not so exclusively prevalent in any particular portion of the island as to bring them clearly within one or other of the succeeding types. Some of them may be regarded as of universal occurrence in this

country, having been well ascertained to occur in all the eighteen provinces, probably to be found in every county, and even in all the six ascending zones also. Few species even of this most general type, however, are so very general in their distribution. By far the larger number of them have a restricted zonal range. Many, too, which are general with reference to the provinces, are absent from some of the counties. And a considerable number of species, which are too widely and abundantly distributed to come properly under any of the other types, are yet rare or wholly wanting in one or more of the provinces; particularly so in the northerly provinces of Scotland, and more especially in that of the North Isles, which has a very scanty flora. These are the "common plants," too frequently disregarded by mere collectors of specimens; and being seldom recorded, it has been found difficult to ascertain their full distribution from book records. It is to be observed, that the name of 'British type' is applied to them, not as indicating any hypothetical notions about their origin within Britain, but because such a general distribution and prevalence indicate great adaptation to the climate and other physical conditions of this island, and entitle them to be held Britons in the widest application of the term. Over one-third of the native and well-established species belong to this type, including 'natives,' 'denizens,' 'colonists,' as presently to be explained. Among the more thorough examples of the type may be instanced the following, namely, *Alnus glutinosa*, *Betula alba*, *Corylus Avellana*, *Lonicera Periclymenum*, *Hedera Helix*, *Calluna vulgaris*, *Ranunculus acris*, *Cerastium viscosum*, *Trifolium repens*, *Stellaria media*, *Lotus corniculatus*, *Bellis perennis*, *Carduus palustris*, *Plantago lanceolata*, *Polygonum aviculare*, *Urtica dioica*, *Juncus effusus*, *Carex panicea*, *Poa annua*, *Festuca ovina*, *Anthoxanthum odoratum*, *Pteris aquilina*, *Polypodium vulgare*.

2. *The English Type*. — The plants of this geographic type are distinguished from those belonging to the preceding type, by having their chief prevalence in England, and particularly in its more southern provinces; whence they gradually become rare in a northern direction, and finally (with few peculiar exceptions) find

an earlier northern limit or cessation than those of the preceding type. Their terminal points or lines are very different among themselves; some of the species being entirely limited to two or three of the most southern provinces of England; while other species occur in all the provinces of Britain, with an exception of two or three of the most northern; the great majority having their limits between these extremes. Those species which extend into nearly all the provinces, except two or three of the northern, approximate very closely to the less general examples of the British type; and, in fact, there are cases where it becomes almost optional whether the species are to be referred to the one or to the other type. To the characters of lessened frequency and earlier termination northward, which distinguish the species of the English from those of the British type, must be added that of spreading into both the eastern and the western provinces of England, and without any very decided difference of comparative frequency towards the two sides of the island, beyond that which may be caused by the repellent influence of the western mountains, which necessarily tend to banish such species as are naturally adapted to low situations, in a warmer and drier climate than that of our mountainous districts. The name will not be misunderstood to indicate that all the species are peculiar to England, but is to be understood only as implying that the species are apparently adapted to the climate of England, either being restricted to that part of Britain, or being more prevalent there than in Scotland. Characteristic examples of the English type of distribution may be cited in *Rhamnus catharticus*, *Ulex nanus*, *Tamus communis*, *Bryonia dioica*, *Hottonia palustris*, *Chlora perfoliata*, *Sison Amomum*, *Linaria Elatine*, *Ranunculus parviflorus*, *Lamium Galeobdolon*, *Hordeum pratense*, *Alopecurus agrestis*, *Ceterach officinarum*.

3. *The Scottish Type*.—This may be deemed the opposite of the English type; the distribution of the species referred hereto being characterised by a northern tendency, either by absolute limitation to Scotland or the north of England, or otherwise by a chief prevalence there and increased rarity southward. Parallel



with some of the species referred to the English type, so some of those referred to this present one are quite restricted to two or three of the most northern provinces of Scotland, while others abound in Scotland, and also spread southward, although in diminished frequency, far down England; others, again, finding their southern limits between the extremes of narrow and wide distribution. With respect to those species of the type which are most widely distributed, their lessened frequency in the southerly provinces, or entire absence therefrom, applies more particularly to the south-east of England, where the climate is drier, and the summer temperature is higher, than usually experienced in the south-western provinces of England. Along with this group, also, certain species may be associated which run out to diminished frequency, or early entire cessation, northward as well as southward; occurring chiefly or only in the northern provinces of England and southern provinces of Scotland. In these respects they constitute an "*Intermediate Type*." Equally with the rest, these are truly plants of a boreal distribution and prevalence, when we consider them with reference to the southern provinces of England; although it may also be said that they are so far species of a southern distribution likewise, when considered with reference to the northern provinces of Scotland. From most other species of the Scottish type, however, they differ chiefly by their more restricted areas; for their tendency to the hilly districts of England and the Lowlands, like those which extend still farther northward in Scotland, indicates a general similarity of climatal adaptation, while it clearly distinguishes them from species of the truly English type. It will thus be understood that several of the species assigned to the Scottish type of distribution are not prevalent in Scotland only; some few of them, as explained, being really more prevalent in the northern provinces of England, although nowhere very abundant. But since the majority are prevalent in Scotland, the name of the type is taken from that northern portion of the kingdom, as a contrast against the name adopted for the more southern or English type. *Primula scotica* and *Ajuga pyramidalis* are instances of an extremely restricted

and quite boreal area. *Goodyera repens* and *Corallorhiza innata* are also very partial, though less exclusively boreal. *Primula farinosa* and *Saxifraga Hirculus* may be cited as examples of the Intermediate type, characterised by a comparatively early limit northward. More characteristic examples of the Scottish type may be mentioned in *Empetrum nigrum*, *Rubus saxatilis*, *Trollius europæus*, *Geranium sylvaticum*, *Trientalis europæa*, *Ligusticum scoticum*, and *Mertensia maritima*.

4. *The Highland Type.*— This may be considered the boreal flora in a more intense degree, as respects climate, than that of the Scottish type. The species referred hereto are distinguished from those of the Scottish type by being more especially limited to the mountains or their immediate vicinity. Some of them are wholly confined to the higher mountains, and never descend within the agrarian region; these being the ‘arctics,’ less appropriately called ‘alpines.’ Others, though prevalent on the mountains, do descend also into their glens and valleys quite within the agrarian region. And others, again, may occasionally be seen outside the mountainous tracts, particularly along the courses of rivers which are fed by the mountain streams, or even upon the rocks of the sea coast. As a group, these plants are either restricted to the mountains or very decidedly more prevalent there. Several of them, more especially the true arctics, are strictly peculiar to the Highland mountains; while others occur also on the hills of England and Wales, though less plentifully there than in the Highland provinces of Scotland. The name chosen for the type intimates their most appropriate habitat, although some of them do likewise find a suitable climate on the mountains of England or Wales. As examples of thoroughly Highland plants, such as do not occur in any province southward of the Highlands, we may cite *Azalea (Loiseleuria) procumbens*, *Cherleria sedoides*, *Veronica alpina*, *Alopecurus alpinus*, *Phleum alpinum*, *Juncus trifidus*, *Sibbaldia procumbens*, *Erigeron alpinus*, and *Gentiana nivalis*. And as examples of other species which occur also on the more southern mountains, and mostly descend lower than the preceding on the mountains of the Highland

provinces, may be enumerated *Salix herbacea*, *Silene acaulis*, *Saxifraga stellaris*, *Oxyria reniformis*, *Thalictrum alpinum*, *Luzula spicata*, *Juncus triglumis*, *Rubus Chamæmoris*, *Draba incana*, *Dryas octopetala*, and *Alchemilla alpina*.

5. *The Germanic Type*.—The distribution of several species which might otherwise be associated with those of the English type, is peculiarly characterised by a tendency to the eastern side of the island. Some few of these are quite restricted to the south-eastern provinces of England,—Channel, Thames, Ouse, one or more; while others of them extend farther northward or westward, yet decidedly diminishing in abundance in either direction. As the cretaceous deposits lie almost exclusively in the eastern and south-eastern provinces of England, the “chalk plants” are included with the others referred to the present type; although the type itself is primarily founded upon botanico-geographical peculiarities, and not upon any geological character or preference. Some of the eastern species extend their area even into Scotland: but, for the most part, they are the plants of England only. The name of ‘Germanic’ type is not applied in reference to any supposed origin from Germany, but simply as indicating the tendency of the plants to a distribution specially connected with those provinces of England which are bounded by the ‘German Sea’ (otherwise called ‘North Sea’) eastward, including the Straits of Dover and upper part of the English Channel; for the species of this present type, and those of the next (Atlantic) type, more or less intermingle in the counties of the English Channel. Among the examples of the type may be mentioned the following; namely, *Frankenia laevis*, *Anemone Pulsatilla*, *Reseda lutea*, *Silene conica*, *Silene noctiflora*, *Pimpinella magna*, *Pulicaria vulgaris*, *Lactuca Scariola*, *Atriplex pedunculata*, *Aceras anthropophora*, and *Spartina stricta*.

6. *The Atlantic Type*.—Contrary to the peculiarity of distribution which constitutes the preceding type, there is in that of other species an evident tendency towards the western and south-western coasts or counties. Some few species are known only in the single province of the Peninsula. Others occur also in one or

more of the adjacent provinces. And others, again, run far up the western coasts in a northerly direction, often plentifully there, and yet occur rarely, or not at all, towards the eastern coasts of the island. These species, while thus dissimilar in their area and census, correspond in the one circumstance of having some evident tendency to the western or Atlantic side of the island, in contradistinction to the eastern or Germanic (sea) side. Although there may exist other grounds for specially designating some of these the "Atlantic species," the name of the type will be here understood in reference only to their distribution within Britain itself, and by itself. As examples we may cite *Sinapis monensis*, *Matthiola sinuata*, *Raphanus maritimus*, *Sedum anglicum*, *Cotyledon Umbilicus*, *Bartsia viscosa*, *Pinguicula lusitanica*, *Euphorbia portlandica*, and *Scirpus Savii*. More strictly local examples are found in *Sibthorpia europæa*, *Erica ciliaris*, *Polycarpon tetraphyllum*, *Adiantum Capillus-Veneris*, and *Cynodon Dactylon*, each occurring in very few counties.

7. *A Local or Doubtful Type.* — Dispersed about the island, there are some species whose area includes only single or few counties. Such plants can seldom exhibit that decided tendency to the east or the west, to the south or the north, to the mountains or otherwise, which would fully warrant their assignment to any one of the six preceding types of distribution. In those instances where the single or few localities occur clearly and solely within the geographic limits of one of the types, the plants will usually be associated with the group to which they thus make the nearest approximation. There can be no hesitation, for example, in assigning to the Highland type the extremely local *Oxytropis campestris* and *Lychnis alpina*, both mountain species; and scarcely more doubt can arise in placing *Arenaria norvegica* of Shetland, and *Primula scotica* of the two most northerly provinces, among plants of the Scottish type. So also, the local *Cicendia filiformis* may join in with the English type; *Veronica verna*, with the Germanic type; *Erica vagans*, with the Atlantic type. But after thus disposing of a large portion of these very local plants, there still remain some others which cannot be so

fairly assigned to any of the six principal groups. *Potentilla rupestris* and *Lloydia serotina* are peculiar to single mountains in North Wales, and are found considerably below the highest summits. As local western species they might seem properly to associate with those of the Atlantic type, did not the hilly and inland character of their special localities, and their absence from the provinces of South Wales and the Peninsula, come inconveniently in conflict with the chief characters of the Atlantic type. *Draba aizoides* and *Cotoneaster vulgaris*, found very locally on the rocky coasts of Wales, approximate rather nearer to that type, and might be associated under it in so far as Britain alone is concerned; and yet, if we should extend our views, so as to take in their distribution upon the Continent of Europe, this would be found a misposition. Some other less local species have also a distribution which does not correspond well with that of any of the six types specified; their localities being restricted to calcareous rocks, and being such as not to place them properly under one of those types. Examples may be cited in *Draba muralis* and *Hutchinsia petræa*, the distribution of which is strictly neither eastern nor western, northern nor southern; and though they are in some degree hill plants, they are unknown in the Scottish Highlands; while their very limited area separates them as clearly from the British or general type. *Eriocaulon septangulare* is another anomaly, limited to Ireland and a few islets on the western side of North Britain; the species being otherwise American, not European.

This mode of viewing the distribution of plants is still essentially a climatic classification of them, though not exclusively so. It would seem not incorrect to regard the types as representing so many present climatic areas, which are not separated by limitary lines, as the climatic zones are supposed or feigned to be, but which amalgamate or at least intermingle one with another. The actual areas and sites of the various species, as well as their directions of increase or decrease in abundance, appear on the whole to accord so closely with existing climatic and other physical conditions, as legitimately to warrant a conclusion,

that the present distribution of plants within this country is mainly determined by its present physical circumstances.

#### 4. GRADES OF SPECIES.

An ever recurring difficulty in treating the distribution of plants, and one continually increasing from year to year, is found in the uncertainty and inequality of species, as described in Floras and other botanical writings. Independently of errors in nomenclature—very numerous in print—the same specific name unfortunately will too often be found not to include or intend the same species. As used by one botanist, it means a gross whole; and it is then applicable indifferently to any part or fraction of that same whole;—while another botanist restricts the same name to express some special part or fraction of the whole, exclusively of all other parts or fractions;—and more inconveniently still, the special part or fraction is itself occasionally made a varying portion of the whole. In one book, the same single name may apply to two or more different species treated as a single species;—in another book, it may be strictly limited to one of those two species solely and exclusively. In the former case, the name is applicable alike to all or to any of the included forms or species which go to make up the aggregate union;—in the latter case, it is applicable only to some one of the dissevered forms or species, the other forms taking different names.

These discrepancies in the meaning of applied names cause enormous trouble to students in phytogeography. Perhaps some clearer idea of the practical working of such discrepant meanings may be given by taking letters and numerals to represent the species and sub-species in successive grades. Let it be supposed that two dozens of the many modern species carved out of the old book-species *Rubus fruticosus*, are each represented by one letter of the alphabet. Keeping to the old idea, the name '*Rubus fruticosus*' means and includes the whole alphabet; and as a name it may thus be applied alike and indifferently to any one letter. But some modern botanist will declare that it means only, and

ought to be applied only, to the first six letters A B C D E F,—to any or all of these, but to none others. Another botanist will demur to that narrowed application of the name, and will propose to limit the meaning and application of the word to A B C D, or any of these four, excluding E and F. Yet another will restrict it to A B, or either of them. And still another will next confine it to A alone, excluding all the rest of the alphabet. Nor does the variation or inequality of name always end even here; for other botanical species-splitters might subdivide species A, and then restrict the name '*fruticosus*' to only some special part or fraction of A itself, giving new and different names to the other part or parts. The name thus means :

Rubus fruticosus = the whole alphabet, belonging alike to each  
and every letter.

Rubus fruticosus = A B C D E F, all or any of these six letters.

Rubus fruticosus = A B C D, all or any of these four only.

Rubus fruticosus = A B, both or either of these two only.

Rubus fruticosus = A only, excluding all the other letters.

Rubus fruticosus = Some special part of A, not the whole.

A seeming exactness or definiteness was given to species in books, by the peculiar nomenclature of Linneus, which is now seen to be often far from true in nature. That system of nomenclature (with its false analogy to the surnames and christian-names of mankind) has thus proved in some respects a misleading innovation upon older methods, however great its redeeming practical convenience may be in other respects. As the Linnean method of nomenclature came into general use, his named species also came at first to be considered the true natural or real species, which his disciples and immediate successors were unwilling to call in question, and were seldom allowed to alter. More gradually, it became apparent to careful observers that many of the Linnean species were readily divisible; two or more easily and constantly distinguishable forms having been united together by him under a single specific name. The process of subdivision or re-division then commenced; done cautiously and sparingly at first, freely and numerously of late.

As time wore on, the authority and influence of the Linnean writings became lessened; and more botanists began practically to admit that the bestowal of a Linnean specific name had not sufficed to prove the various forms of plants, which Linneus himself had grouped under it, to be all rightly regarded as together making up one single fixed species. For some time, it was more customary to keep up the Linnean species and its name, distinguishing the included forms as so many "varieties" of the species; the more familiar form being usually adopted as the type, or else that particular form to which the brief Linnean description best applied, or any fragment of which chanced to have been preserved in his wretched herbarium, as the representative of the species which he had named.

Subsequently, some of the varieties were quite separated from the supposed type; and other specific names having been bestowed upon them, they came to be admitted as real species, and were then held entitled to take equal rank in botanical books with the supposed type forms of the original compound species, or with any other still undivided species. But this was seldom accomplished without a good deal of disputation and denial; some botanists stoutly maintaining the separated forms to be "only varieties," while other botanists earnestly advocated their "claims to the rank of species."

This process has gone on to the present time, and with an increasing tendency among botanists to divide and subdivide the species named and believed in by Linneus and his earlier successors. Most unfortunately, while thus splitting the Linnean species into two or more secondary species, the original Linnean name was usually retained for one of them, and it was thus taken away from the other or others of them. As before illustrated by the alphabetical letters, the original name thus acquired two or more different meanings and applications, with a vast amount of confusion in botanical records, incidental on the double or multiple signification. The old name now means either the aggregate species to which it was originally given by Linneus, or only some one of the segregate quasi-specific forms into which that aggregate



species has since been subdivided. Literally, the name in books still means the whole or any part of the whole, or it is used in a more restricted sense to mean one special part exclusively,— a logical equally as a mathematical absurdity.

It would certainly have been the wiser course, always to keep up the Linnean specific name for the original *aggregate* species, and thus to keep it still applicable to all and any of the included forms; and to give a new name to each of the *segregate* species, not excepting the type form itself, whether real or suppositious. The Linnean name would thus have retained his own meaning and application of it, and would have been so far true and constant; while the substituted modern practice makes an arbitrary and false limitation of it. But the mere species-describers who have most delighted in dividing and re-naming, have usually been persons of an unreasoning character of mind, and were perhaps seldom capable of seeing how illogical their practice was, and how inconvenient to their botanical successors it would prove to be.

In thus pointing out the process of separating original *aggregate* species into more modern *segregate* species, the name of Linneus has been used simply for convenience, and because many of his old species have been thus subdivided, or “split” as the process is more scornfully designated. But of course the like may be said of the *aggregate* species originally named and described by any other botanical describer, which have been subsequently split into *segregates*. For instance, many of Robert Brown’s original Australian species were probably *aggregates*; their short characters having been since found applicable to more than one apparent species. The same, I am assured by a resident botanist there, is true of New Zealand plants named and described by Dr. Hooker, or referred by him to the named species of Europe or other countries.

Partly owing to more exact discrimination, but it may be feared chiefly under a weak-minded craving for name-notoriety, the modern tendency is to subdivide species on differences so slight and uncertain that descriptive language now almost fails to make

them intelligible to other botanists, without the aid of portrait figures or selected specimens. To such an excess has this practice been carried of late, that we now find in print long and worthless descriptions, miscalled specific, made only from a single individual plant, or even from a fragment of an individual plant,—say, from a single fern frond or from the dried twig of a rose-briar or bramble-bush. It would be about as wise to describe an individual Hottentot or Eskimo, a Tom Thumb or a Daniel Lambert, a one-legged Donato or a three-legged Baby, as a species distinct from the fair-skinned and two-legged *Homo sapiens* (Linn.) of medium size.

As the result of all this ingenuity in rightly or wrongly dividing and subdividing species, originally so considered and still retained as such by at least some botanists of authority, we have now various ‘*grades of species*’ in Floras and other works of descriptive botany. The conventional expression “rank of species” means wide inequality of rank in its actual application to plants; for there is truly no equality among book species, but instead many grades of them. Some botanists of high authority will keep up an original aggregate species, or will even combine two or more such species into one; while others divide the original into two segregates; others again making three segregates out of it; and still others going on to four, five, six, or any greater number of segregated sub-species,—occasionally, as in *Rubus fruticosus* (Linn.), even a score or a hundred sub-species,—all carved out of the formerly supposed single species. And much more troublesome than this, through the illogical methods in re-naming before adverted to, we too often find the same specific name now applied to quite different things, that is, applied alike to combinations and separations which are themselves widely unequal and variable.

Without attempting to define all the various grades possible, we may place plants under three ranks or categories which have been conveniently designated “Super-species, Ver-species, Sub-species.” The first work on British plants in which these terms have been adopted and practically carried out, is Mr. Boswell Syme’s Third Edition of ‘English Botany.’ The *Super-species* are those originally

described species which have been subsequently found (or supposed) to be correctly divisible into other subordinate species. The *Ver-species* are those which remain undivided, and seemingly are indivisible. The *Sub-species* are those into which the super-species have been or may be divided. Of course, the same terms may be used in the reverse process, that of uniting or re-uniting species. Various botanists still regard the 'super' to be the true species, and only co-equal with the 'ver-species;' while others look on the 'sub' as co-equal with the 'ver-species.'

Three other terms have also been employed; namely, "Aggregate, Integrate, Segregate species;" which certainly better express the facts, apart from all theory about the reality of species. And just because of their superiority in sense and logic they will be longer in coming into use than the terms Super-species and Sub-species. They might be defined in the same words as the other three terms; but they better admit of practical application without involving any inconsistency real or seeming. The *Aggregate species* is the compound which has been, or may be, divided into quasi-specific parts. The *Segregate species* are those quasi-specific parts themselves. The *Integrate species* stands between them, as an undivided or indivisible whole. The chief advantage of these terms is, that they admit of any change or variation in use, to suit the actual views of botanists, however diverse and changeable those views may be. The very same species may be placed as an aggregate by one botanist, as a segregate by another botanist, without contradiction between them; because the words simply express the fact of union or severance, without necessarily raising the controversial question, as to which among them are equal to Ver-species. For instance, in the English Flora by Smith the Linnean *Ranunculus aquatilis* is an aggregate species (there treated as a specific integrate) including four principal forms or varieties, which are now usually accepted for true species; namely, *heterophyllus*, *pantothrix*, *circinatus*, and *fluitans*. Regarded as subdivisions of *Ranunculus aquatilis*, these latter may be denominated four segregate species; although Smith himself, like many other botanists, hit upon a false line of separation between

*heterophyllus* and *pantothrix* (now named *trichophyllus* and *Drouetii*). But these two last have been again subdivided into other species, real or supposed; thus, they also in turn become aggregates, when viewed relatively to the segregates into which they have latterly been further separated. In using the words 'Super-species' and 'Sub-species,' we are checked at the first division; for how are we to designate the two halves or the three thirds of a sub-species? The two words 'aggregate' and 'segregate' can be applied indefinitely to any series of combinations in the one direction, or of severances in the contrary direction.

Treated in this form, the vexed question of species becomes a comparatively novel subject in botanical books, the right understanding of which is truly a matter of much importance for young botanists. Hence, even at the risk of tediousness, some further illustration by examples may still be presented to readers. In the 'Handbook of the British Flora' Mr. Bentham united two Linnean species, by sinking *Ranunculus hederaceus* as a var-species, and uniting it with *Ranunculus aquatilis*; an union sufficiently justifiable in the eyes of those who also combine *R. tripartitus* and *R. Lenormandi* with either. By that union, it will be seen, the two aggregate or super-species (now more usually so deemed) were reduced to segregates or sub-species; and our illustration shall commence with this great combination of subordinate forms, divided and subdivided into successive segregates by other botanists, as here shown:—

- A. *Ranunculus aquaticus* (Bentham).
  - 1. *hederaceus* (Linn.)
    - a. *hederaceus*.
    - b. *Lenormandi*.
  - 2. *aquatilis* (Linn.)
    - a. *heterophyllus*.
      - heterophyllus*.
      - floribundus*.
      - peltatus*, etc.
    - b. *pantothrix*.
      - trichophyllus*.
      - Drouetii*, etc.
    - c. *fluitans*.
    - d. *circinatus*.

Now, it may be asked, with which grade in the above treble or quadruple series should *Ranunculus Ficaria* be associated as a co-equal? Mr. Bentham made it the equal of his very inclusive *R. aquaticus* (A). Sir James Smith made it the equal of the Linnean *hederaceus* and *aquatilis* as two disunited species (1 and 2),—a view to which Mr. Bentham himself has subsequently gone back. Professor Arnott makes it the equal of *hederaceus*, *Lenormandi*, *fluitans*, *circinatus*, and also of *aquatilis* (Linn.) Professor Babington makes it the equal of the former four; also (instead of *aquatilis*) the equal of *heterophyllus*, *floribundus*, *peltatus*, *trichophyllus*, *Drouetii*, etc.

In further illustration, let us suppose a botanist to follow the nomenclature of Bentham's Handbook, first edition, and to print the name of *R. aquaticus* in a list of plants seen in some given country or place, it would be impossible for a reader to know whether the Linnean *hederaceus* or the Linnean *aquatilis* was intended; either or both might be there, and every form of both, or only one form of either. Another botanist, avowedly using Smith's English Flora, might print nearly the same name in like manner; and here we should know that he intended some form of the Linnean *aquatilis*, exclusive of *hederaceus* and its sub-forms, although we should still be uncertain whether *heterophyllus*, *pantothrix*, *fluitans*, or *circinatus*,—or some one, two, three, or all of these,—had been found in the district under report. Still less should we be prepared by the name of *R. aquatilis* (Linn.) or *aquaticus* (Benth.) to decide whether all or any of the sub-forms *heterophyllus*, *floribundus*, *peltatus*, *trichophyllus*, *Drouetii*, etc., had been found; since our Benthamian or Linnean botanist might have intended to record *fluitans* or *circinatus* only by his use of the name *Ranunculus aquatilis* or *aquaticus*.

A practical consequence of much importance to works like the present one, arises out of these diverse ways of dividing or grouping, of segregating or aggregating plants. As the phytogeographer consults many recorded localities and lists of plants, written by various botanists at widely different dates, or by those severally using the same name to express various different unions

and severances of the quasi-specific forms, he is too frequently left uncertain what is really intended by the names used. He is thus forced to go backward rather than forward, by keeping up the elder and larger aggregates, and by shunning the more recent and smaller segregates, while endeavouring to trace out the distribution of plants by examining those discordant sources of information. His motto must be "*omne majus in se continet minus*;" for, in falling back upon the larger aggregate, all the records become available; while the further he gets forward to the newer and smaller segregates, the less available for his purposes do the past printed records become. In several instances in the present volume, two or more readily distinguishable segregates are unavoidably treated together as one aggregate species, simply because the printed records of their localities would mostly be found non-available, in attempting to treat them apart.

#### 5. RELATION OF VARIETIES TO SPECIES.

The antecedent remarks on the different grades of species will have prepared us to see that no theoretic line of distinction is always practically available between *Species* and *Varieties*. That which is a good and true species, in the estimation of one botanist, is simply a variety of some other species, in the estimation of a second botanist; or, it may be held a sub-variety, by a third botanist; even a sub-sub-variety, by a fourth botanist. Thus, to revert to the illustration on page 38, if *Ranunculus aquatilis* (Linn.) be accepted as the true species, then *heterophyllus* is one of the forms or varieties of that species, and *floribundus* is a secondary or sub-variety of the primary variety. And if, by any possible expression of technical characters, the *floribundus* itself could be further divided, any of its segregated parts would be in the position of tertiary or sub-sub-varieties to the Linnæan species *R. aquatilis*;—it even was so, without further subdivision, relatively to the very aggregate species, the *Ranunculus aquaticus* of Bentham's Handbook in its first edition. In the actual practice of technical botanists, let the student understand and remember,

there is no constant distinction made between species and varieties, other than a decision by individual opinion in each special instance. Super-species, ver-species, sub-species, hereditary race or strain, greater variety, lesser variety, variation, are simply a series of terms expressing gradations of difference, not things shown to be absolutely distinct in their kind.

No doubt a theoretic distinction may be alleged between them at some one of the grades. It is still hypothetically assumed that distinct species do exist in nature, and that one real or natural species can never pass into or produce another species. This assumption, while accepted as a truth, will occasionally afford a practical and seemingly positive test for a variety, although it can never become such a test for a species. However dissimilar any two plants or sets of plants may be, if it is known that they have descended from a common ancestor, or have been produced by the same parent,—then they are held to be varieties, or type-form and variety, of the species represented by that common ancestor or same parent. On the contrary, however similar any two plants may be otherwise, if some constant and inconvertible difference seemingly exists between them, by which they can be distinguished one from the other, one form never having been observed to produce or pass into the other form ;—then, any botanist may hold himself warranted to name and describe them as two distinct species, in reliance on the negative evidence only, and with little fear of refutation.

But here comes the conflict of opinion about species and varieties ; because it can never be possible to ascertain that the seemingly constant difference is a really inconvertible difference, or even that it is a really constant difference. In most cases it is made a matter of analogical inference, not one of experimental knowledge. A decision must often be given simply in the absence of any positive evidence of sameness. Where the differential characters do not exceed, either in kind or in degree, those which experienced botanists have observed to be convertible between other plants, some of them will usually declare the characters

insufficient to justify a severance into two species, and will prefer to place one as a variety of the other plant.

On the other hand, the "splitters" will too often "make species" resting on differences of a very slight kind or degree, if they expect or hope to find them constant,—rather, that nobody else will find them inconstant. Usually, all they look for is some difference which can be expressed in technical language, or shown in portrait drawings; while they leave to others the far less facile task of trying whether the difference is constant or inconstant, of proving that the characters of the two alleged species are convertible, if such be the case. This latter task and proof, though perhaps easy and rapid in some few instances, will more commonly require experiments or observations carefully carried on during a succession of years. However injudicious or precipitate he may be, the "species-maker" has thus the chances largely in his favour for maintaining the species, truly or falsely so called; although it may be much doubted by other botanists, it cannot be denied on proof,—at any rate, not for some considerable time after its first penni-facture. The proper category or position of a "new species" so made, is eventually decided on the balance of conflicting opinions, which may be long in suspense before inclining either way so far as to become a quasi-unanimity. And even if thus virtually decided at one time or by one generation, the question whether a given plant is a species or variety may be re-opened at any after time. In the Floras of our own small and much examined island, there are probably more proposed and disputed species at the present time, than was the case half a century ago. And certainly there never was a time when so wide a species-discrepancy could be found between two standard Floras, as is now seen between 'Babington's Manual of British Botany' and 'Bentham's Handbook of the British Flora.'

Thus, it must certainly be admitted, Botanists have truly no clear and available line of severance between species and varieties. Most of them still believe, or act as believing, that species are absolute and permanent realities in nature; while they deem varieties fluctuating and temporary, always liable or tending to



revert into the type-species. But when they come to practice, it is found that they too often cannot at all agree among themselves where to trace the dividing line between the two categories. And we are at last practically left in this alternating definition:—Species are wider varieties ; varieties are closer species.

Much new light has been brought upon this debatable matter by the theory of Charles Darwin, so rapidly become known to all naturalists, and still so much discussed among them, although with an increasing tendency to acceptance. It bears very importantly on phyto-geography in various ways ; and thus some consideration of that theory has become unavoidable with every student in this department of botany. According to the Darwinian theory, there is no absolute difference between species and varieties. They are supposed to be the same in kind, differing only in age or degree. A slight variety is held to be an “incipient species,” the progeny of which, in course of many generations, and by increasing variation, may eventuate in a new and (so considered) distinct species. Mr. Darwin’s idea is, that organic life on the earth commenced with extremely few original forms, possibly with one only ; all the thousands on thousands of present species, and all the countless numbers (millions on millions?) of extinct species, having proceeded from those few original forms. He does not insist upon this origin of all from one only ; but he writes, “I believe that animals have descended from at most only four or five progenitors, and plants from an equal or lesser number.” (Edition 2, p. 518). The process by which those few original forms have become the million or so of species which now exist, is alleged to have been of a two-fold character, — accumulation of divergent variations by “Natural Selection.”

First, as to accumulating divergences or variations. The immediate progeny usually resemble their parents, without being always exact repetitions of those parents, or exactly like each other. Any little difference apparent in the progeny is so far a divergence from the characters of their parents ; and they thus become two varieties, or a normal and a varied form. The progeny become

parents in their turn ; and some of their descendants, immediate or remote, may again differ among themselves ; diverging still farther from the original stock, either by increase in the first variation, or by other variations superadded thereto. Let such a process continue for an indefinite time, and through an indefinite number of generations, and the divergent variations from the original stock may (it is fancied) accumulate to any conceivable extent. Given, the measureless time ; given, the countless generations ; given, the variations gradually increasing in kind and in number ;— all the differences now seen between the present species, and all the differences ascertained between the living and the extinct species, might thus have accumulated by way of repeated divergences from the original stock, whether single or sparingly multiple at first.

So far, many other naturalists had held views closely similar to those lately announced by Mr. Darwin. Among animals and plants they have seen variations arise, and augment, and accumulate, until some of the descendants have thus gradually become widely unlike their ancestors, certainly known or fairly supposed to be such. And they have thought and argued, if such changes can be seen produced in course of a human life or of human history ;— then, why not all the changes which geology shows to have occurred between the former and the present, the extinct and the living, animals and plants of the globe ? During time so vast and measureless, these wide changes may also possibly have come to pass, as gradual evolutions of life in the ordinary course of nature. The result, as now seen or known, may perhaps have been practically and methodically brought about without the necessity of any direct interference of Creative Power, whether it be supposed to have been exerted immensely at some few distant intervals of time, or to be exerted very gradually and continuously through past and present time. All undoubtedly fore-seen and fore-arranged ; but fore-arranged with such perfect fore-sight, that no man-like intermeddling or rectifying could ever have become requisite.

Sir Humphrey Davy, with others of his day and school,

contended for a few enormous efforts of destructive and re-creative power, as well in the organic as in the inorganic world. Sir Charles Lyell, with a curious inconsistency in so able a writer and reasoner, contended for the most gradual and ever-successive and still-continuous changes in the inorganic world, from past to present, by natural processes alone;—yet also argued in favour of an absolute distinctness of species and their successive creations, not gradual evolution from those past to those present.

The doctrine maintained by Lyell conduced greatly to the advance of correct views in geology; but at the same time all the influence of his deservedly high repute was repeatedly given in support of views in biology, which Darwin and many others declare to be incorrect. The baneful effect of this influence could hardly be better exemplified than by citing the instance of Dr. J. D. Hooker. This illustrious Botanist appears to have been kept out of the light, in his earlier years, by the mere authority of Sir Charles Lyell;—it could not have been so through the force or clearness of Lyell's arguments. In 'Flora Indica,' vol. 1, page 20, Drs. Hooker and Thomson wrote in high eulogy of Sir Charles Lyell's inconsistent views, rather too dogmatically designating as "superficial naturalists" those who accepted "the doctrine of the mutability of species." Subsequently, it would now seem, both Sir Charles Lyell and Dr. J. D. Hooker have adopted the Darwinian doctrines; thus enlisting themselves into the ranks of the (so-called) "*superficial naturalists*," and rapidly rising to generalship over them. But, might it not now be fairly retorted by any one satirically disposed, that the aforesaid designation has been fairly earned by both of them? Assuredly it was no great evidence of clearness or profundity, altogether to miss the right track until it was converted by Darwin into a broad highway, along which "he that runs, may read."

True, the track then was indistinct in itself, and but dim in the early twilight. Before Darwin's theory was formed and announced, all may justly be said to have failed in their attempts to show satisfactorily *how* the changes from past to present species could actually have been brought about. According to present appearance,

Charles Darwin has made a really grand advance beyond his predecessors; although he too, after much ingenious effort, has left the most important part of the problem for some successor to elucidate; while he has unfortunately mixed up the probably sound portion of his doctrine almost inextricably with views which cannot be accepted for anything better than crude hypothesis unsupported by facts.

An example may here be permitted, in illustration of the similar but crudely unsettled ideas which were afloat before Darwinism gave a more precise direction to them. The example is suitable for showing in contrast the onward advance made by the 'Origin of Species.' The Author of the *Cybele Britannica*, in a controversial pamphlet published so long ago as 1836, intimated his own leaning in favour of the transition-of-species theory, as it was then designated. That subject, however, was connected only indirectly and incidentally with the immediate purpose of the pamphlet, and was therefore only slightly alluded to. But he introduces here some extracts from the pamphlet, as a record of the direction which his own thoughts had taken full thirty years ago, at a date when comparatively few naturalists would have admitted that species and varieties differ only in degree, and that the present species may be the actual descendants of the extinct species. Witness the opposite views advocated by Dr. Hooker, a score of years later; and still the prevailing views among botanists. The extracts must in fairness be read by the rush-lights of thirty years ago, not by any luminous lamp of the present time.

"The facts of geology, explained by the only test which science can legitimately apply to them—namely, the causes now in action—lead to inferences showing a very different course of events prior to the time when man is supposed to have commenced his existence. And thus explained, they give some probability that the earth *has* contained within itself the elements of all the changes hitherto unfolded to us by geological researches. In the present state of scientific knowledge, a philosopher, reasoning solely on philosophical grounds, is not entitled to say that the productions of our globe were created by the direct exercise of

Divine Power. The existence of the earth itself *may* be only one of a long series of changes in our planetary system, ultimately referable to the Power that has fashioned all things, but which *may* have required no more direct interference than the creation of Mr. Scott's essay itself has required." . . . . .

"Geology, be it observed, has shown nothing whatever concerning the creation of races or individuals. Neither the mode of creation, nor the first state, nor yet the last state, of any race or species, has been in the slightest degree explained by geological discovery. The fossil records of past life are limited to incomplete representations of the state of individuals at death; and in the older deposits the remains are scarcely more than mere copies of their shapes. In the more recent deposits good skeletons, etc., are found; but in all likelihood, the stony models and skeletons, which have hitherto met the eye of man, will not bear the proportion of one individual out of every million that have existed. Granting this, how can any sober reasoner assert positively, on such meagre evidence, that intermediate forms and structures have not existed? Geology is far too imperfect yet, to allow of any fair presumption, from its individual facts, either of the transition or non-transition of one species into another. On the great scale, it is as clear as such evidence can make it, that one species has been substituted for another, but we know not how this substitution has been brought about; and, *allowing for the difference of time*, it may well be questioned whether the changes brought to light by geological researches, at all exceed the changes now effected in the vegetable world by human efforts." . . . . .

"The nearest approach towards bringing about a sudden change of species, occurs in the production of hybrids or mule breeds. This is something; but it is not the way for permanently converting or creating species, if it be possible to do so at all. These hybrids rarely breed with each other; and, when mixing with the original stocks, they soon revert back so far as to be undistinguishable. If man is ever to create a permanent species, he must go to work in a much more gradual manner, by coupling together varieties becoming more and more unlike the original

stock at each descent. We have yet to learn what would be effected by following this course through several hundreds of successive descents. It would almost seem as if the dog had been thus created. If not, where is the original stock to be found?" . . . .

"In the vegetable world, it is peculiarly man's interest to bring hundreds or thousands of species (as they are called) into a domesticated state, to use his utmost skill in bringing about considerable changes in many of them, and to keep extending these changes. The extent to which their external circumstances can be varied, and the facility of rapidly producing many successive generations, with other peculiarities appertaining to vegetable life, afford additional aids to his exertions. Accordingly, we find varieties produced, and regularly continued by descent, having greater differences between themselves, than are seen between other races generally supposed to be distinct species." . . . .

"An illustration may assist in showing the liability to false inferences, by predicating of a long series of events from inspecting a small part of the series. In the middle period of life, many individuals change so gradually that we see little difference between the same person on the first and last day of the same year. Yet is a year one-seventieth part of a life; and in the seventy years an individual passes from infancy to manhood, and thence wanes again to feebleness. Now, two or three thousand years may not be the seventieth, or even the seven-hundredth part of the duration of a species; so that an inappreciable change, were it established, would be no very cogent argument against a great change during the full series of time and events." (Examination of Mr. Scott's Attack on Mr. Combe's Constitution of Man).

This last quoted passage has reference to the alleged identity of embalmed mummies of Egyptian animals with those now living. It bears on a defect in the Darwinian hypothesis, to which allusion will shortly be made. In the preceding extracts a very decided bias is evinced in favour of the transition-of-species theory; especially so, considering that the subject was only an

incidental one in the pamphlet from which they are extracted. The more matured views of the same writer were set forth in papers in the *Phytologist* for 1845, and partially copied thence into the *Cybele Britannica*, volume 4, pages 59—63. They afford a fair sample of the state of the question in the years that intervened between the date of the 'Vestiges' and that of the 'Origin of Species by means of Natural Selection.' At same time, a full conviction of the truth of the transition-of-species theory is not declared; in either instance cited, being evidently withheld from lack of the one key or explanation which Mr. Darwin has brought to its support, whether successfully or unsuccessfully so brought, under the designation of "*Natural Selection.*"

The distinctive peculiarity of the Darwinian theory, is, that its Author has much more fully and clearly explained *how* (in his view) the changes between past and present life on the earth could have been brought about, and this in a manner so gradual and unobtrusive that it is even yet going on around us in ceaseless progress, long unobserved by most of us, imperfectly recognized by a very few, clearly and fully detected by none before Mr. Darwin himself took up the subject. By giving a name to this hitherto nameless process of nature, most ably marshalling an ample array of illustrative details, all more or less intimately bearing upon his leading principle of "natural selection," he has perhaps achieved the greatest advance in natural science that ever has been achieved by one individual.

What is the real advance? It is familiar even to triteness that variations do arise among animals and plants, and that some of these variations do tend to become hereditary, by re-appearing in a second generation, and so on to succeeding generations. It is well known, too, that the progeny of the variety will often also apparently tend back, by reproducing the original ancestral likeness, more or less perfectly, instead of its own altered likeness or "characters." Here are two seeming tendencies, both inferred from actual facts; the preponderance of one keeping up the species; the preponderance of the other keeping up its varieties. In the long run, which of the two tendencies will prevail, and

why? We know that the full restoration of the original characters of the "species" may often be prevented by carefully breeding or seed-saving from select examples of the variety; destroying or letting die out those individuals that are tending back towards the original form. And so long as this careful selection of parents is continued, whether among animals or plants, an apparent (but, still, only an artificial or humanly-dependent) character of permanence is given to the variety. We know also that, by this careful selection of parents, the peculiarities may be increased in their descendants; either some given peculiarity may become stronger, or other divergent peculiarities may be superadded thereto. Is there any analogous *selection* in nature, ceaselessly in operation, especially tending to the increase and conservation of varieties, and eventually allowing or causing the ancestral species to become extinct as itself, and to be represented by descendants specifically changed?

The Darwinian theory asserts that a like process is always operative in nature; but it is one not truly identical in action, though supposed to be analogous in its effect. Mankind voluntarily and designedly select the varieties to be conserved, from those which are to be lost by neglect or purposely destroyed. In this respect, Man is declared to be simply an imitator of Nature, in a small way and with few species, for his own purposes or advantage. But always, as well now as through epochs long past, Nature is declared to have been selecting fresh varieties of animals and plants to be conserved, and further varied, and re-varied to any extent. What is the "*Nature*" which has thus selected, and is still selecting? The Will of the Creator primarily, beyond question, but immediately acting on the animals and plants through the secondary instrumentality of all those external circumstances or conditions, to which they are individually subjected, and by which they are affected in health, existence, fertility, etc. Thus, the external circumstances may be said to conserve the varieties best adapted to themselves, and gradually to destroy or let perish those which are less so adapted; the ratio of increase by seed (in plants) allowing great numbers of



the less adapted forms to die in the struggle for ground whereon to live. This is "*Natural Selection*," or selection by natural agencies. The better adaptation of the variation or variety to the external circumstances conserves it; the external circumstances select (figuratively) the variety or variations to be conserved. Accumulated variations change the species,—even the genus or order.

From one point of view, and to a limited extent, this is such an obvious truth as to be simply a truism, which nobody would dispute, and nobody had taken the trouble to describe in detail or to endow with a special name. But it is an old and just saying "*Nomina si nescis, perit cognitio rerum.*" By giving a special name to the agency, describing its operation very clearly, illustrating it in copious detail, showing its universality, and connecting its phenomena together, Mr. Darwin has rendered vast service to the progress of natural science, and fairly made the previously rude recognition of this agency into a new and explanatory theory of organic life. It is the characteristic of Mr. Darwin's reasoning, to heap fact upon fact, and to convince his readers by accumulations of evidences and illustrations,—always the most successful mode of addressing the miscellaneous public of readers. A more *causal* reasoner would have stated his principle or rule,—illustrated it by half a dozen examples,—left it then to make its own way,—and remained neglected or misunderstood for half a century.

A man who only convinces himself, how warrantable soever that conviction may be, has done but little. Although guesses and suggestions about the gradual transition of past into present species, and even that varieties are less distinct species, and that species are more distinct varieties, were repeatedly made before Darwin wrote on the subject,—yet the scornful scepticism with which his first announcements were received by some of the most eminent naturalists of his day, abundantly testify that he had really carried onward previous crude ideas into something considerably different or more perfect,—virtually a novelty and a discovery, its truth being admitted.

A pre-recognition of the Darwinian theory has been claimed for Mr. Patrick Matthew, whose volume on 'Naval Timber and Arboriculture,' dated in 1831, bears much internal evidence of mental vigour and independent thought. A theory of species was only incidental to the leading object of that book; and hence perhaps in part the vagueness and brevity of its Author's remarks on species-conservation and species-transition; both of which were recognized and alluded to, as fact and probable fact. But the ambiguously worded and half-conjectural remarks by Mr. Matthew, though certainly an advance beyond ideas currently prevailing at the date of his work, cannot thus late be fairly adduced as an exposition of the Darwinian theory of "natural selection," or even as a real pre-recognition of it. They read, indeed, like a near guess at it, if now interpreted under the light so clearly thrown upon the matter by Mr. Darwin's own publications. But, it may fairly be asked, whether Mr. Matthew himself, or any of his readers, ever afterwards united the disjointed and incidental remarks into a connected theory of nature, or theory of species?—into anything which would have required or justified a volume under the Darwinian title of "Origin of Species by means of Natural Selection"? His views, on the whole, seem to have been more Lamarckian than Darwinian.

The reaction against a first scepticism has been great and rapid in favour of the Darwinian doctrines. The danger now is, that Mr. Darwin will be supposed to have discovered and established much more than he truly has done. Along with what is clear and presumable in his theory as a whole, there still remain points of primary importance left unexplained, and things assumed as probable or certain on the slenderest possible evidence, not to say, positively against the bearing of such evidence as can be adduced. How far will this go towards accounting for the utter neglect of Darwinism in the only Journal of Botany maintained in England? It can hardly be that none of the writers in that Journal are of intellectual calibre and training sufficient to treat the subject; one which bears so closely, not only on questions about species

and varieties, but otherwise also on the very foundations of phyto-geography, phyto-geology, and other departments of botanical science, so soon as we rise above the *a b c* of descriptive botany.

First, the selection theory cannot be accepted as a true *causal* theory of variation in plants and animals. The variations must have already come into existence, before "natural selection" could begin at all. It thus fails to explain the mutation of species into species, if such mutation does actually occur. It assumes that new species are (and have been) coming into existence very gradually, and as gradually are gaining the places of other ceasing species which are ousted by them. On this yet unsubstantiated assumption, the theory very plausibly explains *how* existing species might be lost or extinguished, and *how* the new species might become substituted for them. It tells us that when variations *a b c d etc.* have successively accumulated or combined in the descendants of a given species, those descendants will have become so unlike their remote ancestor, as properly to be accepted in our systems of classification as a new and distinct species. But this brings us no nearer towards a real answer to the question, how variation *a* or *b* or *c* or *d* can have arisen.

Unfortunately, Mr. Darwin has not kept his phraseology clear from the vulgar error of attempting to explain natural events by fitting them to the human standard of thought and language, instead of fitting that very plastic standard to the natural events observed. *Selection* is a human act, an act of will and effort, and the prefixed *Natural* fails to change the fundamental idea of intentional choice,—choice for a purpose or with a motive. Apart from Mr. Darwin's unlucky phraseology, and the false bias given by it to the thoughts of his followers, the true question is, 'Are new species developed from older species, by accumulated variations, which better adapt them to changing external conditions?' But in answering this question of fact, we still fail to reach the causal origin of the variations. Indeed, it would scarcely be wrong to assert, that the very title itself of Mr. Darwin's admirable volume is a misnomer,—false in phrase, unsound in idea. Natural Selection cannot properly be said to *originate* either varieties or

species;—at best it can only be said to conserve some among those variations which have originated through other causes or agencies. When the gardener selects good plants of any favoured variety, from which to save seed, he is not *originating* the variety, he is simply conserving it by his care in selecting the parents of the next expected generation. The first variation, howsoever brought about, *begins* the new species; the superadded variations being a gradual further mutation of it towards apparent distinctness, until their accumulation amounts to a difference sufficient to place it as an independent species. Natural Selection may rightly be said to conserve the first variation,—to conserve the superadded variations,—to conserve the accumulation or totality of the variations. But, if it does not *originate* any one of these variations, how can it be said to *originate* the totality of them,—the new species?

Secondly, the Darwinian theory, as above intimated, is based on the hypothetical assumption that variations can and do accumulate sufficiently to convert species into species; forming new species from old species, by divergences of characters gradually accumulating until the descendants cease to resemble specifically their own remote ancestor. And further still, the theory assumes that such divergences can go on in a limitless extent until, not only species is changed into other species, but also until genus is changed into other genera,—order is changed into other orders,—class is changed into other classes. What is there now seen adequate to sustain such bold assumptions? The varietal changes hitherto traced and recorded go such an infinitesimally small way towards such results, that they cannot be construed into giving much support to the likelihood of those results. Is there any change now noted, that is really sufficient to warrant the belief that (say) a Fern and a Fir-tree, a Moss and a Mushroom, ever had the same common ancestor for both?

Thirdly, the theory assumes a beginning of organic life in some eight or ten types, if not in one only; all the countless species in subsequent succession, the extinct and the still existent, having hereditarily resulted from those eight or ten original species; less

than half being allotted to the present plant-species, as their primitive *Adams*. How the first one, or first eight or ten, began and progressed, the theory fails to explain. Surely a "Natural Selection" would not be potent enough to give an "origin" to these out of nothing! But is there anything observed in the present age at all sufficient to show that species are still increasing in numbers? Is there any sort of evidence on record to show that they have increased in the historical time? (Book-species increase fast, no doubt, but that sort of increase is beside the true question.) Is the geologic evidence enough to show, or even reasonably to suggest, that species are truly more numerous now than they were at any former period? When it suits his purpose, Mr. Darwin is very justly disposed to lay great stress on the extreme "imperfection of the geologic record." The older in date, the more imperfect is it likely to be; and thus there seems a sufficiently good explanation of the more numerous species now or less long ago living, in contrast against the remains of less numerous species at the more remote epochs. On the other hand, if a single or half score original species could have increased by divergent variations into the tens or hundreds of thousands now existent,—what is to stay the progress of their numbers henceforth? If eight or ten can diverge into (say) an existing million, why not one million into millions of millions?—the millions of millions into . . . ? At what figure or degree in the increasing thousands or millions is the limit to be fixed? Are not these simple queries something very like a *reductio ad absurdum*? To assume or assert a period when only one, or ten, or a hundred species existed, is not reading the past by the present facts;—it is inventing the past; fitting it badly with the present, incredibly with the future.

Fourthly, to the writer of these pages it seems to be a great deficiency or insurmountable defect in the Darwinian theory, that it makes no provision for a counterbalance in nature which seems warrantable enough as an hypothesis, and is abundantly obvious as a fact. The theory is wholly one of constantly successive divergence from antecedent forms, without taking into account

that divergence from one form, as now witnessed, usually is and must be approximate convergence towards and with some other form. To illustrate this counterpoise of convergence, as fully and clearly as Mr. Darwin has illustrated his principle of divergence, would demand a volume by itself. One very simple example must here suffice to show what is meant by *convergence*. Let it be supposed that in some genus of plants there are two species respectively with ovate leaves and linear leaves; these two forms of leaf being part of their specific characters or differences. It would be a simple divergence, such as really does occur in nature, if a variety of either species should be found with lanceolate leaves,—an intermediate form of leaf. In such a case, just to the extent to which the variety diverges from one species, it approximates towards the other species. And if varieties with lanceolate leaves should occur to both species, the convergence would be complete between the two, so far as the one simple character of lanceolate leaf is concerned.

Any number or kind of other characters might be taken in like manner. Let any actual variation in any plant be taken, and the probability is great almost to certainty, that the so-far divergence from its own specific type is more or less approximately a convergence with some other type, whether belonging to the same or to some other genus. The similarities among plants are equally numerous with the dissimilarities. The convergences may be found to equal the divergences. Mr. Darwin thinks that species arise through accumulated divergences. Is it not as true that they are known by (not to say, result from) the convergence of numerous characters,—the classic—ordinal—generic—specific characters all converging in the individual plants put together as a species? Why should it be declared that all these combinations of character in each species have resulted from or through divergence solely?

If divergence and convergence *both* be admitted—and truly the one seems as visible in nature as is the other—the two processes might reasonably be supposed to keep up, and perhaps to have ever kept up (that is, so far as we see or trace), an approximate

equilibrium in the number of species by their compensating balance of action. On present evidence, it might be unsafe to say that any one new species would ever actually be formed by gradual convergences of variation from numerous other species. The tendency of convergence, as seen at present, may rather be said to operate by check or counterpoise against the limitless results of unbalanced divergence endlessly in action. Still, there are not wanting facts which at least suggest the possibility, that individuals of two closely allied species may converge into an intermediate species, by divergences from their own stocks, and without the intermediate being necessarily a return towards any more remote ancestor, from which those two had themselves originated by accumulated divergences. There is a tendency among botanists to use the adjective "*intermedia*" as a specific or varietal name, because many plants do appear like intermediates, uncertainly assignable to either of the two allied species. But botanists have never supposed that the two species had developed out of the 'intermedia' by divergent variations therefrom 'naturally selected.' On the contrary, the name "*hybrida*" is now often substituted instead of "*intermedia*," clearly showing a belief that the intermediate has originated from the two species, and not itself given origin to both or to either of them.

It seems curious that Mr. Darwin should have failed to see, and have refused to admit when shown, that some such hypothesis as this one of convergence—indeed, the expression of actual facts which are continually in occurrence—would have saved his theory from the supposed necessity of tracing backwards all the past and present species into and out of scarcely half a score, completed somehow, without a beginning for themselves,—without stocks to diverge from in their turn,—without any aid from "Natural Selection" itself. To step farther back, from this short half-score into one solitary species, cannot mend the matter. In this respect, the theory is too much like the sage explanation of the Earth on an Elephant;—the Elephant on a Tortoise;—the Tortoise on . . . ?

If it be granted that the Darwinian theory seems sound in the main, though disputable and perhaps false in some of its parts,—it is necessarily granted also, that there is and can be no absolute difference between species and varieties; that they are groupings of individuals which differ in degree, but not in kind. Where the differences are so many, or so wide, or so slowly convertible, that numerous generations must have been required for diverging one from the other,—or, it may be added, would be required for converging one into or with the other,—then, the two groups of individuals thus decidedly differing, may be accepted as two species. On the contrary, if their differences are of a slighter character or constancy, of so small a degree that the production of one of them from the other seems probable on analogy, although not actually observed,—then they are more properly to be accounted varieties, or type form and variety, of a single species.

When the much discussed question is re-viewed under this theoretic light, the same conclusion is at length come to, as was almost unavoidably reached from a consideration of the wide discrepancies of opinion and practice among technical botanists; who are so much at variance among themselves in deciding which are species, and which are varieties only, among their described plants. Through Darwinism, or some modification of Darwinism, we come back again to the former alternating definition, and may repeat that “Species are wider varieties; varieties are closer species.” Or, nearly the same idea may be expressed in another form by saying, ‘Varieties are infantile species,—Species are adult varieties.’ There are many stages between infancy and adolescence; and botanists will continue to differ as to the stage of development where the one becomes the other.

Perhaps it may be thought that too many pages have been given to these remarks on the grades of species, and on the relation of varieties to species, which is but carrying the gradation into further detail. Certainly the remarks have run out to considerable length; but a writer on phyto-geography, during present unsettled opinions, ought to let his readers have a clue to his own views, and especially to make them aware of the difficulties



and uncertainties which the discrepant views of the authors he must consult and rely upon, unavoidably introduce into his geographical records and arrangements. Further, it is to be hoped, that Darwinism may operate serviceably in checking the frivolous vanity of "species-making;" while it will also stimulate to a more careful study of variation, and perhaps induce naturalists to discard that unphilosophical expression "*only a variety*," far too frequent in use among botanists.

#### 6. NATIVITY OF THE SPECIES.

Among the plants now found seemingly wild in Britain, whether more or less widely distributed, are many species which occur under conditions calculated to suggest an idea that they may have been first introduced into this island by the agency of mankind, and not by pre-human natural agencies. Botanists are far from agreed on a line of separation between the admitted and disputed natives. Inexperienced observers more readily believe in the true nativity of plants; while those of greater experience will frequently find grounds for doubt or distrust. Besides this personal difference, the desire of appearing as discoverers too often leads vain-glorious collectors to make out the best case they can in support of the "native claims" of species, and the "truly wild" character of their localities. A good deal of actual misrepresentation, along with the frequent suppression of important circumstances which are adverse to an acceptance of the localities, thus comes into the records of plant-localities, greatly to the inconvenience of phytogeographers; some of whom have not been sparing of their censures upon the writers who are guilty of these paltry falsifications, which always finally recoil in disparagement of their short-seeing perpetrators.

Various questions in botanical geography, retrospective and present, require an elimination of the introduced or non-native elements in a mixed flora; leaving those only which are truly natural to the country as aboriginally native species. Not that botanists expect ever to make an exact separation of the humanly-

introduced species from the aboriginal natives of Britain ; because those species (if any) which were so introduced, and became thoroughly established before botanical history commenced, are now unavoidably looked upon as aboriginal natives ; while all degrees of uncertainty appertain to the other species, whose conditions here still show some sort of evidence of a foreign origin. Cultivation has been carried on in this island during many centuries ; while our truly reliable records scarcely extend back one century. Really careful observations and reasonings on the nativity of species can hardly be dated back half a century. Even in the present day, the records made by a large number of the locality-reporters are too often unreliable by reason of their deficient knowledge, carelessness in observation, inaccuracy of language, or wilfully one-sided statements.

A series of terms, drawn from our own legal and social classifications, has been used to express the various grades of uncertainty or belief with respect to those plants whose aboriginal nativity is more or less unsettled. The terms ' Native, Denizen, Colonist, Alien, Casual ' serve to express a descending series, from the truly wild and pre-historically established species, down to the occasional stragglers from cultivation, or the products of seeds accidentally imported with merchandize, ship-ballast, or otherwise. The word "naturalised" has been so variously and carelessly applied by botanical writers, that it has ceased to carry with it any exact signification. It ought to mean a species originally introduced by man, but now become thoroughly established, by seed or otherwise, among the native plants of the country, and existing without human aid in sowing its seeds or in preparing the ground for them. We have two American plants fully coming up to this definition,—*Impatiens fulva* and *Elodea canadensis*. Few botanists indeed restrict the use of the term "naturalised" to this just and proper meaning ; while some will even apply it to mere casuals, stragglers from cultivation, with no permanent or certain locality.

The Natives, Denizens, and Colonists will be formally treated in this volume. The Aliens and Casuals will be enumerated in

an Appendix List; as also the few species supposed to have become extinct, and most of which perhaps were Casuals only; and those improperly recorded as British species, through errors of name or mistakes about the localities of garden examples, or consequently on tricks and impositions practised by guides and others at the expense of incautious botanists. Typographical convenience will necessitate a somewhat strict adherence to this rule; the adopted formula of seven lines of text just allowing four species to a page without break or division. It would be scarcely possible, and little useful if possible, to exhibit the distribution of the Aliens and Casuals in the same form. The definition and use of the three terms may be thus understood:—

1. *Native*.—Apparently an aboriginal British species; there being little or no reason for supposing it to have been first introduced into this island by human agency. Examples may be cited in *Corylus*, *Calluna*, *Clematis*, *Ellis*, *Butomus*, *Teesdalia*, *Glaux*, *Littorella*.

2. *Denizen*.—At present maintaining its habitats as if a native species, without the direct aid of man, but liable to some suspicion of having been originally introduced by human agency, whether by design or by accident. The single species of *Aconitum*, *Chelidonium*, *Saponaria*, *Myrrhis*, and *Buxus*, well established in some of their localities, are perhaps not clearly native in any of them, and certainly introduced to several of them.

3. *Colonist*.—A weed of cultivated land, by road sides or about houses, and seldom found except in places where the ground has been adapted for its production and continuance by the operations of man; with a tendency also in some of them to appear on the shores, landslips, and in what are called “waste places.” *Ranunculus arvensis*, *Papaver dubium*, *Thlaspi arvense*, *Centaurea Cyanus*, *Alopecurus agrestis* are weeds of cultivated land, and would perhaps disappear if plough and spade ceased their work. Several *Chenopodia*, *Mercurialis annua*, *Rumex pulcher*, *Lepidium rudemale*, *Asperugo procumbens*, and others constitute connecting links between the Colonists and Denizens, found chiefly by road sides, rubbish heaps, dunghills, and near the sea.

4. *Alien* species are those certainly or very probably of foreign origin ; though several placed in this category are now well established amid the indigenous flora of this island ; others less perfectly so. 5. *Casual* species are chance stragglers from cultivation ; those occasionally imported and sown with agricultural seeds ; those introduced among wool, oil-seeds, or other merchandize ; foreign plants found on ballast heaps deposited from ships ; and generally such alien species as are most uncertain in place or persistence.

#### 7. EXPLANATIONS OF THE FORMULA.

In treating various questions of phyto-geography, and in forming comparative tables and lists for illustration, it is found convenient that the distribution of each and every species in a flora should be shown under some uniform plan or method, all treated alike. Besides its more direct uses, such an uniformity of treatment has the considerable incidental recommendation of being easily read and understood by foreigners, whose knowledge of our language may be too limited for easily following a more varied diction. And strict condensation of many details being an object especially sought to be attained in the present work, a fixed formula has been adopted, which will be found to express much within a compass comparatively short ; showing the distribution of each species under various aspects, and in various relations to the physical geography of Britain ; as well as tracing its area or geographic extension over many other countries.

Allowing seven lines to each, it is found that four species can be conveniently got on a page, without the awkwardness of disjoining the lines relating to the same species, by the necessity of carrying some of them over to a succeeding page. Four of these lines will suffice for a condensed summary of distribution within Britain itself ; leaving three lines available for tracing out the geographic area beyond Britain, and in a manner which will exhibit the negative equally as the positive facts of distribution elsewhere ; a part of the inquiry far too much neglected by Authors who

profess to show the outside extension of the species treated in their Floras ;— a good practice in itself, lately adopted by several botanists, but in this country almost exclusively in the 'Hand-book' by Mr. Bentham.

The Natives, Denizens, Colonists, as explained on pages 60—61, are treated under the formula. Aliens and Casuals will be subsequently treated in a general commentary ; as also several segregate species, the distribution of which is yet too imperfectly ascertained, to allow of the formula being adhered to for them, taken apart from each other. Their localities having been recorded usually under the name formerly applied to them collectively as an unit, it remains at present too often impossible to distinguish which one of two or more segregates was observed in the places indicated ; fresh examination and corrected records being now required, in order to remove the uncertainty. It is by no means always the separated or new-named segregate, whose distribution is the more difficult to show ; being even more frequently the remnant of the original aggregate species, which is thus uncertain. The localities ascertained and recorded for the recently distinguished segregate, will often be found only incomplete or insufficient, not uncertain or erroneous. Those on record for the older aggregate must usually be uncertain between the two, and may be assigned erroneously to either. By way of example, it would be easier now to trace the distribution of the segregate species *Epilobium obscurum*, than that of the remnant *Epilobium tetragonum*, from which the former was first separated many years ago. We know exactly what is intended by the former of these names, supposing it correctly applied by a botanist of the present age ; but we do not know what was intended under the latter name in records of past ages, or in present records by botanists who still use the aggregate name of *tetragonum*, unless accompanied by some explanation that it intends the segregate remnant only, and not either or both of the two segregates formerly included under the one name. It is this difficulty which prevents the distribution of *Epilobium obscurum* from being shown

by the formula ; namely, because the other half of the aggregate cannot also be so shown apart.

The names and numbers of the plants will correspond with those used in the 'London Catalogue of British Plants,' sixth edition, published in 1867, which thus becomes an arranged Index to the present volume. The nos. will not be found to run quite regularly ; and less so in this volume than in the Catalogue itself. Plants peculiar to Ireland or the Channel Islands are enumerated in the Catalogue, as also various Alien species and some segregates, which must here be omitted from the regular series. Hence, the omission of their appropriate nos. in this volume. Moreover, since the first edition of the London Catalogue was printed, various changes have been made in it, in order to adapt each successive edition to the actual knowledge and views of British botany at its date ; and these changes necessitated a doubling or repetition of some of the nos. and a transfer of others ; so that the numeration of the Catalogue itself has ceased to be quite regular. As the same Catalogue was followed in the original Cybele Britannica, the several volumes of that work corresponding with the successive editions of the Catalogue, the sequence of names will still be nearly the same in the present Compendium, and usually also the same nos. will precede them. This co-relation of Cybele and Catalogue was one among the several cogent reasons for continuing the original numeration of the latter through six editions ; it being found altogether far more convenient to alter a few nos. in each edition, than to have six editions differently numbered throughout ; which must otherwise unavoidably have been the case with respect to all nos. after the first changes, which would each time have occurred almost at the beginning of the list, in the genera *Thalictrum* and *Ranunculus*.

No species is admitted into the series unless the Author has actually seen a specimen alleged on good grounds to be of British origin. So many errors have got into our botanical literature, and have been transferred from book to book, as merely false names or otherwise incorrect reports, that some such rule for non-admittance seems to have become highly desirable. And after his many years

of experience, there can be only very few known British plants which he has not seen living or dried. All such plants or names, however, will have a brief notice in the latter portion of this work. The records of localities in local guide-books, county-histories, and such-like publications, are usually altogether ignored; unless in those cases where they have been already adopted into some work expressly botanical; an adoption unfortunately far too frequent, and giving permanence to many errors. In such cases, the usual ordeal for acceptance or distrust is applied to them here; hence the rejection of many plants adopted into Ravenshaw's Devon Flora, Balfour's Edinburgh Flora, etc., on bad authority or no authority. The original series of the *Phytologist* has been carefully consulted throughout, and has been found highly serviceable in its numerous facts, although not free from occasional errors by correspondents. But the "New Series" of that periodical, under its incompetent editorship, and largely contributed to by ignorant pretenders in botany, has been wholly ignored, as standing too far below the grade of scientific reliability. The statements of some few individual botanists and collectors are also disregarded, through grave distrust of their good faith or their botanical knowledge. If anything else has been overlooked, which ought to have altered the filling in of the formula under any species, it may be attributed to the errors or oversights which must be unavoidable in a work involving in its preparation the collection and examination of thousands upon thousands of special details; often very petty details, if looked at singly and separately, not in their collective bearings.

*The First line of the Formula* traces the area of the plant within Britain, from south to north, by citing the nos. of those provinces, as explained on pages 3 to 5, in which it has been reported to occur. The enclosure by crescent curves ( ) distinguishes the provinces into which the species is known or suspected to have been introduced through human agency, although it may be indisputably native in other provinces. In various cases of plants being fairly accounted indigenous in

some of the more southerly provinces, while they are thought to have been introductions from thence into the more northerly provinces, it is found impossible to decide with confidence whereabout the line of distinction should be drawn. Under such circumstances the enclosed nos. must be somewhat arbitrarily apportioned; and perhaps this sort of optional separation may have been made unduly frequent at the border line which runs between the English and Scottish provinces, or between the Lowland and Highland provinces. The angular enclosures [ ] are used for provinces, in regard to which there is so much distrust that it seems better to reject them until reported anew on some reliable authority. Errors of name, mistakes about the localities, temporary casuals and planted examples recorded as if natives, and generally any circumstances which lead to an expectation that the plant will not long continue to be found in the province, if it ever really were seen there, may warrant the use of the angular enclosures; which may thus be construed to mean either decided or only doubting rejection. Little linear marks “- -” indicate absence from the province, usually real, occasionally perhaps only the want of record. In the latter part of the line one of the three words before explained on pages 60 to 62 is introduced, with any brief remark added, to show whether the plant is deemed Native, or Denizen, or Colonist in this country.

*The Second line* gives the range of latitude within Britain by the even parallels south and north of the extreme known localities; that is, all the true localities ascertained for the species under consideration, fall between the two mathematical lines of latitude cited, although the area of the plant may not perhaps reach close up to either line. The extreme south-west of Cornwall is slightly below the fiftieth line of latitude; so that some plants might have been given as “49—,” by the rule specified, though it appeared not worth while to go below “50—” for the few of them so on record. Following the indications of latitude, the names of the most southern and most northern counties known for the plant are also mentioned. For native species the lines and counties are to be understood as indicating only the seemingly native localities,



exclusive of others to which they may have been extended by human agency. If these latter are named, they are enclosed in the same manner as the provincial nos. in the line above. For denizens and colonists less strictness in this respect is unavoidable; none of their localities of course being clear from some degree of doubt or distrust; and thus only the most distrusted are left out or enclosed. The counties in which these plants become more evidently aliens or casuals, for instance, are either not taken into account at all, or else are enclosed like the provincial nos. Usually, the citations of counties are so made as to include both the western and eastern sides of the island, so as to indicate also the longitude. Thus, "Cornwall, Wight, Kent," will not only show an area extending into the most southern counties, but will serve also to show an intermediate along with an extreme westerly and easterly extension. It has been found not so easy to adhere closely to this rule in citing counties for the northern limits; although it is usually acted upon in cases where those limits would not appear to be unduly contracted by so doing. Botanists will scarcely require to be reminded, that the discovery of a new locality beyond the limitary lines specified, would in general be a more important fact in topographical botany, than would be the discovery of another locality within the limits specified. Besides, they may hold with some approach to certainty, that localities beyond the indicated limits truly are new additions to our reliable records, not simply repetitions of the old facts.

*The Third line* indicates the zonal and altitudinal distribution. The Ascending or climatic zones in which the plant occurs, are first shown by citing their corresponding nos. The explanations about these zones were given on pages 14 to 21. Secondly, such notices of the range of altitude are added as can be compressed into the other portion of the line. The relation of plants to elevation was treated in full in the original *Cybele Britannica*; and two lines of the formula there used were devoted to the indications of upper and lower limits. The subject is too complex to permit of full and precise indications within the space that can be allotted to it in this Compendium. The citation of the zonal

range will partly compensate for the brevity, more especially in reference to the lower limits which are seldom given. With comparatively few exceptions, less than a hundred, all the plants treated occur at or near the coast-level in some part of the island; the greater number of them being found on the low open country of the southern counties, away from hills of any considerable elevation. Many of these also ascend the acclivities of the northern and western mountains, though to widely unequal heights, as previously explained on pages 11 to 13. All the species indicated as occurring in the first zone, are found at a trifling altitude in South Britain, and far the greater number of them at or near the coast-level,—say, between the level of the sea and one hundred yards above it; and thus “zone 1” is almost equivalent with the words “descending nearly or quite to the coast-level in latitude 50—53.” Of those which commence in the second zone, also, nearly all descend to the like low level in Mid Britain; though of course not so low in South Britain, otherwise they would have been assigned to the first zone. Some few of those indicated to find their lowest climatal limit in the third zone, have not been recorded so low as the coast-level anywhere in Britain; for instance *Luzula spicata* and *Sibbaldia procumbens*. But most of them do descend nearly or quite to the coast-level in North Britain, although rarely found so low even there. Thus, for the most part, it will suffice to give indications of upper limits only; making occasional exceptions to this rule, when some indications of lower limits may seem specially desirable. The figures (which denote the highest observed localities in yards of three English feet) are primarily divided into three sets, respectively belonging to North Britain, to Mid Britain, and to South Britain; the last division being seldom mentioned, and then usually by naming instead some subordinate province or county, as North Wales or Devon. For those plants which rise to the greatest heights, only North Britain will need to be mentioned; the hills of that division greatly exceeding those of Mid Britain in altitude. The first numeral figure will indicate the highest station noted, whether by measurement or by estimation; other heights being added thereto,

as space may admit or records supply them. The ranges of Highland mountains, situate about the fifty-seventh line of latitude, and which culminate in Ben Nevis (1458 yards or 4374 feet) and Ben-na-muick-dhu (1440 yards or 4320 feet), have supplied most of the specified altitudes for North Britain. The most carefully made measurements have been taken on these mountains; and in general, owing to the greater elevation and extent of that mountain tract, it is the one best adapted for showing the heights attained by plants in this island. But doubtless many of the species could exist at a considerably higher elevation in the latitude of North Britain, if its hills were so much higher as to afford suitable situations for them above their actual limits. For most of the plants which fail to reach the uppermost zone, some indications of altitudes attained in Mid Britain are added. These are mostly re-copied from a list given in the fourth volume of the *Cybele Britannica*, supplemented by the statements of altitude since printed in Mr. J. G. Baker's excellent work bearing the title of "North Yorkshire—Studies of its Botany, Geology, Climate and Physical Geography." For many of the species which are found only in the three lower zones, the actual upper limits are unascertained, and can seldom be a matter of much interest. Unless known to rise above 150 yards from the sea-level, their altitudinal position may be sufficiently expressed in general terms. The words "Low grounds" will thus be understood to express places of any height between the coast-level and 150 yards or nearly 500 feet; the words "Coast" or "Coast-level" being used for plants known or supposed to grow considerably lower than 100 yards. "Littoral" plants are those of the sea shore and its immediate vicinity; mostly restricted thereto, as the *Euphorbia Peplis* and *Atriplex arenaria*; occasionally found inland likewise, at a low elevation, as the *Asplenium marinum* and *Erodium maritimum*, notwithstanding their sea-side names; and some of them rising to or reappearing high upon the mountains, as the *Armeria maritima* and *Silene maritima*. These terms are seldom introduced, however, unless to intimate that no higher elevation has been ascertained; although sometimes used with intent to show a descent to

the lower situations, as in the case of arctic species which grow on coast rocks occasionally.

*The Fourth line* is somewhat miscellaneous in its subjects. It begins with a "Census" of the species, founded upon the provincial and sub-provincial, the comital and vice-comital sections before explained on pages 8 to 10. The three nos. set after that word show the number of provinces, of sub-provinces, and of counties (including vice-counties therewith) ascertained for the plant under treatment; usually excluding all those in which it is deemed an alien only, as well as any others in which its existence is not sufficiently authenticated. Such a census will thus unavoidably fluctuate in respect of its exact numbers, according to fluctuations in knowledge or belief. New localities may raise the figures, by adding counties or provinces to those previously ascertained; while occasionally the figures may be reduced lower, either through detection of errors or by increased reasons for distrusting records of localities suspected to be erroneous. For comparison it has appeared desirable to introduce here a Census for Ireland also; which is now made available by the publication of Moore and More's *Cybele Hibernica*,—a very serviceable addition to the geographic botany of the British Isles. These Authors divide Ireland into twelve "Districts," which may be held to correspond with the eighteen provinces of this present volume. The numeral figure set after the name of "Ireland" will show the number of Irish districts in which the species is recorded by the Authors named. Details must of course be sought in the *Cybele Hibernica* itself. The remainder of line fourth is devoted to the 'Type of Distribution,' in accordance with the expositions before given on pages 23 to 32. Where combinations are used, they will be understood to express something intermediate between two types,—a shading off from one to the other. Thus, "British-english type" will intend that the species is widely distributed over Britain; but that its lessened frequency or comparatively early termination in Scotland, gives to it also somewhat the character of the English type of distribution.

*The Fifth line* commences an outline of the area or extension of

the species outside of Britain; shown in this and the two succeeding lines, simply by naming a series of habitats in the extra-tropical portion of the Northern Hemisphere; more particularly in Europe and adjacent portions of Asia and Africa. This fifth line relates to Europe only, and is exclusive of Russia which comes under line sixth. The plant is here traced over Europe by indicating its recorded presence in fourteen countries of South and West Europe; absence therefrom being likewise indicated by short marks " - - " the same as used for vacant provinces in line first. As with the British provinces, so here with European countries, the comparative predominance of marks or abbreviated names in the line, will give at a glance the more or less general distribution of the plant, independently of the special details. And as the enumeration runs from South to North, the shortened lines will indicate a restricted northern extension. For convenience of using familiar names, those of the political and national divisions of Europe will mostly be adhered to, although not always representing the sections most suitable for phyto-geography. And in order to get a sufficient series of these names within the length of a single line, each name is abbreviated to its first three letters; initial capitals being dispensed with. Some of the abbreviated names must stand for more than a single political territory, and others for portions only of an empire or kingdom. Spain (spa) will include Portugal also; and this name may be omitted occasionally through lack of the needful information about the plants of the Spanish peninsula; no completed or general list of its plants being yet in print. Italy (ita) extends from Sicily to the southern sides of the Alps bordering Piedmont and Lombardy; and it may be held to include also the islands situated between the two peninsulas of Italy and Spain. Turkey (tur) must still cover modern Greece also, together with some adjacent portions of Asia minor, included in the *Prodromus Floræ Græcæ*, by Sibthorpe and Smith. Austria (aus) is the heterogeneous empire so named, extending from Dalmatia to Galicia, from Tyrol to Transylvania; and in its flora but imperfectly separable from Germany and Italy. Germany (ger) must be extended south-

ward to take in Switzerland also ; its north-west angle being taken along with another section, as explained underneath. France is the more compact country so named, exclusive of the quasi-italian isle of Corsica ; and since it must thus share the Alps with Italy, Austria, and Germany as here taken, the "Alpine plants" are so made to belong alike to the floras of western, middle and southern Europe ; as indeed many of them truly do belong by being repeated on the Pyrenees and Carpathians, and farther southward on the Sierras of Spain, and some even on the lower hills of Italy and Turkey. Channel (cha) is intended to express a comparatively narrow section of north-west France, bordering upon the English Channel, between Britany and Belgium. As the citations are here mostly made from Brebisson's *Flore de la Normandie* the abbreviation 'nor' might have been more appropriate for this northerly portion of France, had it not been required for Norway instead. Many of the plants equally belong to the 'Channel Isles' still under the English Crown, and so far the name suits fitly enough ; although it is to be understood that not all of them occur there. Netherlands (net) is an old name revived to include Belgium and Holland ; and it must be so far extended as to cover Hanover and other small territories of North-west Germany, completing the space between France and Denmark. N.B. These three comparatively small tracts are thus specialized in order to indicate the existence of our English species on the lands fronting opposite the southern and eastern coasts of Britain, and believed to have been united therewith formerly, as continuous land without intervening sea. *As a whole* the flora of this country sufficiently accords with the belief of such a former land continuity, while there is now little or nothing *special* on the two coast lines, insular and continental, to be adduced as botanical evidence of that continuity. Not only by these three sections, but throughout the three lines also, the habitats have been selected and arranged in order to relate to Britain as a quasi-centre,—to show where the species extend in neighbouring countries, not to trace them equally over the earth, independently of a fixed starting point. Gothland (got) is a

name taken from the *Summa Vegetabilium Scandinaviæ*, by Fries, to express the southern portion of Sweden,—say, southward of latitude 59 or 60. Norway (nor) is the country usually so designated; the most northerly portions of which will come under the abbreviations for Lapland and Finmark, presently to be mentioned. Sweden (swe) will here be restricted to the northern latitudes, that is, exclusive of Gothland above mentioned. Lapland (lap) is the still more northerly part of the long Scandinavian peninsula; being partly Norwegian, partly Swedish, partly Russian. Finmark (fin) is the most northern portion of Norwegian Lapland, about latitude 69—71; the less northern portion being known as Nordland. Finmark is thus specially brought into the series, in order to give that far northerly latitude for such British species as are known to grow there. The lists given by Professeur C. Martins, in his highly valuable *Voyage Botanique*, have proved an essential assistance in this respect; though other authorities have likewise been consulted, for instance, a collection of plants made in Finmark by Dr. Lund.

*The Sixth line* traces the distribution eastward from Europe; commencing with Russia, and passing thence into Asia. In Ledebour's *Flora Rossica* the great country of Russia in Europe is distinguished into four latitudinal zones or wide belts, with two added sections;—1 Arctic, to the northward of the arctic circle;—2 Northern, thence to latitude 60;—3 Middle, between latitudes 60—50, or thereabouts;—4 Southern, to the southward of latitude 50;—also, 5 Crimea;—6 the Caucasian provinces, more Asiatic than European. These six figures or some of them follow the name of Russia at the beginning of line sixth; being reversed in the order of their sequence, because it is found more convenient, and more in accord with the divisions of Europe in the preceding line, to trace the extension of the plant from south to north. West-asia, or simply Asia, will apply to the wide extent of countries southward from Caucasus, eastward from the Mediterranean sea to India. Occasionally, more special habitats will be named, but without meaning that the plant is found only there, and not elsewhere in West Asia. North India or India will be

considered to include Affghanistan and Belookistan, together with the Himalaya Mountains; the latter sometimes specially named instead of the wider name of India. Unfortunately, the *Flora Indica* by Drs. Hooker and Thompson, and the almost equally important *Flora Orientalis* by Boissier, are yet only in their first volume, perhaps towards half a dozen which may be required to complete those valuable works on the same scale as volumes first. And the botanical data for West Asia and India are otherwise widely scattered, and sparingly within reach of the present writer. Siberia is the vast Russian territory stretching across Northern Asia, from the Ural Mountains to the Sea of Ochotz.

*The Seventh line* is more miscellaneous or inclusive than either of the two preceding lines. North Africa with some of its islands will come into the first portion of the line. For this division the Algerian *Flore* and *Catalogue* of Munby will be preferentially relied upon; 'Algeria' being thus often named to represent North Africa, with or without a second habitat added. The Canaries must be understood to include Madcira and its islets, sometimes recognized by geographers as a second and distinct small group; but too many subdivisions would here prove inconvenient and unnecessary. The Azores, however, are kept distinct; being in the latitude of South Europe, and lying wide apart from the Canaries and Madeiras. — The remainder of line seventh will be devoted to America and the insular lands between America and Scandinavia. The British Isles would be the intermediate stage between the Southern and Northern Isles, the African and Sub-arctic. The name of America will be taken to include all the United States and British territories eastward from the Rocky Mountains. The name of Columbia will be taken to represent all Western America, from the Aleutian Isles to the Rocky Mountains, southward to the borders of Mexico, northward to the shores of the Arctic Ocean through Behring's Straits. Greenland, Iceland, Faroe are named apart, abbreviated or otherwise according to space in the line. And in this, as in either of the two preceding lines, any space left on account of much restricted distribution, will occasionally be utilized by naming other habitats, or



by explanations reducible to words sufficiently few. It is not intended by this juxta-position of the three, to connect Faroe and Iceland as American Islands, equally with Greenland. The two former are usually held by geographers to belong to Europe; and they are European by their floras. This is not quite the case with Greenland. An elaborate attempt has been made lately, to show that the flora of Greenland is Scandinavian, not American; also, that there is something very peculiar in it, at variance with the present climate and geographical position of Greenland itself. After full consideration of these views, and of the facts and arguments by which they are supposed to be proved, the writer of this volume must entirely dissent from them; believing the views to be unsound in themselves, and looking upon the arguments as curiously weak and inconclusive. Nevertheless, it must be admitted, they were brought before the scientific public on very high authority; while they have challenged denial by a bold confidence of assertion, barely short of authoritative dogmatism.

The flora of Greenland appears to correspond remarkably well with the present climate and surface character of that gelid land, and with its intermediate position between Europe and America, more approximate to the latter. By far the greater number of the Greenland plants are species common to Europe and America; some few being European only; some few being American only. If an European botanist starts from the one-sided notion of the species common to Greenland and Europe being "Scandinavian plants" specially, because found also in that part of Europe, he can of course make out a seemingly close affinity between the plants of Greenland and Scandinavia. On the other hand, if an American botanist as correctly calls most of them "American plants," because found elsewhere in America, he may then make out a like close floral relation between Greenland and America; that is, by adding to the species found on both sides of the North Atlantic, those also which occur only on the American side; thus leaving only a score or so to be designated Europeans. On either side, this would simply be a mode of reasoning falsely or fallaciously,—the usual style and manner of ratiocination performed

by English writers on questions in phyto-geography. On the whole, after eliminating from the Greenland list all the migratory weeds and other plants likely carried thither by human agency, Greenland may be found to possess a slight excess of American species and subspecific varieties; though its floral balance is nearly even between the two sides of the Atlantic. And the flora of arctic and boreal Europe being more exactly known, than is the flora of the corresponding latitude or climate in America, additional identities are more likely to come from the latter side. Of course, so far as British species alone are concerned, Greenland might be treated as an outlier of Europe, wanting some of the plants which extend westward to Iceland or Faroe, with milder climates. The non-European plants found in Greenland and America, are non-British also.

An attempt was first made to show the distribution of our native plants outside Britain, by stating their limits in latitude and longitude, expressed in numerals or the degrees of mathematical geography; but the result was found unsatisfactory, and was abandoned for the simpler and more intelligible plan of naming habitats. Still, the habitats themselves have been so selected and arranged that they do indirectly express ranges of latitude with considerable accuracy. For instance, in the series of names "Channel, Netherlands, Denmark, Gothland, Norway, Sweden, Lapland, Finmark," the range or limit of latitude northward is approximately indicated. At whichever name in the series the northern extension is arrested, the latitudinal limit may be inferred with a near approach to exactness.

These three lines will bring together, in the form of habitats or names of countries, a considerable amount of information towards showing the areas and ranges of British plants beyond the small island of Britain itself, although not carried into the intertropical and austral lands. Still, the Author requests his Readers clearly to understand, that the epitomized sketch of external distribution cannot pretend to be complete in itself, or to be free from errors and oversights. It is impossible to sift such indications of widened

area, so as to separate the true and the false with anything like the same care and confidence given to the sifted records of localities within our own island. Many errors likely exist in the numerous Floras and other writings consulted, without an Englishman being able to detect and correct all their errors;—any more, for instance, than a Foreigner would be able to see and amend all the many errors about plants and their places, which are still to be found within our home books on the botany of Britain; and which are repeatedly cited by the continental botanists as if they were true and unquestioned facts;—even still so cited and repeated by various English botanists themselves.

It is also to be kept in recollection, in attempting to trace species-distribution over distant lands, that the geographical investigation becomes greatly entangled with questions and opinions about the technical distinctness of the plant-species themselves; with questions as to what foreign forms ought to be united with, or to be kept separated from, the special forms known in Britain, or in Britain and Europe. This is the case, for example, with various East-Asian and American plants; their position under the names of European species depending upon the individual opinions of botanists; some holding them entitled to distinctive names, as species; others placing them as varieties under single specific names. Theories about centres of distribution, about migrations and modifications of species, also inconveniently interfere with good judgment. Such theories cause alleged facts to be recorded in a misleading manner, or to be so tabulated as to become unavailable for any use beyond the one purpose of making out a seeming evidence in support of some foregone conclusion or fanciful hypothesis; perhaps only such an one as would immediately fall before a fair and plain record of the simple facts themselves. English writers on phyto-geography have sinned greatly against a logical philosophy in this wise; almost all of them treating their facts unequally and one-sidedly; the suppressed portion being just those facts which would alter or modify the bearings of the others, if all were fully and fairly given alike.

Moreover, alleged similarities between plants are sometimes

only non-detected differences ; often so, likely, with general systematists whose view seeks to take in the flora of the whole globe ; and who thus cannot compete on equal terms with the local botanists, engaged in minutely examining the species of very limited areas. Curious examples of this non-appreciation of real differences might be adduced, by citing recent combinations and severances widely at variance with those which a more careful and continued observation of the living plants ought to suggest. Would it not be held highly absurd in a gardener, for instance, to maintain that the *black* and *red* currants are simply varieties of the same single species, while the *white* currant is distinct from both ? Or, equally injudicious in a botanist to combine the *cherry* and *bullace* together as one species, keeping the *sloe* apart as a distinct species ? And yet, it may be asserted confidently that the writings of our first-rate systematists show severances and unions quite as outrageous as these, only relating to plants of smaller size and less familiarity, when they write Local Floras or make out species-lists in support of their phyto-geographical theories. Here is one of the many difficulties and error-traps for those who endeavour to trace out the geographic areas of species ;—the comprehensive knowledge of the general botanist is not sufficiently precise ;—the precise knowledge of the local botanist is not sufficiently comprehensive.

## II. SYNOPSIS OF SPECIES.

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### 1. *Clematis Vitalba*, Linn.

Provinces 1 2 3 4 5 6 (7 8 9 10 11) - - [14 15]. Native.  
Lat. 50—53. Devon, Wight, Kent. — Pembroke, Norfolk.  
Zone 1. Low grounds.  
Census 6 17 43. (Ireland 4.) English-germanic type.  
Europe spa ita tur aus ger fra cha net. “Holstein.”  
Russia 6 - 4. West Asia. Syria, etc.  
Barbary; Lecoq geogr. bot.

### 2. *Thalictrum alpinum*, Linn.

Provinces - - - - - 7 - - 10 11 12 13 - 15 16 17 18. Native.  
Lat. 53—61. Carnarvon, York. — Orkney, Shetland.  
Zones - - 3 4 5 6. North Britain 0 — 1300 yards.  
Census 9 15 23. Ireland 2. Highland type of distribution.  
Europe - ita - aus ger fra - - - - nor swe lap fin.  
Russia 6 - - - 2 1. Himalaya. Siberia. Davuria.  
— Faroe. Iceland. Greenland. America. Columbia.

### 3. *Thalictrum minus*, Auct.

Prov. 1 - 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18. Native.  
Lat. 50—60. Cornwall, Herts, Suffolk. — Hebrides, Orkney.  
Zones 1 2 3 4. Lakes to 600 yards. Humber to 500 yards.  
Census 17 30 50. Ireland 9. Scottish-british type.  
Europe spa ita tur aus ger fra cha net den got nor. Finmark?  
Russia 6 5 4 3. West Asia. India. Siberia.  
— Greenland. Columbia? T. saxatile, in Algeria.

4. *Thalictrum flavum*, Linn.

Provinces 1 2 3 4 5 ? 7 8 9 10 11 12 13 14 15 16 [17]. Native.

Lat. 50—57. Devon? Wight, Kent. — Argyle, Fife.

Zones 1 2. Low grounds only.

Census 15 24 52. Ireland 10. English type of distribution.

Europe spa ita tur aus ger fra cha net den got nor swe lap fin.

Russia 6 · 4 3 2 1. Siberia. Kamschatka.

Algeria. N.B. An aggregate species.

5. *Anemone Pulsatilla*, Linn.

Provinces - - 3 4 5 - - 8 - 10. Native.

Lat. 51—55. Gloucester, Berks, Herts, Essex. — N.W. York.

Zones 1 2. Low grounds.

Census 5 9 16. Ireland 0. Germanic type of distribution.

Europe spa ita tur aus ger fra cha net den got nor swe.

Russia 6 5 4 3 2. Siberia.

— N.B. Turkey doubtful. “In agro Byzantino;” Sibth. prodr.

6. *Anemone nemorosa*, Linn.

Provinces 1 to 17, continuously. Native.

Lat. 50—59. Cornwall, Wight, Kent. — Sutherland; Oliver!

Zones 1 2 3 4 5. Highlands to 960 yards. England to 850 yards.

Census 17 34 87. Ireland 12. British type of distribution.

Europe spa ita tur aus ger fra cha net den got nor swe lap.

Russia - - 4 3 2. Siberia.

— America. Columbia. Rocky Mountains.

9. *Adonis autumnalis*, Linn. *See page 607*

Provinces (1) 2 3 4 (5 - - 8 9 10 11 13 14). Alien or Colonist.

Lat. 50—52. Dorset, Kent. — Somerset? Oxford? Norfolk?

Zone 1. Low grounds. Imperfectly established.

Census 3 6 10. (Ireland 2). Germanic type of distribution.

Europe spa - tur aus ger fra cha (net).

Russia 6 5 4 (3). West Asia; Syria, etc.

Algeria. — (America, certainly introduced.) “Labrador.”

10. *Myosurus minimus*, Linn.

Provinces ? 2 3 4 5 - - 8 9 10 11. Native.

Lat. 50—55. Dorset, Wight, Kent. — Chester, Northumberland.

Zones 1 2. Low grounds. [South Devon; on old authority.]

Census 8 17 33. Ireland 0. Germanic-english type.

Europe - ita tur aus ger fra cha net den got nor swe.

Russia 6 - 4 3 2. West-asia. Syria, Mesopotamia.

Algeria. — America. Columbia.

11. *Ranunculus aquatilis*, Auct.

Provinces all. Native. An aggregate species.

Lat. 50—60. Cornwall, Wight, Kent. — Hebrides, Orkney.

Zones 1 2 3. Highlands to 350 yards. Humber to 350 yards.

Census 18 36 90. Ireland 12. British type of distribution.

Europe spa ita tur aus ger fra cha net den got nor swe lap.

Russia 6 5 4 3 2 1. West-asia. India. Siberia.

Algeria. Canaries. — Iceland. Greenland. America. Col.

11. *Ranunculus* “*trichophyllus*” et “*Drouetii*,” Anglor.

Provinces 1 2 3 4 5 - - - 9 10 11 12 - 14 15. Native.

Lat. 50—56. Devon, Wight, Sussex. — Edinburgh, Fife.

Zones 1 2. Low grounds. Localities much confused.

Census 11 15 ? Ireland 6. English type ?

Europe spa ita tur aus ger fra cha net den got nor swe.

Russia ? West-asia; Syria, etc. India ?

— N.B. Distribution given, as variously recorded.

11. *Ranunculus circinatus*, Sibth.

Provinces 1 2 3 4 5 6 - 8 9 10 11 - - 14 [15]. Native.

Lat. 50—56. Devon ? Dorset, Kent. — Edinburgh. Fife ?

Zones 1 2. Low grounds. Localities unsafely recorded.

Census 11 21 38. Ireland 5. English-germanic type.

Europe - ita - aus ger fra cha net den got nor swe.

Russia - - - 3. Siberia.

— N.B. *Ranunculus divaricatus*, of several Floras.

11. *Ranunculus fluitans*, Linn.<sup>am</sup>

Provinces 1 2 3 4 5 6 7 8 9 10 11 - - 14 [15]. Native.

Lat. 50—56. Devon? Dorset, Kent. — Berwick. Fife?

Zones 1 2. Low grounds. Many false localities.

Census 10 22 37. Ireland 1. English type of distribution.

Europe - ita tur aus ger fra cha net den.

Russia - - - 3. "Lithuania, Warsaw, Moscow."

Algeria. A segregate hitherto insufficiently recorded.

11. *Ranunculus tripartitus*, De Cand.

Provinces 1 2 3 - - 6. Native. Rare or overlooked.

Lat. 50—52. Cornwall, Dorset, Hants, Kent, Surrey, Pembroke.

Zone 1. Coast level, or Low grounds.

Census 4 5 6. Ireland 0. English-local type.

Europe spa - - - - fra cha net. Belgium.

—N.B. a western plant only; but its habitats perhaps imperfectly recorded hitherto. Algeria?

12. *Ranunculus Lenormandi*, Schultz.

Provinces 1 to 13, and likely farther north. Native.

Lat. 50—56. Cornwall, Wight, Kent. — Lanark, Northumb.

Zones 1 2 3. North Yorkshire to 550 yards; Baker.

Census 13 21 35. Ireland 4. English type of distribution.

Europe spa - - - - fra cha.

—N.B. Long confused with *R. hederaceus*; and habitats thus imperfectly on record. Algeria? *see page 607*

13. *Ranunculus hederaceus*, Linn.

Provinces all. Native.

Lat. 50—59. Cornwall, Wight, Kent. — Hebrides, Sutherland.

Zones 1 2 3 4. Carnarvon to 770 yards, by estimate.

Census 18 36 85. Ireland 11. British type of distribution.

Europe spa ita - aus ger fra cha net den got. Norway?

Russia - - - 3. Isle of Oesel, Mid Russia.

Algeria. — Iceland; Zoega. Greenland; Giesecke.



14. *Ranunculus Ficaria*, Linn. *See page 607*

Provinces all? Native. Province 16 needs verification.  
 Lat 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4. Carnarvon to 800 yards. Highlands to 300 yards.  
 Census 18 35 82. Ireland 12. British type of distribution.  
 Europe spa ita tur aus ger fra cha net den got nor swe lap.  
 Russia 6 5 4 3 2 1. West-asia; "Charles Fellowes."  
 Algeria. — Faroe. Columbia?

15. *Ranunculus Flammula*, Linn.

Provinces all. Native. *R. reptans* in province 15.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4 5. Highlands to 900 yards; also at 810, etc.  
 Census 18 38 100. Ireland 12. British type of distribution.  
 Europe spa ita tur aus ger fra cha net den got nor swe lap.  
 Russia - - 4 3 2 1. Siberia. "Constantinople."  
 Algeria. "Azores." — Faroe. Greenland. Amer. Columbia?

16. *Ranunculus Lingua*, Linn.

Provinces 1 to 15 - - [18]. Native.  
 Lat. 50—58. Cornwall, Wight, Kent. — Lanark, Elgin.  
 Zones 1 2 3. Humber to 250 yards.  
 Census 15 30 63. Ireland 11. English-british type.  
 Europe spa ita ? aus ger fra cha net den got nor swe.  
 Russia 6 - 4 3 2. India. Siberia.  
 — N.B. Likely in Turkey and Asia minor.

18. *Ranunculus auricomus*, Linn.

Provinces 1 to 15. Native. Any locality in province 16?  
 Lat. 50—58. Cornwall, Wight, Kent. — Lanark, Moray.  
 Zones 1 2 3. Highlands to 530 yards. Humber to 400 yards.  
 Census 15 30 68. Ireland 9. British-english type.  
 Europe - ita tur aus ger fra cha net den got nor swe lap fin.  
 Russia 6 - 4 3 2 1. Himalaya. Siberia. Caucasus?  
 — Faroe. In America, if *R. affinis* united with this.

19. *Ranunculus acris*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4 5 6. Highlands to 1330 yards; also at 1210, etc.

Census 18 38 100. Ireland 12. British type of distribution.

Europe all. Southward to Portugal and Sicily.

Russia 6 5 4 3 2 1. Siberia. Mid-asia; Hooker arc. distr.

(Madeira). — Faroe. Iceland. Greenland. America. Col.

20. *Ranunculus repens*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4 (5). Highlands to 910 yards; also at 850, 830, etc.

Census 18 38 99. Ireland 12. British type of distribution.

Europe all.

Russia 6 5 4 3 2 1. West-asia. Siberia. Kamtschatka.

Algeria. Canaries. Azores. — Faroe. Iceland. Am. Col.

21. *Ranunculus bulbosus*, Linn.

Provinces I to 16 - [18]. Native.

Lat. 50—58. Cornwall, Wight, Kent. — Isla, Moray.

Zones 1 2 3. Highlands to 510 yards. Humber to 500 yards.

Census 16 33 83. Ireland 12. British-english type.

Europe spa ita tur aus ger fra cha net den got - swe. (Norway).

Russia 6 - 4 3 2. West-asia. Constantinople. Persia.

Algeria. — (America, introduced).

22. *Ranunculus hirsutus*, Curtis. *R. Philonotis*, Auct.

Provinces 1 to 16. Native. Province 16 needs verification.

Lat. 50—57. Cornwall, Wight, Kent. — Argyle, Forfar.

Zones 1 2 ? Low grounds. Sparse or overlooked?

Census 16 30 58. Ireland 0. English-british type.

Europe spa ita tur aus ger fra cha net den (got nor).

Russia - 5 4 3. West-asia. Syria.

Algeria. Canaries.

23. *Ranunculus sceleratus*, Linn.

Provinces all. Native.

Lat. 50—59. Cornwall, Wight, Kent — Hebrides, Ross.

Zones 1 2 3. Low grounds.

Census 18 35 85. Ireland 10. British type of distribution.

Europe all, except Finmark.

Russia 6 5 4 3 2 1. West-asia. Himalaya. Siberia.

Egypt. Algeria. — America. "South America."

24. *Ranunculus parviflorus*, Linn.

Provinces 1 to 11. Native.

Lat. 50—55. Cornwall, Wight, Kent. — Lancaster, Durham.

Zones 1 2. Low grounds; sparsely distributed.

Census 11 23 50. Ireland 6. English type of distribution.

Europe spa ita tur aus - fra cha net den.

Russia - 5. West-asia.

Algeria. Canaries. Azores. — America.

25. *Ranunculus arvensis*, Linn.

Provinces 1 to 14. Colonist.

Lat. 50—56. Devon, Wight, Kent. — Lanark, Edinburgh.

Zones 1 2. Low grounds.

Census 14 26 59. Ireland 1. English type of distribution.

Europe spa ita tur aus ger fra cha net den got - swe.

Russia 6 5 - 3. West-asia. India. Siberia.

Algeria.

26. *Caltha palustris*, Linn.

Provinces all. Native. *C. radicans* in province 15.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4 5 6. Highlands to 1160 yards; also at 1150, etc.

Census 10 38 95. Ireland 12. British type of distribution.

Europe all.

Russia 6 - 4 3 2 1. Himalaya. Siberia. Kamtschatka.

— Faroe. Iceland. America. Columbia.

27. *Trollius europæus*, Linn.

Prov. - - - 5 6 7 8 9 10 11 12 13 14 15 16 17 (18). Native.  
 Lat. 51—59. Glamorgan, Worcester, Derby. — Sutherl. (Shetl.)  
 Zones - 2 3 4 5. Highlands to 1050 y.; also at 1010, 1000, etc.  
 Census 13 21 50. Ireland 1 or 2. Scottish type of distrib.  
 Europe spa ita - aus ger fra - - den got nor swe lap fin.  
 Russia 6 - 4 3 2 1.  
 — Not in Africa or America.

29. *Helleborus viridis*, Linn.

Provinces (1) 2 3 4 5 (6 7) 8 9 10 11 12 (13 14 15). Denizen.  
 Lat. 50—55. Dorset, Hants, Sussex. — Westmorel., Durham.  
 Zones 1 2. North Yorkshire 50—200 yards, native; Baker.  
 Census 10 16 30? (Ireland). English-germanic type.  
 Europe spa ita tur aus ger fra cha net.  
 — This may be a true native in some of the English counties,  
 though frequently an escape from gardens.

30. *Helleborus fœtidus*, Linn.

Provinces (1) 2 3 4 5 (6 7 8 -) 10 11 (12 13 14 15). Denizen.  
 Lat. 50—55. Dorset, Hants, Sussex. — West York, Durham.  
 Zones 1 2 ? West Yorkshire, above 200 yards; Tatham.  
 Census 6 14 25? (Ireland). English-germanic type.  
 Europe spa ita - - ger fra cha net.  
 — The same remark may be repeated with this second species  
 also, perhaps more dubiously native.

31. *Aquilegia vulgaris*, Linn.

Provinces 1 2 3 4 5 6 7 8 9 10 11 12 13 (14 15 16). Native.  
 Lat. 50—56. Cornwall, Wight, Kent. — Dumfries, Durham.  
 Zones 1 2 ? Lakes to 300 yards. Humber to 350 yards.  
 Census 13 23 49. Ireland 4 (and 3). English-intermed. type.  
 Europe spa ita tur aus ger fra cha net (den) got nor swe.  
 Russia 6 - 4 3. India. Siberia. Caucasus, var. *caucasica*.  
 Canaries. Azores; but not clearly indigenous there.

32. *Delphinium Ajacis*, Reich.

Provinces (1 2 3) 4 (5 6 - 8 9 10 11) - - [14]. Alien or Colonist.  
 Lat. 52—53. Cambridge, Norfolk, etc., but scarcely established.  
 Zone 1. Low grounds; usually as an alien or casual.  
 Census 1 3 5. Ireland 0. Germanic type.  
 Europe spa ita tur aus - fra (cha - den).  
 Russia 6 5 4 3. (Siberia).  
 Algeria. Egypt. (Canaries. Azores.)

33. *Aconitum Napellus*, Linn.

Provinces 1 (2 3 4) 5 6 7 - - (10 11 13 14 15 - 17). Denizen?  
 Lat. 51—53. Somerset, Monmouth, Glamorg., Heref., Denbigh.  
 Zone 1. Low grounds; usually as an alien or casual.  
 Census 4 6 7. Ireland 0. Atlantic-intermediate type.  
 Europe spa ita tur aus ger fra cha net den got - swe.  
 Russia 6. Himalaya. Siberia.  
 — Columbia; but a variety or sub-species there.

34. *Actæa spicata*, Linn.

Provinces - - [3] - - - - - 10 ? 12 - - [15]. Native?  
 Lat. 53—54 or 55. E. and W. Yorkshire. Durham? Cumb.?  
 Zones - 2 3. Yorkshire 50—350 yards; Baker.  
 Census 2 3 6. Ireland 0. Intermediate or local type.  
 Europe - ita tur aus ger fra cha net den got nor swe.  
 Russia 6 - 4 3 2 1. West-asia. Himalaya. Siberia.  
 — America; but the species perhaps distinct from our plant.

35. *Berberis vulgaris*, Linn.

Provinces 1 2 3 4 5 - 7 8 9 10 (11 12 13 14 15 16). Native.  
 Lat. 50—55. Difficult to assign its native limits.  
 Zones 1 2. Yorkshire to 200 yards, "native;" Baker.  
 Census 10 20 30? (Ireland). English type of distribution.  
 Europe spa ita tur aus ger fra cha net (den) got nor swe.  
 Russia 6 5 4 3 2. West-asia. India. Persia.  
 — (America, but probably introduced).

36. *Nymphæa alba*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Dorset, Kent. — Hebrides, Shetland.

Zones 1 2 3. Lake province to 350 yards.

Census 18 33 65. Ireland 12. British type of distribution.

Europe all, except Finmark.

Russia 6 - 4 3 2 1. West-asia. Himalaya. Siberia.

Algeria. — Columbia.

37. *Nuphar lutea*, Smith.

Provinces 1 to 16. Native. (Elgin, introduced).

Lat. 50—58. Cornwall? Devon, Kent. — Isla, Aberdeen.

Zones 1 2 ? Humber to 250 or 300 yards.

Census 16 31 69. Ireland 12. English-british type.

Europe all, except Finmark.

Russia 6 - 4 3 2 1. West-asia. Mid-asia. Siberia.

— America? Columbia. "Wooded country;" Dr. Richardson.

38. *Nuphar pumila*, De Cand. *see page 607*

Provinces - - - [4 5 - - 8 - - 11 13] - 15 16. Native.

Lat. 56—58. Argyle, Perth, Kincardine, Moray.

Zones ? 3. Some uncertainty about the species in England.

Census 2 4 4. Ireland 0. Scottish type of distribution.

Europe - - - aus ger fra - net (den got) nor swe lap.

Russia - - - 3 2 1. Siberia.

— America?

39. *Papaver hybridum*, Linn.

Provinces 1 2 3 4 5 - 7 8 (9 10) 11. Colonist.

Lat. 50—55. Cornwall, Wight, Kent. — Carnarvon, Durham.

Zones 1 2. Low grounds; chiefly the calcareous soils.

Census 8 17 30. Ireland 6. English type of distribution.

Europe spa ita tur aus ger fra cha net.

Russia 6 5. West-asia. India. Syria.

Algeria. Egypt. Canaries.

40. *Papaver Argemone*, Linn.

Provinces all ; except 13 without record ? Colonist.  
 Lat. 50—58. Cornwall, Wight, Kent. — “Hebrides,” Ross.  
 Zones 1 2 3. Low grounds ; especially the arenaceous.  
 Census 17 33 74. Ireland 5. British-english type.  
 Europe spa ita tur aus ger fra cha net den got nor (swe).  
 Russia 6 5 4 3. West-asia. Caucasus to Palestine.  
 Algeria. N.B. Is it a casual only in provinces 17, 18 ?

41. *Papaver dubium*, Linn.

Provinces all. Colonist.  
 Lat. 50—61. Cornwall, Wight, Kent. — Hebrides, Shetland.  
 Zones 1 2 3. Humber to 200 yards.  
 Census 18 38 85. Ireland 10. British type of distribution.  
 Europe spa ita tur aus ger fra cha net den nor swe.  
 Russia 6 5 4 3. India.  
 Algeria. Canaries. Azores. — (America).

42. *Papaver Rhœas*, Linn.

Provinces 1 to 15 - - (18). Colonist.  
 Lat. 50—57. Cornwall, Wight, Kent. — Forfar. (Shetland).  
 Zones 1 2 (3). Humber to 250 yards.  
 Census 15 29 73. Ireland 8. English-british type.  
 Europe spa ita tur aus ger fra cha net den.  
 Russia 6 5 4 3. West-asia. India. Syria.  
 Algeria. Canaries. Azores.

44. *Meconopsis cambrica*, Vig.

Provinces 1 - - - - 6 7 - (9) 10 - 12 (13 14 15). Native.  
 Lat. 50—55. Cornwall ? Devon, Somerset. — Westmorel., York.  
 Zones 1 2 3 4. Carnarvonshire to 700 yards.  
 Census 5 7 15. Ireland 7. Atlantic-intermediate type.  
 Europe spa - fra cha.  
 — N.B. The area of this plant is restricted to Western Europe,  
 extending from England to the Pyrenees.

45. *Chelidonium majus*, Linn.

Provinces 1 to 14 (15 16). Denizen.

Lat. 50—56. Cornwall, Wight, Kent. — Lowlands.

Zones 1 2 (3). Humber to 250 yards.

Census 14 28 70. (Ireland 11). English-british type.

Europe all, except Finmark.

Russia 6 5 4 3 2. West-asia. Siberia. Persia.

“Canaries.” (Azores). — (America).

46. *Glaucium luteum*, Scop.

Provinces 1 2 3 4 5 6 7 9 10 11 12 13 14 15 16 - (18). Native.

Lat. 50—57. Cornwall, Wight, Kent. — Dumbarton, Kincardine.

Zones 1 2 (3). (One locality recorded for Shetland).

Census 15 24 46. Ireland 6. English-british type.

Europe spa ita tur aus ger fra cha net den nor.

Russia 6 5 4. West-asia. Syria.

Algeria. Canaries. — (America, introduced).

48. *Corydalis claviculata*, De Cand.

Provinces 1 to 17. Native.

Lat. 50—58. Cornwall, Wight, Kent. — Cantire, Ross.

Zones 1 2 3. Devon to 400 yards. Lakes to 300 yards.

Census 17 30 64. Ireland 2. British-atlantic type.

Europe spa - - - ger fra cha net den.

— This otherwise western plant is reported to occur also in Sicily and Greece; correctly so reported?

50. *Fumaria capreolata*, Auct.

Provinces all. Colonist. Various segregates included.

Lat. 50—60. Cornwall, Wight, Kent. — Hebrides, Orkney.

Zones 1 2 3. Low grounds.

Census 18 35 77. Ireland 12. British type of distribution.

Europe spa ita tur aus ger fra cha net den.

Russia? West-asia. Syria, etc.

Algeria. Egypt. Canaries. Azores.



51. *Fumaria officinalis*, Linn.

Provinces all. Colonist.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Lakes to 300 yards. Humber to 250 yards.

Census 18 36 88. Ireland 12. British type of distribution.

Europe all, except Finmark.

Russia 6 5 4 3 2. West-asia. Siberia. Syria, etc.

Algeria. Egypt. Canaries. "Azores." — (America).

52. *Fumaria micrantha*, Lag.

Provinces - 2 3 4 5 - - 8 - - 11 - - 14 15 - - [18]. Colonist.

Lat. 50—58. Dorset, Sussex, Kent. — Forfar, Elgin.

Zones 1 2 3. Low grounds; sparsely distributed.

Census 8 15 21. Ireland? English-british type.

Europe spa ita tur - - fra cha. "Hamburg."

Russia? West-asia. India. Persia. Syria.

Egypt. Azores; Drouet flore.

53. *Fumaria parviflora*, Lam.

Provinces - [2] 3 4 - - - - 10 - - - 14 15 - - [18]. Colonist.

Lat. 51—58. [Dorset?] Kent, Surrey. — Perth, Elgin.

Zones 1 2 3. Low grounds.

Census 5 8 19. Ireland 0. English-germanic type.

Europe spa ita tur aus ger fra cha net.

Russia 6. West-asia. India. Arabia.

Algeria. Egypt. Canaries.

53 (54). *Fumaria Vaillantii*, Lois.

Provinces - 2 3 4 - - - - (10) - ? - - - - [18]. Colonist.

Lat. 51—53 or 54. Hants, Kent. — Hunts, (York).

Zones 1 (2). Low grounds. Casual in Shetland.

Census 3 5 7. Ireland 0. English-germanic type.

Europe spa ita tur aus ger fra cha net den - - swe.

Russia 6 - 4 3. West-asia. India. Siberia. Syria.

Algeria. Canaries.

55. *Cakile maritima*, Scop.

Provinces 1 to 18, except 5 without authority? Native.  
 Lat. 59—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Littoral.  
 Census 17 30 54. Ireland 9. British type of distribution.  
 Europe all.  
 Russia - 5 - 3 2. [C. americana excluded underneath].  
 Algeria. "Egypt." "Madeira." [Azores]. — Faroe. Iceland.

56. *Crambe maritima*, Linn.

Provinces 1 2 3 4 - 6 7 8 - 10 - 12 13 14 15 16. Native.  
 Lat. 50—57. Cornwall, Dorset, Sussex. — Islay, Fife.  
 Zones 1 2. Littoral; now quite sparsely distributed.  
 Census 13 21 26. Ireland 5. English type of distribution.  
 Europe - - - - fra cha net den got nor.  
 Russia 6 - - 3 2. N.B. Germany, perhaps only in the north-  
 west, or the Netherlands section.

57. *Coronopus didyma*, Sm.

Provinces 1 2 (3 - 5) 6 7 (8 9 10 11 - - - 15). Denizen.  
 Lat. 50—53. Cornwall, Devon, Dorset. — Pembroke, Carnarvon.  
 Zone 1. Low grounds; and perhaps truly an alien in Europe, etc.  
 Census 4 9 12. Ireland 7. Atlantic-english type.  
 Europe spa ita - - ger fra (cha net). (Isle of Bornholm).  
 Russia 6. Caucasus; Bentham Handb. br. flo.  
 Canaries. Azores. — America, in the South States.

58. *Coronopus Ruellii*, Gaertn. *see page 607*

Provinces 1 to 15. Native.  
 Lat. 50—57 (or 58). Cornwall, Wight, Kent. — Fife, (Elgin).  
 Zones 1 2 (3). Humber to 200 yards; Baker.  
 Census 15 28 70. Ireland 11. English type of distribution.  
 Europe spa ita tur aus ger fra cha net den got (nor sve).  
 Russia 6 5 4 3. West-asia. Syria.  
 Algeria. Egypt. Canaries. — (America).

60. *Thlaspi arvense*, Linn.

Provinces all. Colonist. "Probably native;" A. De Candolle.  
 Lat. 50—60. Cornwall, Wight, Kent. — Sutherland, Orkney.  
 Zones 1 2 3. Humber to 200 yards.  
 Census 18 32 62. Ireland 7. British type, sparsely spread.  
 Europe all. More frequent than it is in Britain?  
 Russia 6 5 4 3 2 1. West-asia. Himalaya. Siberia.  
 Algeria. Canaries. "Azores." — (America).

61. *Thlaspi perfoliatum*, Linn.

Provinces - - [3] - 5 - - - [10 - 12]. Native.  
 Lat. 51—52. Gloucester. Formerly in Oxford also.  
 Zone 1. About 700 feet; Rev. H. Roberts.  
 Census 1 1 1. Ireland 0. English-local type.  
 Europe spa ita tur aus ger fra cha net. Bornholm.  
 Russia 6 5 4 3. West-asia. Siberia. Isle of Oesel.  
 Algeria.

62. *Thlaspi alpestre*, Linn.

Provinces [1 - 3 - - 6] 7 8 - 10 11 12 - - 15. Native.  
 Lat. 51—57. Carnarvon, Derby. — Cumberland, Forfar.  
 Zones ? 2 3 4 5. Forfarshire, at 900 yards or thereabouts.  
 Census 6 6 10. Ireland 0. Highland-intermediate type.  
 Europe spa ita - aus ger fra - net - got.  
 — N.B. In the Flora Boreali-americana, this is recorded as a  
 plant of Canada, on authority of "Mrs. Percival."

63. *Capsella Bursa-pastoris*, De Cand.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Highlands to 400 yards. England to same.  
 Census 18 38 95. Ireland 12. British type of distribution.  
 Europe all; northward to Mageroe.  
 Russia 6 5 4 3 2 1. West-asia. Himalaya. Siberia. Kamtsch.  
 Algeria. Canaries. Azores. — Faroe. Icel. (Gre. Am.)

64. *Hutchinsia petræa*, Br.

Provinces 1 - (3) - 5 6 7 8 - 10. Native.

Lat. 50—55. Somerset, Gloucester, Derby. — Carnarvon, York.

Zones 1 2 3. Wales to 450 yards. Humber to 500 yards.

Census 6 9 11. (Ireland). Intermediate-local type.

Europe spa ita tur aus ger fra cha net - got - swe.

Russia 5 4 3. West-asia. India.

Algeria.

65. *Teesdalia nudicaulis*, Br.

Provinces 1 to 15. Native.

Lat. 50—58. Cornwall, Dorset, Kent. — Lanark, Elgin.

Zones 1 2 3. Humber to 300 yards; Baker.

Census 15 26 54. Ireland 0. British-english type.

Europe spa ita - aus ger fra cha net den got nor.

Russia - - 4 3. West-asia? Caucasus?

Algeria. Canaries; Dr. Lemann's Madeira list.

66. *Iberis amara*, Linn.

Provinces (1) 2 3 4 (5 - 7 8 - 10 - 12 13 14 15). Colonist.

Lat. 50—53. Dorset, Hants. — Cambridge, Norfolk.

Zone 1. Low grounds; chiefly on cretaceous soils.

Census 3 7 10. Ireland 0. Germanic type of distribution.

Europe spa ita tur aus ger fra cha net.

Russia 0. West-asia?

— In West Europe, from Portugal to Hanover.

67. *Lepidium latifolium*, Linn.

Provinces 1 (2) 3 4 5 6 7 (8 9 10 11 - 13 14 15 - 17). Native.

Lat. 51—53. Somerset, Glamorgan, Kent. — Flint, Norfolk.

Zones 1 (2 3). Coast-level; introduced to many localities.

Census 6 8 9. Ireland 2. English type of distribution.

Europe spa ita tur - ger fra cha net den got.

Russia 6 5 4 3. West-asia. India. Siberia. Tibet.

Algeria. Egypt.

69. *Lepidium Smithii*, Hook.

Provinces 1 to 16. Native in England. Scotland also?  
 Lat. 50—58. Cornwall, Wight, Kent. — Dumbarton, Moray.  
 Zones 1 2 3. Highlands to 350 yards; but introduced?  
 Census 16 28 62. Ireland 7. British-english type.  
 Europe spa - - - fra cha. Transylvania? Holland?  
 — N.B. Synonyms unsettled; more widely distributed, if united  
 with *L. hirtum* of South Europe.

70. *Lepidium campestre*, Linn.

Provinces 1 to 15. Native.  
 Lat. 50—58. Cornwall, Wight, Kent. — Lanark, Elgin.  
 Zones 1 2 3. Humber to 250 yards; Baker.  
 Census 15 30 68. Ireland 6. British-english type.  
 Europe spa ita tur aus ger fra cha net den got nor swe.  
 Russia 6 5 4 3 2. West-asia. Cilicia. Constantinople.  
 Algeria. — Iceland; Hooker list, from Zoega. (America).

71. *Lepidium ruderales*, Linn.

Provinces 1 2 3 4 5 6 - - (9 10 11 - - - 15). Denizen?  
 Lat. 50—53. Cornwall, Hants, Kent. — Pembroke, Norfolk.  
 Zones 1 (2). Low grounds; chiefly near the coast.  
 Census 6 12 20. Ireland? English type of distribution.  
 Europe - ita tur aus ger fra cha net den got nor swe.  
 Russia 6 5 4 3 2. West-asia. Himalaya. Siberia.  
 — America. Columbia.

72. *Cochlearia officinalis*, Linn.

Provinces all. Native. Alpine segregate included below.  
 Lat 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4 5 6. Highlands to 1300 yards; also at 1260, etc.  
 Census 18 30 62. Ireland 9. British type of distribution.  
 Europe - - - aus ger fra cha net den got nor - lap fin.  
 Russia - - - 3 2 1. Siberia. — Synonyms unsatisfactory.  
 — Faroe. Iceland. Greenland. America?

72. *Cochlearia danica*, Linn.

Provinces 1 2 3 4 ? 6 7 - 9 - 11 12 - 14 15 16 - 18. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Shetland; Neill, etc.  
 Zones 1 2 3. Littoral. Northern localities questionable.  
 Census 13 22 36. Ireland 7. British type of distribution.  
 Europe spa - - - - fra cha net den got nor swe. Finmark?  
 Russia - - - - 2 1. Kamtschatka; Ledeb. flo. ros.  
 — Faroe. Iceland. Greenland. America. Columbia.

72\*. *Cochlearia anglica*, Linn.

Provinces 1 2 3 4 5 6 7 [8] 9 [10] 12 13 ? 15 16. Native.  
 Lat. 50—58. Cornwall, Wight, Kent. — Mid-ebudes, Moray.  
 Zones 1 2 3. Littoral; the northern provinces uncertain.  
 Census 12 20 30. Ireland? British type?  
 Europe - - - - fra cha net den. C. fenestrata, nor swe lap fin.  
 Russia - - - - 2 1. C. fenestrata in Arctic Russia and Spitsbergen.  
 — Faroe. Iceland. Greenland. America. Columbia.

74. *Subularia aquatica*, Linn.

Provinces - - - - [5] 7 - [9] - - 12 13 - 15 16 17. Native.  
 Lat. 53—59. Anglesea, Carnarvon, Denbigh. — Ross, Sutherl.  
 Zones ? 2 3 4 5. Highlands to 710 yards; and low grounds.  
 Census 6 8 14. Ireland 7. Highland-scottish type.  
 Europe - - - aus ger - - net den got nor swe lap. France?  
 Russia - - - 3 2 1. Siberia. Altai.  
 — Iceland; Hooker list, from Zoega. Maine, America.

75. *Draba aizoides*, Linn. *see page 608*

Provinces [1 2] - - - 6. Native?  
 Lat. 51—52. Glamorgan. Also in Somerset?  
 Zone 1. Coast-level, or thereabout.  
 Census 1 1 1. Ireland 0. Local-atlantic type.  
 Europe spa ita tur aus ger fra - net.  
 West-asia? N.B. The area varies according to the segregates  
 included under the one name, or excluded.

76. *Draba rupestris*, Br.

Provinces - [2] - - - - - 15 16 17 [18]. Native.  
 Lat. 56—59. Perth, Forfar, Banff, Dumbarton, Sutherland.  
 Zones - - - - 5 6. Highlands about 1000—1300 yards.  
 Census 3 4 4. Ireland 0. Highland type of distribution.  
 Europe - - - - - nor swe lap fin.  
 Altai and Eastern Siberia. Spitsbergen.  
 Faroe? Iceland. Greenland. America. Columbia.

77. *Draba incana*, Linn.

Provinces - [2 - - 5] - 7 8 - 10 11 12 - - 15 16 17 18. Native.  
 Lat. 53—61. Carnarvon, Derby. — Orkney, Shetland.  
 Zones - - 3 4 5 6. Highlands 0—1060 y.; also at 960, 900, etc.  
 Census 9 13 18. Ireland 3. Highland type of distribution.  
 Europe spa ita - - ger fra - - - got nor swe lap fin.  
 Russia 6 - - 3 2 1. Himalaya. Siberia. Kamtschatka.  
 — Faroe. Iceland. Greenland. America. Columbia.

78. *Draba muralis*, Linn.

Provinces 1 - (3) [4] 5 - 7 8 - 10 - 12 (13 14 15). Native.  
 Lat. 51—55. Somerset, Stafford. — Westm., York, to 400 yds.  
 Zones 1 2 3. Nearly down to coast-level, in Monmouth; Babington.  
 Census 6 7 8. (Ireland). Intermediate-local type.  
 Europe spa ita tur aus ger fra cha net - got - swe lap.  
 Russia 6 5 4 3 2 1. West-asia. India. Siberia.  
 Algeria. Canaries. — Iceland. America?

79. *Draba verna*, Linn.

Provinces all. Native. *D. præcox* included below.  
 Lat. 50—60. Cornwall, Wight, Kent. — Sutherland, Orkney.  
 Zones 1 2 3. Humber to 400 yards. *D. inflata* in zone 5.  
 Census 18 35 83. Ireland 11. British type of distribution.  
 Europe spa ita tur aus ger fra cha net den got nor swe.  
 Russia 6 5 4 3 2. West-asia. India. Siberia.  
 Algeria. — Faroe. Iceland. America.

83. *Dentaria bulbifera*, Linn.

Provinces - 2 3 - 5 - - - - - 13 - (15). Native.

Lat. 51—56. Sussex, Surrey, Herts, Midx., Bucks, Staff., Ayr.

Zones 1 2. Low grounds. (Dupplin, Perthshire).

Census 4 5 6. Ireland 0. English-germanic type.

Europe spa ita tur aus ger fra cha net den got nor swe.

Russia 6 - 4 3. West-asia. Bithynia.

— N.B. Is it really indigenous in Scotland?

84. *Cardamine amara*, Linn.

Provinces (1) 2 3 4 5 - 7 8 9 10 11 12 13 14 15 16. Native.

Lat. 50—58. Devon, Dorset, Kent. — Dumbarton, Elgin.

Zones 1 2 3. Humber to 300 yards; Baker.

Census 14 25 57. Ireland 2. British-germanic type.

Europe all, except Finmark.

Russia - - 4 3 2. Himalaya. Siberia.

— Faroe? Is this alleged habitat correct?

85. *Cardamine pratensis*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4 5 6. Highlands to 1080 y.; also at 980, 810, etc.

Census 18 38 92. Ireland 12. British type of distribution.

Europe all. Northward to Spitsbergen.

Russia 6 5 4 3 2 1. Himalaya. Siberia. Kamtschatka.

— Faroe. Iceland. Greenland. America. Columbia.

86. *Cardamine hirsuta*, Linn.

Provinces all. Native. *C. sylvatica* included.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4 5. Highlands to 1000 yds.; also at 930, 900, etc.

Census 18 36 88. Ireland 12. British type of distribution.

Europe spa ita tur aus ger fra cha net den got (nor) swe.

Russia 6 5 4 3 2. West-asia. Himalaya. Kamtschatka.

Algeria. Canaries. Azores. — Faroe. Iceland. Am. Col.



87. *Cardamine impatiens*, Linn.

Provinces 1 (2) 3 - 5 6 7 8 (9) 10 - [12 13 - - 16]. Native.  
 Lat. 50—56. Cornwall, Devon, Surrey. — Denbigh, York.  
 Zones 1 2. Humber to 300 yards; Baker.  
 Census 7 10 17. Ireland 0. Intermediate type.  
 Europe spa ita tur aus ger fra cha net den nor swe.  
 Russia 6 - 4 3 2. West-asia. India. Siberia.  
 — Faroe? An error for *C. sylvatica*?

88. *Arabis thaliana*, Linn.

Provinces all. Native.  
 Lat. 50—60. Cornwall, Wight, Kent. — Ross, Orkney.  
 Zones 1 2 3. Humber to 500 yards; Baker.  
 Census 18 33 74. Ireland 9. British type of distribution.  
 Europe all, except Finmark.  
 Russia 6 5 4 3 2 1. West-asia. Himalaya. Siberia.  
 Algeria. Canaries. — (America).

89. *Arabis petræa*, Lam.

Provinces [1 - - - 5] 7 [8 - 10 - 12] - - 15 16 17 18. Native.  
 Lat. 52—61. Merioneth, Carnarvon. — Hebrides, Shetland.  
 Zones - - 3 4 5 6. Highlands to 1200 yards, or "1390 yards."  
 Census 5 8 11. Ireland 1. Highland type of distribution.  
 Europe - - - aus ger - - - - - nor swe. France?  
 Russia 6 - - - 2. Siberia. Kamtschatka.  
 — Faroe. Iceland. Greenland. America. Columbia.

90. *Arabis stricta*, Huds.

Provinces 1 - - - 5 - [7 - - - - 12]. Native.  
 Lat. 51—52. North Somerset, West Gloucester.  
 Zone 1. Altitude ...? Below 200 yards?  
 Census 2 2 2. Ireland 0. Local-atlantic type.  
 Europe spa aus ger fra. Apparently limited to Mid-europe.  
 North Spain to Transylvania.  
 — America? Labrador; Pursh flo. amer. sept.

92. *Arabis hirsuta*, Br.

Provinces 1 to 17. Native.

Lat. 50—59. Cornwall, Wight? Kent. — Skye, Sutherland?

Zones 1 2 3 4 5. Highlands to 900 yards; also at 830, 750, etc.

Census 17 34 73. Ireland 10. British type of distribution.

Europe all.

Russia 6 5 4 3 2. Himalaya. Siberia. Kamtschatka.

— America. Columbia.

94. *Turritis glabra*, Linn.

Provinces ? 2 3 4 5 - - 8 - 10 11 12 - - 15 16. Native.

Lat. 50—57. Wilts, Hants, Kent. — Dumbarton, West Perth.

Zones 1 2. Low grounds.

Census 10 16 31. Ireland 1. English-germanic type.

Europe all, except Finmark.

Russia 6 - 4 3 2. West-asia. Himalaya. Siberia.

— America. Columbia. Same species in America?

95. *Barbarea vulgaris*, Auct.

Provinces 1 to 15. Native. Segregates included below.

Lat. 50—58. Cornwall, Wight, Kent. — Renfrew, Elgin.

Zones 1 2 3. Humber to 250 yards.

Census 15 31 81. Ireland 12. British-english type.

Europe all northward to Sweden. *B. stricta* in lap fin.

Russia 6 - 4 3 2 1. West-asia. Himalaya. Siberia. Kamtsc.

— (America). Columbia; but a sub-species?

98. *Nasturtium officinale*, Br. *see page 608*

Provinces all. Native.

Lat. 50—60. Cornwall, Wight, Kent. — Sutherland, Orkney.

Zones 1 2 3. Humber to 350 yards. Lakes to 250 yards.

Census 18 36 86. Ireland 12. British type of distribution.

Europe spa ita tur aus ger fra cha net den got.

Russia 6 - - 3 2. West-asia. India. Siberia.

Algeria. Canaries. Azores. — Faroe. Iceland. (Am.) Col.

99. *Nasturtium terrestre*, Br.

Provinces 1 to 16. Native. N. palustre, auct. plur.  
 Lat. 50—57. Cornwall, Wight, Kent. — Argyle, Forfar.  
 Zones 1 2. Low grounds.  
 Census 16 30 59. Ireland 9. British-english type.  
 Europe all, except Finmark and Spain?  
 Russia 6 - 4 3 2 1. West-asia. Himalaya. Siberia. Kamtsch.  
 Egypt. Libya. — Iceland. Greenland. America. Columbia.

100. *Nasturtium sylvestre*, Br.

Provinces 1 2 3 4 5 6 - 8 9 10 11 - 13 14 (15). Native.  
 Lat. 50—56. Cornwall, Devon, Sussex. — Dumfries, Edinburgh.  
 Zones 1 2. Low grounds. (Fife, perhaps introduced).  
 Census 12 22 46. Ireland 1. English type of distribution.  
 Europe spa ita tur aus ger fra cha net (den) got nor swe.  
 Russia - - 4 3 2. West-asia. Siberia. "Persia." "China."  
 — (America, introduced).

101. *Nasturtium amphibium*, Br.

Provinces 1 2 3 4 5 - - 8 9 10 (11) - 13 14 15. Native.  
 Lat. 50—57. Devon, Dorset, Kent. — Lanark, Fife.  
 Zones 1 2. Low grounds. Is it native in Scotland?  
 Census 11 22 42. Ireland 10. English type of distribution.  
 Europe spa ita - aus ger fra cha net den got nor swe lap.  
 Russia 6 5 4 3 2 1. West-asia. India. Siberia.  
 Algeria. Egypt. — America??

102. *Sisymbrium officinale*, Scop.

Provinces all. Native.  
 Lat. 50—60. Cornwall, Wight, Kent. — Hebrides, Orkney.  
 Zones 1 2 3. Humber to 250 yards. Lakes to 250 yards.  
 Census 18 37 88. Ireland 10. British type of distribution.  
 Europe all, except Lapland with Finmark.  
 Russia 6 5 4 3 2. West-asia. Syria.  
 Algeria. Canaries. Azores. — (Greenland. Amer. Columbia).

103. *Sisymbrium Irio*, Linn.

Provinces [1 2] 3 4 [5] 6 - [8] - - - - 14. Denizen.  
 Lat. 51—56. London, Oxford, Glamorgan. — Berwick-on-Tweed.  
 Zones 1 2. Low grounds. Localities very uncertain.  
 Census 4 5 6. Ireland 1. English-local type.  
 Europe spa ita tur aus ger fra cha net. (Sweden).  
 Russia 6 - 4 3. West-asia. India. "Arabia."  
 Algeria. Egypt. Canaries. "Azores."

104. *Sisymbrium Sophia*, Linn.

Provinces 1 2 3 4 5 6 7 8 9 10 11 - 13 14 15 - 17. Native.  
 Lat. 50—58. Cornwall, Dorset, Kent. — Moray, Ross.  
 Zones 1 2 3. Low grounds; widely but thinly spread.  
 Census 15 28 53. Ireland 4. British-english type.  
 Europe all, except Finmark.  
 Russia 6 5 4 3 2 1. West-asia. India. Siberia.  
 Algeria. — America? Columbia. "Straits of Magellan."

106. *Erysimum cheiranthoides*, Linn.

Provinces 1 2 3 4 5 6 7 8 (9 10 11 12 - 14 15 16). Colonist.  
 Lat. 50—53. Devon, Sussex, Kent. — Denbigh, Lincoln.  
 Zones 1 (2 3). Low grounds. Well established in S. B.  
 Census 8 17 32. (Ireland). English type of distribution.  
 Europe spa ita - aus ger fra cha net den got nor swe.  
 Russia - 4 3 2 1. Mid-asia. Siberia. Kamtschatka.  
 — America. Columbia. Arctic America; Hooker dist. arc.

107. *Erysimum Alliaria*, Linn.

Provinces 1 to 17. Native.  
 Lat. 50—58: Cornwall, Wight, Kent: — Moray, Ross.  
 Zones 1 2 3. Lakes and Humber to 300 yards.  
 Census 17 33 81. Ireland 9. British-english type.  
 Europe spa ita tur aus ger fra cha net den got nor swe.  
 Russia 6 5 4 3 2. West-asia. India.  
 Algeria.

110. *Matthiola incana*, Br.

Provinces - 2 - - - (6). Denizen. (Sussex, Pembroke).  
 Lat. 50—51. Isle of Wight, perhaps introduced; A. G. Morc.  
 Zone 1. Coast cliffs; deemed native by Dr. Bromfield.  
 Census 1 1 1. Ireland 0. English-local type.  
 Europe spa ita tur aus - fra. Sicily, Crete, etc.  
 West-asia. Cyprus.  
 Canaries. (Azores).

111. *Matthiola sinuata*, Br.

Provinces 1 [2] - - - 6 7. Native. [Dorset? Sussex?].  
 Lat. 50—52. Cornwall? North Devon. — Anglesea, Flint.  
 Zone 1. Littoral.  
 Census 3 5 7. Ireland 3. Atlantic type of distribution.  
 Europe spa ita tur aus - fra cha. Sicily, Crete, etc.  
 West-asia. Cyprus.  
 Algeria.

113. *Brassica oleracea*, Linn.

Provinces 1 2 3 (4 5) 6 7 - - (10 11 12 - - 15). Denizen?  
 Lat. 50—53. Cornwall, Wight, Kent. — Merioneth, Carnarvon.  
 Zone 1. Coast cliffs, native? Inland only an alien.  
 Census 5 9 10. (Ireland 2). Atlantic type of distribution.  
 Europe. Wild on the western coasts of France?  
 — N.B. Exceedingly difficult to trace the native habitats of this  
 plant. See De Cand. Geog. bot. 653 and 839.

114. *Brassica campestris* and *B. Napus*, Linn.

Provinces 1 2 3 4 5 6 7 8 9-10 (11 12 13 14 15 16). Colonist?  
 Lat. 50—57. Cornwall, Dorset, Kent. — York, Scotland?  
 Zones 1 2. Low grounds; often through cultivation.  
 Census 10 20 30? (Ireland). English type of distribution.  
 Europe - ita - aus ger (fra cha) net den got nor swe lap.  
 Russia 6 5 4 3 2 1. West-asia. India. Siberia.  
 Barbary. — (Faroe). Distribution not satisfactory.

116. *Sinapis arvensis*, Linn.

Provinces all. Colonist, or likely Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Highlands to 400 yards. Humber to 350 yards.

Census 18 38 93. Ireland 12. British type of distribution.

Europe all.

Russia 6 5 4 3 2. West-asia. India. Siberia.

Algeria. Egypt. Canaries. (Azores). — (America).

117. *Sinapis alba*, Linn.

Prov. 1 2 3 4 5 6 7 8 9 10 11 - 13 14 15 16 (17 18). Colonist.

Lat. 50—57. Cornwall, Wight, Kent. — Isla, Kincardine.

Zones 1 2 (3). Humber to 200 yards.

Census 15 28 50. Ireland 7. English-british type.

Europe spa ita tur aus ger fra cha net den got nor (swe).

Russia - 5 - 3. West-asia. Syria.

Algeria. Canaries. — (America, introduced).

118. *Sinapis nigra*, Linn.

Provinces 1 2 3 4 5 6 7 8 9 10 11 - 13 14 15. Native?

Lat. 50—57. Cornwall, Wight, Kent. — Fife, (Elgin).

Zones 1 2. Humber to 200 yards.

Census 14 27 57. Ireland 2 (3). English type of distribution.

Europe spa ita tur aus ger fra cha net den got nor (swe).

Russia - - 4 3. West-asia. India. Siberia?

Algeria. Egypt. Canaries. Azores. — (America).

120. *Sinapis tenuifolia*, Br.

Provinces 1 2 3 4 5 6 7 - 9 10 11 12 - 14 15. Denizen.

Lat. 50—57. Cornwall, Dorset, Kent. — Cumberland, Fife.

Zones 1 2. Low grounds. Alien in Scotland?

Census 13 23 34. (Ireland). English type of distribution.

Europe spa ita tur aus ger fra cha net. (Scandinavia).

Russia 6 - - 3. West-asia.

Algeria.

**121. *Sinapis muralis*, Br.**

Provinces 1 2 3 4 5 6 - - (9 10 11 12 - - 15). Denizen.  
 Lat. 50—53. Cornwall, Sussex, Kent. — Carmarthen, Suffolk.  
 Zone 1. Low grounds.  
 Census 6 11 14. (Ireland). English type of distribution.  
 Europe - ita - aus ger fra cha net.  
 Russia - - 4.  
 Algeria.

**122. *Sinapis monensis*, Bab., etc.**

Provinces (1) - - - 6 7 - 9 - - 12 13 (14 15) 16. Native.  
 Lat. 51—58. (Cornwall), Glamorgan. — Cantire, Skye?  
 Zones 1 2 ? Littoral. (S. *Cheiranthus*, introduced).  
 Census 6 8 17. Ireland 0. Atlantic type of distribution.  
 Europe spa ita - - ger fra cha net. — Algeria.  
 — N.B. The native plant of West Britain is now held to be a  
 slight variety of *S. Cheiranthus*.

**123. *Raphanus Raphanistrum*, Linn.**

Provinces all. Colonist.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Highlands and Humber to 350 yards.  
 Census 18 38 87. Ireland 11. British type of distribution.  
 Europe all, except Finmark.  
 Russia - - 4 3 2. West-asia. Mid-asia; Hook. arc. pl.  
 Algeria. Canaries. Azores. — (America).

**124. *Raphanus maritimus*, Sm.**

Provinces 1 2 - [4] - 6 7 - 9 [10] - 12 13 - - 16 - [18]. Native.  
 Lat. 50—57. Cornwall, Wight, Sussex. — Bute, Cantire.  
 Zones 1 2. Littoral. Sufficiently distinct from *Raphanistrum*.  
 Census 8 13 17. Ireland 6. Atlantic type of distribution.  
 Europe spa - - - - fra cha net. Norway? Balears?  
 — A western species, reported from South Spain to Holland, or  
 perhaps to Norway.

125. *Reseda Luteola*, Linn.

Provinces 1 to 17. Native. Denizen in North Britain.  
 Lat. 50—58. Cornwall, Wight, Kent. — Moray, Ross.  
 Zones 1 2 3. Humber to 200 yards.  
 Census 17 33 79. Ireland 12. British-english type.  
 Europe spa ita tur aus ger fra cha net den got.  
 Russia 6 5 4 3. West-asia.  
 Algeria. Egypt. Canaries. Azores. — (America).

126. *Reseda lutea*, Linn.

Provinces 1 2 3 4 5 6 7 8 9 10 11 13 14 (15). Native.  
 Lat. 50—56. Cornwall, Wight, Kent. — Dumfries, Haddington.  
 Zones 1 2. Low grounds. (Fife to Moray, introduced).  
 Census 13 25 53. Ireland 4. English-germanic type.  
 Europe spa ita tur aus ger fra cha net. (Scandinavia).  
 Russia 6 5 4 3. West-asia.  
 Algeria.

128. *Helianthemum vulgare*, Auct.

Provinces 1 to 15 - 17. Native. Any locality in 16 ?  
 Lat. 50—58. Devon, Wight, Kent. — Moray, Ross.  
 Zones 1 2 3 4. Highlands to 670 yards. Humber to 700 yards.  
 Census 16 31 73. [Ireland]. British-english type.  
 Europe spa ita tur aus ger fra cha net den got nor swe.  
 Russia 6 5 4 3. West-asia. Finland; Fries sum. veg.  
 Algeria.

129. *Helianthemum polifolium*, Pers.

Provinces 1 - - - [5]. Native.  
 Lat. 50—52. South Devon, North Somerset. [Glouc., Worc.]  
 Zone 1. Somerset, at 150 or 200 feet; T. B. Flower.  
 Census 1 2 2. Ireland 0. Local-atlantic type.  
 Europe spa ita tur - ger fra cha. "Meuse et Moselle."  
 — Not in Russia or Asia?  
 Algeria. — America? "Arkansas and Texas."



130. *Helianthemum canum*, Dunal.

Provinces [1 - - - 5] 6 7 - - 10 - 12. Native.

Lat. 50—55. Glamorgan. — Cumberland, Westmoreland, York.

Zones 1 2 3 4. Humber to 600 yards or upwards.

Census 4 4 7. Ireland 1. Intermediate-atlantic type.

Europe spa ita tur fra cha aus ger. Isle of Oeland.

Russia 6 5 4 3. West-asia.

Algeria.

131. *Helianthemum (guttatum) Breweri*, Planch.

Provinces [1 - - - 5] - 7. Native in form of *H. Breweri*.

Lat. 53—54. Isle of Anglesea only.

Zone 1. Coast-level or cliffs.

Census 1 1 1. Ireland 1. Local-atlantic type.

Europe spa ita tur aus ger fra cha net. Hanover.

West-asia. Cyprus, Syria, etc.

Algeria. — N.B. *H. guttatum* in lines 5 6 7, and in Ireland.

132. *Viola palustris*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4 5 6. Highlands to 1360 yards; also at 1300, etc.

Census 18 36 74. Ireland 11. British type of distribution.

Europe all, except Turkey. With varieties in lines 5, 6, 7.

Russia - - ? 3 2 1. Siberia. Kamtschatka.

Azores. — Faroe. Iceland. Greenland. America. Columbia.

133. *Viola odorata*, Linn.

Provinces 1 to 12 (13 14 15) - - [18]. Native in England.

Lat. 50—55. Devon, Wight, Kent. — Westmoreland, York.

Zones 1 2. Low grounds. Alien in Scotland?

Census 12 24 57. Ireland 7. English type of distribution.

Europe spa ita tur aus ger fra cha net den got. (Sweden).

Russia 6 5 4 3. West-asia. Siberia.

Algeria. Canaries. Azores; but doubtfully native there.

134. *Viola hirta*, Linn.

Provinces 1 to 15. Native.

Lat. 50—57. Cornwall, Wight, Kent. — Forfar, Kincardine.

Zones 1 2. Lakes and Humber to 300 yards each.

Census 15 29 63. Ireland 1 or 4? English-germanic type.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3 2. West-asia. Siberia.

— .

135. *Viola sylvatica*, Bab. man. *V. canina*, Sm. eng. flo.

Provinces all. Native. *V. Riviniana* the prevailing form.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4 5. Highlands to 980 yards. Wales 1100 yards.

Census 18 38 93. Ireland 12. British type of distribution.

Europe all, except Finmark; but synonyms uncertain.

Russia 6 - - 3. West-asia. Siberia. Kamtschatka.

Algeria. Canaries. — Faroe.

135. *Viola canina*, Bab. man. excl. *V. lactea*, Sm.

Provinces 1 to 15; but no certain record for 13. Native.

Lat. 50—58. Devon, Wight Kent. — Aberdeen, Banff.

Zones 1 2 3. Highlands to 710 yards.

Census 14 27 54. Ireland 8. British type of distribution.

Europe, in all the divisions, if in Finmark.

Russia 6 5 4 3 2 1. Siberia.

Canaries? — Faroe. Iceland. Greenland. [Am. Col.]

135. *Viola lactea*, Sm.

Provinces 1 2 3 [4 - - 7 - 9 - - - 14]. Native.

Lat. 50—52. Cornwall, Devon, Dorset, Sussex, Kent.

Zone 1. Low grounds. *V. flavicornis* often thus misnamed.

Census 3 3 5. Ireland? English type of distribution.

Europe. Holland, Norway, France, Italy; Nyman Sylloge.

— N.B. Confused with *V. stagnina* in Continental Floras; as was formerly the case in England also.

135. *Viola stagnina*, "Kit." Bab. man.

Provinces 1 - - 4 - - - 8. Native.

Lat. 50—54. South Devon? Cambridge, Hunts, Lincoln.

Zone 1. Low grounds. Much confused with *V. lactea*.

Census 3 3 4. Ireland 1. English-germanic type.

Europe - ita - aus ger fra cha net den (got) nor (swe).

Russia - - 4 3. Siberia.

— N.B. See above, under *V. lactea*.

136. *Viola tricolor*, Auct.

Provinces all; but in part perhaps *V. arvensis* only. Native.

Lat. 50—61. Cornwall, Wight, Kent — Orkney, Shetland.

Zones 1 2 3 4. Highlands to 630 yards.

Census 18 38 90. Ireland 11. British type of distribution.

Europe all, unless Finmark excepted.

Russia 6 5 4 3 2 1. West-asia. India. Siberia.

Algeria. (Azores). — Faroe. Iceland. America?

136. *Viola arvensis*, Murr.

Provinces all; apart from *V. tricolor*. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Hebrides, Shetland.

Zones 1 2 3. Highlands, Humber, each to 350 yards.

Census 18 34 64. Ireland 12? British type of distribution.

Europe spa ita tur aus ger fra cha net den - swe.

Russia 6 5 4 3 2 1. West-asia. Siberia. Persia.

Canaries. — America?

136. *Viola Curtisii*, Forster, and Mackay.

Provinces 1 - - - - 6 7 - 9. Native.

Lat. 50—54. Devon, Carmarthen, Anglesea, Cheshire, Lancash.

Zone 1. Coast-level. Sub-littoral. Cornwall?

Census 4 4 6. Ireland 5? Atlantic type of distribution.

Europe? *V. sabulosa*, in Normandy.

— N.B. Two violets, 'Curtisii' much like a depauperised 'lutea'; and Mackaii (*sabulosa*?) approximating to 'tricolor' in colour.

136. *Viola lutea*, Huds.

Provinces ? - - - 5 to 18. Native. Cornwall?

Lat. 52—58. Glamorgan, Monmouth. — Hebrides, Ross.

Zones ? 2 3 4 5. Highlands to 930 yards. Humber to 830 yds.

Census 14 21 52. Ireland 4. Scottish type of distribution.

Europe - ita - aus ger fra - net. Naples; Nyman Sylloge.

— N.B. Much uncertainty yet remains respecting the affinities of this violet with Continental forms.

138. *Drosera rotundifolia*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4. Highlands to 770 yards. Humber to 750 yards.

Census 18 38 90. Ireland 12. British type of distribution.

Europe all, except Turkey.

Russia - - 4 3 2 1. West-asia. Siberia. Altai. Syria.

— Iceland. America. Columbia.

139. *Drosera intermedia*, Hayne.

Provinces 1 2 3 4 5 6 7 8 9 10 - 12 13 - [15] 16 - [18]. Native.

Lat. 50—57. Cornwall, Dorset, Sussex. — Westernness, Fife?

Zones 1 2 3. Low grounds.

Census 14 24 42. Ireland 6. English type of distribution.

Europe spa ita - aus ger fra cha net den got nor swe.

Russia - - 4 3. West-asia. "Syria."

— America. *D. longifolia* of several english works.

140. *Drosera anglica*, Huds.

Provinces 1 2 - 4 5 6 - - 9 10 11 12 13 14 15 16 17 18. Native.

Lat. 50—60 or 61. Devon, Dorset, Suffolk. — Orkney, Shetland?

Zones 1 2 3 4. Highlands to 580 yards. Humber to 300 yards.

Census 14 25 40. Ireland 10. Scottish type of distribution.

Europe all, except Turkey. *D. longifolia* of Auct. cont.

Russia - - 4 3 2 1. Siberia. Kamtschatka.

— Iceland. America. Columbia. *D. longifolia* of Authors.

141. *Polygala vulgaris*, Auct.

Provinces all ; including *P. depressa*. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4 5. Highlands to 930 yards ; also at 800, 760, etc.  
 Census 18 37 94. Ireland 12. British type of distribution.  
 Europe all, except Lapl. and Finmark. *P. depressa*, in Lapl. etc.  
 Russia 6 5 4 3. West-asia. Siberia.  
 Barbary. Azores. — Faroe. Iceland.

141\*. *Polygala calcarea*, F. Schultz.

Provinces ? 2 3 - 5 [6] Native. Scilly? Carmarthen?  
 Lat. 50—52. Wilts, Dorset, Kent, Surrey, Berks, Gloucester.  
 Zone 1. Low grounds ; also above ?  
 Census 3 5 6. Ireland 0. English-germanic type.  
 Europe - ita - aus ger fra cha. Spain ?  
 — N.B. The European distribution of this plant not satisfactorily  
 made out.

141\*. *Polygala uliginosa*, Reich.

Province - - - - - 10. Native.  
 Lat. 54—55. In North Yorkshire only, as yet known.  
 Zone - - 3. Humber at 550—600 yards ; Baker.  
 Census 1 1 1. Ireland 0. Local-intermediate type.  
 Europe - ita - aus ger fra cha net den got nor swe.  
 Russia ? Finland ; Fries sum. veget. scand.  
 — N.B. Distribution not satisfactorily made out.

142. *Frankenia lævis*, Linn.

Provinces (1) 2 3 4. Native. (11 Durham, on ballast).  
 Lat. 50—53. Wight, Sussex, Kent. — Suffolk, Norfolk.  
 Zone 1. Littoral. Also in South Hants and Essex.  
 Census 3 6 10. Ireland 0. Germanic type of distribution.  
 Europe spa ita tur - fra cha.  
 Russia - 5. West-asia. Tauria ; Boiss. flo. or.  
 Algeria.

143. *Elatine hexandra*, De Cand.

Provinces 1 2 3 - 5 - 7 8 9 - - - - 15 16. Native.  
 Lat. 50—58. Cornwall, Sussex. — Bute, West Perth, Kincard.  
 Zones 1 2 3. Low grounds.  
 Census 9 12 13. Ireland 2. English type of distribution.  
 Europe - ita - aus ger fra cha net - got.  
 Russia? Under *E. Hydropiper*?  
 Azores.

144. *Elatine Hydropiper*, Linn.

Provinces - - 3 - 5 - 7. Native.  
 Lat. 51—54. Surrey, "Worcester," Anglesea.  
 Zone 1. Low grounds.  
 Census 3 3 3. Ireland 1. English-local type.  
 Europe - ita - aus ger fra cha net den got nor swe lap.  
 Russia - - - 3 2. Siberia?  
 — N.B. This and *E. hexandra* are reunited by some authors.

145. *Dianthus prolifer*, L.

Provinces - 2 3 4 [5]. Native?  
 Lat. 50—53. Wight, Sussex, Berks, Norfolk.  
 Zone 1. Low grounds. Middlesex? Worcester?  
 Census 3 4 4. Ireland 0. Germanic type of distribution.  
 Europe spa ita tur aus ger fra cha net den got.  
 Russia 6 5 4 3. West-asia.  
 Algeria. Canaries.

146. *Dianthus Armeria*, Linn.

Provinces 1 2 3 4 5 6 7 - (9) 10 11 12 - (14 15). Native?  
 Lat. 50—55 (or 57). Devon, Wight, Kent. — Cumberl., Durham.  
 Zones 1 2. Low grounds. (Edinburgh, Perth, Forfar).  
 Census 10 16 30. Ireland 0. English type of distribution.  
 Europe spa ita tur aus ger fra cha net den got. (Sweden).  
 Russia 6 5 4 3. West-asia.  
 — (America, introduced).

149. *Dianthus cæsius*, Sm.

Provinces 1 - - - (5) - - [8 - - - 12 - 14]. Native.

Lat. 51—52. North Somerset.

Zone 1. Somerset between 50—250 yards; Thomas Clark.

Census 1 1 1. Ireland 0. Local-atlantic type.

Europe - ita - aus ger fra - net.

— In Europe only, eastward to Transylvania, southward to Lombardy, northward to Belgium.

150. *Dianthus deltoides*, Linn.

Provinces 1 [2] 3 4 5 - 7 8 9 10 11 12 - 14 15 16 - [18]. Native.

Lat. 50—58. Devon, Wight, Kent? — Cantire, Moray.

Zones 1 2 3. Low grounds; anywhere above 200 yards?

Census 14 22 35. Ireland 0. English-intermediate type.

Europe spa ita tur aus ger fra cha net den got nor swe.

Russia - - 4 3 2.

— In Europe southward to Sicily.

151. *Saponaria officinalis*, Linn.

Provinces 1 to 15; usually by former cultivation. Denizen:

Lat. 50—56 or 58. Cornwall, Wight, Kent. — Ayr, Moray.

Zones 1 2 3. Low grounds; by coasts, and near houses.

Census 15 28 50? (Ireland 10). English type of distribution.

Europe spa ita tur aus ger fra cha net den got (nor swe).

Russia 6 5 4 3. West-asia. Siberia.

— (America). The native habitat very uncertain.

152. *Silene inflata*, Sm.

Provinces 1 to 17 [18 also?] Native.

Lat 50—58. Cornwall, Wight, Kent. — Islay, Ross.

Zones 1 2 3. Lakes, Humber, to 300 yards.

Census 17 34 83. Ireland 11. British type of distribution.

Europe all the divisions.

Russia 6 5 4 3 2 1. West-asia. Himalaya. Siberia.

Algeria. Canaries. Azores. — (America).

153. *Silene maritima*, With.

Provinces 1 to 18 ; but no record for province 8. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4 5 6. Highlands to 1060 yds. ; next at “720” yds.  
 Census 17 32 61. Ireland 9. British type of distribution.  
 Europe spa ita - - - fra cha net den got nor - lap fin.  
 Russia - - - 3 or 2. South Finland.  
 Canaries. [Azores?] — Iceland.

154. *Silene Otites*, Linn.

Provinces - - [3] 4 - [6 - - - 10]. Native.  
 Lat. 52—53. Suffolk, Norfolk, Cambridge. [York?]  
 Zone 1. Low grounds.  
 Census 1 3 3. Ireland 0. Germanic type of distribution.  
 Europe spa ita tur aus ger fra cha net den.  
 Russia 6 5 4 3. West-asia. Siberia. Persia.

— .

155. *Silene anglica et gallica*, Auct.

Provinces 1 2 3 4 5 6 7 8 9 10 (11) 12 13 14 15. Native.  
 Lat. 50—58. Cornwall, Wight, Kent. — Ayr, Moray.  
 Zones 1 2 3. Low grounds. Colonist in Scotland?  
 Census 14 26 48. Ireland 7. English type of distribution.  
 Europe spa ita tur aus ger fra cha net got.  
 Russia 6 - 4 3. West-asia. Syria.  
 Algeria. Canaries. Azores.

156. *Silene nutans*, Linn.

Provinces 1 2 3 [4] 5 - 7 8 - 10 - [12] - - 15 - - [18]. Native.  
 Lat. 50—57. Devon, Wight, Kent. — Forfar, Kincardine.  
 Zones 1 2. Low grounds.  
 Census 8 9 15. Ireland 0. English-germanic type.  
 Europe all, except Finmark.  
 Russia 6 5 4 3 2 1. Siberia. Davuria.  
 Canaries.



157. *Silene noctiflora*, Linn.

Provinces - 2 3 4 5 - - 8 9 10 11 - - 14 15. Colonist.  
 Lat. 50—57. South Hants, Sussex, Kent. — Perth, Forfar.  
 Zones 1 2. Low grounds.  
 Census 10 16 32. Ireland 2. English-germanic type.  
 Europe - ita tur aus ger fra - net den got nor swe.  
 Russia 6 5 4 3. West-asia. India. Siberia.  
 — (America, introduced).

158. *Silene conica*, Linn.

Provinces - - 3 4 [5] - - - - - 14 15. Native.  
 Lat. 51—57. Kent, Suffolk, Norfolk, Haddington, Forfar.  
 Zones 1 2. Low grounds.  
 Census 4 5 5. [Ireland]. Germanic-english type.  
 Europe spa ita tur aus ger fra cha net.  
 Russia 6 5 4 3. West-asia. India. Siberia.  
 Algeria.

159. *Silene acaulis*, Linn.

Provinces [1] - - - - - 7 - - - - 12 - - 15 16 17 18. Native.  
 Lat. 53—61. Caernarvon, Westmoreland. — Orkney, Shetland.  
 Zones - - - 4 5 6. Highlands to 1440 yards. Shetland coast.  
 Census 6 11 9. Ireland 3. Highland type of distribution.  
 Europe spa ita - aus ger fra - - - - nor swe lap fin.  
 Russia - - - - 2 1. Siberia. Spitsbergen.  
 — Faroe. Iceland. Greenland. America. Columbia.

160. *Lychnis alpina*, Linn.

Provinces - - - - - 12 - - 15. Native.  
 Lat. 54—58. Cumberland, Forfar.  
 Zone - - - ? 5. Highlands about 1000 yds. Lakes at "2000 ft."  
 Census 2 2 2. Ireland 0. Highland-local type.  
 Europe - ita - aus ger fra - - - - nor swe lap fin.  
 Russia - - - - 2 1. Siberia. Davuria.  
 — Iceland. Greenland. America. Columbia.

161. *Lychnis Viscaria*, Linn.

Provinces - - - - 6 7 - - - - 13 14 15. Native.

Lat. 52—57. Radnor, Montgomery. — Stirling, Perth, Forfar.

Zones - 2 3. North Wales to 300 yards?

Census 5 6 9. Ireland 0. Scottish-intermediate type.

Europe - ita tur aus ger fra cha net den got nor swe.

Russia 6 - 4 3 2. Siberia.

— Iceland; Dr. Lauder Lindsay's list.

160. *Lychnis Flos-cuculi*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4. Highlands to 660 yards; also at 650, 640, etc.

Census 18 38 93. Ireland 12. British type of distribution.

Europe all, except Finmark.

Russia 6 - 4 3 2. Siberia.

— Faroe. Iceland.

163. *Lychnis (dioica) diurna*, Sibth.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4 5. Highlands to 900 yards. Humber to 450 yds.

Census 18 38 90. Ireland 10. British type of distribution.

Europe all, except Turkey.

Russia - - - 3 2 1. Siberia.

— Faroe. Greenland, between 72—76.

164. *Lychnis (dioica) vespertina*, Sibth.

Provinces 1 to 17. Colonist or Native.

Lat. 50—59. Cornwall, Wight, Kent — Ross, Sutherland.

Zones 1 2 3. Highlands to 350 yards. Humber to 250 yards.

Census 16 31 74. Ireland 5. British type of distribution.

Europe spa ita tur aus ger fra cha net den got nor swe.

Russia 6 5 4 3 2 1. West-asia. Siberia.

Algeria.

165. *Lychnis (Agrostemma) Githago*, Lam.

Provinces all. Colonist; but scarcely so in North Isles.  
 Lat. 50—59 (or 61). Cornwall, Wight, Kent. — Ross or Shetl.  
 Zones 1 2 3. Humber to 300 yards.  
 Census 17 33 88. Ireland 12. British type of distribution.  
 Europe spa ita tur aus ger fra cha net den got nor swe (lap).  
 Russia 6 5 4 3 2. West-asia. Siberia. Persia.  
 Algeria. Canaries. — (America, introduced).

166. *Moenchia erecta*, Sm.

Provinces 1 2 3 4 5 6 7 8 9 10 11. Native.  
 Lat. 50—56. Cornwall, Wight, Kent. — York, Cheviotland.  
 Zones 1 2 3. North Wales to 400 yards; Bowman.  
 Census 11 21 43. Ireland 0. English type of distribution.  
 Europe spa ita - aus ger fra cha net.  
 — N.B. Replaced by *M. octandra* in Asia minor.  
 Algeria. — (America, introduced).

167. *Sagina maritima*, Don.

Provinces 1 2 3 4 - 6 7 - 9 10 11 12 13 14 15 16 17 18. Native.  
 Lat. 50—61. Cornwall, Wight, Sussex. — Orkney, Shetland.  
 Zones 1 2 3. Littoral. [Alpine also?]  
 Census 16 28 47. Ireland 9. British type of distribution.  
 Europe spa ita tur aus ger fra cha net den got nor.  
 — N.B. Distribution not sufficiently ascertained; reported south-  
 ward to Sicily, eastward to Greece.

167. *Sagina apetala*, Linn. (in part).

Provinces 1 2 3 4 5 6 7 8 9 10 11 - 13 14 15 - - [18]. Native.  
 Lat. 50—57. Cornwall, Wight, Kent. — Forfar, Kincardine.  
 Zones 1 2. Humber to 300 yards; Baker.  
 Census 14 28 66. Ireland 9. English type of distribution.  
 Europe spa ita tur aus ger fra cha net den.  
 Russia 6 - 4 3. West-asia.  
 Algeria. Canaries. Azores. — (America).

167. *Sagina ciliata*, Fries. *S. apetala*, Auct. var.

Provinces 1 2 3 4 - - 8 - 10 11 - - 14 15. Native.

Lat. 50—57. Cornwall, Wight, Sussex. — Fife, Aberdeen.

Zones 1 2. Low grounds. Distribution ill ascertained.

Census 9 18 24. Ireland 3. English-british type.

Europe - - - aus ger fra cha net - got.

— N.B. Confused with *Sagina apetala*, as well in Britain as in Europe. Likely to be found in Russia.

168. *Sagina procumbens*, Linn.

Provinces all. Native. Clearly distinct from the annual species.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4 5 6. Highlands to 1260 yards; also at 1080, etc.

Census 18 38 96. Ireland 12. British type of distribution.

Europe all.

Russia 6 - 4 3 2 1. West-asia. Himalaya. Siberia.

Algeria. Canaries. Azores. — Far. Icel. Greenl. Am. Col.

169. *Sagina saxatilis*, Wimm. *Spergula saginoides*, L.

Provinces - - - [5 - - - - - 13] - 15 17 [18]. Native.

Lat. 56—59. Perth, Forfar, Aberdeen, Easternness, Sutherland.

Zones - - - 4 5. Highlands to 900 yards. Descends to ... ?

Census 2 4 5. Ireland 0. Highland type of distribution.

Europe spa ita tur aus ger fra - - - - nor swe lap.

Russia 6 - - - 2 1. Siberia. Kamtschatka. [Spitsbergen].

— Faroe, Iceland. Greenland? America. Columbia.

169.\* *Sagina subulata*, Wimm.

Prov. 1 2 3 [4] 5 6 7 - 9 10 11 12 13 14 15 16 17 18. Native.

Lat. 50—61. Cornwall, Wight, Sussex. — Hebrides, Shetland.

Zones 1 2 3 4 5. Highlands to 700 yards, or upwards.

Census 15 25 39. Ireland 4. Scottish-british type.

Europe spa ita - aus ger fra cha net den got nor.

— Absent from Russia and Asia?

— Iceland? Columbia? "Rocky Mountains; Drummond."

170. *Sagina nivalis*, Fries.

Provinces . . . . . 15 16 [17]. Native.  
 Lat. 56—57. Perth, Dumbarton. [Forfar, Skye, Ben Nevis].  
 Zones . . . . 5 6. Altitude not ascertained.  
 Census 2 2 2. Ireland 0. Highland type of distribution.  
 Europe. Norway. Elsewhere?  
 — Spitsbergen; formerly as *Spergula saginoides*.  
 — Greenland; under name of *Spergula saginoides*.

171. *Sagina nodosa*, Meyer. *Spergula nodosa*, L.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Highlands to 510 yards. Humber to 600 yards.  
 Census 18 36 79. Ireland 11. British type of distribution.  
 Europe . . . aus ger fra cha net den got nor swe lap fin.  
 Russia . . 4 3 2 1. Siberia.  
 — Faroe. Iceland. Greenland. America. Columbia.

172. *Spergula arvensis*, Linn.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Highlands to 350 yards. Humber to 350 yards.  
 Census 18 38 93. Ireland 12. British type of distribution.  
 Europe all.  
 Russia 6 - 4 3 2 1. West-asia. India. Siberia.  
 Algeria. Canaries. Azores. — Faroe. Iceland. (Am. Col.)

173. *Honkeneya peploides*, Ehrh.

Provinces all; unless 5 Severn is to be excepted. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Littoral.  
 Census 17 30 58. Ireland 8. British type of distribution.  
 Europe spa . . . ger fra cha net den got nor swe lap fin. Italy?  
 Russia . . . 3 2 1. Siberia. Kamtsc. Spitsbergen. Adriatic?  
 — Faroe. Iceland. Greenland. America. Columbia.

174. *Spergularia* (or *Lepigonum*) *marina*, Auct.

Provinces all. Native. Several segregates included.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Littoral. Localities of segregates much confused.  
 Census 18 33 60. Ireland 9. British type of distribution.  
 Europe all, except Finmark.  
 Russia 6 5 4 3 2. West-asia. "Himalaya."  
 Algeria. Egypt. Canaries. Azores? — Greenl. Am. Col.

175. *Spergularia* (or *Lepigonum*) *rubra*, Auct.

Provinces all. Native; but rather a Colonist in North Britain.  
 Lat. 50—60. Cornwall, Wight, Kent. — Ross, Orkney.  
 Zones 1 2 3. Humber to 200 yards.  
 Census 18 32 72. Ireland 2. British-english type.  
 Europe spa ita tur aus ger fra cha net den got nor swe.  
 Russia 6 - 4 3 2. West-asia. India. Siberia.  
 Algeria. Canaries. Azores. — Greenland?? Am. Col.

177. *Arenaria norvegica*, Gunn.

Provinces ----- 18. Native.  
 Lat. 60—61. Shetland only. ["Orkney," erroneously].  
 Zone - - 3 or 4. Altitude about "200 feet" above the sea.  
 Census 1 1 1. Ireland 0. Scottish-local type.  
 Europe Norway. Lapland. Finmark. Italy??  
 — N.B. *A. ciliata* is distributed from Crete to Arctic Russia. *A. norvegica*, true, occurs in Iceland; Bab. list.

178. *Arenaria serpyllifolia*, Linn.

Provinces all. Native. *A. leptocladus*, a slight var., is included.  
 Lat. 50—60. Cornwall, Wight, Kent. — Hebrides, Orkney.  
 Zones 1 2 3. Humber to 650 yards. Lakes to 450 yards.  
 Census 18 37 87. Ireland 8. British type of distribution.  
 Europe all, except Finmark.  
 Russia 6 5 4 3. West-asia. Himalaya. Siberia.  
 Algeria. Canaries. — Iceland; Hooker list. (America).

179. *Arenaria tenuifolia*, Linn.

Provinces 1 2 3 4 5 - 7 8 - 10 - - - [14 15]. Native.  
 Lat. 50—55. Cornwall, Sussex, Kent. — Anglesea, York.  
 Zones 1 2. Humber to 300 yards; Baker.  
 Census 7 16 26. Ireland 0. English type of distribution.  
 Europe spa ita tur aus ger fra cha net den got.  
 Russia 6 5 4 3. West-asia. India. Siberia.  
 Algeria. — N.B. *A. viscosa* included for 'den got.'

180. *Arenaria verna*, Linn.

Provinces 1 [2] - - 5 6 7 8 9 10 11 12 13 14 15 - - 18. Native.  
 Lat. 50—61. Cornwall, Somerset, Stafford. — Aberdeen, Shetl.  
 Zones 1 2 3 4 5. Highlands to 850 yards. Humber to 830 yds.  
 Census 13 16 27. Ireland 3. Scottish-intermediate type.  
 Europe spa ita tur aus ger fra - net. Belgium.  
 Russia 6? Caucasus? Siberia? The British form?  
 Algeria. — Greenland? America. Columbia.

181. *Arenaria rubella*, Hook.

Provinces - - - - - 15 17. Native.  
 Lat. 56—59. Mid Perth, West Sutherland.  
 Russia - - - - 5 6. Highlands 850—1300 yards.  
 Census 2 2 2. Ireland 0. Highland type of distribution.  
 Europe. Norway. Nordland. Dwarfed *A. verna*?  
 Russia - - - - 1. Siberia. Kamtschatka. Spitsbergen.  
 — Iceland. Greenland. America. Columbia.

181\*. *Arenaria uliginosa*, Schl.

Province - - - - - 11. Native.  
 Lat. 54—55. Durham; G. S. Gibson sp.  
 Zone - - 3 or 4. A single station, "about 1800 feet."  
 Census 1 1 1. Ireland 0. Local-intermediate type.  
 Europe - ita - - ger fra - - - - nor swe lap.  
 Russia - - - - 1. Siberia, middle and eastern.  
 — Greenland; J. D. Hooker distrib. of arctic plants.

182. *Arenaria* (or *Mœhringia*) *trinervia*, Linn.

Provinces 1 to 15 - 17. Native.

Lat. 50—58. Cornwall, Wight, Kent. — Moray, Ross.

Zones 1 2 3. Humber to 300 yards.

Census 16 32 76. Ireland 10. British-english type.

Europe all, except Finmark.

Russia 6 5 4 3 2. West-asia. Siberia.

Canaries, a variety. — Greenland ; Gisecke list.

183. *Holosteum umbellatum*, Linn.

Province - - - 4. Denizen or Native ?

Lat. 52—53. Suffolk, perhaps extinct, and Norfolk.

Zone 1. Coast-level, or low grounds.

Census 1 2 2. Ireland 0. Local-germanic type.

Europe spa ita tur aus ger fra cha net den got.

Russia 6 5 4 3. West-asia. India.

Algeria.

184. *Stellaria nemorum*, Linn.

Provinces [1 3] - 5 6 7 8 9 10 11 12 13 14 15 16. Native.

Lat. 51—58. Glamorgan, Monmouth. — Dumbarton, Moray.

Zones ? 2 3. Humber 50—400 yards ; Baker.

Census 12 18 35. Ireland 0. Scottish-intermediate type.

Europe - ita - aus ger fra - net den got nor swe lap fin.

Russia - - 4 3 2 1. Caucasus, dubia civis ; Boiss. flo. or.

— N.B. *Cerastium aquaticum* occasionally thus misnamed.

185. *Stellaria media*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4 5. Highlands to 900 yards ; also at 830, 530, etc.

Census 18 38 98. Ireland 12. British type of distribution.

Europe all. Segregately named, through diversities of situation.

Russia 6 5 4 3 2 1. West-asia. Himalaya. Siberia. Kamtsc.

Algeria. Canaries. Azores. — Far. Ice. Gre. (Am. Col.)



186. *Stellaria Holostea*, Linn.

Provinces all.

Lat. 50—60. Cornwall, Wight, Kent. — Sutherland, Orkney.

Zones 1 2 3 4. Highlands to 630 yards; also at 600, 430, etc.

Census 18 35 86. Ireland 11. British type of distribution.

Europe spa ita tur aus ger fra cha net den got nor. Sweden?

Russia 6 - 4 3 2. West-asia. Siberia?

— .

187. *Stellaria glauca*, With.

Provinces 1 2 3 4 5 - 7 8 9 10 11 12 13 14 15. Native.

Lat. 50—57. Devon, Dorset, Sussex. — Renfrew, Fife.

Zones 1 2. Low grounds.

Census 14 25 45. Ireland 5. English-british type.

Europe - ita - aus ger fra cha net den got nor swe.

Russia - - 4 3 2. West-asia. India. Siberia.

— Greenland?? “Disco Island, Dr. Lyall;” J. D. Hooker.

188. *Stellaria graminea*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Highlands to 410 yards. Humber to 500 yards.

Census 18 36 90. Ireland 11. British type of distribution.

Europe all.

Russia 6 5 4 3 2 1. Himalaya. Siberia.

“Madeira.” — Faroe. Iceland; Mr. Isaac Carroll.

189. *Stellaria uliginosa*, Murray.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4 5 6. Highlands to 1100 yards; also at 1060, etc.

Census 18 38 86. Ireland 12. British type of distribution.

Europe all.

Russia 6 - 4 3 2. Himalaya. Siberia.

Canaries. — Faroe. Greenland. America. Columbia.

190. *Stellaria cerastioides*, Linn.

Provinces - - - - - 15 16. Native.

Lat. 56—58. Perth, Aberdeen, Easternness, Westernness.

Zone - - - - 6. Highlands at 900—1260 yards.

Census 2 4 4. Ireland 0. Highland type of distribution.

Europe spa ita tur aus ger fra - - - - nor swe lap fin.

Russia 6 - - - 2 1. West-asia. Mid-asia. Siberia. Spitsbergen.

— Faroe. Iceland. Greenland. *Cerastium trigynum*, E. B. 3.

191. *Cerastium aquaticum*, Linn.

Provinces 1 2 3 4 5 6 7 8 9 10 - - [13 14 15 - - 18]. Native.

Lat. 50—55. Cornwall? Wight, Kent. — North Yorkshire.

Zones 1 2. Low grounds. Does it occur in Scotland?

Census 10 22 46. Ireland? English type of distribution.

Europe spa ita tur aus ger fra cha net den got (nor) swe.

Russia 6 5 4 3 2. West-asia. Siberia.

Algeria. *Stellaria aquatica*, Eng. bot. ed. 3.

192. *Cerastium glomeratum*, Thuil.

Provinces all. Native. *C. vulgatum*, Anglor.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Highlands to 350 yards. Lakes to 350 yards.

Census 18 38 90. Ireland 10. British type of distribution.

Europe all, except Finmark. *C. viscosum*, Auct. plur.

Russia 6 5 4 3 2 1. West-asia. Himalaya. Siberia?

Algeria. Canaries. Azores. — Far. Icel. Greenl. (Am. Col.)

193. *Cerastium triviale*, Link.

Provinces all. Native. *C. viscosum*, Anglor.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4 5 6. Highlands to 1200 yards; also at 1080, etc.

Census 18 38 99. Ireland 10. British type of distribution.

Europe all. *C. vulgatum*, Auct. plur. [Spitsbergen].

Russia 6 5 4 3 2 1. West-asia. Himalaya. Siberia. Kamtsch.

Barbay? Canaries. Azores. — Far. Ice. Gre. Am. Col.

191. *Cerastium semidecandrum*, Linn.

Provinces 1 to 15 - - [18]. Native.

Lat. 50—58. Cornwall, Wight, Kent. — Isla, Moray.

Zones 1 2 3. Humber to 300 yards.

Census 15 31 69. Ireland 7. British-english type.

Europe - ita tur aus ger fra cha net den got nor swe.

Russia 6 5 4 3 2.

Barbary. — Faroe? America?

194.\* *Cerastium tetrandrum*, Curt.

Provinces 1 to 16 - 18. Native. *C. pumilum*, in - 2 3 - 5.

Lat. 50—61. Cornwall, Wight, Sussex. — Orkney, Shetland.

Zones 1 2 3. Low grounds.

Census 17 28 46. Ireland 8. British type of distribution.

Europe spa ita - aus - fra cha net den got.

— N.B. Mr. A. G. More places *C. pumilum* under this, rather than as a variety of *C. semidecandrum*. “Madeira.”

195. *Cerastium arvense*, Linn.

Provinces - 2 3 4 5 7 8 9 10 11 12 13 14 15 - - [18]. Native.

Lat. 51—58. Hants, Sussex, Kent. — Kirkcudbright, Moray.

Zones 1 2 3. Humber to 250 yards.

Census 13 25 49. Ireland 5. British-english type.

Europe spa ita tur aus ger fra cha net den got nor. (Sweden).

Russia 6 - 4 3 2. Himalaya. Siberia.

Canaries. — America. Columbia. “South America.”

196. *Cerastium alpinum*, Linn.

Provinces - - - - - 7 [8] - - - 12 - - 15 16 17 [18]. Native.

Lat. 53—59. Carnarvon, Westmoreland. — Sutherl. [Orkney?]

Zones - - - - 5 6. Highlands 800—1300 yards.

Census 5 6 9. Ireland 0. Highland type of distribution.

Europe spa ita tur aus ger fra - - - - nor swe lap fin.

Russia - - - - 2 1. Siberia. Spitsbergen.

— Faroe. Iceland. Greenland. America. Columbia.

197. *Cerastium latifolium*, Auct.

Provinces - - - - - 7 - - - - - 15 16 17 18. Native.  
 Lat. 53—61. Carnarvon. — Sutherland. *C. nigrescens* in Shetl.  
 Zones - - - 4 5 6. Highlands 1000—1210 yds. Shetl. “200 ft.”  
 Census 5 7 10. Ireland 0. Highland type of distribution.  
 Europe - ita - aus ger fra - - - - nor - lap.  
 Russia 6. — N.B. An unsatisfactory species.  
 — Faroe. Iceland. Greenland. America.

198. *Cherleria sedoides*, Linn.

Provinces - - - - - 15 16 17 [18]. Native.  
 Lat. 56—59. Argyle, Perth, Forfar. — Sutherland.  
 Zones - - - - 5 6. Highlands 850—1310 yards. Lower also?  
 Census 3 6 ¶6. Ireland 0. Highland type of distribution.  
 Europe - ita tur aus ger fra.  
 — N.B. Area limited; the plant being reported to grow on the  
 Alps, Pyrenees, Carpathians, Parnassus.

200. *Linum perenne*, Linn.

Provinces [1 2] 3 4 [5] - - 8 - 10 11 [12 - 14]. Native.  
 Lat. 52—55. North Essex, Suffolk. — Durham, Westmoreland?  
 Zones 1 2 3. Humber to 250 yards.  
 Census 5 9 12. [Ireland]. Germanic type of distribution.  
 Europe - ita - aus ger fra. [“Channel Isles.”]  
 Russia - - 4 3. West-asia. India? Siberia. Kamtschatka.  
 — America. Columbia. The European species?

201. *Linum angustifolium*, Huds.

Provinces 1 2 3 4 [5] 6 7 [8] 9 [10] 12. Native.  
 Lat. 50—55. Cornwall, Wight, Kent. — Man, Lancashire.  
 Zones 1 2. Low grounds.  
 Census 8 13 22. Ireland 4. Atlantic-english type.  
 Europe spa ita tur aus - fra cha. Channel Isles.  
 Russia 6. West-asia. “*L. marginatum*, flo. ross.”  
 Algeria. Canaries.

202. *Linum catharticum*, Linn.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4 5. Highlands to 800 yds. Humber to 700 yds.  
 Census 18 38 97. Ireland 11. British type of distribution.  
 Europe all, except Finmark.  
 Russia 6 - 4 3 2. West-asia. Persia.  
 Canaries; Boissier. — Faroe. Iceland.

203. *Radiola millegrana*, Sm.

Provinces 1 to 18; except 14, East Lowlands. Native.  
 Lat. 50—60. Cornwall, Wight, Kent. — Sutherland, Orkney.  
 Zones 1 2 3. Low grounds; rather uncommon.  
 Census 17 31 65. Ireland 7. British type of distribution.  
 Europe spa ita tur aus ger fra cha net den got nor.  
 Russia - - 4 3. West-asia.  
 Algeria. Canaries.

204. *Malva moschata*, Linn.

Provinces 1 to 15 (16). Native. Alien in North Britain?  
 Lat. 50—56 or 57. Cornwall, Wight, Kent. — Lowl.? Highl.?  
 Zones 1 2 ? Humber to 300 yards.  
 Census 15 31 73. Ireland 8. English-british type.  
 Europe spa ita - aus ger fra cha net den got.  
 Russia - - - 3. Lithuania only, by Led. flo. ross.  
 — N.B. Occurs in Scotland, perhaps native in Lowlands.

205. *Malva sylvestris*, Linn.

Provinces 1 to 16 (17). Native. Alien in North Britain?  
 Lat. 50—57 or 58. Cornwall, Wight, Kent. — Isla, (Ross).  
 Zones 1 2 3. Humber to 250 yards.  
 Census 16 33 80. Ireland 12. British-english type.  
 Europe spa ita tur aus ger fra cha net den got nor (swe).  
 Russia 6 5 4 3. West-asia. Siberia.  
 Algeria. Lybia. — (America).

206. *Malva rotundifolia*, Linn.

Provinces 1 to 15 ; except 14, East Lowlands? Native.  
 Lat. 50—58. Cornwall, Wight, Kent. — Aberdeen, Elgin.  
 Zones 1 2 3. Humber to 200 yards.  
 Census 14 28 68. Ireland 8. British-english type.  
 Europe spa ita tur aus ger fra cha net den got nor (swe).  
 Russia 6 5 4 3. West-asia. India. Siberia.  
 Barbary. Canaries? Azores? — (America).

208. *Althæa officinalis*, Linn.

Provinces 1 2 3 4 5 6 - 8 (9 10 11 12 13 - - 16). Native.  
 Lat. 50—56. Cornwall? Wight, Kent. — S.Wales, Lincoln.  
 Zones 1 2. Low grounds, or coast-level only.  
 Census 7 15 20. Ireland 4. English type of distribution.  
 Europe spa ita tur aus ger fra cha net den. (Gothland).  
 Russia 6 5 4 3. West-asia. Siberia.  
 Algeria. — (America, introduced).

210. *Lavatera arborea*, Linn.

Provinces 1 2 (3 4) - 6 7 - - - [11] 12 13 (14 15). Native.  
 Lat. 50—56. Cornwall, Dorset — Man, Ailsa Craig. (Fife?).  
 Zones 1 2. Coast cliffs ; but often from gardens?  
 Census 6 9 12. Ireland 6. Atlantic type of distribution.  
 Europe spa ita tur aus - fra cha. Channel Isles.  
 N.B. Eastward to Greece ; but not in Russia or Asia?  
 “North Africa, Canaries;” Boiss. flo. or. (Algeria, introduced).

211. *Tilia (europæa) parvifolia*, Ehrh.

Provinces 1 2 3 (4) 5 6 7 8 9 10 (11) 12 - (14). Native?  
 Lat. 50—55. Devon, Wight, Kent. — Cumberland, York.  
 Zones 1 2. Humber to 200 yards, “native;” Baker.  
 Census 10 18 24. (Ireland). English type of distribution.  
 Europe spa ita - aus ger fra cha net den got nor swe.  
 Russia 6 5 4 3 2. Siberia.  
 — Apparently the *T. europæa* of various authors.

213. *Tilia grandifolia*, Ehrh.

Provinces (- 2 3 4) 5 - (7 8 9) 10 (11 - - 14 15). Denizen?

Lat. 51—55. Gloucester, Worcester, Warwick, York.

Zones 1 2. Low grounds, and hill-sides.

Census 2 3 5. (Ireland). English-local type.

Europe spa ita tur aus ger fra (cha net den got).

Russia 6 - 4 3.

— Difficult to know where really indigenous.

214. *Hypericum Androsæmum*, Linn.

Provinces 1 2 3 4 5 6 7 8 9 10 (11) 12 13 (14 15) 16 17. Native.

Lat. 50—58. Cornwall, Wight, Kent. — Skye, Ross.

Zones 1 2 3. Low grounds. (Perthshire?)

Census 14 27 64. Ireland 12. Atlantic-british type.

Europe spa ita tur aus ger fra cha net. Belgium.

Russia 6. West-asia. “Pontus and North Persia.”

Algeria.

215. *Hypericum perforatum*, Linn.

Provinces 1 to 15 - 17 (18). Native.

Lat. 50—58. Cornwall, Wight, Kent. — Elgin, Ross.

Zones 1 2 3. Humber to 300 yards. Lakes to 250 yards.

Census 16 33 82. Ireland 12. British type of distribution.

Europe all, except Finmark.

Russia 6 5 4 3 2. West-asia. Himalaya. Siberia.

Algeria. Canaries. Azores. — Faroe. (America).

216. *Hypericum (quadrangulum) dubium*, Leers.

Provinces 1 to 16. Native.

Lat. 50—57. Cornwall, Hants, Sussex. — Argyle, Perth:

Zones 1 2 ? Humber to 250 yards.

Census 16 27 56. Ireland 6. English-british type.

Europe all, except Turkey and Finmark.

Russia - - 4 3 2. Siberia.

— Faroe.

216. *Hypericum* (quadr.) *bæticum*, Boiss.

Province 1. Native. Only recently distinguished.

Lat. 50—51. Cornwall, Devon.

Zone 1. Low grounds.

Census 1 2 3. Ireland 0. Atlantic type of distribution.

Europe spa ita. France? Area not clearly made out, because  
the species was long confused with *H. tetrapterum*.

Africa. Canaries. Azores. *H. undulatum*?

216 (217). *Hypericum* (quadr.) *tetrapterum*, Fries.

Provinces 1 to 17. Native.

Lat. 50—58. Cornwall, Wight, Kent — Moray, Ross.

Zones 1 2 3. Humber to 400 yards. Lakes to 300 yards.

Census 17 31 84. Ireland 12. British-english type.

Europe spa ita tur aus ger fra cha net den got. Loffoden?

Russia 6 - 4 3. West-asia.

[Canaries. Azores. Misnomers for *H. bæticum*?]

218. *Hypericum* *humifusum*, Linn.

Provinces 1 to 16. Native.

Lat. 50—58. Cornwall, Wight, Kent. — Westernness, Moray.

Zones 1 2 3. Humber to 300 yards. Highlands to 150 yards.

Census 16 33 81. Ireland 12. British-english type.

Europe spa ita - aus ger fra cha net den got

Russia - 5 3.

Canaries. Azores.

219. *Hypericum* *linarifolium*, Vill.

Province 1. Native.

Lat. 50—51. Cornwall, Devon.

Zone 1. Low grounds.

Census 1 2 3. Ireland 0. Atlantic type of distribution.

Europe spa ita tur - - fra cha.

— N.B. Eastward to Greece? Not in Asia.

Canaries.



220. *Hypericum pulchrum*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4. Highlands to 750 yds.; also at 700, 680, etc.

Census 18 38 98. Ireland 11. British type of distribution.

Europe spa ita tur aus ger fra cha net den (got) nor.

Russia - - - 3. Lithuania only; by Led. flo. ros.

— Faroe. Gothland, “sporadica seu inquilina;” Fries.

221. *Hypericum hirsutum*, Linn.

Provinces 1 to 15 - 17. Native.

Lat. 50—58. Devon, Wight, Kent. — Banff, Ross.

Zones 1 2 3. Humber to 450 yards. Lakes to 300 yards.

Census 16 31 73. Ireland 2. British-english type.

Europe spa ita tur aus ger fra cha net den (got) nor swe.

Russia 6 5 4 3. West-asia. Siberia.

— N.B. Gothland, “sporadica seu inquilina;” Fries sum. veg.

222. *Hypericum montanum*, Linn.

Provinces 1 to 12 [13]. Native.

Lat. 50—56. Cornwall? Wight, Kent. — Cumberland, Durham.

Zones 1 2. Humber to 200 yards.

Census 12 20 35. Ireland 1? English type of distribution.

Europe spa ita tur aus ger fra cha net den got (nor) swe.

Russia - - 4 3. West-asia. Caucasus, a variety.

Algeria. Norway, “sporadica seu inquilina;” Fries.

223. *Hypericum elodes*, Linn.

Provinces 1 2 3 4 5 6 7 8 9 10 12 13 - - 16 - 18. Native.

Lat. 50—60. Cornwall, Wight, Kent. — Argyle, Orkney.

Zones 1 2 3. Humber to 250 yards. Wales to “1000 feet.”

Census 14 28 52. Ireland 10. Atlantic-english type.

Europe spa - - - ger fra cha net.

Russia? Simbirsk; Lepech. in flo. ros.

Azores; T. C. Hunt!

225. *Acer campestre*, Linn.

Provinces 1 2 3 4 5 6 7 8 9 10 11 (12 13 14 15 16). Native.

Lat. 50—55. Devon, Wight, Kent. — York, Durham.

Zones 1 2 ? Humber to 300 yards.

Census 11 23 56. Ireland 3 (and 2). English type.

Europe spa ita tur aus ger fra cha net den got.

Russia 6 5 4 3. West-asia.

— Is it native anywhere in Scotland?

227. *Erodium maritimum*, Sm.

Provinces 1 2 3 [4] 5 6 7 8 [9] - - 12 13. Native.

Lat. 50—55. Cornwall, Wight, Kent. — Wigton, Cumberland.

Zones 1 2. Low grounds. Littoral; rarely inland.

Census 9 15 28. Ireland 6. Atlantic-english type.

Europe - ita - - - fra cha.

— N.B. Reported to grow also in Turkey, Greece, and Egypt;  
but not admitted into 'Flora Orientalis.'

228. *Erodium cicutarium*, Auct.

Provinces all. Native. Two or three varieties included.

Lat. 50—59. Cornwall, Wight, Kent. — Hebrides, Sutherland.

Zones 1 2 3. North Wales to 400 yards; Edwin Lees.

Census 18 36 88. Ireland 9. British type of distribution.

Europe spa ita tur aus ger fra cha net den got nor swe.

Russia 6 5 4 3 2. West-asia. India. Siberia.

Algeria. Canaries. (America). "Columbia."

228\*. *Erodium moschatum*, Sm.

Provinces 1 2 (3 4) 5 6 (7 8 9 10) - [12 - 14]. Native.

Lat. 50—52 (or 54). Cornwall, Dorset. — Pembroke, Anglesea?

Zone 1. Littoral. Inland, but not wild there?

Census 4 6 8. Ireland 7. Atlantic type of distribution.

Europe spa ita tur aus ger fra cha net. (Scandinavia).

Russia? West-asia.

Algeria. Canaries. Azores.

230. *Geranium sylvaticum*, Linn.

Prov. [1 - 3 4] 5 - - 8 9 10 11 12 13 14 15 16 17 [18]. Native.  
 Lat. 52—58. Worcester, Warwick. — Westernness, East Ross.  
 Zones 1 2 3 4 5. Highlands to 900 yards; also at 760, 750, etc.  
 Census 11 16 37. Ireland 1. Scottish type of distribution.  
 Europe all, except the Channel section.  
 Russia 6 - 4 3 2 1. West-asia. Siberia.  
 Barbary? — Faroe. Iceland.

231. *Geranium pratense*, Linn.

Provinces 1 to 16. Native.  
 Lat. 50—58. Cornwall, Dorset, Sussex. — Isla, Banff.  
 Zones 1 2 3 4. Highlands to “600 yards.”  
 Census 16 31 69. Ireland 1. British-english type.  
 Europe spa ita tur aus ger fra cha net (den got) nor swe lap.  
 Russia 6 - 4 3 Siberia. “Iberia, Constantinople.”  
 — Faroe? Iceland; Hooker list, from Zoega.

232. *Geranium pyrenaicum*, Linn.

Provinces 1 2 3 4 5 6 7 [8] - 10 (11 12 - 14 15 16). Denizen.  
 Lat. 50—55. Devon, Dorset, Surrey. — Denbigh, York.  
 Zones 1 2. Humber to 100 yards, “native;” Baker.  
 Census 8 16 31. Ireland 7. English type of distribution.  
 Europe spa ita tur aus ger fra cha net (den got - swe).  
 Russia 6 5 4 3. West-asia. India.  
 Algeria.

233. *Geranium rotundifolium*, Linn.

Provinces 1 2 3 4 5 [6 7 8 9 10, (11) 12 - 14]. Native.  
 Lat. 50—53. Devon, Wight, Kent. — Gloucester, Suffolk.  
 Zone 1. Low grounds. Many erroneous records.  
 Census 5 10 16. Ireland 2. English type of distribution.  
 Europe spa ita tur aus ger fra cha net.  
 Russia 6 - 4 3 2. West-asia. India. Siberia.  
 Algeria. Canaries. Azores; Drouet flore.

234. *Geranium pusillum*, Linn.

Provinces 1 to 15. Native.

Lat. 50—58. Cornwall, Wight, Kent. — Moray, Banff.

Zones 1 2 3. Humber to 250 yards.

Census 15 29 63. Ireland 2. English-british type.

Europe - ita - aus ger fra cha net den got nor swe.

Russia 6 5 4 3 2. West-asia. Cyprus, Syria.

Algeria. — (America, introduced).

235. *Geranium molle*, Linn.

Provinces all. Native. Two forms.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Lakes, Humber, to 500 yards. Highl. 350 yards.

Census 18 38 95. Ireland 12. British type of distribution.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3. West-asia.

Algeria. Canaries. Azores.

236. *Geranium dissectum*, Linn.

Provinces 1 to 17. Native.

Lat. 50—58. Cornwall, Wight, Kent. — South-east Sutherland.

Zones 1 2 3. Lakes, Humber, to 300 yards. Highl. 150 yards.

Census 17 35 88. Ireland 11. British type of distribution.

Europe spa ita tur aus ger fra cha net den got nor (swe).

Russia 6 5 4 3. West-asia. Siberia.

Algeria. Canaries. Azores. — (America).

237. *Geranium columbinum*, Linn.

Provinces 1 to 16. Native.

Lat. 50—57. Cornwall, Wight, Kent. — Dumbarton, Forfar.

Zones 1 2. Humber to 250 yards; Baker.

Census 16 29 56. Ireland 6. English-british type.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3. Siberia.

Algeria.

238. *Geranium lucidum*, Linn.

Provinces 1 to 17 [18]. Native.

Lat. 50—58. Cornwall, Wight, Kent. — Moray, Ross.

Zones 1 2 3. Humber to 500 yards. Lakes to 300 yards.

Census 17 30 71. Ireland 11. British-english type.

Europe all, except Lapland and Finmark.

Russia 6 5 - 3. West-asia. India. Siberia.

Barbary. Canaries.

239. *Geranium Robertianum*, Linn.

Provinces all. Native. Two or three segregated forms.

Lat. 50—60. Cornwall, Wight, Kent. — Sutherland, Orkney.

Zones 1 2 3 4. Humber to 650 yards. Highlands to 530 yards.

Census 18 36 98. Ireland 12. British type of distribution.

Europe all, except Finmark.

Russia 6 5 4 3 2. West-asia. India. Siberia.

Algeria. Canaries. Azores. — America.

240. *Geranium sanguineum*, Linn.

Provinces 1 to 17. Native. *G. lancastriense* in 12 only?

Lat 50—58. Cornwall, Wight, Kent. — Moray, Ross.

Zones 1 2 3. Highlands to 400 yards? Lakes to 300 yards.

Census 17 28 48. Ireland 6. British type?

Europe spa ita tur aus ger fra cha net den got nor swe.

Russia 6 5 4 3. West-asia. — N.B. Three forms, the intermediate one being of late confused with true *Lancastriense*.

242. *Impatiens Noli-me-tangere*, Linn.

Provinces (1 2 3 4 5) - 7 (8 9 10 11) 12 (13 14 15). Native?

Lat. 52—55. Montgomery, Merioneth, Westmoreland, Cumberl.

Zone ? 2. Is it truly wild in Somerset and Lancashire?

Census 2 2 4. Ireland 0. Local or doubtful type.

Europe - ita - aus ger fra cha net den got nor swe lap.

Russia 6 - 4 3 2. West-asia. Siberia. Davuria.

— N.B. Much mis-reported; but it may be native in England.

243. *Oxalis Acetosella*, Linn.

Provinces all. Native. (Summer flowers apetalous, as in *Viola*).  
 Lat. 50—60. Cornwall, Wight, Kent. — Hebrides, Orkney?  
 Zones 1 2 3 4 5 6. Highlands to 1300 yds. Lakes to 1020 yds.  
 Census 18 37 91. Ireland 12. British type of distribution.  
 Europe all, except Finmark.  
 Russia 6 - 4 3 2 1. West-asia? Himalaya. Siberia.  
 Algeria. — Faroe. America. Columbia.

245. *Euonymus europæus*, Linn.

Provinces 1 to 14 (15). Native.  
 Lat. 50—56. Cornwall, Wight, Kent. — Lanark? Edinburgh.  
 Zones 1 2. Humber to 250 yards.  
 Census 14 28 65. Ireland 10. English type of distribution.  
 Europe spa ita tur aus ger fra cha net den got nor.  
 Russia 6 5 4 3. Western Siberia.  
 Algeria. N.B. Kirkcudbright perhaps the true limit.

246. *Rhamnus catharticus*, Linn.

Provinces 1 to 12 (13 - 15 16). Native.  
 Lat. 50—55. Dorset, Wight, Kent. — Westmoreland, Durham.  
 Zones 1 2. Humber to 250 yards.  
 Census 12 22 49. Ireland 7. English type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 2. Siberia.  
 Algeria. — (America, used for hedges, locally naturalised).

247. *Rhamnus Frangula*, Linn.

Provinces 1 2 3 4 5 6 7 8 9 10 - 12 13 - 15 17. Native.  
 Lat. 50—58. Cornwall, Wight, Kent. — Ayr, Elgin.  
 Zones 1 2 3. Low grounds. Is it native in Scotland?  
 Census 13 25 40. Ireland 5. English type of distribution.  
 Europe all, except Finmark.  
 Russia 6 - 4 3 2. Siberia. Constantinople.  
 Algeria.

248. *Sarothamnus scoparius*, Koch.

Provinces 1 to 17. (Introduced to 18, Orkney).

Lat. 50—59. Cornwall, Wight, Kent. — Sutherland.

Zones 1 2 3 4. Highlands to 660 yards; also at 600, 570, etc.

Census 17 35 93. Ireland 12. British type of distribution.

Europe spa ita - aus ger fra cha net den got.

Russia - - 4 3. Siberia.

(Canaries. Azores).

249. *Ulex europæus*, Linn.

Provinces 1 to 17. (Sown in 18, Orkney).

Lat. 50—58. Cornwall, Wight, Kent. — Ross or Sutherland.

Zones 1 2 3. Wales to 700 yards. Humber to 400 yards.

Census 17 35 94. Ireland 12. British type of distribution.

Europe spa ita - - ger fra cha net den. (Gothland).

Russia? Caucasus; Georgi in flo. ros.

(Canaries. Azores). Greece; Chaub. flo. pel.

250. *Ulex nanus*, Forster.

Provinces 1 to 13 [14 15]. Native. U. Gallii included.

Lat. 50—55. Cornwall, Wight, Kent. — Ayr, Northumberland.

Zones 1 2. Lakes to 250 yards. Humber to 200 yards.

Census 13 26 53. Ireland 9. English type of distribution.

Europe spa - - - fra cha net. U. Gallii in France.

— N.B. U. Gallii, of Planchon, is likely the more frequent form in Britain, and more widely distributed.

251. *Genista tinctoria*, Linn.

Provinces 1 to 14. Native.

Lat. 50—56. Cornwall, Wight, Kent. — Wigton, Edinburgh.

Zones 1 2. Lakes to 250 yards. Humber to 200 yards.

Census 14 27 63. Ireland 1. English type of distribution.

Europe spa ita tur aus ger fra cha net den got.

Russia 6 5 4 3. Siberia.

— (America, introduced).

252. *Genista pilosa*, Linn.

Provinces 1 2 3 4 5 6 [7]. Native. Extinct in 3 and 5?  
 Lat. 50—53. Cornwall, Sussex, Kent. — Pembroke, Suffolk.  
 Zone 1. Low grounds; and quite rare.  
 Census 6 6 6. Ireland 0. English type of distribution.  
 Europe spa ita tur aus ger fra cha net den got.  
 Russia - 5 - 3.  
 — N.B. Found by Mr. Borrer in province 5, Worcestershire.

253. *Genista anglica*, Linn.

Provinces 1 to 17. Native.  
 Lat. 50—58. Cornwall, Wight, Kent. — Westernness, Ross.  
 Zones 1 2 3 4. Highlands to 730 yards; also at 720, 710, etc.  
 Census 17 33 77. Ireland 0. British-english type.  
 Europe - - - ger fra cha net den. Italy?  
 — The isolated habitat of Aspromonte, in Calabria, is recorded  
 by Bertoloni, in *Flora Italica*.

254. *Ononis arvensis*, “Linn.”

Provinces 1 to 17. Native.  
 Lat. 50—59. Cornwall, Wight, Kent. — Ross, Sutherland.  
 Zones 1 2 3. Lakes to 300 yards. Humber to 250 yards.  
 Census 17 35 86. Ireland 8. British type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia - - 4. India?  
 (Azores). N.B. Includes *O. repens* of several authors.

255. *Ononis spinosa*, “Linn.” Auct.

Provinces 1 to 16. Native. Much confused with *O. arvensis*.  
 Lat. 50—57. Cornwall, Wight, Kent. — Dumbarton, Forfar.  
 Zones 1 2. Low grounds.\*  
 Census 16 30 58. Ireland? English-british type.  
 Europe spa ita tur aus ger fra cha net den. Sweden; Wahl.  
 Russia 6 4 3.2. West-asia. “Palestine.”  
 — N.B. Synonyms and habitats unsatisfactory.



257. *Anthyllis vulneraria*, Linn.

Provinces all. Native. Irregularly distributed.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4 5. Highlands to 800 yards. Humber to 600 yds.  
 Census 18 38 87. Ireland 11. British type of distribution.  
 Europe all.  
 Russia 6 5 4 3 2 1. West-asia.  
 Algeria. — Iceland; Hooker list from Zoega.

259. *Medicago falcata*, Linn.

Provinces [1 2] 3 4 [5 6 - - - 10 11]. Alien or Denizen.  
 Lat. 51—53. Surrey? Kent? Suffolk, Norfolk, Cambridge.  
 Zone 1. Low grounds. *M. sylvestris*, in province 4.  
 Census 2 4 7. Ireland 0. Germanic type of distribution.  
 Europe spa ita tur aus ger fra cha net den got (nor) swe.  
 Russia 6 5 4 3. West-asia? Siberia. Davuria.  
 — N.B. *M. sylvestris*, of Fries, in Britain and Scandinavia.

260. *Medicago lupulina*, Linn.

Provinces all; perhaps only an introduction in 18. Native.  
 Lat. 50—58 or 60. Cornwall, Wight, Kent. — Ross, Orkney?  
 Zones 1 2 3. Lakes to 320 yards. Humber to 300 yards.  
 Census 18 34 87. Ireland 10. British type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 2. West-asia. India. Siberia.  
 Algeria. Canaries. Azores. — (America).

261. *Medicago maculata*, Sibth.

Provinces 1 2 3 4 5 6 7 8 (9) 10 11 - - - (15). Native.  
 Lat. 50—55. Cornwall, Wight, Kent. — York, Durham.  
 Zones 1 2. Low grounds.  
 Census 10 19 31. (Ireland 2). English type of distribution.  
 Europe spa ita tur aus ger fra cha net. (Sweden).  
 Russia 6 5.  
 Algeria. — (America, introduced).

262. *Medicago denticulata*, Willd.

Provinces 1 2 3 4 5 - - - 9 10 (11) - - - [15]. Denizen?  
 Lat. 50—55. Cornwall, Wight, Kent. — North-east York.  
 Zones 1 2. Low grounds.  
 Census 7 12 15. (Ireland). English type of distribution.  
 Europe - ita tur aus ger fra cha net. Belgium.  
 Russia 6 5. India.  
 Algeria. Canaries. Azores. — (America). “California.”

263. *Medicago minima*, Lam.

Provinces [1] - 3 4 - (6) - - [9]. Native.  
 Lat. 50—53. Kent, Surrey, Essex, Suffolk, Norfolk, Cambridge.  
 Zone 1. Low grounds. Glamorgan; T. Gissing.  
 Census 2 5 8. (Ireland). Germanic type of distribution.  
 Europe spa ita tur aus ger fra cha net den got. Bornholm.  
 Russia 6 5 4 3. West-asia.  
 Algeria. Canaries.

264. *Melilotus officinalis*, Willd.

Provinces 1 to 11 (12 to 15 less established). Denizen.  
 Lat. 50—55 (or 58). Cornwall, Wight, Kent. — York, Durham.  
 Zones 1 2 (3). Humber to 200 yards.  
 Census 11 24 58. Ireland 3 (or 5). English type.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 2. India. Siberia.  
 Barbary. — (America, introduced).

265. *Melilotus vulgaris*, Willd.

Prov. 1 2 3 4 5 6 - - (9 10 11 12 - 14 15). Alien or Colonist?  
 Lat. 50—53 (or 58). Devon, Dorset, Kent. — Carmarth., Norfolk.  
 Zones 1 (2 3). Low grounds; often sown with clover seed.  
 Census 6 8 13. (Ireland 2). English type of distribution.  
 Europe spa ita tur aus ger fra cha net den got (nor swe).  
 Russia 6 5 4 3 2. West-asia. India. Siberia.  
 — (America, introduced).

266. *Trifolium* (or *Trigonella*) *ornithopodioides*, Linn.

Provinces 1 2 3 4 5 - 7 - 9 [10 - 12] 13 14 15. Native.

Lat. 50—57. Cornwall, Wight, Kent. — Renfrew, Fif.

Zones 1 2. Low grounds.

Census 10 16 21. Ireland 2. English type of distribution.

Europe spa ita tur - - fra cha. Bornholm.

— N.B. Comparatively a restricted distribution; from Portugal to the isle of Bornholm; eastward to Constantinople?

267. *Trifolium repens*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4 5. Highlands to 900 yards. Humber to 830 yds.

Census 18 38 98. Ireland 12. British type of distribution.

Europe all.

Russia 6 5 4 3 2 1. West-asia. India. Siberia.

Algeria. Canaries. Azores. — Faroe. Iceland. (Am. Col.)

268. *Trifolium subterraneum*, Linn.

Provinces 1 2 3 4 5 6 7 8 [9 10 11]. Native.

Lat. 50—54. Cornwall, Wight, Kent. — Anglesea, Notts.

Zones 1 2. Low grounds. Cardigan; Miss Atwood.

Census 8 16 29. Ireland 1. English type of distribution.

Europe spa ita tur aus ger fra cha net. Holland.

Russia 6 5. West-asia. India?

Algeria. Canaries. Azores.

269. *Trifolium ochroleucum*, Linn.

Provinces [1 2] 3 4 [5 - - 8 9 10 11]. Native.

Lat. 52—53. Essex, Herts, Suff., Norf., Camb., Bedf., Hants.

Zone 1. Low grounds. [Surrey? Worcester? Lincoln? etc.]

Census 2 4 7. Ireland 0. Germanic type of distribution.

Europe spa ita tur aus ger fra cha net. Holland.

Russia 6 5 4. "Belgrad, in Turkey."

— N.B. Many localities in England need verification.

270. *Trifolium Molinieri*, "Balb."

Province 1. Native? *T. incarnatum* cultivated.

Lat. about 50. West Cornwall only.

Zone 1. Coast-level.

Census 1 1 1. Ireland 0. Atlantic-local type.

Europe. Italy. France. Channel. Elsewhere?

— N.B. Is this truly a variety or wild state of the cultivated *T. incarnatum*?

271. *Trifolium pratense*, Linn.

Provinces all. Native. Common; but much sown.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4 5. Highlands to 930 yards; next highest 570 yds.

Census 18 38 95. Ireland 12. British type of distribution.

Europe all, except Finmark.

Russia 6 5 4 3 2 1. West-asia. Himalaya. Siberia.

Algeria. (Canaries). — Iceland. (America. Columbia).

272. *Trifolium medium*, Linn.

Provinces all; but not an abundant plant. Native.

Lat. 50—61. Cornwall, Wight? Kent. — Orkney, Shetland.

Zones 1 2 3. Humber to 450 yards. Highlands to 350 yards.

Census 18 35 79. Ireland 8. British type of distribution.

Europe all, except Finmark and perhaps Spain.

Russia 6 - 4 3. Siberia. Kamtschatka.

— (America). "Temperate Asia;" Hooker dist. arc.

273. *Trifolium maritimum*, Huds.

Provinces 1 2 3 4 5 6 7 - - (11). Native. Cumberland?

Lat. 50—53. Cornwall? Dorset, Kent. — Merioneth? Norfolk?

Zone 1. Littoral. Cumberland; Joseph Robson.

Census 7 10 14. Ireland 0. English type of distribution.

Europe spa ita - aus - fra<sup>n</sup>cha net. Holland.

— Eastward to Greece and Crimea; Lecoq. Not in Ledeb. flo. ros.

Algeria. Canaries. Azores.

275. *Trifolium arvense*, Linn.

Provinces 1 to 17. Native.

Lat. 50—58. Cornwall, Wight, Kent. — Isla, Ross.

Zones 1 2 3. Low grounds.

Census 17 33 78. Ireland 5. British-English type.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3 2. West-asia. Siberia.

Algeria. Canaries. Azores. — Iceland; Hooker list. (Am.)

276. *Trifolium scabrum*, Linn.

Provinces 1 2 3 4 5 6 7 8 ? 10 11 - - 14 15. Native.

Lat. 50—57. Cornwall, Wight, Kent. — Forfar, Kincardine.

Zones 1 2. Low grounds. "Cheshire;" Miss Potts.

Census 12 24 40. Ireland 1. English type of distribution.

Europe spa ita tur aus ger fra cha net. Belgium.

Russia 6 5.

Algeria. Canaries. Azores.

277. *Trifolium striatum*, Linn.

Provinces 1 2 3 4 5 6 7 8 9 10 11 12 - 14 15 - - [18]. Native.

Lat. 50—57. Cornwall, Wight, Kent. — Stirling, Forfar.

Zones 1 2 ? Highlands to 300 yards.

Census 14 26 52. Ireland 4. English type of distribution.

Europe spa ita tur aus ger fra cha net den got.

Russia 6 5.

Algeria. Canaries. Azores.

277.\* *Trifolium Bocconi*, Savi.

Province 1. Native?

Lat. about 50. West Cornwall only.

Zone 1. Coast-level.

Census 1 1 1. Ireland 0. Atlantic-local type.

Europe spa ita tur aus - fra cha. Normandy.

— Not in Russia. Portugal to Greece eastward.

Canaries.

278. *Trifolium glomeratum*, Linn:

Provinces 1 2 3 4 - [6 7 8 - - 11]. Native.

Lat. 50—53. Scilly Isles, Wight, Kent. — Suffolk, Norfolk.

Zone 1. Low grounds. Formerly in South Wales?

Census 4 10 12. Ireland 0. English type of distribution.

Europe spa ita tur aus - fra cha. Channel Isles.

Russia 6 A single locality in Caucasia.

Algeria. Canaries. Azores.

278.\* *Trifolium strictum*, Linn.

Province 1. Native? Once seen in Anglesea.

Lat. about 50. West Cornwall only for certain.

Zone 1. At or near the coast-level.

Census 1 1 1. Ireland 0. Atlantic-local type.

Europe spa ita tur aus - fra. (Channel Isles!)

— Absent from Russia and Asia?

Algeria. Lybia.

279. *Trifolium suffocatum*, Linn.

Provinces 1 2 3 4 - - 7. Native.

Lat. 50—54. Cornwall, Wight, Kent. — Anglesea, Norfolk.

Zone 1. Low grounds.

Census 5 9 10. Ireland 0. English type of distribution.

Europe - ita tur aus - fra cha.

Russia 6. A single locality in Caucasia.

Algeria. Canaries. Azores.

280. *Trifolium fragiferum*, Linn.

Provinces 1 2 3 4 5 6 7 8 9 10 11 (12) - 14 15. Native.

Lat. 50—57. Cornwall, Wight, Kent. — Westmoreland, Fife?

Zones 1 2. Low grounds.

Census 13 26 56. Ireland 3. English type of distribution.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3. West-asia. India.

Algeria. Canaries.

281. *Trifolium procumbens*, Linn.

Provinces 1 to 17. Native. (18, Orkney; Neill).  
 Lat. 50—58. Cornwall, Wight, Kent. — Isla, Ross.  
 Zones 1 2 3. Humber to 300 yards. Lakes to 250 yards.  
 Census 17 34 86. Ireland 11. British type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 2. West-asia.  
 Algeria. Canaries. Azores. — (America, introduced).

282. *Trifolium minus*, Relhan.

Provinces 1 to 17. Native. Often taken for *T. filiforme*.  
 Lat. 50—58. Cornwall, Wight, Kent. — Isla, Banff.  
 Zones 1 2 3. Lakes to 350 yards. Humber to 300 yards.  
 Census 16 33 70. Ireland 12. British-english type.  
 Europe spa ita - aus ger fra cha net. Scandinavia?  
 Russia 6 - - 3. N.B. *T. filiforme* of foreign authors.  
 Algeria? Canaries. Azores.

282.\* *Trifolium filiforme*, Anglor.

Provinces 1 to 15 apparently. Native. Many false records.  
 Lat. 50—57. Cornwall, Wight, Kent. — Fife, Clackmannan.  
 Zones 1 2. Low grounds. [Forfar to Ross, by misnomers].  
 Census 15 26 59. Ireland 4. English type of distribution.  
 Europe spa ita - aus ger fra cha net. Scandinavia?  
 Russia 6. Caucasia, certain in one locality.  
 Algeria? “*T. micranthum*, Viv.”

283. *Lotus corniculatus*, Linn.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4 5. Highlands to 950 yds.; also at 850, 830, etc.  
 Census 18 38 99. Ireland 12. British type of distribution.  
 Europe all, except Finmark.  
 Russia 6 5 4 3. West-asia. India. Siberia.  
 Algeria. Egypt. Canaries. Azores. — Faroe. Iceland.

283, b. *Lotus tenuis*, Wald. et Kit.

Provinces 1 2 3 4 5 - 7 8 9 10 11 12 - 14 15. Native.

Lat. 50—57. Cornwall, Wight, Kent. — Cumberl., Kincardine.

Zones 1 2. Doubtfully distinct from *L. corniculatus*.

Census 13 23 ? Ireland ..? British-english type.

Europe - ita - aus ger fra cha net den got.

Russia 6 5 4. N.B. Habitats insufficiently recorded apart from those of *L. corniculatus*.

284. *Lotus major*, Scop.

Provinces 1 to 16. Native.

Lat. 50—58. Cornwall, Wight, Kent. — Isla, Banff.

Zones 1 2 3. Humber to 400 yards; Baker.

Census 16 33 85. Ireland 9. British-english type.

Europe spa ita tur aus ger fra cha net den got.

Russia 6 - - 3.

Algeria. Canaries. Azores.

285. *Lotus angustissimus*, Linn.

Provinces 1 2 [3 4 5 - - 8 - - - - 14]. Native.

Lat. 50—51. Cornwall, Devon, Hants, Sussex. Suffolk?

Zone 1. Coast-level.

Census 2 4 5. Ireland? Atlantic-english type.

Europe spa ita tur aus - fra cha. Channel Isles.

Russia 6 - 4. West-asia. Siberia.

Algeria? Canaries. Azores.

285. *Lotus hispidus*, Desf.

Provinces 1 2. Native.

Lat. 50—51. Cornwall, Devon, Dorset.

Zone 1. Coast-level.

Census 2 3 4. Ireland? Atlantic-english type.

Europe spa ita tur - - fra cha.

— Absent from Russia and Asia?

Algeria. Canaries. Azores.



286. *Astragalus glyciphyllus*, Linn.

Prov. 1 2 3 4 5 - 7 8 - 10 11 12 13 14 15 - 17. Native.

Lat. 50—58. Cornwall, Wight, Kent. — Banff, Ross.

Zones 1 2 3. Low grounds.

Census 14 27 52. Ireland 0. Germanic-british type.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3. Siberia.

—.

287. *Astragalus hypoglottis*, Linn.

Provinces - 2 3 4 5 - - 8 - 10 11 [12 13] 14 15 - 17. Native.

Lat. 51—58 or 59. Wilts, Oxford, Essex. — Ross, Sutherland.

Zones 1 2 3. Worcester to 250 yards; Edwin Lees.

Census 10 19 31. Ireland 1. Germanic-british type.

Europe - ita - aus ger fra - - den.

Russia 6 - 4 3. Siberia. Temperate Asia; Hooker dist. arc.

Barbary? — America. Columbia.

288. *Astragalus alpinus*, Linn.

Provinces - - - - - 15. Native.

Lat. 56—58, or about 57. Forfar, South Aberdeen.

Zone - - - 5. Highlands about 800—850 yards.

Census 1 1 2. Ireland 0. Highland type of distribution.

Europe - ita - aus ger fra - - - - nor swe lap fin.

Russia 6 - - 2 1. Siberia. Kamtschatka.

— America. Columbia.

289. *Oxytropis uralensis*, De Cand.

Provinces - - - - - 13 - 15 16 17. Native.

Lat. 55—59. Wigton, Argyle, Fife. — Sutherland, Caithness.

Zones - 2 3. From coast-level to .... yards.

Census 4 6 8. Ireland 0. Scottish type of distribution.

Europe - ita - aus - fra - - - - - lap. "O. Halleri," a var.

Russia 6 - - 3 2 1. Siberia. Davuria.

— America. Columbia. An aggregate species.

290. *Oxytropis campestris*, De Cand.

Province - - - - - 15. Native.

Lat. 50—57. North of Forfar only.

Zone - - - 5. Highlands about 700 yards?

Census 1 1 1. Ireland 0. Highland type of distribution.

Europe - ita - aus ger fra - - got - - lap fin.

Russia 6 - - 3 2 1. Siberia. Temperate Asia; Hooker dist. arc.

— America. Columbia. Also an aggregate species.

291. *Ornithopus perpusillus*, Linn.

Provinces 1 to 16. Native.

Lat. 50—58. Cornwall, Wight, Kent. — Dunbarton, Elgin.

Zones 1 2 3. Low grounds.

Census 16 30 72. Ireland 2. British-english type.

Europe spa ita - aus ger fra cha net den got.

Russia - - - 3. Eastward to Moscow.

Barbary. Canaries. Azores.

292. *Arthrolobium ebracteatum*, De Cand.

Province 1. Native.

Lat. 49—50. Scilly Isles, by West Cornwall.

Zone 1. [South-west York; Elihu Berry, in *Phytol.* 3, p. 366].

Census 1 1 1. Ireland 0. Atlantic-local type.

Europe spa ita tur - - fra cha.

— Eastward to Greece.

Canaries. Azores.

293. *Hippocrepis comosa*, Linn.

Provinces 1 2 3 4 5 6 7 8 - 10 - 12 13 - 15. Native.

Lat. 50—57. Devon, Wight, Kent. — Ayr, Kincardine.

Zones 1 2 3 4. Humber to 600 yards.

Census 12 23 38. Ireland 0. English-germanic type.

Europe spa ita tur aus ger fra cha net. Belgium.

— Eastward to Transylvania.

“Barbary.”

294. *Onobrychis sativa*, Linn.

Provinces (1) 2 3 4 5 - (7 8 - 10 - 12 - 14 15). Native?  
 Lat. 50—53. Dorset, Hants, Kent. — Salop, Norfolk.  
 Zone 1. Low grounds. Usually a relict from cultivation.  
 Census 4 10 20. Ireland 0. English-germanic type.  
 Europe spa ita tur aus ger fra. (Scandinavia).  
 Russia 6 5 4 3. Siberia.  
 — N.B. In Britain, possibly native on the chalk.

295. *Vicia Orobus*, De Cand.

Provinces 1 - - - 5 - 7 - - [10] 11 12 13 14 15 16. Native.  
 Lat. 51—58. Somerset, Gloucester, York. — Skye, Aberdeen.  
 Zones 1 2 3. Low grounds. "Somerset;" T. B. Flower.  
 Census 9 14 22. Ireland 2. Scottish-intermediate type.  
 Europe - - - aus ger fra - - den - nor.  
 — N.B. Distribution partial and interrupted; from the Pyrenees  
 to South Norway; eastward to Transylvania.

296. *Vicia sylvatica*, Linn.

Provinces 1 to 17. Native.  
 Lat. 50—58. Cornwall, Wight, Kent. — West Ross, Elgin.  
 Zones 1 2 3 4. Highlands to 560 yards; also at 460, 350, etc.  
 Census 17 29 62. Ireland 9. Scottish-british type.  
 Europe spa ita - aus ger fra - - den got nor swe lap.  
 Russia - - 4 3 2 1. Siberia. Temperate Asia; Hooker dist. arc.  
 — N.B. "Mountains of central Asia;" Bentham Handb. brit. flo.

297. *Vicia Cracca*, Linn.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4 5. Highlands to 800 yards; also at 500, 400, etc.  
 Census 18 38 94. Ireland 12. British type of distribution.  
 Europe all.  
 Russia 6 5 4 3 2 1. West-asia. Himalaya. Siberia. Kamts.  
 Barbary. — Faroe. Iceland. Greenland. America.

298. *Vicia sativa*, Auct.

Provinces all; but usually through cultivation. Denizen?  
 Lat. 50—61. Records confused with those of *V. angustifolia*.  
 Zones 1 2 3. Highlands to 350 yards, sown?  
 Census 18 35 77. (Ireland). British type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia 6 - 4 3 (2). West-asia. India.  
 Algeria. Canaries. Azores. — (America).

298. *Vicia angustifolia*, Auct.

Provinces 1 to 15. Native. *V. Bobartii*, a small state.  
 Lat. 50—58. Cornwall, Wight, Kent. — Moray.  
 Zones 1 2 3. Low grounds, and higher?  
 Census 15 26 52. Ireland 6. British-english type.  
 Europe spa ita tur aus ger fra cha net den got.  
 Russia 6 5 4 3. India. Punjab; Edgeworth.  
 Algeria. Canaries. Azores; Drouet flo. — (America).

299. *Vicia lathyroides*, Linn.

Provinces 1 to 17. Native.  
 Lat. 50—58. Cornwall, Wight, Kent. — Moray, Ross.  
 Zones 1 2 3. Low grounds.  
 Census 17 26 45. Ireland 2. British-english type.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3. West-asia. Cyprus; Sibth. Sm.  
 Algeria.

300. *Vicia lutea*, Linn.

Provinces 1 2 - 4 - - - [8] 9 (10) - [12] 13 - 15. Native.  
 Lat. 50—57. Cornwall, Wight, Sussex. — Ayr, Kincardine.  
 Zones 1 2. Low grounds, or coast-level only.  
 Census 6 10 11. Ireland 0. English type of distribution.  
 Europe spa ita tur aus ger fra cha net. Belgium.  
 Russia 6 - 4. West-asia. Caria; Don, etc.  
 Algeria. Canaries.

301. *Vicia sepium*, Linn.

Provinces all. Native.

Lat. 50—60. Cornwall, Wight, Kent. — Hebrides, Orkney.

Zones 1 2 3 4. Humber to 650 yards. Lakes to 560 yards.

Census 18 37 92. Ireland 11. British type of distribution.

Europe all, except Finmark.

Russia 6 - 4 3 2 1. West-asia. Siberia. Cyprus.

—.

302. *Vicia bithynica*, Linn.

Provinces 1 2 3 - 5 6 7 - - 10 (11). Native.

Lat. 50—55. Cornwall, Dorset, Kent. — Flint, York.

Zones 1 2. Low grounds.

Census 7 11 14. Ireland 0. English-atlantic type.

Europe spa ita tur aus - fra cha.

Russia 6 5. West-asia?

Algeria. Azores; T. C. Hunt add.

303. *Vicia (Ervum) hirsuta*, Koch.

Provinces 1 to 17. Native. [18, Orkney; Lowe].

Lat. 50—59. Cornwall, Wight, Kent. — Caithness.

Zones 1 2 3. Humber to 200 yards.

Census 17 34 83. Ireland 9. British-english type.

Europe all, except Finmark.

Russia 6 5 4 3 2 1. West-asia. Himalaya. Siberia.

Algeria. Canaries. Azores. — (America. Columbia).

304. *Vicia (Ervum) tetrasperma*, Moench.

Provinces 1 to 15 - - [18]. Native in England.

Lat. 50—57. Cornwall, Wight, Kent. — Lanark, Forfar.

Zones 1 2. Low grounds. Alien in Scotland?

Census 15 29 65. Ireland 4 English-british type.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3. West-asia. India. Siberia.

Algeria. Canaries. — (America, introduced).

304.\* *Vicia (Ervum) gracilis*, Lois.

Provinces 1 2 3 4 5. Native or Colonist?

Lat. 50—53. Devon, Wight, Kent. — Warwick, Cambridge.

Zone 1. Low grounds.

Census 5 9 13. Ireland 0. English type of distribution.

Europe spa ita tur aus ger fra cha net. Belgium.

Russia - 5. Crimea : Bieb. flo. taur. cauc.

Algeria. Canaries. Azores.

305. *Lathyrus Aphaca*, Linn.

Provinces 1 2 3 4 5 - - (8 9) [10 - - - 14]. Colonist.

Lat. 50—53. Devon, Dorset, Sussex. — Warwick, Cambridge.

Zone 1. Low grounds.

Census 5 13 22. Ireland 0. English type of distribution.

Europe spa ita tur aus ger fra cha net den.

Russia 6 5 4. West-asia. India.

Algeria. Canaries. Azores.

306. *Lathyrus Nissolia*, Linn.

Provinces 1 2 3 4 5 - [7] 8 - (10 11 12 - 14 15). Native.

Lat. 50—54. Cornwall, Wight, Kent. — Derby.

Zones 1 2. Low grounds.

Census 6 17 35. Ireland 0. English type of distribution.

Europe - ita tur aus ger fra cha net. Holland.

Russia 6 5 4.

Algeria.

307. *Lathyrus hirsutus*, Linn.

Provinces [1 2] 3 - - - - [8 - 10 11]. Colonist.

Lat. 51—52. Surrey, Essex.

Zone 1. Low grounds.

Census 1 2 3. Ireland 0. Local-germanic type.

Europe spa ita tur aus ger fra cha net. Belgium.

Russia 6 5 4 3.

Algeria.

308. *Lathyrus pratensis*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Highlands to 530 yards. Humber to 400 yards.

Census 18 38 96. Ireland 12. British type of distribution.

Europe all, except Finmark.

Russia 6 5 4 3 2 1. Himalaya. Siberia. Davuria.

— Faroe. Iceland. Greenland; Giesecke.

309. *Lathyrus palustris*, Linn.

Provinces 1 [2 3] 4 [5] - 7 8 [9] 10 - - [13]. Native.

Lat. 51—54 or 55. Somerset, Suffolk. — Carnarvon, York.

Zones 1 2. Low grounds. "Hants." "Galloway."

Census 5 8 11. Ireland 4. English type of distribution.

Europe all; including var. *tenuifolius*, in Finmark.

Russia - - 4 3 2. "Temperate Asia." Siberia. Davuria.

— America. Columbia. A var. *pilosus* in Kamtschatka.

310. *Lathyrus sylvestris*, Linn.

Provinces 1 2 3 4 5 6 7 8 (9) 10 - 12 13 14 15 16. Native.

Lat. 50—57. Cornwall, Wight, Kent. — Mull, Forfar.

Zones 1 2 3. Low grounds.

Census 14 26 49. Ireland 0. English type of distribution.

Europe all, except Lapland and Finmark.

Russia - - 4 3 2.

Algeria.

310.\* *Lathyrus tuberosus*, Linn.

Province - - 3. Denizen, through ancient cultivation?

Lat. 51—52. Essex; Gibson's Flora of Essex.

Zone 1. Low grounds. [Surrey, Middlesex; "Gerarde"].

Census 1 1 1. Ireland 0. Local-germanic type.

Europe-spa ita tur aus ger fra cha net den got - (swe).

Russia 6 5 4 3.

Algeria.

311. *Lathyrus maritimus*, Bigel.

Provinces [1] 2 3 4 - - - 8 - - - [12] - - - - 18. Native.  
 Lat. 50—61. Dorset, Sussex, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Littoral. Also in Suffolk and Lincoln.  
 Census 5 7 7. Ireland 1. Doubtful or local type.  
 Europe - - - - ger fra - net den got nor - lap. Istria?  
 Russia - - - 3 2 1. East Siberia. Kamtschatka. Behringia.  
 — Iceland. Greenland. America. Columbia.

312. *Orobus tuberosus*, Linn.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4. Highlands to 720 yards; also at 680, 670, etc.  
 Census 18 35 81. Ireland 10. British type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia - - 4 3 2. Davuria?  
 —.

313. *Orobus niger*, Linn.

Provinces - - - - [5] - - - - 11 - - - 15 - - [18]. Native?  
 Lat. 55—57 or 58. Cheviotl., Perth, Forfar, Elgin? Easternness?  
 Zone - 2 or 3. Altitude not ascertained.  
 Census 2 3 3 or 5. Ireland 0. Scottish-local type.  
 Europe spa ita tur aus ger fra - net den got nor swe. .  
 Russia 6 5 4 3.  
 — N.B. *O. tuberosus* often thus mislabelled by young botanists.

314. *Prunus (communis) spinosa*, Linn.

Provinces 1 to 17. Native.  
 Lat. 50—59. Cornwall, Wight, Kent. — Ross, Sutherland.  
 Zones 1 2 3. Humber to 450 yards. Lakes to 300 yards.  
 Census 17 34 91. Ireland 12. British type of distribution.  
 Europe all, except Finmark.  
 Russia 6 5 4 3.  
 — (America, introduced).



314. *Prunus (communis) insititia*, Linn.

Provinces 1 to 13 (14 15 17). Native in England.  
 Lat. 50—56. Devon, Dorset, Kent. — Dumfries, Northumberl.  
 Zones 1 2. Low grounds. Is it native in Scotland?  
 Census 13 25 45. Ireland 7. English type of distribution.  
 Europe spa ita tur aus ger fra cha net den got (nor swe).  
 Russia 6 5 (4 3). West-asia. Smyrna.  
 Algeria. — (America, introduced).

315. *Prunus Padus*, Linn.

Provinces (1 2 3 4) 5 6 7 8 9 10 11 12 13 14 15 16 17. Native.  
 Lat. 52—59. Glamorgan, Brecon, Gloucester? — Ross, Sutherl.  
 Zones 1 2 3. Humber to 500 yards. Highlands to 350 yards.  
 Census 13 19 40. Ireland 4. Scottish type of distribution.  
 Europe spa ita - aus ger fra - net den got nor swe lap fin.  
 Russia 6 - 4 3 2 1. Himalaya. Siberia. Kamtschatka.  
 "Canaries"; Lecoq. Geogr. bot. An error?

316. *Prunus Cerasus*, Linn.

Provinces 1 2 3 4 5 6 7 8 9 10 - 12 - (14 15). Denizen.  
 Lat. 50—55. Cornwall, Wight, Kent. — Cumberland, York?  
 Zones 1 2. Low grounds. Wild or well-established.  
 Census 12 16 22. (Ireland 5). English type of distribution.  
 Europe spa ita tur aus ger fra cha net. (Scandinavia).  
 Russia 6 5 (4 3). India.  
 (Canaries. Azores).

316. *Prunus avium*, Linn.

Provinces 1 to 16. Native? Often misnamed *P. Cerasus*.  
 Lat. 50—55. Cornwall, Wight, Kent. — Cumberland, ...?  
 Zones 1 2 ? Humber to 250 yards.  
 Census 16 30 60? Ireland 6. English type of distribution.  
 Europe spa ita tur aus ger fra cha net den got nor (swe).  
 Russia 6 5 4 3. West-asia. India.  
 Algeria.

317. *Spiræa Ulmaria*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4 5. Highlands to 900 yards; also at 760, 700, etc.

Census 18 38 97. Ireland 12. British type of distribution.

Europe all.

Russia 6 - 4 3 2 1. Siberia. Davuria. "Temperate Asia."

— Faroe. Iceland.

318. *Spiræa Filipendula*, Linn.

Provinces 1 2 3 4 5 - 7 8 9 10 11 12 (13) 14 15 - (17). Native.

Lat. 50—57. Cornwall, Wight, Kent. — Fife, Forfar.

Zones 1 2 3. Humber to 400 yards; J. Tatham.

Census 13 26 50. Ireland 1. English-germanic type.

Europe all, except Finmark.

Russia 6 5 4 3 2. Siberia.

Algeria. (Azores).

321. *Geum urbanum*, Linn.

Provinces 1 to 17. Native.

Lat. 50—58. Cornwall, Wight, Kent. — Elgin, Ross.

Zones 1 2 3. Lakes to 560 yards. Humber to 350 yards.

Census 17 33 86. Ireland 12. British-english type.

Europe all, except Finmark.

Russia 6 5 4 3. West-asia. Himalaya. Siberia.

Algeria. — *G. strictum* in America and Columbia.

322. *Geum rivale*, Linn.

Provinces all. Native.

Lat. 50—60. Devon, Dorset, South Hants, Sussex. — Orkney.

Zones 1 2 3 4 5. Highlands to 930 yds.; again at 930, 900, etc.

Census 18 34 71. Ireland 3. British-scottish type.

Europe all.

Russia 6 5 4 3 2 1. West-asia. Siberia.

— Faroe. Iceland. America. Columbia.

322, b. (321, b.). *Geum intermedium*, Ehrh.

Provinces - 2 3 4 5 - 7 8 9 10 11 12 13 14 15 - - 18. Native.  
 Lat. 50—60. Dorset, North Hants, North Essex. — Orkney.  
 Zones 1 2 3. Range of altitude ... ?  
 Census 14 18 26. Ireland 3. British type?  
 Europe - ita - aus ger fra cha net den got nor swe.  
 Russia 6 - 4 3. Siberia ?  
 — Iceland ; Dr. Lauder Lindsay's floral list.

323 (320). *Dryas octopetala*, Linn.

Provinces - - - - 5 - 7 - - 10 [11 - 13] - 15 16 17 18. Native.  
 Lat. 54 or 53—60. York, Stafford? Carnarvon? — Orkney.  
 Zones - - 3 4 5. Highlands 0—900 yards, or upwards.  
 Census 7 10 14. Ireland 7. Highland type of distribution.  
 Europe - ita tur aus ger fra - - - - nor swe lap fin.  
 Russia 6 - - - - 1. Siberia, to the arctic coast, west and east.  
 — Faroe. Iceland. Greenland. America. Columbia.

324. *Sibbaldia procumbens*, Linn.

Provinces - - - - - [13] 14 15 16 17 18. Native.  
 Lat. 50—61. Peebles, Stirling, Perth. — Sutherland, Shetland.  
 Zones - - ? 4 5 6. Highlands 500—1360 yards.  
 Census 5 8 16. Ireland 0. Highland type of distribution.  
 Europe spa ita - aus ger fra - - - - swe lap fin.  
 Russia 6 - - - 2 1. Himalaya. Siberia.  
 — Faroe. Iceland. Greenland. America. Columbia.

325. *Potentilla fruticosa*, Linn.

Provinces - - [3] - - - - - 10 11 12 (13 14). Native.  
 Lat. 54—55 (or 56). York, Durham, Westmoreland, Cumberland.  
 Zones - 2 3 4. Humber 250—400 yards; Baker.  
 Census 3 3 3. Ireland 2. Intermediate-scottish type.  
 Europe - - - - fra net. Isle of Oeland.  
 Russia 6 - 4 3. "Temperate Asia." Siberia. Kamtschatka.  
 — Greenland. America. Columbia.

326. *Potentilla rupestris*, Linn.

Province - - - - - 7. Native. [15, Perth, by mistake].  
 Lat. 52—53. Craig Breiddin, Montgomery only.  
 Zone - 2. Apparently about 150—200 yards.  
 Census 1 1 1. Ireland 0. Local type of distribution.  
 Europe spa ita tur aus ger fra - net - got. Norway?  
 Russia 6 5 - 3. India. Siberia. Davuria.  
 — N.B. A curiously local plant in Britain.

327. *Potentilla anserina*, Linn.

Provinces all.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Highlands to 350 yards. Humber, the same.  
 Census 18 38 95. Ireland 12. British type of distribution.  
 Europe all, unless Turkey to be excepted.  
 Russia 6 - 4 3 2 1. Himalaya. Siberia. Kamtschatka.  
 Azores? — Faroe. Iceland. Greenland. America. Columbia.

328. *Potentilla argentea*, Linn.

Provinces 1 2 3 4 5 - 7 8 9 10 11 12 ? 14 15 - - [18]. Native.  
 Lat. 50—58. Dorset? South Hants, Sussex, Kent. — Elgin.  
 Zones 1 2 3. Low grounds. Wales to 200 yards?  
 Census 13 22 46. Ireland 0. English-germanic type.  
 Europe all, except Finmark.  
 Russia 6 5 4 3 2. Siberia. “Bithynia and Constantinople.”  
 — America. “Canada! North States”; Torrey and Gray flo.

329. *Potentilla verna*, Linn.

Provinces 1 - - 4 5 6 7 8 [9] 10 11 12 - 14 15. Native. .  
 Lat. 51—57. Somerset, Cambridge, Suffolk? — Fife, Forfar.  
 Zones 1 2 3. Humber to 250 yards; Baker.  
 Census 11 14 18. Ireland 0. Doubtfully British type?  
 Europe spa ita - aus ger fra cha net den got nor swe.  
 Russia 6 5 4 3 2. Himalaya. Siberia.  
 “Azores”? — Faroe. Iceland? Greenland. America. Col.

330. *Potentilla alpestris*, Hall. fil.

Provinces - - - - 6 - - 10 11 12 - - 15. Native.  
 Lat. 52—57. Brecon? Cardigan, York. — Forfar, Aberdeen.  
 Zones - - 3 4 5. Highlands to 900 yds.; again at 900, 830, etc.  
 Census 5 6 9. Ireland 0. Highland type of distribution.  
 Europe - ita - aus ger fra - - - got nor swe lap fin.  
 Russia 6 - - - 2 1. West-asia. Spitsbergen.  
 — Iceland; Babington, in Annals, 1847.

331. *Potentilla reptans*, Linn.

Provinces 1 to 16. Native.  
 Lat. 50—58. Cornwall, Wight, Kent. — Cantire, Banff.  
 Zones 1 2 3. Humber to 350 yards. Lakes to 300 yards.  
 Census 16 32 78. Ireland 12. English-british type.  
 Europe spa ita tur aus ger fra cha net den got (nor) swe.  
 Russia 6 5 4 3 2. India. Siberia.  
 Algeria. Azores?

332. *Potentilla Tormentilla*, Schreb.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4 5 6. Highlands to 1110 yards; also at 1060, etc.  
 Census 18 38 94. Ireland 12. British type of distribution.  
 Europe all.  
 Russia 6 - 4 3 2 1. Siberia. Constantinople.  
 Azores. — Faroe. Iceland.

333. *Potentilla procumbens et nemoralis*, Auct.

Provinces 1 to 15 - 17 [18]. Native. Orkney?  
 Lat. 50—58 or 60. Cornwall, Wight, Kent. — Ross.  
 Zones 1 2 3. Altitude ...? *Tormentilla reptans*, Linn.  
 Census 17 30 47. Ireland! British type of distribution.  
 Europe - ita - aus ger fra cha net den got. Spurious aggregate?  
 Russia - - 4 3; but no example seen by Ledebour.  
 Canaries. Azores. — Labrador; Torrey and Gray.

333. *Potentilla Fragariastrum*, Ehrh.

Provinces 1 to 15 17 18. Native.

Lat. 50—60. Cornwall, Wight, Kent. — Orkney; Miss Boswell.

Zones 1 2 3 4. Wales to 700 yards. Lakes to 500 yards.

Census 17 33 82. Ireland 12. British type of distribution.

Europe spa ita tur aus ger fra cha net den.

Russia - - - 3. Lithuania only.

Algeria.

334. *Comarum palustre*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4 5. Highlands to 930 yards; also at 710, 600, etc.

Census 18 36 80. Ireland 12. British-scottish type.

Europe all, except Turkey.

Russia 6 - 4 3 2 1. Siberia. Davuria. Kamschatka.

— Faroe. Iceland. Greenland. America. Columbia.

335. *Fragaria vesca*, Linn.

Provinces all. Native.

Lat 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4. Highlands to 650 yards; also at 500, 450, etc.

Census 18 37 94. Ireland 12. British type of distribution.

Europe all.

Russia 6 5 4 3 2 1. West-asia. Himalaya. Siberia.

Barbary. Canaries. Azores. — Iceland. America. Columbia.

337. *Rubus Chamæmorus*, Linn.

Provinces - - - - - 7 8 9 10 11 12 13 14 15 16 17. Native.

Lat. 52—59. Montgomery, Derby, York. — Ross, Sutherland.

Zones - - 3 4 5 6. Highlands to 1080 yards; also at 1030, etc.

Census 10 14 30. Ireland 1. Highland type of distribution.

Europe - - - ger - - - den got nor swe lap fin.

Russia - - - 3 2 1. Siberia.

— Greenland. America. Columbia.

338. *Rubus saxatilis*, Linn.

Prov. [1] - - - 5 6 7 8 9 10 11 12 13 14 15 16 17 18. Native.  
 Lat. 51—61. [Corn., Dev.], Glamorg., Gloucest. — Ork., Shetl.  
 Zones ? 2 3 4 5. Highlands to 910 yards; also at 900, 760, etc.  
 Census 14 23 42. Ireland 11. Scottish-highland type.  
 Europe spa ita - aus ger fra - net den got nor swe lap.  
 Russia 6 - 4 3 2 1. Himalaya. Siberia. Davuria.  
 — Faroe. Iceland. Greenland. America? Columbia?

339. *Rubus Idæus*, Linn.

Prov. 1 to 17 (18). Native; but introduced to many localities.  
 Lat. 50—59. Cornwall, Wight, Kent. — Ross, Sutherland.  
 Zones 1 2 3 4. Highlands to 660 yards; also at 650, 640, etc.  
 Census 17 32 77. Ireland 11. British type of distribution.  
 Europe all.  
 Russia 6 5 4 3 2 1. West-asia. Siberia. Kamtschatka.  
 “Algiers.” — Columbia?

340. *Rubus cæsius*, “Linn.” Auct.

Provinces 1 to 15. Native.  
 Lat. 50—57 or 58. Devon, Wight, Kent. — Perth, Elgin?  
 Zones 1 2 ? Humber to 300 yards. Lakes the same.  
 Census 15 28 63. Ireland 4. English-british type.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3. West-asia. Siberia. Finland; Fries.  
 — N.B. Distribution given, as nominally recorded.

340\*. *Rubus corylifolius*, “Sm.” Auct.

Provinces 1 to 15 - 17. Native.  
 Lat. 50—59. Cornwall, Wight, Kent. — Hebrides, Moray.  
 Zones 1 2 3. Low grounds.  
 Census 16 ? ? Ireland 3. British type of distribution.  
 Europe - ita - - ger fra cha net den got nor.  
 Russia 6 - 4 3. N.B. The distribution of this, as of the very  
 aggregate *R. fruticosus*, is that of a name only.

340\*. *Rubus fruticosus*, Auct.

Provinces all. Native. Including numerous segregates.  
 Lat. 50—60. Cornw., etc. — Hebrid.; Balf., Bab. Ork.; Neill.  
 Zones 1 2 3. Humber to 300 yards; Baker,—“discolor,” etc.  
 Census 18 37 99. Ireland 10. British type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3. West-asia. India. Siberia.  
 Algeria. Canaries. Azores.

341. *Rosa spinosissima et pimpinellifolia*, Linn.

Provinces 1 to 17. Native. [18 Orkney; Lowe.]  
 Lat. 50—59. Devon, Wight, Sussex. — Sutherland, Caithness.  
 Zones 1 2 3 4. Highlands to 570 yards. Humber to 500 yards.  
 Census 17 31 67. Ireland 10. British type of distribution.  
 Europe spa ita tur aus ger fra cha net den - nor.  
 Russia 6 5 4 3 2. India. Siberia. Davuria.  
 — Iceland; Lauder Lindsay flo. “*R. pimpinellifolia*.”

342. *Rosa hibernica*, Sm.

Provinces - - 3 - - - - 9 10 11 12. Native.  
 Lat. 53—55. Surrey, Chester, York, Northumberland, Cumb.  
 Zones 1 2. Humber to 200 yards; Baker.  
 Census 5 5 6. Ireland 1. Intermediate type?  
 Europe. No habitat ascertained.  
 Russia. The same remark.  
 — Iceland; Hooker list. “*R. villosa* var. *hibernica*”; Lindsay flo.

343. *Rosa Sabini, Doniana, Wilsoni*, etc.

Provinces 1 2 3 ? 5 6 7 8 9 10 11 12 - 14 15 - - [18]. Native,  
 Lat. 50—58. North Devon, Sussex. — Aberdeen.  
 Zones 1 2 3. Humber to 300 yards; Baker.  
 Census 13 17 25. Ireland 2. British type?  
 Europe. No certain habitats ascertained.  
 — N.B. The distribution is filled in to accord with the use of  
 these names by the botanists of Britain.



344. *Rosa villosa, mollis, mollissima*, Anglor.

Provinces all, by safe and unsafe records. Native.

Lat 50—60. Isle of Wight; A. G. More. — Orkney; B.-Symc.

Zones 1 2 3 4. Humber to 500 yards; Baker.

Census 18 37 88. Ireland 1. British type of distribution.

Europe - - - - fra - net den got nor swe lap.

Russia. General in Finland; Fries sum. veg.

— N.B. European habitats taken from Baker and Fries.

345. *Rosa tomentosa, scabriuscula*, Anglor.

Provinces all, by safe and unsafe records. Native.

Lat. 50—58 or 61. Devon, Sussex, Kent. — Aberdeen, Shetl. ?

Zones 1 2 3. Humber to 500 yards; Baker.

Census 18 33 78. Ireland 10. British type of distribution.

Europe - ita - aus ger fra cha net den got. (Sweden).

Russia 6 - 4 3 2. Siberia.

Algeria. N.B. Distribution not satisfactory.

348. *Rosa Borreri*, Woods.

Provinces - 2 3 - 5 - - - - 10. Native. [Query, 1 4 8 11 14 15].

Lat. 50—55. "Sussex, Kent, Worcester, York"; Baker.

Zones 1 2. Altitude perhaps 20—200 yards.

Census 4 5 ? Ireland 0. English type of distribution ?

Europe. Identified with the German *R. inodora* of Reichenbach, according to Mr. J. G. Baker, but not identical with the Scandinavian *R. inodora* of Fries.

349. *Rosa micrantha*, Sm.

Provinces 1 2 3 4 5 6 7 8 - 10 11. Native.

Lat. 50—55. Cornwall, Wight, Kent. — York, Durham ?

Zones 1 2. North Yorkshire 0—250 yards; Baker.

Census 10 18 30. Ireland 2. English type of distribution.

Europe. "Belgium. Germany." Usually combined with *R. rubiginosa*, by the Continental botanists.

— (America. New England, with *R. rubiginosa*; Gray).

350. *Rosa rubiginosa*, Linn.

Provinces 1 2 3 4 5 - 7 8 9 10 11 12 13 14 15 16). Native.  
 Lat. 50—58? True and false localities inextricably confused.  
 Zones 1 2. Humber to 250 yards; Baker.  
 Census ? ? ? (Ireland 1). English type of distribution?  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3. West-asia? India.  
 Algeria. — (America, naturalised in many places).

351. *Rosa canina*, Auct.

Provinces all; including many segregates. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Humber to 450 yards. Lakes to 420 yards.  
 Census 18 36 96. Ireland 12. British type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 2 1. Siberia.  
 Algeria. Canaries.

352. *Rosa systyla*, Anglor.

Provinces 1 2 3 4 5 6 [7 - - 10 11 12 - 14 15]. Native.  
 Lat. 50—53. Dorset, Wight, Kent. — Cambridge.  
 Zone 1. Low grounds. Strangely confused with *R. arvensis*.  
 Census 6 12 22. Ireland 2. English type of distribution.  
 Europe - - - aus ger fra cha net. Normandy.  
 — N.B. Distribution in England uncertain. By Nyman's Syl-  
 loge it occurs in Austria, Switzerland, France, Belgium.

353. *Rosa arvensis*, Linn.

Provinces 1 to 14 (15). Native.  
 Lat. 50—56. Cornwall, Wight, Kent. — Lanark, Haddington.  
 Zones 1 2. Low grounds. (Kincardine; Boswell Syme).  
 Census 14 27 65. Ireland 8. English type of distribution.  
 Europe - ita tur aus ger fra cha net. Belgium.  
 [Siberia?] Only a single locality in the Flora Rossica, namely,  
 "in Siberia uralensi prope Jekaterinenburg; Uspenski."

354 (323). *Agrimonia Eupatoria*, Linn.

Provinces 1 to 17. Native.

Lat. 50—59. Cornwall, Wight, Kent. — Sutherland.

Zones 1 2 3. Humber to 400 yards. Lakes to 250 yards.

Census 17 34 85. Ireland 10. British-english type.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3. West-asia. India. Siberia.

Algeria. Canaries Azores. — America. Columbia.

354 (323, b). *Agrimonia odorata*, Mill.

Provinces 1 2 3 - 5 6 7 8 - 10 - 12. Native.

Lat. 50—55. Cornwall, Wight, Kent. — Cumberland, York.

Zones 1 2. Low grounds. Distribution imperfectly known.

Census 9 13 19. Ireland 3. English type of distribution.

Europe - ita - aus ger fra cha net den got. “*A. procera*, Wallr.”

Russia 6 5 4.

Canaries; Lecoq. geogr. bot.

354\*. *Sanguisorba officinalis*, Linn.

Provinces 1 to 14 (15). Native.

Lat. 50—56. Cornwall, Devon, Dorset. — Kirkcud., Roxburgh.

Zones 1 2 3. Humber to 500 yards. Lakes to 450 yards.

Census 14 23 49. Ireland 2. Intermediate-english type.

Europe - ita tur aus ger fra cha net den got nor.

Russia 6 - 4 3 - 1. West-asia. Siberia. Davuria.

—Iceland; Zoega. America? Columbia?

355. *Poterium Sanguisorba*, Linn.

Provinces 1 to 15. Native.

Lat. 50—57. Cornwall, Wight, Kent. — Perth, Forfar.

Zones 1 2 3. Humber to 550 yards. Lakes to 300 yards.

Census 15 29 61. Ireland 6. English type of distribution.

Europe spa ita tur aus ger fra cha net den (got) swe.

Russia 6 5 4 3. Siberia.

Egypt. Azores; Seubert flo. — (America).

355\*. *Poterium muricatum*, Spach.

Provinces 1 2 3 4 5. Alien or Colonist.

Lat. 50—53. Devon, Wight, Kent. — Hereford, Cambridge.

Zone 1. Low grounds; introduced with clover seeds?

Census 5 10 15. Ireland 0. English type of distribution.

Europe spa ita tur aus - fra - net.

Russia 6 - 4. *P. polygamum*.

Algeria? Azores?

356. *Alchemilla vulgaris*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Devon, Sussex. — Orkney, Shetland.

Zones 1 2 3 4 5 6. Highlands to 1200 yards; also at 1080, etc.

Census 18 33 71. Ireland 12. British type of distribution.

Europe all.

Russia 6 5 4 3 2 1. West-asia. India. Siberia.

— Faroe. Iceland. Greenland. “Labrador; Dr. Morrison.”

357. *Alchemilla alpina*, Linn.

Provinces - - - - - 10 - 12 - - 15 16 17 18. Native.

Lat. 54—61. Cumberl., Westmorel., York. — Hebrides, Shetl.

Zones - - 3 4 5 6. Highlands 150—1330 yards.

Census 6 11 23. Ireland 2. Highland type of distribution.

Europe spa ita tur aus ger fra - - - got nor swe lap fin.

Russia - - - - 1. [West-asia; “Bithynia.”] Siberia.

— Faroe. Iceland. Greenland. [N. States; Pursh].

358. *Alchemilla arvensis*, Scop.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Highlands to “570 yards.” Humber to 450 yds.

Census 18 37 87. Ireland 12. British type of distribution.

Europe spa ita tur aus ger fra cha net den got nor.

Russia 6 - 4 3.

Algeria. Canaries. Azores.

360. *Cratægus Oxyacantha*, Auct.

Provinces 1 to 16 (17 18). Native; very frequently planted.  
 Lat. 50—57. Cornwall, Wight, Kent. — Isla, Moray.  
 Zones 1 2 3. Humber to 500 or 600 yards. Lakes to 450 yards.  
 Census 16 33 86. Ireland 12. British type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3. India. Siberia.  
 Algeria. — (America). *C. monogyna* included above.

361. *Cotoneaster vulgaris*, Lindl.

Province - - - - - 7. Native?  
 Lat. 53—54. Ormeshead, Carnarvonshire.  
 Zone 1 or 2. Coast-cliffs, at or about "150 yards."  
 Census 1 1 1. Ireland 0. Local and doubtful type.  
 Europe spa ita tur aus ger fra - net - nor swe. Bornholm.  
 Russia 6 5 4 3 2 1. Himalaya. Siberia. Davuria.  
 —. How brought to the Ormeshead?

362. *Pyrus communis*, Linn.

Provinces 1 2 3 4 5 - 7 8 (9) 10 (11 12 13 14 15). Denizen?  
 Lat. 50—55. Devon, Dorset, Kent. — North Yorkshire.  
 Zones 1 2. Low grounds; usually chance-sown?  
 Census 8 17 28. (Ireland). English type of distribution.  
 Europe spa ita tur aus ger fra cha net den got (nor swe).  
 Russia 6 5 4 3. N.B. Not clearly native in several of the European countries cited. Algeria?

363. *Pyrus Malus*, Linn.

Provinces 1 to 14 (15 16). Native. Denizen in Scotland.  
 Lat. 50—56. Cornwall, Wight, Kent. — Lanark, Edinburgh.  
 Zones 1 2 3. Lakes to 300 yards. Humber the same.  
 Census 14 28 60. Ireland 9. English type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 2.  
 — Likely a native more widely than *P. communis*.

364. *Pyrus torminalis*, Ehrh.

Provinces 1 2 3 4 5 6 7 8 (9 - 11 12). Native.

Lat. 50—54. Cornwall, Wight, Kent. — Anglesea, Notts.

Zones 1 2. Low grounds; very sparsely distributed.

Census 8 12 ? Ireland 0. English type of distribution.

Europe spa ita tur aus ger fra cha net den.

Russia 6 5 4 3. Siberia? Constantinople.

Algeria. N.B. Decreasing in England?

365. *Pyrus Aria*, Auct.

Prov. 1 2 3 4 5 6 7 8 (9) 10 11 12 (13) 14 (15) 16 17. Native.

Lat. 50—59. Devon, Wight, Kent. — Sutherland.

Zones 1 2 3. Humber to 500 yards.

Census 14 24 40? Ireland 6 (2). English-british type.

Europe spa ita tur aus ger fra cha net - (got) nor. Bornholm.

Russia 6 5. India. Siberia.

Algeria. Canaries. Segregates included above.

366. *Pyrus Aucuparia*, Gaertn.

Provinces all; unless 4, Ouse, should be excepted. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4 5. Highlands to 880 yards; also at 830, 700, etc.

Census 17 34 70. Ireland 9. British type of distribution.

Europe all.

Russia 6 5 4 3 2 1. Siberia. Davuria.

Madeira? — Faroe? Icel. Var. americana in Gre. Am. Col.

367. *Epilobium angustifolium*, Linn.

Provinces all. Native.

Lat. 50—61. Dorset, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4 5. Highlands to 900 yds.; again at 550, 500, etc.

Census 18 31 72. Ireland 4. British-scottish type.

Europe all.

Russia 6 5 4 3 2 1. West-asia. Himalaya. Siberia. Kamts.

— Faroe. Iceland. Greenland. America. Columbia.

368. *Epilobium hirsutum*, Linn.

Provinces 1 to 15 - - [18]. Native.

Lat. 50—58. Cornwall, Wight, Kent. — Aberdeen, Moray?

Zones 1 2 ? Humber to 200 yards.

Census 15 30 76. Ireland 11. English-british type.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3 2. West-asia. Siberia.

Algeria.

369. *Epilobium parviflorum*, Schreb.

Provinces 1 to 16 - 18. Native.

Lat. 50—59. Cornwall, Wight, Kent. — Hebrides, Moray.

Zones 1 2 3. Lakes to 300 yards. Humber to same.

Census 17 33 82. Ireland 12. British-english type.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3. India.

Algeria. Canaries. Azores.

370. *Epilobium montanum*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4. Highlands to 530 yards. Lakes to 560 yards.

Census 18 38 99. Ireland 12. British type of distribution.

Europe all.

Russia 6 - 4 3 2 1. West-asia. Himalaya. Siberia.

— Faroe. Iceland.

371\* (370\*). *Epilobium lanceolatum*, Seb. et M.

Provinces 1 (2) 3 - 5. Native.

Lat. 50—52. Cornwall, Devon, Surrey, Gloucester, Monmouth.

Zone 1. Low grounds.

Census 3 4 5. Ireland 0. English type of distribution.

Europe spa ita tur aus ger fra cha. Channel Isles.

— N.B. This is sufficiently distinct from 'montanum' or roseum,  
with which it has been confused. Madeira?

371. *Epilobium roseum*, Schreb.

Provinces 1 2 3 4 5 6 - 8 9 10 11 - - 14 15 Native.  
 Lat. 50—57 or 58. Devon, Wight, Kent. — Forfar? Moray?  
 Zones 1 2 ? Low grounds; often overlooked or misnamed?  
 Census 11 17 30. Ireland 1? English type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia 6 - 4 3. India. Siberia.  
 — Faroe? Columbia. Isle of Sitcha; Led. flo. ros.

372. *Epilobium palustre*, Linn.

Provinces all. Native. Segregates included in lines 5, 6, 7.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4. Highlands to 630 yards. Humber to 650 yards.  
 Census 18 38 88. Ireland 9. British type of distribution.  
 Europe all, unless Finmark excepted.  
 Russia 6 - 4 3 2 1. West-asia. Himalaya. Siberia.  
 Canaries. — Faroe. Iceland. Greenland. America. Col.

373. *Epilobium tetragonum*, Auct.

Provinces 1 to 16 18. Native. Probably in province 17.  
 Lat. 50—60. Cornwall, Wight, Kent. — Hebrides, Orkney.  
 Zones 1 2 3 4. Highlands to 700 yards, Ep. obscurum.  
 Census 17 35 83. Ireland 12. British type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 - 1. Himalaya. Siberia.  
 Algeria. Canaries. — Faroe. Iceland. America. Columbia.

374. *Epilobium alpinum*, Linn.

Provinces - - - - - [7 8 - 10] 11 [12] - - 15 16 17. Native.  
 Lat. 56—59. Cheviotland. — Ross, Sutherland.  
 Zones - - - 4 5 6. Highlands 500—1300 yards.  
 Census 4 7 17. Ireland 0. Highland type of distribution.  
 Europe spa ita tur aus ger fra - - - - nor swe lap fin.  
 Russia - - - - 1. West-asia. Himalaya. Siberia.  
 — Faroe. Iceland. Greenland. America. Columbia.



374\*. *Epilobium alsinifolium*, Vill.

Provinces - - - - [6] 7 - - 10 11 12 13 - 15 16 17. Native.  
 Lat. 53—59. Carnarvon, York, Westmoreland. — Sutherland.  
 Zone - - 3 4 5. Highlands to 960 yards. Wales 200—? yards.  
 Census 8 10 18. Ireland 0. Highland type of distribution.  
 Europe spa ita - aus ger fra - - - - nor swe lap fin.  
 Russia 6 - 4 3 - 1. N.B. Two forms in Britain.  
 — Faroe. Iceland. America. Columbia; Flo. ros.

376. *Isnardia* (or *Ludwigia*) *palustris*, Linn.

Province - 2. Native. [12 Cumberland; Joseph Robson].  
 Lat. 50—51. South Hants, East Sussex.  
 Zone 1. Coast-level. Extinct in Hants?  
 Census 1 2 2. Ireland 0. Local-english type.  
 Europe spa ita tur aus ger fra cha net. Hamburg.  
 Russia 6 - 4.  
 Algeria. — America. Columbia. Oregon; Torrey and Gray.

377. *Circæa lutetiana*, Linn.

Provinces 1 to 17. Native.  
 Lat. 50—59. Cornwall, Wight, Kent. — Sutherland, Moray.  
 Zones 1 2 3. Humber to 100 yards. Lakes to 300 yards.  
 Census 17 32 79. Ireland 12. British-english type.  
 Europe spa ita tur aus ger fra cha net den got nor.  
 Russia 6 5 4 3 2. West-asia. India. Siberia.  
 Algeria. — America. Columbia.

378. *Circæa alpina*, Linn.

P. 10 - 12 - - 15 16 17. Native. [1 - 4 5 6 7 8 9 11 13 14 - 18].  
 Lat. 54—59. York, Westmoreland, Cumberland. — Sutherland.  
 Zone - - 3. Lakes to 450 yards. Highlands to 350 yards.  
 Census 5 6 ? Ireland 5. Scottish-highland type.  
 Europe - ita - aus ger fra - - den got nor swe lap fin.  
 Russia 6 5 4 3 2. Himalaya. Siberia.  
 — America. Columbia. N.B. Ill understood in Britain.

379. *Hippuris vulgaris*, Linn.

Provinces 1 to 16 - 18. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Humber to 250 yards.

Census 17 36 72. Ireland 12. British type of distribution.

Europe all, unless Spain and Turkey to be excepted.

Russia 6 - 4 3 2 1. India. Siberia. Kamtschatka.

— Iceland. Greenland. America. Columbia.

380. *Myriophyllum verticillatum*, Linn.

Provinces 1 2 3 4 5 [6 7] 8 9 10 11 [12 - - 15 - - 18]. Native.

Lat. 50—55. Cornwall, Sussex, Kent. — Northumberland.

Zones 1 2. Humber to 250 yards.

Census 9 15 35. Ireland 7. English type of distribution.

Europe spa ita - aus ger fra cha net den got nor swe.

Russia 6 - 4 3 2. India. Siberia. Davuria. "China."

Algeria. — Faroe? Iceland? America. Columbia.

381. *Myriophyllum spicatum*, Linn.

Provinces all; but much confused with no. 382. Native.

Lat. 50—60. Carnarvon, Wight, Kent. — Hebrides, Orkney?

Zones 1 2 3. Humber to 400 yards. Lakes to 350 yards.

Census 18 33 70. Ireland 7. British type of distribution.

Europe all, except Lapland and Finmark.

Russia 6 - 4 3 2 1. Siberia.

Algeria. Canaries. — Iceland. America.

382. *Myriophyllum alterniflorum*, De Cand.

Provinces all. Native. Localities not fully recorded.

Lat. 50—61. Cornwall, Wight, Sussex. — Hebrides, Shetland.

Zones 1 2 3. Highlands to 400 yards; also at 350, 300, etc.

Census 18 29 42. Ireland 7. British type of distribution.

Europe - ita - - ger fra cha net den got nor swe lap.

Russia? Not in Ledebour's Flora Rossica.

Algeria. Azores. — S. Greenland and Arc. Am.; Hook. dist. arc.

383. *Callitriche verna*, Auct.

Provinces all? Native. Other species confused with this.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Humber to 750 yards? Lakes to 510 yards.  
 Census 18 38 90. Ireland 12. British type of distribution.  
 Europe all, except Finmark. Segregates partly included?  
 Russia 6 5 4 3 2 1. West-asia. India. Siberia.  
 Algeria. Canaries. Azores. — Far. Ice. Gre. Am. Col.

384. *Callitriche platycarpa*, "Kutz."

Provinces 1 to 16 18. Native. Localities insufficiently on record.  
 Lat. 50—61. Cornwall, Wight, Kent. — Hebrides, Shetland.  
 Zones 1 2 3. Highlands to 400 yards. Lakes the same.  
 Census 17 31 49. Ireland 12? British type of distribution.  
 Europe - - - aus ger fra cha net den got nor swe.  
 Russia. Distribution not given apart from that of *C. verna*.  
 Algeria.

385. *Callitriche hamulata*, Kutz., et *pedunculata*, De C.

Provinces all. Native. "*C. autumnalis*," by frequent misnomer.  
 Lat. 50—61. Cornwall, Dorset, Sussex. — Hebrides, Shetland.  
 Zones 1 2 3 4 ? Highlands to 710 yards, perhaps higher.  
 Census 18 31 45. Ireland 4. British type of distribution.  
 Europe - ita - aus ger fra cha net den got.  
 Russia - - 4 3.  
 Algeria.

386. *Callitriche autumnalis*, Linn.

Provinces [- 2 3 4 5 6] 7 ? 9 ? 11 ? ? 14 15 16 ? ? Native.  
 Lat. 53—57 or 60. Anglesea. — Islay, Kincardine. Orkney?  
 Zones ? 2 3. Alt. ...? Much confused with no. 385.  
 Census 6 ? ? Ireland 4? Scottish type of distribution.  
 Europe - ita - aus - - - net den got nor swe lap. "Spain"?  
 Russia - - 4 3 2 1. Siberia.  
 "Algeria"?? — Faroc. Iceland. America? Columbia?

387. *Ceratophyllum demersum et submersum*, Linn.

Provinces 1 to 11 - - 14 15. Native.

Lat. 50—57. Cornwall, Dorset, Kent. — Edinburgh, Forfar.

Zones 1 2. Low grounds. Localities imperfectly separable.

Census 13 26 40. Ireland 4 English-british type.

Europe all, except Lapland and Finmark.

Russia 6 - 4 3. Himalaya. Siberia.

Algeria. Azores. — Faroe. Iceland. America. Columbia.

389. *Lythrum Hyssopifolia*, Linn.

Provinces [1 2] 3 4 [5 6] - 8 9 [10 11 12]. Native?

Lat. 51—54. Hertford! Cambridge! Derby? Lancast.? Cumb.?

Zone 1? Old authorities for other counties, Kent to York.

Census 4 ? ? Ireland? English type?

Europe spa ita tur aus ger fra cha net. Hanover.

Russia 6 5 4 3. Siberia.

Algeria. Canaries. Azores. — (America).

390. *Lythrum Salicaria*, Linn.

Provinces 1 to 16. Native.

Lat. 50—57. Cornwall, Wight, Kent. — Argyle, Perth.

Zones 1 2 ? Humber to 250 yards. Lakes 150 yards.

Census 16 31 79. Ireland 12. English-british type.

Europe all, except Finmark.

Russia 6 5 4 3 2 1. West-asia. India. Siberia.

Algeria. — America, "probably native"; Torrey and Gray.

391. *Peplis Portula*, Linn.

Provinces all. Native.

Lat. 50—60. Cornwall, Wight, Kent — Sutherland, Orkney.

Zones 1 2 3. Humber to 400 yards. Lakes to 250 yards.

Census 18 36 80. Ireland 12. British type of distribution.

Europe all, except Finmark.

Russia 6 4 3.

Algeria. Azores.

393. *Bryonia dioica*, Linn.

Provinces 1 2 3 4 5 - 7 8 9 10 11. Native.

Lat. 50—55. Devon, Dorset, Kent. — Lancaster, Durham.

Zones 1 2. Low grounds. (Introduced to Northum. ; Mr. Chrisp).

Census 10 20 50. Ireland 0. English-germanic type.

Europe spa ita tur aus ger fra cha net den.

Russia 6. West-asia. Lycia or Caria; Fellowes.

Algeria.

394. *Montia fontana*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4 5 6. Highlands to 1060 yards; also at 1000, etc.

Census 18 38 90. Ireland 12. British type of distribution.

Europe all.

Russia - - - 3 2 1. West-asia. East Siberia. Smyrna.

Algeria. — Faroe. Iceland. Greenland. America. Columbia.

395. *Illecebrum verticillatum*, Linn.

Province 1.

Lat. 50—51. Cornwall, Devon.

Zone 1. Coast-level.

Census 1 2 3. Ireland 0. Atlantic-local type.

Europe spa ita tur aus ger fra cha net den.

Russia - - - 3. Isle of Oesel and Poland; Led. flo. ros.

Algeria. Canaries. Azores.

396. *Corrigiola littoralis*, Linn.

Province 1. Native.

Lat. 50—51. Cornwall, Devon.

Zone 1. Coast-level.

Census 1 2 2. Ireland 0. Atlantic-local type.

Europe spa ita tur aus ger fra cha net den.

Russia - - 4 3. Shore of the Caspian sea; Led. flo. ros.

Algeria.

397. *Herniaria (vulgaris) glabra*, etc.

Provinces 1 [2 3] 4 [5 6 - 8 9 - - - 14 15]. Native.  
 Lat. 50—53. Cornwall, Suffolk, Norfolk, Cambridge, Lincoln?  
 Zone 1. Low grounds. Two forms, “*glabra*” and “*ciliata*.”  
 Census 2 4 5. Ireland 0. Germanic-english type.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3. West-asia. Siberia.  
 Algeria.

398. *Polycarpon tetraphyllum*, Linn.

Provinces 1 2 (3) - - 6 - - - (10). Native.  
 Lat. 50—51. Cornwall, Devon, Dorset. (Middlesex; Hind. cat.)  
 Zone 1. Coast-level. (Yorkshire; P. W. Watson; S. Hailstone).  
 Census 2 3 3. Ireland 0. Atlantic-local type.  
 Europe spa ita tur aus ger fra cha net.  
 Russia 6. West-asia. Syria.  
 Algeria. Egypt. Azores. — (America, introduced).

399. *Scleranthus annuus*, Linn.

Provinces 1 to 17. Native.  
 Lat. 50—59. Cornwall, Wight, Kent. — Ross, Sutherland.  
 Zones 1 2 3. Highlands to 350 yards in several places.  
 Census 17 34 80. Ireland 5. British type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 2. West-asia. Siberia.  
 Algeria. Canaries. — Iceland. (America).

400. *Scleranthus perennis*, Linn.

Provinces [1 - 3] 4 [5] 6 [7 - 9 - - - - 15]. Native.  
 Lat. 52—53. Suffolk! Norfolk! Radnor!  
 Zone 1. Low grounds. [Kent? Surrey? Chester?].  
 Census 2 3 4. Ireland 0. English-germanic type.  
 Europe all, except Lapland and Finmark.  
 Russia - - 4 3. Siberia. N.B. An intermediate form of *S.*  
*annuus*, sub-perennial, is mistaken for this.

403. *Ribes nigrum*, Linn.

Provinces 1 to 16, by the records. Alien or Denizen.  
 Lat. 50—55 or 57. Devon, Wight, Kent. — Islay, Aberdeen?  
 Zones 1 2. Humber to 250 yards.  
 Census ? ? ? (Ireland). Intermediate type.  
 Europe spa ita - aus ger fra (cha net den) got nor swe lap.  
 Russia - - 4 3 2 1. India. Siberia. Davuria.  
 — N.B. Usually a garden-escape in Britain.

404. *Ribes rubrum*, Linn.

Provinces 1 to 16, by the records, usually as an Alien.  
 Lat. 50—57. Cornwall, Wight, Kent. — Isla, Aberdeen?  
 Zones 1 2 3. Humber to 350 yards.  
 Census ? ? ? (Ireland). Type ... ?  
 Europe all, native or assumed as native.  
 Russia 6 - 4 3 2 1. Himalaya. Siberia. Kamtschatka.  
 — America. Columbia. N.B. See the next.

404. *Ribes (rubrum) petræum*, Sm.

Province - - - - - 10 11 12 - - 15 16. Native.  
 Lat. 54—57. Cumberland, Westmoreland. — Isla, Elgin.  
 Zones - 2 3. North Yorkshire, 100—500 yards; J. G. Baker.  
 Census 5 7 13. Ireland 0. Scottish-intermediate type.  
 Europe. Not distinguished from *R. rubrum*.  
 — N.B. This is treated apart, as some approach towards showing  
 the truly native area of *R. rubrum*.

405. *Ribes alpinum*, Linn.

Provinces - - - - (5 6) 7 8 9 10 11 12 (13 14 15). Native.  
 Lat. 53—55. Stafford? North Wales? — Cumberland, York.  
 Zones 1 2 ? N. Yorkshire to 250 yds., "clearly indigenous;" Baker.  
 Census 6 7 15. Ireland 0. Intermediate type.  
 Europe spa ita - aus ger fra - net den got nor swe lap.  
 Russia 6 - 4 3 2 1. Himalaya. Siberia. Kamtschatka.  
 — America. Labrador; Hooker dist. arc. plants.

406. *Ribes Grossularia* et *Uva-crispa*, Linn.

Provinces 1 to 15, by records. Denizen in 9 to 12?  
 Lat. 54—56. Cumberland, Westmoreland, York, Lancaster, etc.  
 Zones (1) 2 3. Lakes to 300 yards. Humber the same.  
 Census ? ? ? (Ireland). Intermediate type?  
 Europe all, except Lapland and Finmark.  
 Russia 6 - 4 3 2. India.  
 Algeria. — N.B. Doubtful where native.

407. *Tillæa muscosa*, Linn.

Provinces 1 2 (3) 4. Native.  
 Lat. 50—53. Cornwall, Devon, Dorset, Hants, Suffolk, Norfolk.  
 Zone 1. Low grounds. Spreading more widely of late?  
 Census 3 6 8. Ireland 0. English-germanic type.  
 Europe spa ita tur - ger fra cha net. Holland.  
 — Not in Russia or Asia? Eastward to Greece.  
 Algeria. Canaries. Azores.

408. *Sedum Rhodiola*, De Cand.

Provinces - - - - - 6 7 - - 10 11 12 13 14 15 16 17 18. Native.  
 Lat. 51 or 52—61. Glamorgan or Brecon. — Orkney, Shetland.  
 Zones - 2 3 4 5 6. Highlands to 1300 yards. Coast rocks, N.B.  
 Census 11 17 26. Ireland 7. Highland type of distribution.  
 Europe - ita - aus ger fra - - - - nor swe lap fin.  
 Russia - - - 3 - 1. Himalaya.  
 — Faroe. Iceland. Greenland. America. Columbia.

409. *Sedum Telephium*, Linn.

Provinces 1 to 16 - (18). Native, but only Denizen northward.  
 Lat. 50—57 Cornwall, Wight, Kent. — Argyle, Perth?  
 Zones 1 2 3. Humber to 400 yards. Lakes to 150 yards.  
 Census 16 29 60? Ireland 5 (5). English-british type.  
 Europe all, except Lapland and Finmark.  
 Russia 6 - 4 3 2. India. Siberia. Kamtschatka.  
 — (America, introduced). A single species in Britain?



410. *Sedum villosum*, Linn.

Provinces - - - - - [9] 10 11 12 13 14 15 16. Native.  
 Lat. 54—58. Westmoreland, York. — Argyle, Elgin.  
 Zones - - - 3 4. Humber 200—700 yds. Highlands to 660 yds.  
 Census 7 10 25. Ireland 0. Highland type of distribution.  
 Europe spa ita - aus ger fra - - - - nor - lap. Transylvania.  
 Russia - - 3. Lithuania only, by Led. flo. ros.  
 — Faroe. Iceland. Greenland.

412. *Sedum anglicum*, Huds.

Provinces 1 2 3 4 5 6 7 - 9 10 11 12 13 [14] 15 16 - 18. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Hebrides, Shetland.  
 Zones 1 2 3 4 5. North Wales to 1110 yards; unusually high.  
 Census 15 26 46. Ireland 10. Atlantic-british type.  
 Europe spa - - - - fra cha - - got nor. Austria?  
 — A West-european species, reported from Transylvania.  
 — Iceland; Dr. Lauder Lindsay's Flora.

414. *Sedum acre*, Linn.

Provinces all. Native.  
 Lat. 50—60. Cornwall, Wight, Kent. — Hebrides, Orkney?  
 Zones 1 2 3. Humber to 500 yards. Lakes to 300 yards.  
 Census 18 37 90. Ireland 11. British type of distribution.  
 Europe all.  
 Russia 6 5 4 3 2 1. Siberia.  
 Algeria. — Iceland; Hooker list, from Zoega.

416. *Sedum rupestre*, Huds. “*S. elegans*, Lej.”

Provinces 1 (2 - 4) 5 6 7 [8 - 10] - 12 13. Native.  
 Lat. 51—53 or 55. N. Devon, Somerset. — Westm.? Wigton?  
 Zones 1 2. Upper limit not ascertained. Two forms.  
 Census 6 9 12. (Ireland 3). Atlantic type?  
 Europe spa ita tur aus - ger fra cha net. Germany?  
 — N.B. Confused with ‘*Forsterianum*’ and ‘*reflexum*.’  
 — Iceland; Lauder Lindsay's Flora. Error?

416. *Sedum Forsterianum*, Sm.

Provinces [1 - - 4] 5 6 7. Native. Two forms under this name.  
 Lat. 51—54. Glamorgan? Heref., Radnor. — Carn., Denbigh?  
 Zones 1 2. Altitude not ascertained.  
 Census 3 4 5. Ireland 0. Atlantic type of distribution.  
 Europe. Germany, if *S. aureum*, of Wirtgen, identical.  
 — N.B. Four forms occur in West Britain, confusedly ap-  
 portioned to the two names of 'Forsterianum' and 'rupestre.'

418. *Cotyledon Umbilicus*, Linn.

Provinces 1 2 3 [4] 5 6 7 8 9 10 - 12 13 - - 16. Native.  
 Lat. 50—57. Cornwall, Wight, Kent. — Mid Ebudes, Argyle.  
 Zones 1 2 3. North Wales to 350 yards.  
 Census 12 22 46. Ireland 11. Atlantic-english type.  
 Europe spa ita tur aus ger fra cha. Tessin for "ger."  
 West-asia. Brought from Lycia or Caria; D. Don.  
 Algeria. Canaries. Azores.

422. *Saxifraga stellaris*, Linn.

Prov. [1] - - - - 7 - - 10 11 12 13 14 15 16 17 18. Native.  
 Lat. 52—59. Montgomery, Merioneth. — Hebrides, Sutherland.  
 Zones - - 3 4 5 6. Highlands to 1440 yards. Wales 150—?  
 Census 10 14 30. Ireland 7. Highland type of distribution.  
 Europe spa ita tur aus ger fra - - - - nor swe lap fin.  
 Russia - - - - 1. Siberia. *S. foliolosa* in Spitsbergen, etc.  
 — Faroe. Iceland. Greenland. Labrador.

423. *Saxifraga nivalis*, Linn.

Provinces - - - - - 7 - - - - 12 - - 15 16. Native.  
 Lat. 53—57 or 58. Carnarvon, Westmorel. — Argyle, Aberdeen.  
 Zones - - - - 5 6. Highlands 700—1310 yards.  
 Census 4 5 10 Ireland 1. Highland type of distribution.  
 Europe. Switzerland? Bohemia. Scandinavia, nor swe lap fin.  
 Russia - - - - 2 1. Siberia. Spitsbergen.  
 Faroe. Iceland. Greenland. America Columbia.

424. *Saxifraga Hirculus*, Linn.

Provinces - - - - - 9 10 11 12 13 14 15. Native.  
 Lat. 53 or 54—57. [Chester, extinct], York. — Perth, Kincard.  
 Zones - 2 3. Humber 350—700 yards.  
 Census 7 8 9. Ireland 2. Scottish-intermediate type.  
 Europe - ita - aus ger fra - net den got nor swe lap fin.  
 Russia 6 - 4 3 2 1. Himalaya. Siberia. Kamtschatka.  
 — Iceland. Greenland. America. Columbia. Spitsbergen.

425. *Saxifraga aizoides*, Linn.

Provinces - - - - - [7 8 9] 10 11 12 13 - 15 16 17 18. Native.  
 Lat. 54—60. Cumberland, Westmoreland, York. — Orkney.  
 Zones - 2 3 4 5 6. Highlands 0—1050 yards.  
 Census 8 12 27. Ireland 3. Highland type of distribution.  
 Europe - ita - aus ger fra - - - - nor swe lap fin.  
 Russia - - - - 2 1. Spitsbergen.  
 — Iceland. Greenland. America. Columbia.

426. *Saxifraga oppositifolia*, Linn.

Provinces - - - - - 6 7 - - 10 - 12 13 - 15 16 17 18. Native.  
 Lat. 52—61. Brecon? Merioneth, Carnarvon. — Orkney, Shetl.  
 Zones - - 3 4 5 6. Highlands 0—1310 yards.  
 Census 9 14 22. Ireland 4. Highland type of distribution.  
 Europe spa ita - aus ger fra - - - - nor swe lap fin.  
 Russia - - - - 1. Himalaya. Siberia. Spitsbergen.  
 — Faroe. Iceland. Greenland. America. Columbia.

427. *Saxifraga granulata*, Linn.

Provinces - 2 3 4 5 7 8 9 10 11 12 13 14 15 - - (18). Native.  
 Lat. 50—58. Dorset, Hants, Kent. — Elgin, Banff.  
 Zones 1 2 3. Humber to 500 yards. Lakes to 250 yards.  
 Census 13 24 57. Ireland 2. British-intermediate type.  
 Europe all, except Lapland and Finmark.  
 Russia - - 4 3. Himalaya. North Asia; Hook. dist. arc.  
 Algeria. — Iceland; Lindsay Flo.

428. *Saxifraga cernua*, Linn.

Province ----- 15. Native.  
 Lat. 56—57. On Ben Lawers, Mid Perth.  
 Zone ----- 6. Altitude about 1300 yards.  
 Census 1 1 1. Ireland 0. Highland type of distribution.  
 Europe - ita - aus ger ----- nor swe lap fin.  
 Russia ----- 2 1. Himalaya. Siberia. Kamtschatka.  
 — Iceland. Greenland. America. Columbia. Spitsbergen.

429. *Saxifraga rivularis*, Linn.

Provinces ----- 15 16. Native.  
 Lat. 56—57 or 58. Westernness, Aberdeen, Perth, Forfar?  
 Zones ----- 6. Highlands 1000—1200 yards.  
 Census 2 3 3. Ireland 0. Highland type of distribution.  
 Europe ----- nor swe lap fin.  
 Russia ----- 1. Siberia. Kamtschatka. Spitsbergen.  
 — Faroe? Iceland. Greenland. America. Columbia.

430. *Saxifraga tridactylites*, Linn.

Prov. 1 2 3 4 5 6 7 8 9 10 11 12 - 14 15 17. Native.  
 Lat. 50—58. Cornwall, Wight, Kent. — Ross, Sutherland.  
 Zones 1 2 3. Humber to 600 yards. Lakes to 300 yards.  
 Census 15 30 64. Ireland 11. British-english type.  
 Europe all, except Finmark.  
 Russia 6 - 4 3 2 1. West-asia? Eastern Siberia.  
 Algeria. — Iceland; Hooker list, from Zoega.

431. *Saxifraga hypnoides*, Linn.

Prov. 1 [2] - - 5 6 7 8 - 10 11 12 13 14 15 16 17 18. Native.  
 Lat. 51—59 or 60. N. Somerset, Glamorgan. — Sutherl., Ork.  
 Zones ? 2 3 4 5 6. Highlands to 1300 y. Somerset below 200 y.  
 Census 14 19 37. Ireland 7. Scottish-highland type.  
 Europe spa - - aus - fra - net. Norway?  
 Russia? Synonyms and habitats uncertain.  
 — Faroe. Iceland. Greenland; Giessecke.

431. *Saxifraga decipiens*, "Ehrh." Eng. bot. ed. 3.

Provinces - - - - - 7 [8 - - - 12]. Native.

Lat. 53—54. Carnarvonshire only?

Zones - - - - ? Altitude not ascertained.

Census 1 1 1. Ireland 0. Local type.

Europe? Distribution not ascertained. It is to be feared that the habitats of *S. decipiens*, *cæspitosa*, and *hypnoides* are much confused together in books. Faroe? Iceland?432. *Saxifraga cæspitosa*, "Linn." Eng. bot. edit. 3.

Provinces - - - - - 15 16. Native.

Lat. 56—58, about 57. Banff. Westernness. [Aberdeen, etc.]

Zone - - - - 6. Altitude not ascertained.

Census 2 2 2. Ireland 0. Highland type of distribution.

Europe spa - tur aus ger fra - - - - nor swe lap fin. Hab. unc.

Russia - - - - 1. Arctic Siberia. Spitsbergen.

— Faroe. Iceland. Greenland. America. Columbia.

434. *Chrysosplenium oppositifolium*, Linn.

Provinces all. Native.

Lat. 50—60. Cornwall, Wight, Kent. — Sutherland, Orkney.

Zones 1 2 3 4 5 6. Highlands to 1110 yards; also at 1060, etc.

Census 18 35 87. Ireland 12. British-highland type.

Europe spa ita - aus ger fra cha net den - nor.

Russia - - 3. "Himalaya." Siberia?

— Columbia? *C. oppositifolium* var. *Scouleri*; Hook. bor. am.435. *Chrysosplenium alternifolium*, Linn.

Provinces 1 to 16. Native.

Lat. 50—58. Dorset, Hants, Kent. — Nairn, Elgin.

Zones 1 2 3 4 5 Highlands to 1060 yards; also at 900, etc.

Census 16 26 65. Ireland 2. British-scottish type.

Europe all, unless Spain to be excepted.

Russia 6 - 4 3 2 1. Himalaya. Siberia. Kamtschatka.

— Greenland. America. Col. *C. tetrandrum* in Spitsbergen.

436. *Parnassia palustris*, Linn.

Provinces [1] 2 3 4 5 - 7 to 18. Native. [Somerset].  
 Lat. 50—61. [Dorset], South Hants. — Orkney, Shetland.  
 Zones 1 2 3 4 5. Highlands to 900 yards. Lakes to 600 yards.  
 Census 16 29 64. Ireland 11. Scottish-british type.  
 Europe all.  
 Russia 6 5 4 3 2 1. West-asia. Himalaya. Siberia.  
 Algeria. — Iceland. America. Columbia.

437. *Adoxa Moschatellina*, Linn.

Provinces 1 to 15 - 17. Native.  
 Lat. 50—58. Cornwall, Wight, Kent. — East Ross.  
 Zones 1 2 3 4 5 6. Highlands to 1080 yards; rarely so high.  
 Census 16 32 74. Ireland 1. British type of distribution.  
 Europe all, except Turkey.  
 Russia 6 - 4 3 2 1. Himalaya. Siberia. Kamtschatka.  
 — America. Columbia.

438. *Hedera Helix*, Linn.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Humber to 450 yards. Lakes to 350 yards.  
 Census 18 37 91. Ireland 12. British type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3. India.  
 Algeria? Canaries? Azores? A distinct species there?

439. *Cornus sanguinea*, Linn.

Provinces 1 to 12 (13 14 15 16). Native in England.  
 Lat. 50—55. Cornwall, Wight, Kent. — Cumberland, Durham.  
 Zones 1 2. Humber to 300 yards.  
 Census 12 25 56. Ireland 2 (3). English type of distribution.  
 Europe spa ita tur aus ger fra cha net deu got nor.  
 Russia 6 5 4 3. West-asia. Siberia.  
 — (Isla and Elgin, North Britain; but introduced).

440. *Cornus suecica*, Linn.

Provinces - - - - - 10 11 - - [14] 15 16 17. Native.  
 Lat. 54—59. North-east York, Cheviotland. — Ross, Sutherl.  
 Zones 2 3 4 5. Highlands 300—950 y. Humber 150—250 y.  
 Census 5 8 13. Ireland 0. Highland type of distribution.  
 Europe - - - - - net den got nor swe lap fin. N.W. Germany.  
 Russia - - - 3 2 1. Eastern Siberia. Kamtschatka.  
 — Faroe. Iceland. Greenland. America. Columbia.

441. *Hydrocotyle vulgaris*, Linn.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Lakes to 350 yards. Humber to 300 yards.  
 Census 18 37 86. Ireland 12. British type of distribution.  
 Europe spa ita tur aus ger fra cha net den got nor.  
 Russia 6 - - 3. Caucasia, Lithuania, Poland.  
 Barbary. — Iceland; W. J. Hooker.

442. *Sanicula europæa*, Linn.

Provinces 1 to 17. Native.  
 Lat. 50—59. Cornwall, Wight, Kent. — Ross, Sutherland.  
 Zones 1 2 3. Lakes to 350 yards. Humber to 350 yards.  
 Census 17 33 81. Ireland 12. British type of distribution.  
 Europe all, except Lapland and Finmark. Aland.  
 Russia 6 5 4 3. Finland; Fries sum. veg.  
 North Africa? “Equatorial Africa.”

444. *Eryngium maritimum*, Linn.

Prov. 1 2 3 4 - 6 7 8 9 10 11 12 13 14 15 16 - [18]. Native.  
 Lat. 50—57. Cornwall, Wight, Kent. — Mid Ebudes, Aberdeen.  
 Zones 1 2. Littoral. [Shetland, casually?].  
 Census 15 24 44. Ireland 8. English-british type.  
 Europe spa ita tur aus ger fra cha net den got nor.  
 Russia 6 5 4. Finland; Fries sum. veg.  
 Algeria.

445. *Eryngium campestre*, Linn.

Provinces 1 - - 4 (5) 6 - - [9 10] 11. Denizen.  
 Lat. 50—55. S. Devon! N. Somerset! Glamorgan! Durham!  
 Zones 1 2. Coast-level. Extinct in Suffolk and Northampton.  
 Census 3 4 4. (Ireland). English-local type.  
 Europe spa ita tur aus ger fra oha net. (Denmark).  
 Russia 6 5 4 3. Western Siberia.  
 Algeria. Egypt.

446. *Conium maculatum*, Linn.

Provinces all. Native; becoming doubtfully so northward.  
 Lat. 50—59. Cornwall, Wight, Kent. — Caithness. Ork.; Neill.  
 Zones 1 2 3. Humber to 300 yards. Lakes to 250 yards.  
 Census 18 36 90. Ireland 11. British type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 2. Siberia.  
 Algeria. Canaries. Azores. — (America).

447. *Physospermum cornubiense*, De Cand.

Province 1. Native.  
 Lat. 50—51. Cornwall, South Devon.  
 Zone 1. Low grounds.  
 Census 1 2 2. Ireland 0. Atlantic-local type.  
 Europe spa ita tur - - fra. Danæa aquilegifolia.  
 Russia 6 5. N.B. The identity of the Danæa and Physospermum  
 appears still an unsettled question.

448. *Smyrniolum Olusatrum*, Linn.

Provinces 1 to 15. Denizen on coast. Alien inland?  
 Lat. 50—57 (or 58). Cornwall, Wight, Kent. — Stirling, (Aberd.)  
 Zones 1 2. Littoral; possibly native on the coast.  
 Census 15 22 35. (Ireland 12). English type of distribution.  
 Europe spa ita tur aus - fra cha net. Holland.  
 Russia 6 - 4. West-asia. Cyprus.  
 Algeria. Canaries. Azores.



449. *Cicuta virosa*, Linn.

Provinces 1 2 3 4 5 - - 8 9 10 11 12 13 14 15 16. Native.  
 Lat. 50—57. Dorset, Sussex? Kent? — Dunbarton, Forfar.  
 Zones 1 2. Low grounds. Many erroneous records?  
 Census 14 20 24. Ireland 5. English type?  
 Europe - ita - aus ger fra ? net den got nor swe lap.  
 Russia - - 4 3 2 1. Siberia. Kamtschatka.  
 — America? Columbia? In Scandinavia it is var. *tenuifolia*.

450. *Apium graveolens*, Linn.

Provinces 1 to 13 (14 15) 16. Native.  
 Lat. 50—57. Cornwall, Wight, Kent. — Cantire, Northumb.  
 Zones 1 2. Littoral. Inland in province 5.  
 Census 14 23 48. Ireland 6. English type of distribution.  
 Europe spa ita tur aus ger fra cha net den got nor.  
 Russia 6 5 4 3. West-asia. India.  
 Algeria. Canaries. Azores. — Columbia? “South America.”

452. *Petroselinum segetum*, Koch.

Provinces 1 2 3 4 5 6 - 8 - 10 - - - - [16]. Native.  
 Lat. 50—54. Cornwall, Wight, Kent. — Lincoln, York.  
 Zones 1 2. Low grounds.  
 Census 8 18 32. Ireland 0. English type of distribution.  
 Europe - - - - ger fra cha net. Belgium.  
 Russia 6. Western Temperate Asia; Helmsley.  
 — N.B. Portugal and Turkey also recorded for this plant.

453. *Trinia vulgaris*, De Cand.

Provinces 1 - - - 5 - [7 - - - - 12]. Native.  
 Lat. 50—52. South Devon, North Somerset, West Gloucester.  
 Zone 1. [Hereford, Carnarvon, Cumberland, erroneously].  
 Census 2 3 3. Ireland 0. Atlantic-local type.  
 Europe spa ita tur aus ger fra cha net. Belgium.  
 Russia 6 5 4 3.  
 — In Europe, southward to Greece.

454. *Helosciadium nodiflorum*, Koch.

Provinces 1 to 14 [15] 16. Native. Including H. "repens."  
 Lat. 50—56. Cornwall, Wight, Kent. — Isla, Haddington.  
 Zones 1 2. Humber to 250 yards.  
 Census 15 29 72. Ireland 12. English type of distribution.  
 Europe spa ita tur aus ger fra cha net. Denmark?  
 Russia - - - 3. Lithuania only.  
 Algeria. Canaries. Azores. — (America).

455. *Helosciadium inundatum*, Koch.

Provinces 1 to 17; perhaps to 18. Native.  
 Lat. 50—58 or 60. Cornwall, Wight, Kent. — Ross, Orkney?  
 Zones 1 2 3. Humber to 550 yards. Highlands to 250 yards.  
 Census 17 33 72. Ireland 11. British type of distribution.  
 Europe - ita - aus ger fra cha net den got.  
 Russia - - - 3. N.B. Dr. Neill included this among plants  
 observed in Orkney; not found there by others.

456. *Sison Amomum*, Linn.

Provinces 1 2 3 4 5 6 7 8 9 10 (11 - - 14). Native?  
 Lat. 50—54. Cornwall, Wight, Kent. — Chester, York.  
 Zones 1 2. Low grounds.  
 Census 10 23 49. Ireland 0. English type of distribution.  
 Europe - ita tur aus ger fra cha. Normandy.  
 West-asia? N.B. Looks indigenous in Southern England. Dr.  
 Johnston thought it introduced into its single Scottish locality.

457. *Ægopodium Podagraria*, Linn.

Provinces 1 to 16 - (18). Native? Denizen in N. Britain.  
 Lat. 50—58. Cornwall, Wight, Kent. — Elgin. (Orkney).  
 Zones 1 2 3. Humber to 250 yards. Highlands to 150 yards.  
 Census 16 32 69. Ireland 9. British-english type.  
 Europe - ita tur aus ger fra cha net den got swe.  
 Russia 6 - 4 3 2. West-asia. Siberia.  
 — Always near inhabited places in Britain?

459. *Carum verticillatum*, Koch.

Provinces 1 - - - - 6 7 - - - - 12 13 - - 16]. Native.  
 Lat. 50—57. Devon? Glamorg., Pembroke. — Dunbarton, Argyle.  
 Zones 1 2 3. Low grounds.  
 Census 6 8 17. Ireland 2. Atlantic type of distribution.  
 Europe spa - - - ger fra cha net. Holland. Corsica?  
 — N.B. If truly found in Corsica, then “ita” should be added in  
 the line above. Barbary?

460 *Carum Bulbocastanum*, Koch.

Provinces - [2] 3 4. Native.  
 Lat. 52—53. Hertford, Bedford, Cambridge. [Wilts, Middx.]  
 Zone 1. Low grounds.  
 Census 2 2 3. Ireland 0. Germanic-local type.  
 Europe spa ita - aus ger fra cha net. Belgium.  
 Russia 6. Siberia.  
 Algeria.

461. *Bunium flexuosum*, With.

Provinces all. Native. Shetland; G. Tate.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Highlands to 530 yards. Lakes to 410 yards.  
 Census 18 37 65. Ireland 11. British type of distribution.  
 Europe spa ita - - fra cha net - nor. Corsica.  
 Russia? By the references (erroneously?) to Smith and De Candolle,  
 in the Fl. Ros., this would appear to grow in Crimea and Caucasia.

462. *Pimpinella Saxifraga*, Linn.

Provinces 1 to 17. Native.  
 Lat. 50—59. Cornwall, Wight, Kent. — North-west Sutherland.  
 Zones 1 2 3 4. Highlands to 570 yards. Lakes to 600 yards.  
 Census 17 34 89. Ireland 10. British type of distribution.  
 Europe all, except Finmark.  
 Russia 6 5 4 3 2. Siberia. Davuria.  
 — In Europe, southward to Grenada.

463. *Pimpinella magna*, Linn.

Provinces 1 2 3 4 5 - - 8 9 10 11 - - (14 15). Native.  
 Lat. 50—55 (or 57). Devon, Sussex, Kent. — York, Durham.  
 Zones 1 2. Humber to 150 yards. (Fife or Perth; Dewar!)  
 Census 9 18 37. Ireland 5. English-germanic type.  
 Europe spa ita - aus ger fra cha net den got nor (swe).  
 Russia 6 - 4 3. N.B. Reported from province 14 in the Flora  
 of Edinburgh, by Professor Balfour. Correctly so?

464. *Sium latifolium*, Linn.

Provinces 1 2 3 4 5 - 7 8 - 10 11 12 - 14 15. Native.  
 Lat. 50 or 51—57. Cornwall? Sussex, Kent. — Stirling or Fife.  
 Zones 1 2. Low grounds.  
 Census 12 23 35. Ireland 5. English-germanic type.  
 Europe all, except Turkey and Finmark.  
 Russia - - 4 3 2.  
 — America? Columbia? The European species?

465. *Sium angustifolium*, Linn.

Provinces 1 to 15 - - [18]. Native.  
 Lat. 50—58. Cornwall, Wight, Kent. — Kincardine, Elgin.  
 Zones 1 2. Low grounds.  
 Census 15 30 66. Ireland 8. English-british type.  
 Europe spa ita tur aus ger fra cha net den got.  
 Russia 6 - 4 3. West-asia. India.  
 — N.B. Common in Orkney, according to Neill; an error?

466. *Bupleurum tenuissimum*, Linn.

Provinces 1 2 3 4 5 - - 8 9 - 11. Native.  
 Lat. 50—55. Dorset, Wight, Kent. — Lancashire, Durham.  
 Zones 1 2. Low grounds.  
 Census 8 14 20. Ireland 0. English-germanic type.  
 Europe spa ita tur aus ger fra cha net den got.  
 Russia 6. Caucasus; Bieb. flo. taur. cau.  
 Algeria.

467. *Bupleurum aristatum*, Barth.

Provinces 1 2 - - [5]. Native.

Lat. 50—51. South Devon, East Sussex.

Zone 1. Coast-level, or low grounds.

Census 2 2 2. Ireland 0. Atlantic-english type.

Europe spa ita tur aus - fra cha.

Russia 6. [Reported for Worcestershire, by Mr. Edwin Lees ;  
but very likely some error in nomenclature.]

468. *Bupleurum falcatum*, Linn.

Province - - 3. Native ; Gibson's Flora of Essex.

Lat. 51—52. Essex only, between Ongar and Chelmsford.

Zone 1. Low grounds.

Census 1 1 1. Ireland 0. Local-germanic type.

Europe - ita - aus ger fra cha net. Belgium.

Russia 6 5 4 3. Eastward to Japan ; Mr. Helmsley, in the  
Journal of Botany. Ceylon ; Mr. Thwaites.

469. *Bupleurum rotundifolium*, Linn.

Provinces 1 2 3 4 5 - - 8 (9) 10 11. Native.

Lat. 50—55. Dorset? Wight, Kent. — York, Durham.

Zones 1 2. Low grounds.

Census 8 17 35. Ireland 0. Germanic type of distribution.

Europe spa ita tur aus ger fra cha net (den got).

Russia 6 5 4 3. West-asia.

Barbary? — (America, introduced).

470. *Oenanthe fistulosa*, Linn.

Provinces 1 to 16 ; but authority wanted for no. 12. Native.

Lat. 50—58. Cornwall, Wight, Kent. — Dunbarton, Argyle.

Zones 1 2 3. Low grounds.

Census 15 28 56. Ireland 8. English-british type.

Europe spa ita tur aus ger fra cha net den got.

Russia 6 - - 3 2.

Algeria.

471. *Oenanthe pimpinelloides*, Linn.

Provinces 1 2 3 4 5. Native. Not "pimpinelloides" of Smith, etc.  
 Lat. 50—53. Devon, Wight, Sussex. — Worcester, Suffolk.  
 Zone 1. Low grounds. Many false localities on record.  
 Census 4 8 12. Ireland 0. English type of distribution.  
 Europe spa ita tur aus ger fra cha net. Belgium.  
 Russia - 5. West-asia. Lycia or Caria; Fellowes.  
 Algeria.

471\*. *Oenanthe Lachenalii*, Gmel.

Provinces 1 to 14 - 16. Native. *Oe. pimpinelloides* of old authors.  
 Lat. 50—57. Cornwall, Wight, Kent. — Argyle, Haddington.  
 Zones 1 2. Littoral. Occasionally inland.  
 Census 15 28 55. Ireland 7. English-british type.  
 Europe spa ita - - ger fra cha net den.  
 Russia 6. N.B. Until a recent date, this was named "pimpinelloides" in books on British botany.

472. *Oenanthe silaifolia*, Bieb.

Provinces [1] 2 3 4 5 [6 7] 8 [9 10 11 - 13]. Native.  
 Lat. 50—54. Dorset, Sussex, Kent. — Notts, Lincoln.  
 Zones 1 2. Low grounds. Many erroneous localities.  
 Census 5 7 13. Ireland 0. English-germanic type.  
 Europe - ita - aus - fra cha net. Habitats uncertain.  
 Russia 6 5.  
 Algeria. In Britain, confused with "Lachenalii."

473. *Oenanthe crocata*, Linn.

Provinces 1 to 16. Native.  
 Lat. 50—58. Cornwall, Wight, Kent. — Argyle, Elgin.  
 Zones 1 2 3. Lakes to 250 yards.  
 Census 16 30 70. Ireland 9. British-english type.  
 Europe spa ita - aus - fra cha. Belgium?  
 — N.B. Some of the British examples closely resemble those distributed by Borgeau, no. 1889, as *Oe. apiifolia* of Brotero.

474. *Oenanthe Phellandrium*, Linn.

Provinces 1 2 3 4 5 - 7 8 9 10 11 12 - 14 - [16]. Native.  
 Lat. 50—56. Devon, Hants, Kent. — Cumberland, Haddington.  
 Zones 1 2. Low grounds.  
 Census 12 21 48. Ireland 9. English-germanic type.  
 Europe spa ita - aus ger fra cha net den got nor swe.  
 Russia 6 - 4 3 2. Siberia.  
 —. Southward to Andalusia and Sicily.

474\*. *Oenanthe fluviatilis*, Coleman.

Provinces 1 2 3 4 5 - - 8. Native; but a dubious species.  
 Lat. 50—53. Dorset, Hants, Kent. — Leicester, Cambridge.  
 Zone 1. Low grounds.  
 Census 6 11 20. Ireland 1. English-germanic type.  
 Europe? If existent in European countries, beyond the British  
 islands, it would seem not to be distinguished by foreign  
 botanists from the ordinary *Phellandrium*.

475. *Æthusa Cynapium*, Linn.

Provinces 1 to 15 - - (18). Native. Colonist in N. Britain.  
 Lat. 50—58. Cornwall, Wight, Kent. — Elgin. (Orkney).  
 Zones 1 2 3. Humber to 200 or 300 yards. Lakes to 200 yds.  
 Census 15 31 78. Ireland 10. British-english type.  
 Europe - ita tur aus ger fra cha net den got nor swe.  
 Russia 6 5 4 3 2. Siberia.  
 — (America, introduced).

476. *Feniculum vulgare*, Gaertn.

Provinces 1 2 3 4 5 6 7 (8 9 10 11 12) - [14 15]. Native?  
 Lat. 50—54. Cornwall, Dorset, Kent. — Anglesea, Carnarvon.  
 Zone 1. Littoral; on coast cliffs. Alien in most localities.  
 Census 7 10 21. Ireland 3 (3). English type of distribution.  
 Europe spa ita tur (aus ger) fra cha net. (Scandinavia).  
 Russia 6 - (4 3). India.  
 Algeria. Canaries. Azores.

477. *Seseli Libanotis*, Linn.

Province - 2 3 4 - - - - - [12]. Native.  
 Lat. 50—53. Sussex, Herts, Cambridge. Bucks?  
 Zone 1. Low grounds.  
 Census 3 3 3. Ireland 0. Germanic-local type.  
 Europe - ita - aus ger fra cha net den got nor swe.  
 Russia 6 - 4 3 2. Himalaya.  
 —. Cumberland, on worthless testimony.

478. *Ligusticum scoticum*, Linn.

Provinces - - - - - 11 - 13 14 15 16 17 18. Native.  
 Lat. 55—61. Ayr, Cheviotland. — Orkney, Shetland.  
 Zones 1 2. Littoral.  
 Census 7 12 20. Ireland 2. Scottish type of distribution.  
 Europe - - - - - den got nor - lap fin.  
 Russia - - - - - 1. Eastern Siberia. Kamtschatka.  
 — Faroe. Iceland. Greenland. America. Columbia.

479. *Silaus pratensis*, Bess.

Provinces 1 to 12 - 14 15. Native.  
 Lat. 50—57. Devon, Wight, Kent. — Cumberland, Fife.  
 Zones 1 2. Lakes to 300 yards. Humber to 300 yards.  
 Census 14 25 59. Ireland 1. English type of distribution.  
 Europe - ita - aus ger fra cha net - got.  
 Russia - - - 3 2. Siberia.  
 —. Southward to South France, North Italy, Transylvania.

480. *Meum Athamanticum*, Jacq.

Provinces - - - - - 7 - 9 10 11 12 13 [14] 15 16. Native.  
 Lat. 52—58. Merioneth, York. — Dumbarton, Moray.  
 Zones - 2 3. Highlands to 460 yards. Humber 300—350 yds.  
 Census 8 11 21. Ireland 0. Scottish-intermediate type.  
 Europe spa ita - aus ger fra - net. Belgium.  
 —. Distribution much restricted; eastward to Transylvania;  
 southward to Naples; northward to Germany and Belgium.



481. *Crithmum maritimum*, Linn.

Provinces 1 2 3 [4] - 6 7 [9] - - 12 13 [14]. Native.  
 Lat. 50—56. Cornwall, Wight, Kent. — Wigton, Ayr.  
 Zones 1 2. Coast-level. Formerly found in province 4?  
 Census 9 13 24. Ireland 9. Atlantic type of distribution.  
 Europe spa ita tur aus - fra cha.  
 Russia - 5.  
 Algeria. Canaries. Azores.

482. *Angelica sylvestris*, Linn.

Provinces all.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4 5. Highlands to 900 yards; also at 820, 670, etc.  
 Census 18 38 94. Ireland 12. British type of distribution.  
 Europe all.  
 Russia 6 - 4 3 2 1. West-asia. Siberia. Davuria.  
 — Faroe. Iceland.

483. *Peucedanum officinale*, Linn.

Provinces [- 2] 3 [4 - - - 8]. Native.  
 Lat. 51—52. Kent, Essex. [Sussex, Norfolk, Leic., Notts.]  
 Zone 1. Coast-level.  
 Census 1 2 2. Ireland 0. Germanic-local type.  
 Europe spa ita tur aus ger fra - net.  
 Russia 6 - - 3. Siberia.  
 — N.B. *Oenanthe Lachenalii* occasionally mistaken for this plant.

484. *Peucedanum palustre*, Moench.

Provinces 1 - 3 4 [5] - - 8 [9] 10 - [12 13 14]. Native.  
 Lat. 51—53. Somerset, Essex. — York, Notts, Lincoln.  
 Zones 1 2. Low grounds.  
 Census 5 8 10. Ireland 0. Germanic-english type.  
 Europe spa ita - aus ger fra - net den got nor swe lap.  
 Russia - - 4 3 2 1. Siberia.  
 — Is there any reliable locality for this plant in Scotland?

486. *Pastinaca sativa*, Linn.

Provinces 1 2 3 4 5 6 - 8 9 10 11 - (13 - - 16). Native.  
 Lat. 50—55. Devon, Wight, Kent. — Lancaster, Durham.  
 Zones 1 2. Humber 0—200 yards, “native”; J. G. Baker.  
 Census 10 20 45. Ireland 5. English type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3. Siberia.  
 — (America, introduced).

487. *Heracleum Sphondylium*, Linn.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4 5. Highlands to 900 yds.; again at 900, 630, etc.  
 Census 18 38 97. Ireland 12. British type of distribution.  
 Europe spa ita tur aus ger fra cha net den got nor.  
 Russia - - 4 3 2. Siberia. Kamtschatka.  
 Algeria. — Columbia?

488. *Tordylium maximum*, Linn.

Provinces - - 3 - [5]. Alien or Denizen.  
 Lat. 51—52. Middlesex! Oxford, 1799, 1819. Bucks, 1803.  
 Zone 1. Low grounds. [5, Gloucester; Buckman B. G. C.]  
 Census 1 2 3. Ireland 0. English-local type.  
 Europe spa ita tur aus ger fra cha net.  
 Russia 6 5.  
 — Gathered in Middlesex by the late R. Castles.

489. *Daucus Carota*, Linn.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Hebrides, Shetland.  
 Zones 1 2 3. Humber to 300 yards.  
 Census 18 37 90. Ireland 10. British type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3. India. Siberia. Kamtschatka.  
 Algeria. Canaries. Azores. — (America, naturalised).

491. *Caucalis daucoides*, Linn.

Provinces 1 2 3 4 5 - - 8 - 10 11. Colonist.

Lat. 50—55. Dorset, Hants, Kent. — York, Durham.

Zones 1 2. "At 650 feet near Bath"; R. Withers, 1857.

Census 8 14 22. Ireland 0. Germanic-english type.

Europe spa ita tur aus ger fra cha net den.

Russia 6 5 4 3. West-asia.

Barbary.

493. *Torilis Anthriscus*, Linn.

Provinces 1 to 16. Native.

Lat. 50—58. Cornwall, Wight, Kent. — Isla, Moray.

Zones 1 2 3. Humber to 450 yards. Lakes to 300 yards.

Census 16 33 88. Ireland 12. British-english type.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3. India.

Algeria.

494. *Torilis infesta*, Spreng.

Provinces 1 to 10 - - - [14 16]. Colonist.

Lat. 50—55. Devon, Wight, Kent. — Lancaster, York.

Zones 1 2. Low grounds.

Census 10 22 46. Ireland 0. English type of distribution.

Europe spa ita tur aus ger fra cha net. Holland.

Russia 6 5 4.

Algeria. Egypt. Canaries? Azores?

495. *Torilis nodosa*, Gaertn.

Provinces 1 to 12 - 14 15. Native.

Lat. 50—57. Cornwall, Wight, Kent. — Cumberland, Forfar.

Zones 1 2. Low grounds.

Census 14 27 62. Ireland 7. English type of distribution.

Europe spa ita tur aus - fra cha net den.

Russia 6 5. West-asia. India.

Algeria. Canaries.

496. *Scandix Pecten-Veneris*, Linn.

Provinces 1 to 15 - 17 (18). Colonist. (18, Orkney!)  
 Lat. 50—58. Cornwall, Wight, Kent. — Moray, Ross.  
 Zones 1 2 3. Humber to 350 yards.  
 Census 16 31 78. Ireland 10. British-english type.  
 Europe spa ita tur aus ger fra cha net den got.  
 Russia 6 5 - 3. West-asia. India.  
 Algeria. Canaries.

497. *Anthriscus vulgaris*, Pers.

Provinces 1 to 15 - 17 18. Native. Shetland?  
 Lat. 50—58 or 61. Cornwall, Wight? Kent. — Sutherland.  
 Zones 1 2 3. Low grounds.  
 Census 16 28 57. Ireland 6 (2). British type of distribution.  
 Europe spa ita tur aus ger fra cha net den got.  
 Russia 6 5 - 3. West-asia. Siberia.  
 Algeria.

498. *Anthriscus sylvestris*, Hoffm.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Highlands to 430 yards. Humber to 450 yards.  
 Census 18 37 90. Ireland 12. British type of distribution.  
 Europe all.  
 Russia 6 5 4 3 2 1. Siberia. Davuria.  
 North Africa?

500. *Chærophillum temulum*, Linn.

Provinces 1 to 17. Native.  
 Lat. 50—58. Cornwall, Wight, Kent. — Moray, Ross.  
 Zones 1 2 3. Humber to 400 yards. Lakes to 300 yards.  
 Census 17 33 82. Ireland 3. British-english type.  
 Europe spa ita tur aus ger fra cha net den got nor (swe).  
 Russia 6 5 4 3. West-asia? "Davuriā; Pallas."  
 Algeria.

501. *Myrrhis odorata*, Scop.

Prov. (1 - 3 - 5 6 7 8) 9 10 11 12 13 (14 15 16 17 18). Denizen.  
 Lat. 53—56. Chester, Derby. — Renfrew, Northumberland.  
 Zones - 2 3. Humber 0—400 yards. Lakes to 300 yards.  
 Census 5 8 15. (Ireland 5). Intermediate type?  
 Europe spa ita tur aus ger fra - (net den got nor swe).  
 Russia 6 - - (3). West-asia.  
 — Best established in Mid Britain; but always an Alien?

503. *Viscum album*, Linn.

Provinces 1 2 3 4 5 - 7 8 (9) 10 (11 - - - 15). Native.  
 Lat. 50—54. Devon, (Wight), Kent. — Denbigh, York.  
 Zones 1 2. Low grounds.  
 Census 8 17 34. [Ireland]. English-germanic type.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3. Siberia.

—.

504. *Sambucus nigra*, Linn.

Provinces 1 to 16 (17 18). Native. Denizen in N.B.  
 Lat. 50—57 (60). Cornwall, Wight, Kent. — Isla, Fife.  
 Zones 1 2 (3). North Yorkshire to 450 yards; Baker.  
 Census 16 30 70. Ireland 12. British-english type.  
 Europe spa ita tur aus ger fra cha net den got nor (swe).  
 Russia 6 5 4 3.  
 (Algeria. Madeira. Azores).

505. *Sambucus Ebulus*, Linn.

Provinces 1 to 15 - (17). Denizen. Decreasing?  
 Lat. 50—57. Devon, Wight, Kent. — Forfar. (Ross).  
 Zones 1 2 (3). North Yorkshire 0—200 yards; “indigenous.”  
 Census 15 25 50. (Ireland 10). English type.  
 Europe spa ita tur aus ger fra cha net (den got).  
 Russia 6 5 4 3.  
 Algeria. Madeira, dubiously native.

506. *Viburnum Opulus*, Linn.

Provinces 1 to 17. Native.

Lat. 50—58. Cornwall, Wight, Kent. — Moray, Ross.

Zones 1 2 3. Teesdale to 350 yards; Baker.

Census 17 33 70. Ireland 12. British-english type.

Europe all, except Finmark and nearly all Lapland.

Russia 6 5 4 3 2 1. Siberia. Davuria.

— *Viburnum Oxycoccos*, in America and Columbia.

507. *Viburnum Lantana*, Linn.

Provinces 1 2 3 4 5 6 - 8 - 10 (11 - 13 14 15). Native.

Lat. 50—54. Devon, Wight, Kent. — South-west York.

Zones 1 2. Low grounds. Surrey to 200 yards.

Census 8 15 34. (Ireland). English-germanic type.

Europe spa ita tur aus ger fra cha net. Belgium.

Russia 6 5 4 3.

Algeria; variety *glabrescens*.

508. *Lonicera Periclymenum*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. North of England to 500 yards.

Census 18 37 95. Ireland 12. British type of distribution.

Europe spa ita tur aus ger fra cha net den got nor.

Kamtschatka (Krascheninnikow); Ledeb. flo. ros.

Morocco; Lowe. (Madeira, introduced).

511. *Linnæa borealis*, Linn.

Provinces - - - - - 11 - - 14 15 - 17. Native.

Lat. 55—58. Northumberland, Edinburgh. — Moray, Ross.

Zones - ? 3 4 5. Highlands to 800 yards.

Census 4 6 11. Ireland 0. Scottish-highland type.

Europe - ita - aus ger - - net - got nor swe lap fin. Alpine Italy.

Russia - - - 3 2 1. Siberia. Davuria. Kamtschatka.

— America. Columbia. Newfoundland.

512. *Rubia peregrina*, Linn.

Provinces 1 2 3 [4] 5 6 7 - - - - [12 - - - 16]. Native.  
 Lat. 50—54. Cornwall, Wight, Kent. — Anglesea, Carnarvon.  
 Zone 1. Low grounds only.  
 Census 6 12 21. Ireland 6. Atlantic type of distribution.  
 Europe spa ita tur aus - fra cha.  
 Russia - - 4 3.  
 Algeria. Canaries.

513. *Galium verum*, Linn.

Provinces all. Native. *G. elato-verum* in 1 2 3.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4. Humber to 650 yards. Highlands to 580 yards.  
 Census 18 38 100. Ireland 12. British type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 2. Siberia. Davuria.  
 Algeria. — Iceland. (America, introduced).

514. *Galium cruciatum*, With.

Provinces 1 to 15 - - 18. Native.  
 Lat. 50—59. Cornwall, Wight, Kent. — Hebrides, Elgin.  
 Zones 1 2 3. Humber to 500 yards. Tyne to 400 yards.  
 Census 15 32 82. Ireland 1. British-english type.  
 Europe spa ita tur aus ger fra cha net.  
 Russia 6 5 4 3. West-asia. Siberia.  
 —.

515. *Galium palustre*, Linn.

Provinces all. Native. *G. elongatum* and *Witheringii* included.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 ? Tyne to 650 yards. Humber to 600 yards.  
 Census 18 38 95. Ireland 12. British type of distribution.  
 Europe all.  
 Russia 6 - 4 3 2 1. Siberia. Persia.  
 Algeria. Azores. — Iceland. Greenland.

516. *Galium uliginosum*, Linn.

Provinces 1 to 16 [17 18]. [Orkney; Lowe. Shetl.; Edm. flo.]  
 Lat. 50—58. Cornwall, Wight, Kent. — Skye; Lawson. Banff.  
 Zones 1 2 3. Tyne to 550 yards.  
 Census 16 30 61. Ireland, probably. British-english type.  
 Europe all, unless Turkey excepted.  
 Russia - 5 4 3 2 1. Siberia. Davuria.  
 Algeria. — Faroe. Iceland; Lindsay list. Greenland; Hook. arc.

517. *Galium saxatile*, Linn.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4 5 6. Highlands to 1280, 1230, 1120, 1100 yards.  
 Census 18 38 94. Ireland 12. British type of distribution.  
 Europe spa "ita" - aus ger fra cha net den got nor.  
 Russia? Western Siberia.  
 — Faroe. "Iceland." Greenland; Hooker distr. arc. pl.

518. *Galium erectum*, Huds.

Provinces [1] 2 3 4 5 - - 8 - 10 - - - [14 15]. Native.  
 Lat. 50—55 [or 57]. Dorset, Kent. — Derby, York.  
 Zones 1 2. Humber province at 100—150 yards.  
 Census 6 14 27. Ireland 1. Germanic-english type.  
 Europe spa ita tur "aus" - fra cha.  
 Russia, apparently absent.  
 Algeria. N.B. A species not well understood.

519. *Galium Mollugo*, Linn.

Provinces 1 2 3 4 5 6 - 8 9 10 11 12 13 14 15. Native.  
 Lat. 50—58. Cornwall, Wight, Kent. — Moray, introduced?  
 Zones 1 2 3. Humber to 350 yards. Lakes to 320 yards.  
 Census 14 27 70. Ireland 2. English-british type.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 2. Siberia.  
 Madeira? — Iceland; Hooker, from Zoega's list.



520. *Galium sylvestre*, Poll.

Provinces 1 2 [3 4] 5 - [7] 8 [9] 10 11 12 - 14 15 - - 18. Native.  
 Lat. 50—60. Dorset, Somerset. — Perth, Forfar, Orkney.  
 Zones 1 2 3 4. Humber to 800 yards. Highlands to 650 yards.  
 Census 9 13 19. Ireland 4. Intermediate-highland type.  
 Europe spa ita tur aus ger fra cha net den got nor.  
 Absent from Russia. Eastward to Transylvania.  
 — Iceland; Isaac Carroll, etc.

521. *Galium anglicum*, Huds.

Provinces ? 2 3 4 [5 6 - - 9 10]. Native. Somerset?  
 Lat. 51—53. Sussex, Kent, Essex. — Suffolk, Norfolk, Camb.  
 Zone 1. Low grounds. Many doubted localities on record.  
 Census 3 6 10. Ireland 0. Germanic type of distribution.  
 Europe spa ita tur aus ger fra cha net. *G. parisiense* included.  
 Russia 6 5 4.  
 Algeria. Canaries. Azores.

522. *Galium tricornis*, With.

Provinces 1 2 3 4 5 6 - 8 - 10 11 12. Colonist.  
 Lat. 50—56. Dorset, Wight, Kent. — Cumberl., Northumberl.  
 Zones 1 2. Low grounds. (E. Cornwall, S. Devon; Briggs).  
 Census 10 19 39. Ireland 0. Germanic-english type.  
 Europe spa ita tur aus ger fra cha net den (got).  
 Russia 6 5. India.  
 Algeria. Canaries. — (America, introduced).

523. *Galium Aparine*, Linn.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Humber to 400 yards. Tyne to 350 yards.  
 Census 18 38 96. Ireland 12. British type of distribution.  
 Europe spa ita tur aus ger fra cha net den got nor (swe lap).  
 Russia 6 5 4 3 2 1. Siberia. India. Kamtschatka.  
 Algeria. Canaries. Azores. — (America. Columbia).

524. *Galium Vaillantii*, De Cand.

Provinces - - 3. Alien or Colonist.

Lat. 52. North Essex. (*G. spurium*, casual in province 10).

Zone 1. Low grounds. [*G. "spurium"* in 4 5 8 10 11 15.]

Census 1 1 1. Ireland 0. Local-germanic type.

Europe spa ita - aus ger fra - net (den) got (nor swe).

Russia - 5 - 3. Siberia.

Algeria. Canaries. — N.B. *G. spurium* included above.

525. *Galium boreale*, Linn.

Provinces - - [3 - 5] 6 7 - - 10 11 12 13 14 15 16 17 18. Native.

Lat. 51—61. Brecon, Carnarvon. — Orkney? Shetland.

Zones - 2 3 4 5. Highlands 0—930, 730, 700 yards.

Census 11 16 36. Ireland 9. Highland type of distribution.

Europe all, except Channel and Netherlands.

Russia 6 - 4 3 2 1. India. Siberia. Kamtschatka.

— Faroe. Iceland. America. Columbia.

526. *Sherardia arvensis*, Linn.

Provinces 1 to 17. Native. Colonist in (15 16 17 ?).

Lat. 50—58. Cornwall, Wight, Kent. — Moray, Ross.

Zones 1 2 3 ? Tyne to "850 yards"? Humber to 350 yards.

Census 17 34 88. Ireland 12.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3. Siberia

Algeria. Canaries. Azores.

527. *Asperula odorata*, Linn.

Provinces all. Native. Rare in provinces 17 and 18.

Lat. 50—61. Cornwall, Wight, Kent. — Sutherland, Shetland.

Zones 1 2 3. Highlands to "400 yards." Tyne to 350 yards.

Census 18 36 80. Ireland 12. British type of distribution.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3 2. West-asia. Siberia. "Olympus."

Algeria.

528 *Asperula cynanchica*, Linn.

Provinces 1 2 3 4 5 6 - 8 9 10 - 12. Native.

Lat. 50—55. Cornwall? Wight, Kent. — Westmoreland, York.

Zones 1 2. Low grounds. Humber to 100 yards.

Census 10 22 33. Ireland 4. English type of distribution.

Europe spa ita tur aus ger fra cha net.

Russia 6 5 4 3. West-asia. Siberia.

Algeria.

531. *Valeriana dioica*, Linn.

Provinces 1 2 3 4 5 6 7 8 9 10 11 12 - 14 15 16. Native.

Lat. 50—57. Cornwall, Wight, Kent. — Dunbarton, Fife.

Zones 1 2 3. Tyne to 650 yards. Humber to 600 yards.

Census 15 27 60. Ireland 0. English type of distribution.

Europe spa ita tur aus ger fra cha net den got nor.

Russia 5 - 3.

— Apparently unknown in Asia, Africa, America.

532. *Valeriana officinalis*, Linn.

Provinces all. Native. V. Mikanii in 2 3 4, local or rare?

Lat. 50—60. Cornwall, Wight, Kent. — Hebrides, Orkney.

Zones 1 2 3 4. Lakes to 800 yards. Highlands to 720 yards.

Census 18 37 91. Ireland 12. British type of distribution.

Europe all. V. sambucifolia and V. Mikanii combined.

Russia 6 - 4 3 2 1. India. Siberia. Davuria.

— Iceland.

534. *Valerianella olitoria*, Moench.

Provinces all. Native? Colonist in northern provinces.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Low grounds. Humber to 200 yards.

Census 18 34 77. Ireland 10. British type of distribution.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3 2. West-asia. Cyprus.

Algeria. Canaries. — (America, introduced).

536. *Valerianella Auricula*, De Cand.

Provinces 1 2 3 4 5 6 - - - 10 - - - 15. Colonist.

Lat. 50—56. Cornwall, Wight, Kent. — Fife; Macauley!

Zones 1 2. Low grounds; perhaps often overlooked.

Census 8 16 22. Ireland 6. English type of distribution.

Europe "spa" "ita" - aus ger fra cha net.

— N.B. Apparently absent from Asia and Africa; but its habitats not readily separable from those recorded for *V. dentata*.

537. *Valerianella dentata*, Koch.

Provinces 1 to 15. Colonist.

Lat. 50—58. Cornwall, Wight, Kent. — Lanark, Moray.

Zones 1 2 3. Humber to 200 yards. Tyne to 150 yards.

Census 15 31 82. Ireland 10. English-british type.

Europe spa ita tur aus ger fra cha net den got.

Russia 6 5 4 3. India.

Algeria. Canaries. Azores.

539. *Dipsacus sylvestris*, Linn.

Provinces 1 to 16. Native. Colonist in Scotland?

Lat. 50—57. Cornwall, Wight, Kent. — Dunbarton, Fife.

Zones 1 2. Low grounds. Humber to 100 yards.

Census 16 28 66. Ireland 5. English type of distribution.

Europe spa ita tur aus ger fra cha net den.

Russia 6 5 4 3. West-asia.

Algeria. Canaries. — (America, introduced).

540. *Dipsacus pilosus*, Linn.

Provinces 1 2 3 4 5 - 7 8 9 10 (11) - - - [15]. Native.

Lat. 50—55. Dorset? South Hants, Sussex, Kent. — York.

Zones 1 2. Low grounds. Humber to 150 yards.

Census 9 21 43. Ireland 0. English-germanic type.

Europe spa ita - aus ger fra cha net den got.

Russia 6 - 4 3. West-asia.

—.

541. *Scabiosa succisa*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4 5. Highlands to 860, 850, 800, 750 yards.

Census 18 38 98. Ireland 12. British type of distribution.

Europe all, Turkey (?) and Finmark excepted.

Russia 6 - 4 3 2. Siberia.

Algeria. Madeira. — Faroe. Iceland.

542. *Scabiosa columbaria*, Linn.

Provinces 1 2 3 4 5 6 7 8 9 10 11 12 - 14 15. Native.

Lat. 50—58. Cornwall, Wight, Kent. — Forfar, Aberdeen.

Zones 1 2 3. Humber to 550 yards. Tyne to 550 yards.

Census 14 28 61. Ireland 0. English type of distribution.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3.

Algeria, a variety. [Madeira, by misnomer].

543. *Knautia arvensis*, Coult.

Provinces 1 to 17 (18). Native. Colonist in North Britain?

Lat. 50—59. Cornwall, Wight, Kent. — Sutherland. (Orkney).

Zones 1 2 3. Lakes, Humber, Tyne, each to 300 yards.

Census 17 34 85. Ireland 10. British type of distribution.

Europe all, except Finmark.

Russia 6 5 4 3 2 1. Siberia.

Algeria.

544. *Tragopogon pratensis*, Linn.

Provinces 1 to 15 - (17). Native.

Lat. 50—58. Cornwall, Wight, Kent. — Lanark, Moray.

Zones 1 2 3. Tyne to 360 yards. Humber to 300 yards.

Census 15 30 74. Ireland 6. British-english type.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3 2. Siberia. N.B. *T. pratensis* and *T. minor* are taken together above, as one single or aggregate species.

546. *Helminthia echioides*, Gaertn.

Provinces 1 2 3 4 5 6 7 8 9 10 11 - - (14 15). Native or Colonist.

Lat. 50—56. Cornwall, Wight, Kent. — Northumberland.

Zones 1 2. Low grounds. Humber to 100 yards.

Census 11 24 55. Ireland 2. English type of distribution.

Europe spa ita tur aus ger fra cha net.

Russia 6 - - 3.

Algeria. Canaries. Azores.

547. *Picris hieracioides*, Linn.

Provinces 1 2 3 4 5 6 7 8 - 10 11 - [13]. Native.

Lat. 50—55. Cornwall, Wight, Kent. — Durham.

Zones 1 2. Low grounds. Tyne to 150 yards.

Census 10 23 49. Ireland 0. English type of distribution.

Europe spa ita tur aus ger fra cha net den got.

Russia 6 5 4 3. India. Siberia.

Canaries.

548. *Leontodon hirtus*, Linn.

Provinces 1 to 15. Native. (Aberdeen, introduced).

Lat. 50—57. Cornwall, Wight, Kent. — Lanark, Fife.

Zones 1 2. Low grounds. Humber to 100 yards.

Census 15 28 59. Ireland 6. English type of distribution.

Europe spa ita tur aus ger fra cha net den got.

Russia - - - 3

Algeria? Canaries? Azores.

549. *Leontodon hispidus*, Linn.

Provinces 1 to 16 [18]. Native. Rare in North Britain.

Lat. 50—58. Cornwall, Wight, Kent. — Skye, Kincardine.

Zones 1 2 3. Tyne to 650 yards. Humber to 600 yards.

Census 16 30 78. Ireland 9. English-british type.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3.

—.

550. *Leontodon autumnalis*, Linn.

Provinces all. Native. L. *Taraxaci* or *pratensis* included.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4 5 6. Highlands to 1000, 960, 930, 900 yards.  
 Census 18 38 92. Ireland 12. British type of distribution.  
 Europe all.  
 Russia ? 5 4 3 2 1. West-asia. Siberia.  
 — Faroe. Iceland. Greenland. (America, introduced).

551. *Hypochoeris glabra*, Linn.

Provinces 1 2 3 4 5 6 - 8 9 10 [11] - 13 - 15. Native.  
 Lat. 50—58. Devon, Wight, Kent. — Ayr, Moray.  
 Zones 1 2 3. Low grounds.  
 Census 11 19 28. Ireland 0. Germanic-british type.  
 Europe spa ita tur aus ger fra cha net den got.  
 Russia - - 4 3. West-asia.  
 Algeria. Canaries. Azores.

552. *Hypochoeris maculata*, Linn.

Provinces 1 [2] 3 4 [5] - 7 - - [10] - 12 - - [15]. Native.  
 Lat. 50—55. Cornwall, Essex, Cambridge, Carnarvon, Westm.  
 Zones 1 2. Low grounds only?  
 Census 4 5 5. Ireland 0. English-local type.  
 Europe all, except Channel and Finmark.  
 Russia - - 4 3 2. Siberia. Davuria.  
 — N.B. In Britain, confused with maculate *Hieracia*.

553. *Hypochoeris radicata*, Linn.

Provinces all. Native.  
 Lat. 50—60. Cornwall, Wight, Kent. — Hebrides, Orkney.  
 Zones 1 2 3 4. Highlands to 580, 560, 530 yards.  
 Census 18 37 95. Ireland 12. British type of distribution.  
 Europe spa ita tur aus ger fra cha net den got nor.  
 Russia - - 4 3 2.  
 Algeria. (Madeira, introduced).

554. *Lactuca virosa*, Linn.

Provinces 1 2 3 4 5 6 ? 8 - 10 11 - - 14 15 - - [18]. Native.  
 Lat. 50—57. Cornwall? Wight, Kent. — Stirling, Perth.  
 Zones 1 2. Humber and Tyne, in each to 150 yards.  
 Census 11 20 40. Ireland 0. Germanic type of distribution.  
 Europe spa ita tur aus ger fra cha net.  
 Russia - - - 3. Western Siberia.  
 Algeria.

555. *Lactuca Scariola*, Linn.

Provinces - [2] 3 4 5 - - [8]. Native? [Sussex, an error].  
 Lat. 51—53. Kent, Surrey, Essex, Norfolk, Worcester.  
 Zone 1. Low grounds. [Extinct in Cambridge?]  
 Census 3 4 5. Ireland 0. Germanic type of distribution.  
 Europe spa ita tur aus ger fra cha net (den got).  
 Russia 6 5 4 3. Siberia.  
 Madeira. Azores.

556. *Lactuca saligna*, Linn.

Provinces - 2 3 4 [5 - - 8]. Native?  
 Lat. 50—53. Sussex! Kent! Essex! Suffolk. Cambridge?  
 Zone 1. Low grounds.  
 Census 3 5 6. Ireland 0. Germanic type.  
 Europe spa ita tur aus ger fra cha net.  
 Russia 6 5 4 3. West-asia.  
 Algeria.

557. *Lactuca muralis*, De Cand.

Provinces 1 to 16. Native. Doubtfully native in Scotland.  
 Lat. 50—58. Cornwall, Wight, Kent. — Skye, Moray.  
 Zones 1 2 3. Humber to 450 yards. Lakes to 300 yards.  
 Census 16 28 58. Ireland 2. English type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia 6 - 4 3 2. West-asia.  
 —. N.B. In Scotland, the localities are few and suspected.



558. *Sonchus palustris*, Linn.

Provinces [1 2] 3 4 [5 - - 8 - - - 12 - 14]. Native, but decreasing.  
 Lat. 51—53. Kent; B. Syme! Essex; Newman! Suffolk; Paget!  
 Zone 1. Coast-level. Huntingdon; Rev. M. J. Berkeley.  
 Census 2 4 5. Ireland 0. Germanic type of distribution.  
 Europe spa ita tur aus ger fra cha net den (got).  
 Russia 6 - 4 3. N.B. Reported erroneously in several counties  
 of Britain, through misnomers of *S. arvensis*.

559. *Sonchus arvensis*, Linn.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Tyne to 330 yards. Humber to 300 yards.  
 Census 18 37 89. Ireland 12. British type of distribution.  
 Europe all. Northward to Finmark; N. J. Andersson.  
 Europe 6 - 4 3 2. India. Siberia.  
 Algeria. — (America, introduced).

560. *Sonchus asper*, Hoffm.

Provinces all? Native. No authority for province 17.  
 Lat 50—61. Cornwall, Wight, Kent. — Hebrides, Shetland.  
 Zones 1 2 3. Tyne to 430 yards. Humber to 400 yards.  
 Census 17 33 67. Ireland 9. British type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 2. India. Siberia. Davuria.  
 Algeria. Canaries. Azores. — (America, introduced).

561. *Sonchus oleraceus*, Linn.

Provinces all. Native. *S. asper* often confused with this.  
 Lat. 50—60. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Humber to 400 yards. Highlands to 350 yards.  
 Census 18 37 95. Ireland 12. British type of distribution.  
 Europe all.  
 Russia 6 5 4 3 2 1. India. Siberia. Davuria.  
 Algeria. Canaries. Azores. — (America). "Columbia."

562. *Mulgedium alpinum*, Less.

Provinces - - - - - [11] - - - 15. Native.

Lat. 56—57, about 57. Forfar. Aberdeen.

Zone - - - 5. Highlands about 700—900 yards.

Census 1 1 2. Ireland 0. Highland type of distribution.

Europe spa ita aus ger fra - - - - nor swe lap fin.

Russia 6 - - 3 2 1. Siberia. [Erroneously attributed to America, by an error explained in Torrey and Gray's Flora, 2, p. 498.]

563. *Crepis virens*, Linn.

Provinces all. Native. Orkney; Lowe in Gillies flo.

Lat. 50—59 or 60. Cornwall, Wight, Kent. — Hebrides, Ross.

Zones 1 2 3. Highlands to 350 yards. Humber to 350 yards.

Census 18 35 90. Ireland 12. British type of distribution.

Europe spa ita tur aus ger fra cha net den.

Russia 6 - 4 3.

Canaries. Azores; Drouet flore.

564. *Crepis biennis*, Linn.

Provinces 1 ? 3 4 ? ? ? 8 - 10 [11 12 - 14]. Native.

Lat. 51—55. Devon, Kent! Essex! Northampton! Leicester!

Zones 1 2. Low grounds. Floras of Suffolk, Cambridge, York.

Census 5 9 15. [Ireland 1.] Germanic type of distribution.

Europe spa ita tur aus ger fra cha net den got - swe.

Russia - - 4 3. N.B. In England, this and *Crepis* or *Borkhausia taraxacifolia* have been confused together. "America"?

566. *Crepis succisifolia*, Tausch.

Provinces - - - - - 10 11 - - 14 15 16. Native.

Lat. 54—57. York. — Dumbarton, Forfar, Kincardine? Aberd.?

Zones - 2 3 4. Tyne to 400 yards. Humber 150—300 yards.

Census 5 6 11. Ireland 0. Intermediate-scottish type.

Europe - ita - aus ger fra.

Russia - 5 4 3.

— [America; Pursh].

567. *Crepis paludosa*, Moench.

Provinces [1 - - 4] 5 6 7 8 9 10 11 12 13 14 15 16 17. Native.  
 Lat. 51—59. Glamorgan, Leicester. — Skye, Sutherland.  
 Zones ? 2 3 4. Highlands to 660 yards. Tyne to 650 yards.  
 Census 13 18 47. Ireland 9. Scottish-highland type.  
 Europe spa ita - aus ger fra - net den got nor swe lap. .  
 Russia - - 4 3 2. Siberia. N.B. This may have been truly  
 reported in Norfolk, although needing to be verified there.

568. *Hieracium Pilosella*, Linn.

Provinces all. Native. H. "collinum" is reported in prov. 14.  
 Lat. 50—60. Cornwall, Wight, Kent. — Hebrides, Orkney.  
 Zones 1 2 3 4. Humber to 800 yards. Highlands to 720 yards.  
 Census 18 37 97. Ireland 12. British type of distribution.  
 Europe all, except Finmark.  
 Russia 6 5 4 3 2 1. West-asia. Siberia.  
 Algeria. — Faroe. Iceland.

570. *Hieracium alpinum*, Auct.

Pro. - - - - - 7 - - - - 12 - - 15 16 17. Native. Several segregates.  
 Lat. 53—59. Carnarvon, Westmoreland. — Ross, Sutherland.  
 Zones - - - - 5 6. Highlands to 4200 feet; Backhouse.  
 Census 5 9 13. Ireland 0. Highland type of distribution.  
 Europe - ita tur aus ger fra - - - - nor swe lap fin.  
 Russia - - - 3 2 1. Siberia.  
 — Faroe. Iceland. Greenland. "Labrador."

570\*. *Hieracium lingulatum*, Backh.

Provinces - - - - - 15 16. Native.  
 Lat. 56—57 or 58. Perth, Forfar, Aberdeen, West-Inverness.  
 Zones - - - 4 5. At 1500—2500 feet; Backhouse.  
 Census 2 3 4. Ireland 0. Highland type of distribution.  
 Europe? N.B. "Not certainly described by Continental Authors."  
 . . . "A strongly marked and handsome species . . . one of  
 the most distinct of our British Hieracia;" Backhouse.

571. *Hieracium pulmonarium*, Sm.

Provinces - - - - - 10 - 12 - - 15 16 17. Native.

Lat. 54—59. York. — Sutherland. *H. chrysanthum*, Backh.

Zones - - - 5 ? Highlands to 1000 yards. To “3000 feet;” B.

Census 5 7 11. Ireland 0. Highland type of distribution.

Europe - - - aus ger - - - - - nor swe lap fin. N.B. This must be understood as including *H. chrysanthum* and *H. nigrescens* of Backhouse’s *Hieracia*. “Arctic Russia.”

572. *Hieracium murorum*, Auct.

Provinces all. Native. *H. cæsi*um inclusively.

Lat. 50—61. Devon, Dorset, Sussex. — Orkney, Shetland.

Zones 1 2 3 4 5. Highlands to 900 yards. At “0—3000 feet.”

Census 18 34 66. Ireland 2. British type of distribution.

Europe all, by the use of the name in books.

Russia 6 5 4 3 2 1. West-asia. India. Siberia.

Algeria? — Faroe. Iceland. Greenland. America.

573. *Hieracium sylvaticum*, Sm.

Provinces all. Native. *H. vulgatum* included.

Lat. 50—61. Cornwall, Wight, Kent. — Hebrides, Shetland.

Zones 1 2 3 4 5 6. Highlands to 1100 yards. To “3500 feet.”

Census 18 36 70. Ireland 4. British type of distribution.

Europe all, unless Turkey should be excepted.

Russia - - 4 3 2 1. Siberia. Davuria.

— Greenland? America? Columbia; Ledeb. flo. ross.

575. *Hieracium pallidum*, Fries.

Prov. ? - - - ? 6 7 8 - 10 11 12 13 14 15 16 17 18. Native.

Lat. 52—58 or 60. Cardigan, Derby. — Sutherland, Orkney?

Zones ? 2 3 4. Humber to 550 yards. At “1000—2000 feet.”

Census 12 15 23. Ireland 2. Scottish type of distribution.

Europe. “Almost all Europe.” Italy. Austria. Germany. Scandinavia. N.B. Formerly assigned, by English botanists, partly to *H. murorum*, partly to *H. anglicum*.

576. *Hieracium anglicum*, Fries.

Provinces - - - - - 10 11 12 - [14] 15 16 17 18. Native.  
 Lat. 54—59 or 60. Westmoreland, York. — Hebrides, Orkney?  
 Zones - - 3 4 5. Highlands to 900 yds. At “1500—2000 feet.”  
 Census 7 10 16. Ireland 5. Highland type of distribution.  
 Europe. France. Sweden. Norway. Finmark; N. J. Andersson.  
 N.B. The *H. Lawsoni* of Smith and various other English Botanists. Reported in Faroe and Iceland.

577 (574). *Hieracium iricum*, Fries.

Provinces - - - - - 10 11 13 - 15 17. Native.  
 Lat. 54—59. York, Durham, Dumfries, Aberdeen, Sutherland.  
 Zones - - 3 4. Tyne to 350—550 yards.  
 Census 5 5 5. Ireland 6. Highland type of distribution.  
 Europe? “Only found hitherto in Great Britain and Ireland.”  
 Apparently this means ‘Hitherto found only in Great Britain and Ireland,’ not elsewhere.

579. *Hieracium prenanthoides*, Vill.

Provinces - - - - - 10 11 12 - 14 15. Native. Edinburgh?  
 Lat. 54—58. York, Northumberland. — Aberdeen, Moray.  
 Zones - - 3 4 5. Highlands to 800 yards, or thereabouts.  
 Census 5 7 15. Ireland 1 or 2. Highland type of distribution.  
 Europe - ita - aus ger fra - - - - nor swe lap fin.  
 Russia 6. Siberia.  
 — “Greenland; Fries.” “America,” probably an error.

580. *Hieracium crocatum*, Fries.

Provinces - [2] - - - - - 10 11 ? - - 15 16. Native. .  
 Lat. 54—58. York, Durham. — Argyle, Perth, Aberdeen.  
 Zones - - 3 ? Highlands, Tyne, Humber, each to 400 yards.  
 Census 4 7 14. Ireland 2. Highland type of distribution.  
 Europe. Norway. Sweden. Lapland.  
 Russia - - - - 2 1. Siberia, if *H. boreale* of Led. flo. ros.  
 — “Greenland”; Backhouse British *Hieracia*.

581. *Hieracium strictum*, Fries.

Provinces - - - - - 10 - 12 - - 15 16 17. Native.

Lat. 54—59. Cumberland, York. — Sutherland.

Zones - ? 3. Lakes and Humber to 300 yards.

Census 5 8 12. Ireland 2. Highland type of distribution.

Europe. "Middle and North Europe." Norway. Sweden.

N.B. An unsatisfactory species, variously named by English botanists of past years.

581\*. *Hieracium gothicum*, Fries.

Provinces - - - - - 7 - - 10 11 - - - 15. Native.

Lat. 54—58. Merioneth, Carnarvon, York. — Forfar, Aberdeen.

Zone - - 3. Highlands 250—350 yards.

Census 4 6 11. Ireland 4. Highland type of distribution ?

Europe - - - - ger - - - - got nor.

Russia - - - 3. N.B. Treated apart here, through the difficulty of assigning its alleged specimens to other reputed species.

582. *Hieracium tridentatum*, Fries.

Provinces 1 2 3 4 5 - - 8 9 10 11 12. Native.

Lat. 50—56. Devon, Wight, Kent. — Westmorel., Northumb.

Zones 1 2 3. Humber and Tyne to 400 yards.

Census 10 14 20. Ireland 0. English type of distribution.

Europe - ita tur aus ger fra cha net den got nor swe.

Russia. Finland; Fries sum. veg. N.B. This is perhaps the true 'rigidum' of Hartman. "Scotland"; Bab. Man.

583. *Hieracium corymbosum*, Fries.

Provinces - - - - - 10 11 13 14 15 16 17. Native.

Lat. 54—59. York, Durham, Northumberland. — Sutherland.

Zones - - 3 4. Tyne and Humber 150—400 yards.

Census 7 8 13. Ireland 2. Highland type of distribution.

Europe - - - aus ger fra - net - got nor swe lap.

Russia 6 - - - 2.

— "Newfoundland." N.B. *H. rigidum* included above.

584. *Hieracium umbellatum*, Linn.

Provinces 1 to 14 [15 16 17]. Native. Islay? Cantire?  
 Lat. 50—56. Cornwall, Wight, Kent. — Kirkcudb., Berwick.  
 Zones 1 2 3. Humber to 400 yards. Tyne to 200 yards.  
 Census 14 27 61. Ireland 5. English type of distribution.  
 Europe all? All Scandinavia; Fries sum. veget.  
 Russia 6 5 4 3 2 1. West-asia. Himalaya. Siberia. Kamtsc.  
 — Greenland. America. Columbia. Through misnomers?

584.\*. *Hieracium boreale*, Fries.

Provinces 1 to 16. Native.  
 Lat. 50—58. Cornwall, Wight, Kent. — Skye, Banff.  
 Zones 1 2 3. Humber and Tyne, in each to 400 yards.  
 Census 16 33 70. Ireland 3 or 4. British-english type.  
 Europe all? Lapland; Fries. Finmark; Martins voy. bot.  
 Russia 6 5 4 3 [2 1]. [Arctic Russia and Siberia; Led. flo. ros.]  
 — “Canada.” Not likely?

585. *Barkhausia fœtida*, De Cand. prodr.

Provinces - 2 3 4 [5] - - - - [11]. Native.  
 Lat. 50—53. Sussex! Kent! Essex! Suffolk! Norfolk, Cambr.  
 Zone 1. Low grounds. Surrey? Berks? Hereford?  
 Census 3 7 10 or 12. Ireland 0. Germanic type.  
 Europe spa ita tur aus ger fra cha net.  
 Russia - - 4.  
 Algeria. Canaries.

586. *Barkhausia taraxacifolia*, De Cand. prodr.

Prov. (1) [2] 3 4 - - 7 - [9 10 11]. Native. (Tyne, on ballast).  
 Lat. 50—54. Kent, Surrey, Essex, Suffolk, Carnarvon.  
 Zone 1. Low grounds. [Lancaster? York?].  
 Census 3 4 5. Ireland 1. Germanic type of distribution.  
 Europe spa ita tur aus ger fra cha net.  
 Russia - - - 2. Finland?  
 Algeria. N.B. Formerly confused with *Crepis biennis*.

588. *Taraxacum officinale*, Wigg.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4 5. Highlands to 680 or 910 y. Lakes to 500 y.

Census 18 38 98. Ireland 12. British type of distribution.

Europe all.

Russia 6 5 4 3 2 1. West-asia. India. Siberia. Kamtschatka.

Algeria. Canaries. Azores. — Faroe. Icel. Greenl. Am. Col.

588\*. *Taraxacum palustre*, De Cand.

Provinces all. Native. *T. lævigatum* partly intended?

Lat. 50—61. Cornwall, Devon, Wight, Sussex. — Shetland.

Zones 1 2 3 4 5 6. Highlands to 1360, 1310, 1200, 1100 yards.

Census 18 31 ? Ireland 6. British-scottish type.

Europe all? Not always distinguished from *T. officinale*.

Russia 6 5 4 3 2. Siberia. Kamtschatka. Spitsbergen.

— Faroe. Greenland. America. Columbia.

589. *Arnoseris pusilla*, Gaertn.

Provinces ? 2 3 4 5 - - 8 - - - - - 15. Colonist.

Lat. 50—58. Cornwall? Dorset, Hants. — Banff, Elgin.

Zones 1 2 3. Low grounds.

Census 6 11 20. Ireland 0. Germanic-english type.

Europe spa ita - aus ger fra cha net den got.

Russia - - - 3 2.

—.

· 590. *Lampsana communis*, Linn.

Provinces all. Native.

Lat. 50—60. Cornwall, Wight, Kent. — Hebrides, Orkney.

Zones 1 2 3. Tyne to 450 yards. Highlands to 350 yards.

Census 18 37 90. Ireland 12. British type of distribution.

Europe all. *Lapsana*, L. *Lampsana*, Diosc., DC., etc.

Russia 6 5 4 3 2. West-asia. India. Siberia.

Algeria. Canaries. — (America, introduced).



591. *Cichorium Intybus*, Linn.

Provinces 1 to 12 (13 14 15 16). Native or Colonist.  
 Lat. 50—56. Cornwall, Wight, Kent. — Cumberl., Northumb.  
 Zones 1 2. Low grounds. Humber to 150 yards.  
 Census 12 25 60. (Ireland 5). English type of distribution.  
 Europe spa ita tur aus ger fra cha net den got (nor swe).  
 Russia 6 5 4 3 2. India. Siberia.  
 Algeria. Canaries. Azores. — (America, introduced).

592. *Arctium majus*, Schkuhr.

Provinces 1 2 3 4 5 - - 8 9. Native.  
 Lat. 50—54. Devon, Wight, Sussex. — Lancaster, Derby.  
 Zones 1 2. Low grounds; imperfectly recorded.  
 Census 7 12 18. Ireland 1. English type of distribution.  
 Europe spa ita tur aus ger fra cha net den got (nor swe).  
 Russia 6 5 4 3 2. India. Siberia.  
 Algeria. Madeira; Lemann. — (America, introduced).

592\*. *Arctium minus*, Schkuhr.

Provinces all? Native. “Lappa” and “Bardana” in all.  
 Lat. 50—58. Cornwall, Wight, Sussex. — Skye; Prof. Lawson.  
 Zones 1 2 3. Humber to 400 yards. Lakes to 300 yards.  
 Census 15 22 37. Ireland 11. British type of distribution.  
 Europe spa ita - aus ger fra cha net den got nor swe.  
 Russia 6 - 4 3 2. West-asia.  
 Madeira; Lowe. — (America, introduced).

593. *Saussurea alpina*, De Cand.

Provinces - - - - - 7 - [9] - - 12 13 - 15 16 17 18. Native.  
 Lat. 53—61. Carnarvon. — Hebrides, Orkney, Shetland.  
 Zones - - - 4 5 6. Highlands to 1310, 1000, 900, 850 yards.  
 Census 7 12 16. Ireland 1. Highland type of distribution.  
 Europe - ita - aus ger - - - - - nor swe lap fin.  
 Russia - - - - 2 1. Siberia. Davuria. Kamtschatka.  
 — America. Columbia. Not exactly the British plant there.

594. *Serratula tinctoria*, Linn.

Provinces 1 to 13 - - - [18]. Native.

Lat. 50—56. Cornwall, Wight, Kent. — Lanark, Northumberl.

Zones 1 2 ? Humber, Tyne, Lakes, in each to 300 yards.

Census 13 26 59. Ireland 0. English type of distribution.

Europe all, except Lapland and Finmark.

Russia - - 4 3 2. Siberia.

—.

595. *Carduus nutans*, Linn.

Provinces 1 to 16 - [18]. Native.

Lat. 50—58. Cornwall, Wight, Kent. — Skye, Moray.

Zones 1 2 3. Humber to 550 yards. Lakes to 370 yards.

Census 16 30 68. Ireland 3 (2). English type of distribution.

Europe spa ita tur aus ger fra cha net - - nor swe. Baltic.

Russia 6 5 4 3. Siberia.

Algeria.

596. *Carduus crispus*, Linn.

Provinces 1 to 16 - [18]. *C. acanthoides*, Angl., included.

Lat. 50—58. Cornwall, Wight, Kent. — Dumbarton, Moray.

Zones 1 2 3. Humber to 300 yards. (Highlands to 350 yards).

Census 16 30 74. Ireland 5. British-english type.

Europe all, except Finmark.

Russia 6 5 4 3 2 1. Himalaya. Siberia. Davuria.

— N.B. The true *C. acanthoides* is different from our plant.

597. *Carduus tenuiflorus*, Curt.

Provinces 1 to 15. Native.

Lat. 50—57 or 58. Cornwall, Wight, Kent. — Forfar, Elgin?

Zones 1 2. Low grounds. "Reported in Elgin"; Gordon, cat.

Census 15 29 74. Ireland 9. English-british type.

Europe spa ita tur aus ger fra cha net den.

Russia 6 5. N.B. Different from the English plant?

Algeria. Lybia. Mogador. Madeira. *C. pycnocephalus*?

599. *Carduus lanceolatus*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4. Humber to 650 yards. Highlands to 570 yards.

Census 18 38 97. Ireland 12. British type of distribution.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3 2. Siberia.

Algeria. Azores. — Faroe. Iceland. (America).

600. *Carduus eriophorus*, Linn.

Provinces 1 2 3 4 5 6 - 8 9 10 11 [12 - (14 15) 16]. Native.

Lat. 50—55. Cornwall? Wight, Kent. — Lancaster, Durham.

Zones 1 2. Humber 0—250 yards.

Census 10 20 41. Ireland 0. English-germanic type.

Europe spa ita - aus ger fra cha net. Turkey?

Russia - - 4 3. West-asia.

—.

601. *Carduus palustris*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4 5. Highlands to 800 yards. Humber to 700 yds.

Census 18 38 95. Ireland 12. British type of distribution.

Europe all, except Finmark; — but Finmark list incomplete.

Russia 6 - 4 3 2 1. Siberia.

— Faroe.

602. *Carduus arvensis*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Tyne to 660 yards. Highlands to 430 yards.

Census 18 38 97. Ireland 12. British type of distribution.

Europe all, except Finmark.

Russia 6 5 4 3 2. India. Siberia.

— Iceland. (America, introduced).

604. *Carduus pratensis*, Huds.

Provinces 1 2 3 4 5 6 ? 8 10 [11 - - - 16]. Native.

Lat. 50—55. Devon, Wight, Kent. — York.

Zones 1 2. Humber between 150—400 yards.

Census 8 19 40. Ireland 12. English type of distribution.

Europe spa “ita” - - ger fra cha net.

Russia, apparently absent.

— [N.B. *C. tuberosus* formerly in province 2].

606. *Carduus acaulis*, Linn.

Provinces 1 2 3 4 5 6 - 8 9 - [11 12]. Native.

Lat. 50—54. Devon? Wight, Kent. — Chester, Lincoln!

Zones 1 ? Low grounds. To 250 yards in Surrey.

Census 8 17 37. Ireland 0. English-germanic type.

Europe spa ita - aus ger fra cha net den got.

Russia 6 - 4 3 2. West-asia. Siberia. Davuria.

—.

607. *Carduus heterophyllus*, Linn.

Provinces - - [3 4] 5 6 7 8 9 10 11 12 13 14 15 16 17. Native.

Lat. 51—58. Glamorgan, Stafford, Derby. — Skye, Ross.

Zones - 2 3 4. Highlands to 720 yards. Tyne to 550 yards.

Census 13 17 70. Ireland 0. Scottish-highland type.

Europe - ita - aus ger fra - - den got nor swe lap fin.

Russia - - 3 2 1. “Persia.” Siberia. Davuria.

— Iceland.

608. *Onopordium Acanthium*, Linn.

Provinces 1 to 9 and (10 to 15) - - [18]. Alien or Denizen.

Lat. 50—54. Cornwall, Dorset, Kent. — Chester, Lincoln.

Zones 1 2. Low grounds; often as a casual or alien.

Census 9 20 30. Ireland 0. English type of distribution.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3. Siberia.

— (America, introduced from Europe).

609. *Carlina vulgaris*, Linn.

Provinces 1 to 16. Native.

Lat. 50—58. Cornwall, Wight, Kent. — Arran, Elgin.

Zones 1 2 3. Tyne to 400 yards. Humber to 400 yards.

Census 16 30 63. Ireland 9. English-british type.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3 2. Siberia.

—.

611. *Centaurea nigra*, Linn.

Provinces all. Native. Radiate varieties 1 to 13 - 15.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Tyne to 550 yards. Highlands to 430 yards.

Census 18 38 98. Ireland 12. British type of distribution.

Europe spa ita - aus ger fra cha net - - nor.

Russia - - 4 3.

— (America, introduced).

612. *Centaurea Cyanus*, Linn.

Provinces 1 to 15 - (17 18). Colonist.

Lat. 50—58. Cornwall, Wight, Kent. — Renfrew, Moray.

Zones 1 2 3. Highlands to 350 yards. Tyne to 150 yards.

Census 16 28 70. Ireland 7. British type of distribution.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3 2. India. Siberia.

— (America, introduced).

613. *Centaurea Scabiosa*, Linn.

Provinces 1 to 15 - (17). Native. Colonist in Scotland?

Lat. 50—58. Cornwall, Wight, Kent. — Moray. (Sutherland?)

Zones 1 2 3. Humber to 300 yards. Lakes to 250 yards.

Census 15 30 72. Ireland 6. British-english type.

Europe spa ita - aus ger fra cha net den got nor swe.

Russia 6 5 4 3 2. Siberia.

—.

615. *Centaurea Calcitrapa*, Linn.

Provinces 1 2 3 4 - 6 - - - [10 11]. Native ?

Lat. 50—52. Cornwall, S. Hants, Kent. — Glamorgan, Norfolk.

Zone 1. Coast level or Low grounds.

Census 5 11 16. Ireland 0. English-germanic type.

Europe spa ita tur aus ger fra cha net.

Russia - 5 - 3. India.

Algeria. Canaries. — (America, introduced).

617. *Bidens cernua*, Linn.

Provinces 1 to 16. Native.

Lat. 50—58. Cornwall, Wight, Kent. — Dumbarton, Elgin.

Zones 1 2 3. Low grounds. Humber to 100 yards.

Census 16 31 64. Ireland 11. English-british type.

Europe all, except Lapland and Finmark.

Russia 6 - 4 3 2. India. Siberia.

— America. Columbia,—a variety 'elata.'

618. *Bidens tripartita*, Linn.

Provinces 1 to 16. Native.

Lat. 50—57. Cornwall, Wight, Kent. — Isla, Clackmannan.

Zones 1 2 ? Low grounds. Humber to 150 yards.

Census 16 30 69. Ireland 10. English-british type.

Europe all, except Finmark.

Russia 6 5 4 3 2 1. West-asia. Himalaya. Siberia.

Algeria. — America; Hook. distr. arc. plants.

619. *Eupatorium cannabinum*, Linn.

Provinces 1 to 17. Native. Introduced to N. Britain ?

Lat. 50—58. Cornwall, Wight, Kent. — Skye, Sutherland.

Zones 1 2 3. Low grounds. Humber to 200 yards.

Census 17 35 86. Ireland 12. British-english type.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3 2. West-asia. Siberia.

Algeria.

620. *Chrysocoma Linosyris*, Linn.

Provinces 1 [2] - - - 7. Native?

Lat. 50—54. Devon! Carnarvon! [Dorset, Sussex.]

Zone 1. Low grounds or low hills.

Census 2 3 3. Ireland 0. Local-atlantic type.

Europe spa ita tur aus ger fra cha net. Baltic Isles.

Europe 6 5 4 3.

Algeria.

621. *Diotis maritima*, Cass.

Provinces 1 2 3 4 - - 7. Native?

Lat. 50—54 formerly. Cornwall, Kent. — Anglesea, Suffolk.

Zone 1. Littoral; but now become almost extinct.

Census 5 7 7 (formerly). Ireland 2. English type?

Europe spa ita tur - - fra cha.

Russia, absent.

Algeria. Canaries.

623. *Artemisia campestris*, Linn.

Provinces [1] - - 4 - - - - [10 11]. Native.

Lat. 50—53. Suffolk! Norfolk! Cambridge? (Durham!).

Zone 1. Low grounds. (On ballast, in provinces 10, 11.)

Census 1 2 2. Ireland 0. Germanic type.

Europe all, except Lapland and Finmark.

Russia 6 - 4 3 2. West-asia. Siberia.

Algeria. — “Canada;”—likely something different.

624. *Artemisia maritima*, Linn.

Provinces 1 to 15. Native. Any locality in province 16?

Lat. 50—58. Cornwall, Wight, Kent. — Wigton, Aberdeen.

Zones 1 2. Littoral.

Census 15 22 42. Ireland 1. English type of distribution.

Europe spa ita tur - ger fra cha net den got nor (swe).

Russia 6 5 4 3. India. Siberia. N.B. The plant of Russia

and Asia may not be quite identical with ours.

625. *Artemisia Absinthium*, Linn.

Provinces 1 to 12 - 14 15 - - (18). Denizen.

Lat. 50—57. Cornwall, Wight, Kent. — Man, Forfar.

Zones 1 2. Tyne to 400 yards, doubtless introduced there.

Census 14 28 55. Ireland (12). English-british type.

Europe spa ita tur aus ger fra cha net (den got nor swe).

Russia 6 5 4 3 2. India. Siberia. Davuria.

Algeria. — America. Columbia; Led. flo. ross.

626. *Artemisia vulgaris*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Tyne to 400 yards. (Highlands to 400 yards).

Census 18 38 94. Ireland 12. British type of distribution.

Europe all, except Finmark?

Russia 6 5 4 3 2 1. West-asia. India. Siberia.

Barbary; Desf. flo. atla. — America. Columbia. Not typical.

627. *Gnaphalium dioicum*, Linn.

Provinces 1 [2] 3 to 18. Native.

Lat. 50—61. Cornwall, Devon, Herts. — Orkney, Shetland.

Zones 1 2 3 4 5 6. Highlands to 960, 930, 930, 920 yards.

Census 17 31 70. Ireland 12. Scottish-british type.

Europe all; but as a variety in Turkey.

Russia 6 5 4 3 2 1. West-asia. Siberia. Kamtschatka.

— Greenland. America. Columbia.

630. *Gnaphalium sylvaticum*, Linn.

Provinces all. Native. Extinct in Isle of Wight?

Lat. 50—61. Devon, Dorset, Kent. — Orkney, Shetland.

Zones 1 2 3 4. Highlands to 530 yards. Tyne to 450 yards.

Census 18 35 79. Ireland 7. British type of distribution.

Europe all, except Finmark.

Russia 6 5 4 3 2 1. West-asia. Siberia.

— Iceland. Greenland? Labrador? Canada. Columbia.



630\*. *Gnaphalium norvegicum*, Gunn.

Provinces - - - - - 15 - 17 [18]. Native.  
 Lat. 56—58. Forfar! Aberdeen! Ross. [Shetland].  
 Zones - - - 5 6. Highlands about 800—1200 yards.  
 Census 2 3 4. Ireland 0. Highland type of distribution.  
 Europe spa ita - aus ger fra - - - - nor swe lap fin.  
 Russia 6 - - - 2 1. Siberia.  
 — N.B. Do the American habitats for “sylvaticum” belong here?

631. *Gnaphalium supinum*, Linn.

Provinces - - - - - 15 16 17 [18]. Native.  
 Lat. 56—59. Stirling, Ochills, Forfar. — Sutherland.  
 Zones - - - 4 5 6. Highlands to 1430, 1360, 1310, 1270 yards.  
 Census 3 6 12. Ireland 0. Highland type of distribution.  
 Europe spa ita tur aus ger fra - - - - nor swe lap fin.  
 Russia 6 - - - 2 1.  
 — Faroe. Iceland; Lindsay list. Greenland. America.

632. *Gnaphalium uliginosum*, Linn.

Provinces all? Native. Authority wanted for province 17.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Lakes to 300 yards. Tyne to 300 yards.  
 Census 17 35 89. Ireland 12. British type of distribution.  
 Europe all, except Finmark.  
 Russia - 5 4 3 2 1. India. Siberia.  
 — Iceland. Greenland. America.

634. *Filago minima*, Fries.

Provinces 1 to 17. Native. (F. gallica, casual in 2 3).  
 Lat. 50—59. Cornwall, Wight, Kent. — Ross, Sutherland.  
 Zones 1 2 3. Tyne to 300 yards. Highlands to 250 yards.  
 Census 17 31 72. Ireland 6. British type of distribution.  
 Europe spa ita - aus ger fra cha net den got nor.  
 Russia - - 4 3 2. Siberia.  
 Algeria.

635. *Filago germanica*, Linn.

Provinces 1 to 17. Native. Rare in North Britain.  
 Lat. 50—58. Cornwall, Wight, Kent. — Cantire, Ross.  
 Zones 1 2 3. Humber to 300 yards. Tyne to 250 yards.  
 Census 17 32 74. Ireland 12. British type of distribution.  
 Europe spa ita tur aus ger fra cha net den got.  
 Russia 6 - 4 3. West-asia. India. Siberia.  
 Algeria. Canaries. Azores. — (America, introduced).

635.\* *Filago apiculata*, G. E. Smith.

Provinces - 2 3 4 5 - - - 10. Native? Likely elsewhere.  
 Lat. 50—54. South Hants, Surrey, Essex. — South-west York.  
 Zones 1 2. Low grounds. Distribution ill ascertained.  
 Census 5 9 12. Ireland 0. Germanic type of distribution?  
 Europe spa - - - - fra cha net.  
 Russia, not recorded.  
 Algeria. N.B. It is the *F. lutescens* of Jordan.

635\*. *Filago spathulata*, Presl.

Provinces - 2 3 4. Native? Likely to occur elsewhere.  
 Lat. 50—54. Dorset, Wight! Sussex! Kent! — Cambridge!  
 Zone 1. Low grounds. Distribution imperfectly known.  
 Census 3 7 14. Ireland 0. Germanic type of distribution.  
 Europe spa ita tur - - fra cha net.  
 Russia? Siberia? Ledebour flo. ros. vol. 2, p. 616.  
 Algeria.

636. *Petasites vulgaris*, Desf.

Provinces 1 to 16 - [18]. [Hebrides, Orkney, Shetland].  
 Lat. 50—58. Cornwall, Wight, Kent. — Skye, Moray.  
 Zones 1 2 3. Tyne to 315 yards. Humber to 300 yards.  
 Census 16 33 78. Ireland 12. British-english type.  
 Europe spa ita tur aus ger fra cha net den got (nor swe).  
 Russia 6 5 4 3 2. West-asia. Siberia.  
 Barbary; Desf. flo. atlant.

637. *Tussilago Farfara*, Linn.

Provinces all. Native. No authority for the Hebrides.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4 5. Highlands to 900, 900, 830, 700 yards.  
 Census 17 37 92. Ireland 12. British type of distribution.  
 Europe all.  
 Russia 6 5 4 3 2 1. West-asia. Himalaya. Siberia.  
 Algeria. Faroe. Iceland. — (America, introduced).

638. *Erigeron alpinus*, Linn.

Provinces ----- 15. Native.  
 Lat. 56—57. Perth! Forfar! Aberdeen!  
 Zone - - - - 5. Highlands at 850—1000 yards.  
 Census 1 2 3. Ireland 0. Highland type of distribution.  
 Europe spa ita tur aus ger fra - - - nor swe lap.  
 Russia 6 - - - - 1. Himalaya. Siberia.  
 — Iceland. Greenland. America. Columbia.

639. *Erigeron acris*, Linn.

Provinces 1 to 12 - - 15. Native. One county in Scotland.  
 Lat. 50—57. Cornwall, Wight, Kent. — Forfar; Mr. Croall!  
 Zones 1 2. Low grounds. Humber to 100 yards.  
 Census 13 25 56. Ireland 5. English type of distribution.  
 Europe all.  
 Russia 6 5 4 3 2 1. West-asia. Himalaya. Siberia. Kamtsch.  
 —. America. Columbia. Varieties there.

641. *Aster Tripolium*, Linn.

Provinces all. Native.  
 Lat. 50—59. Cornwall, Wight, Kent. — Hebrides, Sutherland.  
 Zones 1 2 3. Littoral.  
 Census 18 31 69. Ireland 9. British type of distribution.  
 Europe all.  
 Russia 6 5 4 3 2. West-asia. Siberia. Davuria.  
 Algeria.

641\*. *Aster salignus*, Willd.

Provinces - - - 4 - - - - - 12 - - 15. Alien or Denizen.

Lat. 52—57. "Cambridge." "Perth." Cumb.; Miss Edmonds!

Zones 1 2. Low grounds. Nativity unsettled.

Census 3 3 3. Ireland 0. Local-english type.

Europe - ita - aus ger. Central Europe. N.B. Lately found  
passably well established in some few wide-apart localities in  
England, where it seems not likely to be a true native.

642. *Solidago Virgaurea*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4 5 6. Highlands to 980, 970, 910, 850 yards.

Census 18 37 91. Ireland 12. British type of distribution.

Europe all.

Russia 6 5 4 3 2 1. West-asia. Himalaya. Siberia. Kamts.

Algeria? — America. Columbia.

643. *Senecio vulgaris*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Tyne to 550 yards. Highlands to 400 yards.

Census 18 38 98. Ireland 12. British type of distribution.

Europe all.

Russia - 5 4 3 2 1. (India). Siberia. Davuria.

Algeria. Canaries. Azores. — Faroe. Iceland. (America).

644. *Senecio sylvaticus*, Linn.

Provinces all. Native.

Lat. 50—60. Cornwall, Wight, Kent. — Orkney; B. Syme.

Zones 1 2 3. Highlands to 350 yards. Humber to 300 yards.

Census 18 35 87. Ireland 12. British type of distribution.

Europe all, except Lapland and Finmark.

Russia - - - 3 2. Siberia.

Madeira; Lemann. Azores. — Iceland; Lindsay list.

645. *Senecio viscosus*, Linn.

Prov. ? 2 3 4 5 6 7 8 (9 10) 11 12 13 14 15 16 - [18]. Native.

Lat. 50—57. Devon? Dorset? Kent. — Dumbarton, Forfar.

Zones 1 2. Low grounds. Localities decreasing?

Census 13 18 29. Ireland 2. Germanic-british type.

Europe all, except Lapland and Finmark.

Russia - - 3.

“Madeira;” probably by a misnomer.

647. *Senecio erucifolius*, Linn.

Provinces 1 to 14. Native. (13 Lanark; Dr. Graham in H.B.F.)

Lat. 50—56. Cornwall, Wight, Kent. — Cumberland, Berwick.

Zones 1 2. Low grounds. Humber to 150 yards.

Census 14 27 62. Ireland 1. English type of distribution.

Europe spa ita tur aus ger fra cha net den got.

Russia 6 5 4 3. Siberia. Davuria.

—.

648. *Senecio Jacobæa*, Linn.

Provinces all. Native. Denizen in N. Britain?

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4. Highlands to 700 yards. Tyne to 600 yards.

Census 18 38 90. Ireland 12. British type of distribution.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3. India. Siberia. Davuria.

—.

649. *Senecio aquaticus*, Huds.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Lakes to 510 yards. Tyne to 500 yards.

Census 18 38 94. Ireland 12. British type of distribution.

Europe spa - tur aus ger fra cha net den got nor.

Russia - - 4. Siberia.

—.

650. *Senecio paludosus*, Linn.

Provinces - - - 4 - - - 8 [9]. Native. [9 Cheshire.]

Lat. 52—54. Suffolk, Norfolk, Cambridge, Lincoln.

Zone 1. Low grounds.

Census 2 4 4. Ireland 0. Germanic type of distribution.

Europe spa ita - aus ger fra - net den got.

Russia - - 4 3. Siberia.

—.

651. *Cineraria palustris*, Linn.

Provinces [1] - - 4 [5 6 7] 8 [9 - - 12]. Native.

Lat. 52—54. Suffolk, Norfolk! Cambridge? Hunts? Lincoln?

Zone 1. Low grounds.

Census 2 4 5. Ireland 0. Germanic type.

Europe - - - aus ger fra cha net den got.

Russia - - 4 3 - 1. West-asia? Siberia. Davuria.

— America. Columbia. Not typical there.

652. *Cineraria campestris*, Retz.

Provinces - 2 3 4 5 - 7 - - - - [12]. Native.

Lat. 50—54. Dorset, Wight, Sussex. — Anglesea, Cambridge.

Zone 1. Low grounds.

Census 5 10 18. Ireland 0. Germanic-english type.

Europe - ita - aus ger fra - - den got.

Russia 6 5 4 3 2 1. West-asia? Siberia. Davuria.

— America. Columbia. Not typical there.

655. *Inula Helenium*, Linn.

Provinces 1 2 (3 4 5) 6 7 (8 9 10 11 12 13 - 15 16 17). Native?

Lat. 50—54. Cornwall, (Wight), Sussex. — Anglesea, (Durham).

Zones 1 ? Possibly native about the south coasts.

Census 4 ? ? (Ireland 7). English type of distribution?

Europe spa ita tur aus ger fra cha net den got. (Sweden).

Russia 6 5 4 3 2. Siberia.

— (America, introduced).

656. *Inula Conyza*, De Cand.

Provinces 1 2 3 4 5 6 7 8 9 10 (11) 12 - - [15]. Native.  
 Lat. 50—55. Cornwall, Wight, Kent. — Westmoreland, York.  
 Zones 1 2. Low grounds. Humber to 100 yards.  
 Census 11 23 62. Ireland 0. English type of distribution.  
 Europe spa ita tur aus ger fra cha net den.  
 Russia 6 5 4 3. West-asia.

—.

657. *Inula crithmoides*, Linn.

Provinces 1 2 3 [4] 5 6 7 - - - - 13. Native.  
 Lat. 50—55. Cornwall, Wight, Kent, Essex. — Wigton.  
 Zones 1 2. Littoral.  
 Census 7 12 15. Ireland 3. Atlantic-english type.  
 Europe spa ita tur aus - fra cha.  
 Russia, unrecorded.  
 Algeria.

658. *Inula dysenterica*, Linn.

Provinces 1 to 14 - 16. Native.  
 Lat. 50—56. Cornwall, Wight, Kent. — Isla, Haddington.  
 Zones 1 2. Low grounds. Humber to 200 yards.  
 Census 15 29 69. Ireland 12. English type of distribution.  
 Europe spa ita tur aus ger fra cha net den.  
 Russia 6 - 4 3.  
 Algeria.

659. *Inula Pulicaria*, Linn.

Provinces - 2 3 4 5 - - 8 - [10]. Native.  
 Lat. 50—53. Dorset, Wight, Kent. — Hereford, Leicester.  
 Zone 1. Low grounds.  
 Census 5 11 22. Ireland 0. Germanic type of distribution.  
 Europe spa ita tur aus ger fra cha net den got.  
 Russia 6 5 4 3. West-asia. Siberia.  
 Algeria. Canaries.

660. *Bellis perennis*, Linn.

Provinces all. Native. No authority for S.E. Wales.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4 5. Highlands to 980, 910, 830, 820 yards.  
 Census 18 38 90. Ireland 12. British type of distribution.  
 Europe spa ita tur aus ger fra cha net den got nor (swe).  
 Europe - 5 4 3.  
 (Madeira). (Azores; Guthnick's coll.) — Faroe. "Iceland."

661. *Chrysanthemum segetum*, Linn.

Provinces all. Colonist.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Highlands to 250 yards. Humber to 150 yards.  
 Census 18 38 91. Ireland 12. British type of distribution.  
 Europe spa ita tur aus ger fra cha net den got (nor swe).  
 Russia 6 - 4 3 2. West-asia.  
 Algeria. Canaries. Azores.

662. *Chrysanthemum Leucanthemum*, Linn.

Provinces all. Native. No authority for the Hebrides.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Wales to 700 yards. Highlands to 500 yards.  
 Census 18 37 or 38 90. Ireland 12. British type.  
 Europe all, except Finmark.  
 Russia 6 - 4 3 2 1. West-asia. Siberia.  
 — (America, introduced).

663. *Chrysanthemum Parthenium*, Pers.

Provinces 1 to 17. Denizen. Alien in Scotland?  
 Lat. 50—58. Cornwall, Kent. — Dumbarton, Moray, Ross.  
 Zones 1 2 3. Tyne to 300 yards. Humber to 250 yards.  
 Census 17 32 ? (Ireland). British-english type.  
 Europe spa (ita) tur aus (ger) fra cha (net) den got (nor swe).  
 Russia 6 5 4 3. West-asia. Pyrethrum Parthenium of C. B.  
 Canaries. (Azores). — (America, escaped from gardens).



663\*. *Chrysanthemum Tanacetum*, B. Syme.

Provinces all. Native. Alien in North Britain?  
 Lat. 50—58 (61). Cornwall, Wight, Kent. — (Heb. Ork. Shetl.)  
 Zones 1 2 (3). Humber to 200 yards. (Highlands to 350 yards).  
 Census 18 37 ? (Ireland 10). British-english type.  
 Europe spa ita - aus ger fra cha net den got nor swe lap.  
 Russia 6 5 4 3 2 1. Siberia. *Tanacetum vulgare* of C. B. 622.  
 — Faroe. (America). Columbia; in the Aleoutian Isles.

664. *Chrysanthemum inodorum*, Linn.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Highlands to 400 yards. Tyne to 330 yards.  
 Census 18 38 94. Ireland 12. British type of distribution.  
 Europe all. *Pyrethrum inodorum* of C. B. vol. 2, etc.  
 Russia 6 5 4 3 2 1. West-asia. Siberia.  
 Madeira. — Faroe. Iceland. Greenland. Am. Col.

664, b. *Chrysanthemum maritimum*, Auct.

Provinces 1 2 3 4 - 6 7 - 9 10 11 12 13 14 15 16 17 18. Native.  
 Lat. 50—61. Cornwall, Wight, Sussex. — Orkney, Shetland.  
 Zones 1 2 3. Simply a littoral form of *C. inodorum*?  
 Census 16 26 49. Ireland -? British type of distribution.  
 Europe spa - - - - fra cha net. Scandinavia to Finmark?  
 Russia? *C. maritimum* and *C. salinum* not distinguishable.  
 — Faroe. Iceland.

665. *Chrysanthemum Chamomilla*, Mey.

Prov. 1 to 12 (13 14 15 16) - [18]. Colonist. Casual northward.  
 Lat. 50—56 (57). Cornwall, Dorset, Kent. — (Lanark, Fife).  
 Zones 1 2. Low grounds. Humber to 100 yards.  
 Census 12 24 51. Ireland 2. English type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 2. West-asia. India. Siberia.

—.

667. *Anthemis nobilis*, Linn.

Prov. 1 to 11 - - (14 - 16 - 18). Native. (Isla, Skye, Orkney).

Lat. 50—58. Cornwall, Wight, Kent. — Anglesea, Durham.

Zones 1 2. Low grounds. Humber to 100 yards.

Census 11 21 39. Ireland 5. English type of distribution.

Europe spa - - aus ger fra cha (net).

Russia - - 4 3.

Madeira. A. aurea, Algeria and Azores.

668. *Anthemis arvensis*, Linn.

Provinces 1 to 15. Colonist.

Lat. 50—58. Cornwall, Wight, Kent. — Lanark, Moray!

Zones 1 2 3. Humber to 300 yards.

Census 15 28 56. Ireland 5. English-british type.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3 2. West-asia. Cyprus.

Algeria. Azores; Drouet flo. — (America, introduced).

669. *Anthemis Cotula*, Linn.

Provinces 1 to 16 - [18]. Colonist. [Forfar? Shetland?]

Lat. 50—57. Cornwall, Wight, Kent. — Dumbarton! Fife!

Zones 1 2 ? Humber to 300 yards.

Census 16 27 65. Ireland 9. English-british type.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3 2. West-asia. Siberia.

Algeria. Canaries. Azores. — (America, introduced).

670. *Achillea Ptarmica*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4. Humber to 750 yards. Highlands to 710 yards.

Census 18 38 94. Ireland 12. British type of distribution.

Europe spa ita - aus ger fra cha net den got nor swe.

Russia - 5 4 3 2. Siberia.

— Faroe. (America, introduced).

671. *Achillea Millefolium*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4 5 6. Highlands to 1310, 1080, 900, 850 yards.

Census 18 38 99. Ireland 12. British type of distribution.

Europe all.

Russia 6 5 4 3 2 1. West-asia. Himalaya. Siberia. Kamtsc.

— Faroe. Iceland. Greenland. America. Columbia.

675. *Campanula rotundifolia*, Linn.

Provinces all. Native. Absent from Orkney?

Lat. 50—61. Cornwall, Wight, Kent. — Hebrides, Shetland.

Zones 1 2 3 4 5 6. Highlands to 1180, 1080, 1060 yards.

Census 18 37 96. Ireland 11. British type of distribution.

Europe all. N.B. Confused with *C. linifolia* elsewhere?

Russia 6 - 4 3 2 1. West-asia. Siberia. Davuria.

Algeria. — Faroe. Iceland? Greenland? America. Columbia.

676. *Campanula patula*, Linn.

Provinces 1 2 3 ? 5 6 - 8 - 10 [11] 12. Native.

Lat. 50—55. Dorset, Hants, Kent? — Westmoreland, York.

Zones 1 2. Low grounds; sometimes confused with *C. Rapunculus*.

Census 8 14 25. Ireland 0. English type of distribution.

Europe spa ita ? aus ger fra cha net (den got) nor swe.

Russia 6 - 4 3 2. Siberia.

— [Iceland; Hooker list, from Zoega].

677. *Campanula Rapunculus*, Linn.

Provinces 1 2 3 (4) 5 - (7 8 - 10 11 - - - 15). Denizen.

Lat. 50—54. Cornwall, Sussex, Kent. — Stafford! (York!).

Zone 1. Low grounds; uncertain in most localities.

Census 4 8 12. Ireland 0. English type of distribution.

Europe spa ita tur aus ger fra cha net den (got).

Russia 6 5 4 3. Siberia.

Algeria.

678. *Campanula latifolia*, Linn.

Provinces [1 2] 3 4 5 6 7 8 9 10 11 12 13 14 15 16. Native.  
 Lat. 51—58. Monmouth, Gloucester, Surrey. — Isla, Moray.  
 Zones 1 2 3. Humber to 400 yards. Lakes to 350 yards.  
 Census 14 25 53. [Ireland?]. Scottish-intermediate type.  
 Europe spa ita tur aus ger fra - net den got nor swe lap.  
 Russia 6 - 4 3 2. West-asia. Himalaya. Siberia.  
 — N.B. In English records sometimes confused with *Trachelium*.

679. *Campanula rapunculoides*, Linn.

Provinces - [2] 3 4 5 - - 8 (9 10 11) - - 14 15. Alien or Denizen.  
 Lat. 51—57. Oxford? Surrey? Bedford! — Fife! Perth?  
 Zones 1 2. Low grounds; likely not a native species.  
 Census 6 7 10. Ireland 0. Local-intermediate type.  
 Europe spa ita tur aus ger fra cha net (den got) nor swe.  
 Russia 6 5 4 3. Siberia.  
 —.

680. *Campanula Trachelium*, Linn.

Provinces 1 2 3 4 5 6 7 8 [9] 10 (11 12 13 14 15 16). Native.  
 Lat. 50—57. Devon, Wight, Kent. — Anglesea, York.  
 Zones 1 2 (3). Low grounds; much confused with *C. latifolia*.  
 Census 9 19 43. Ireland 1. English type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 2. Siberia. "Japan; Thunberg!"  
 Algeria.

681. *Campanula glomerata*, Linn.

Provinces 1 2 3 4 5 6 - 8 - 10 11 12 - 14 15. Native.  
 Lat. 50—57. Dorset, Wight, Kent. — Forfar, Kincardine.  
 Zones 1 2. Lakes to 300 yards. Humber to 250 yards.  
 Census 12 25 46. Ireland 0. Germanic-english type.  
 Europe all, except Norway, Lapland, Finmark.  
 Russia 6 - 4 3 2. West-asia. Siberia. Davuria.  
 —.

683. *Campanula hederacea*, Linn.

Provinces 1 2 3 - 5 6 7 - 9 10 - 12 13. Native.

Lat. 50—56. Cornwall, Wight, Sussex. — Renfrew, York.

Zones 1 2. Low grounds. To 300 yards on Dartmoor.

Census 10 19 39. Ireland 3. Atlantic type of distribution.

Europe spa - - aus ger fra cha net den. N.B. The European area is comparatively a limited one, extending from Portugal and Dalmatia to North-west Germany and Denmark.

684. *Campanula hybrida*, Linn.

Provinces 1 2 3 4 5 - - (8 9) 10 11 - - (14 15). Colonist.

Lat. 50—55. Cornwall, Wight, Kent. — York, Durham.

Zones 1 2. Low grounds; chiefly on chalk.

Census 7 19 41. Ireland 0. Germanic-english type.

Europe spa ita tur aus ger fra cha net.

Russia - 5 4. "Georgia."

Algeria. Canaries.

685. *Phyteuma orbiculare*, Linn.

Provinces - 2 3 - - - - - [10]. Native. [10 York? see below].

Lat. 50—52. Dorset? Sussex! Kent. — Wilts! Hants! Surrey!

Zone 1. Low grounds; to 200 yards on chalk hills.

Census 2 5 8. Ireland 0. Germanic-english type.

Europe spa ita tur aus ger fra cha net.

Russia - - 4 3. N.B. Specimens were distributed in 1841 by the Botanical Society of London, as coming from S.W. Yorkshire.

687. *Jasione montana*, Linn.

Provinces 1 2 3 4 5 6 7 8 9 10 11 12 13 - 15 16 - 18. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Tyne to 350 yards. Wales to 350 yards.

Census 16 32 67. Ireland 10. British-english type.

Europe all, except Lapland and Finmark.

Russia 6 - 4 3. West-asia.

Algeria.

688. *Lobelia urens*, Linn.

Provinces 1 [3]. Native.

Lat. 50—51. South Devon only.

Zone 1. Low grounds.

Census 1 1 1. Ireland 0. Local-atlantic type.

Europe spa - - - - fra cha. Area very limited, comprising parts of

Spain and Portugal, Western France northward to Normandy.

Madeira; an isolated or outlying habitat, on present knowledge.

689. *Lobelia Dortmanna*, Linn.

Provinces - - - - 5 6 7 - - - - 12 13 - 15 16 17 18. Native.

Lat. 51—61. Glamorgan, Cardigan, Salop. — Orkney, Shetland.

Zones 1 2 3 4. Highlands to 530 yards, or upwards.

Census 9 17 29. Ireland 9. Scottish-highland type.

Europe - - - - ger fra - net den got nor swe.

Russia - - - 3 2.

— America.

690. *Erica Tetralix*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4. Highlands to 790, 760, 720, 700, 700 yards.

Census 18 38 96. Ireland 12. British type of distribution.

Europe spa - - ? ger fra cha net den got nor.

Russia - - - 3. Eastward to Transylvania, by records.

— Iceland; Lauder Lindsay's list. An error?

691. *Erica ciliaris*, Linn.

Provinces 1 2 [3]. Native. [“Hants”! “Surrey”!].

Lat. 50—51. Cornwall! Dorset; Sir W. C. Trevelyan!

Zone 1. Low grounds.

Census 2 2 3. Ireland 1. Atlantic type of distribution.

Europe. Spain. West France. Normandy.

N.B. Specimens have been distributed from the alleged localities of Alresford, Hants, and Farnham or Frensham, Surrey.

692. *Erica cinerea*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4. Highlands to 730, 730, 715, 690, 680 yards.

Census 18 38 98. Ireland 12. British type of distribution.

Europe spa ita - ? ger fra cha net - - nor.

Not in Russia. Alleged to occur in Transylvania.

Madeira. — Faroe. N.B. The Madeira plant is a slight variety.

694. *Erica vagans*, Linn.

Provinces 1 - - - [5 6 - 8]. Native. [8 Notts].

Lat. 50—51. Cornwall! [Devon? Glamorgan?]

Zone 1. Low grounds.

Census 1 1 1. Ireland 0. Local-atlantic type.

Europe. Spain. France. Normandy.

N.B. It is desirable to ascertain whether the counties of Devon and Glamorgan were correctly reported for this heath.

695. *Calluna vulgaris*, Salisb.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4 5. Highlands to 1100, 1080, 1060, 1050 yards.

Census 18 38 98. Ireland 12. British type of distribution.

Europe all. N.B. Authorities wanting for 14 counties of Britain.

Russia - - 4 3 2 1. Western Siberia.

Azores. — Iceland. Faroe. Greenland; Giesecke. America!

696. *Menziesia cærulea*, Swartz.

Province - - - - - 15 - [17]. Native.

Lat. 56—57. Perthshire; Brand! Still there in 1866; Naylor.

Zone - - - 5. Highlands at about 900 yards, by estimate.

Census 1 1 1. Ireland 0. Highland type of distribution.

Europe - - - - fra - - - - nor swe lap fin. "Pyrenees."

Russia - - - - 2 1. Siberia. Davuria. Kamtschatka.

— Greenland. America. Columbia.

698. *Loiseleuria procumbens*, Desv.

Provinces [1] ----- 15 16 17 18. Native.  
 Lat. 56—61. Stirling, Perth, Forfar. — Orkney, Shetland.  
 Zones - - - 5 6. Highlands to 1180 yards, or up to "1230."  
 Census 4 9 16. Ireland 0. Highland type of distribution.  
 Europe spa ita - aus ger fra - - - - nor swe lap fin.  
 Russia - - - - 2 1. Siberia. Kamtschatka.  
 — Faroe. Iceland. Greenland. America. Columbia.

699. *Andromeda polifolia*, Linn.

Provinces 1 [2 3] 4 5 6 7 8 9 10 11 12 13 - 15. Native.  
 Lat. 51—57. Somerset, Hunts, Norf. — Perth. [Hants, Bucks.]  
 Zones 1 2 3. Tyne to 200 yards. Anywhere higher?  
 Census 10 16 22. Ireland 4. Intermediate-scottish type.  
 Europe - ita - aus ger fra cha net den got nor swe lap fin.  
 Russia - - 4 3 2 1. Siberia.  
 — Greenland; Taylor list. America. Columbia.

700. *Arbutus alpina*, Linn.

Provinces - - - - - [12] - - 15 16 17 18. Native.  
 Lat. 56—61. Mull? Perth? Forfar. — Orkney, Shetland.  
 Zones - - 3 4 5 6. North Highlands at 50—900 yards.  
 Census 4 9 11. Ireland 0. Highland type of distribution.  
 Europe spa ita - aus ger fra - - - - nor swe lap fin.  
 Russia - - - - 2 1. Siberia. Kamtschatka.  
 — Iceland. America. Columbia.

701. *Arbutus Uva-ursi*, Linn.

Provinces - - - - [5 - - 8 9] 10 11 12 - 14 15 16 17 18. Native.  
 Lat. 54—61. Cumberland, York. — Orkney, Shetland. [Derby?]  
 Zones - - 3 4 5. Highlands 0—930 yds. Humber 350—500 y.  
 Census 8 13 26. Ireland 5. Highland type of distribution.  
 Europe spa ita - aus ger fra - - den got nor swe lap fin. Hamburg.  
 Russia 6 - - 3 2 1. Siberia.  
 — Iceland. Greenland. America. Columbia.



703. *Vaccinium Myrtillus*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4 5 6. Highlands to 1400, 1310, 1250 yards.

Census 18 36 77. Ireland 12. British-highland type.

Europe all.

Russia 6 - 4 3 2 1. West-asia. Siberia. Davuria. Kamtsch.

Atlas; Desf. flo. — Faroe. Iceland. America? Aloutia.

704. *Vaccinium uliginosum*, Linn.

Provinces - - - - - [ 7 - - 10 ] 11 12 - - 15 16 17 18. Native.

Lat. 54—61. Westmoreland, Durham. — Orkney, Shetland.

Zones - ? 3 4 5 6. Highlands to 1160 yds. Tyne 150—450 y.

Census 6 10 16. Ireland 0. Highland type of distribution.

Europe all, except the English-Channel countries.

Russia - - 4 3 2 1. Persia. Siberia. Davuria. Kamtschatka.

— Faroe. Iceland. Greenland. America. Columbia.

705. *Vaccinium Vitis-idaea*, Linn.

Provinces 1 - ? - 5 6 7 8 9 10 11 12 13 14 15 16 17 18. Native.

Lat. 50—58. "Devon." Essex, extinct. — Hebrides, Sutherl.

Zones - 2 3 4 5 6. Highlands to 1110, 1100, 1080, 1066 yards.

Census 15 23 49. Ireland 9. Highland-scottish type.

Europe all.

Russia 6 - 4 3 2 1. Siberia. Davuria. Kamtschatka.

— Faroe. Iceland. Greenland. America. Columbia.

706. *Vaccinium Oxycoccus*, Linn.

Provinces 1 to 17. Native. Rare in South Britain.

Lat. 50—58. "Devon," Hants, Sussex. — Skye, Ross.

Zones 1 2 3 4 5. Highlands to 900, 810, 660 yards.

Census 17 28 56. Ireland 11. British-intermediate type.

Europe - ita - aus ger fra cha net den got nor swe lap fin.

Russia - - 4 3 2 1. Siberia. Davuria. Kamtschatka.

— Iceland. Greenland. America. Columbia.

707. *Pyrola rotundifolia*, Linn.

Provinces [1 2] 3 4 5 - - - 9 10 11 [12 13] 14 15 - - [18]. Native.  
 Lat. 51—57 or 58. Kent, Salop, Stafford! — Forfar! Aberdeen.  
 Zones 1 2 3 4 5. Highlands to 800 or 850 yards.  
 Census 8 12 19. Ireland 0. Scottish-germanic type.  
 Europe spa ita - aus ger fra cha net den got nor swe lap fin.  
 Russia 6 - 4 3 2 1. Himalaya. Siberia. Davuria. Kamtsch.  
 — Iceland; Hooker list, from Zoega. Greenland. Am. Columb.

708. *Pyrola media*, Swartz.

Prov. - 2 [3] - 5 - - - 9 10 11 12 13 14 15 16 17 18. Native.  
 Lat. 51—61. Sussex, Worcester! — Mull! Ross, Shetland.  
 Zones 1 2 3 4. Highlands to 600, 590, 580, 500 yards.  
 Census 11 18 30. Ireland 4. Scottish type of distribution.  
 Europe - ita - aus ger fra cha net den got nor swe lap.  
 Russia 6 - - 3 2. "Norway northward to Tromsø; Blytt."  
 — Faroe. N.B. Has been often mislabelled "rotundifolia."

709. *Pyrola minor*, Linn.

Provinces 1 to 17. Native. Rare in South Britain.  
 Lat. 50—58. Devon, Hants, Kent. — Skye, Ross, Moray.  
 Zones 1 2 3 4. Highlands to 500 yards, and likely higher.  
 Census 17 27 50. Ireland 4. Scottish-british type.  
 Europe all, except Turkey.  
 Russia 6 5 4 3 2 1. Siberia. Davuria. Kamtschatka.  
 — Faroe. Iceland. Greenland. America. Columbia.

710. *Pyrola secunda*, Linn.

Provinces - [2] - - - - - 10 11 12 13 - 15 16 17. Native.  
 Lat. 54—58. Cumberland! York! — Skye, Ross, Moray!  
 Zones - - 3 4 5. Highlands to 800 yards. Tyne at 200 yards.  
 Census 7 10 16. Ireland 1. Scottish type of distribution.  
 Europe all, except Channel and Netherlands.  
 Russia 6 - 4 3 2 1. West-asia. Siberia. Davuria.  
 — Iceland. Greenland. America. Columbia.

711. *Pyrola uniflora*, Linn.

Provinces - - - - - [12] - - 15 17 18. Native. .  
 Lat. 56—59. Perth! Forfar? — Hebrides, Sutherland, Ross!  
 Zones - - 3. Only in low situations?  
 Census 3 6 8. Ireland 0. Scottish type of distribution.  
 Europe spa ita - aus ger fra - net (den) got nor swe lap fin.  
 Russia - - - 3 2 1. Siberia.  
 — Greenland; Giesecke. America. Columbia.

712. *Monotropa Hypopitys*, Linn.

Provinces 1 2 3 4 5 [6] - 8 9 10 [11 12] - - 15. Native.  
 Lat. 50—58. Dorset, Wight, Kent. — Aberdeen, Moray.  
 Zones 1 2 3. Low grounds.  
 Census 9 20 37. Ireland 3. Germanic-english type.  
 Europe spa ita - aus ger fra - net den got nor swe lap fin.  
 Russia 6 5 4 3 2. Siberia. Davuria.  
 — [America; but probably an error].

713. *Ilex Aquifolium*, Linn.

Provinces 1 to 17 (18). Native. (18 Planted near Roddal?)  
 Lat. 50—59. Cornwall, Wight, Kent. — Skye, Sutherland.  
 Zones 1 2 3. Lakes to 500 yards. Humber to 450 yards.  
 Census 17 34 83. Ireland 10. British type of distribution.  
 Europe spa ita tur aus ger fra cha net den [got] nor.  
 Russia 6. N.B. Destroyed by winter frost in N.E. Europe.  
 Algeria.

714. *Ligustrum vulgare*, Linn.

Provinces 1 to 11 (12 13 14 15 16). Native in England.  
 Lat. 50—55. Cornwall, Wight, Kent. — York, Durham.  
 Zones 1 2. Low grounds. Humber to 150 yards.  
 Census 11 24 58. Ireland 1 and (9). English type.  
 Europe spa ita tur aus ger fra cha net den got nor.  
 Russia 6 5 4 3. "Inter Smyrnam et Bursam."  
 Algeria; Desf. flo. atla. — (America, introduced).

715. *Fraxinus excelsior*, Linn.

Provinces 1 to 17 (18). Native. Denizen in N. Britain.  
 Lat. 50—58. Cornwall, Wight, Kent. — Ross, (Hebrides).  
 Zones 1 2 3. Humber to 450 yards. Lakes to 400 yards.  
 Census 17 31 89. Ireland 12. British type of distribution.  
 Europe spa ita tur aus ger fra cha net (den) got nor swe.  
 Russia 6 5 4 3 2.  
 Algeria. “*F. excelsior* var. *australis*, Gay.”

716. *Vinca minor*, Linn.

Provinces 1 to 7 (8 to 15). Native or Denizen in England.  
 Lat. 50—53 (58). Devon, Wight, Kent. — Montgom., Norfolk.  
 Zone 1. Low grounds; frequently near dwellings.  
 Census 7 15 ? (Ireland). English type of distribution.  
 Europe spa ita tur aus ger fra cha net den (got).  
 Russia 6 5 4 3. West-asia. N.B. In England it may perhaps  
 be truly native in some places; usually a stray from gardens.

718. *Gentiana verna*, Linn.

Provinces - - [3] - - - - - 10 11 12. Native.  
 Lat. 54—55. Cumberland? Westmoreland? York. Durham.  
 Zones - - 3 4 ? Humber 400—800 yards. Tyne 350—550 yds.  
 Census 3 3 4. Ireland 3. Intermediate type of distribution.  
 Europe spa ita tur aus ger fra.  
 Russia 6. West-asia. Siberia.  
 — Iceland; an outlying habitat, if correct.

719. *Gentiana Pneumonanthe*, Linn.

Provinces - 2 3 4 - 6 7 8 9 10 - 12. Native.  
 Lat. 50—55. Dorset, Hants, Sussex. — Cumberland, York.  
 Zones 1 2. Low grounds. Humber to 100 yards.  
 Census 9 13 26. Ireland 0. English-germanic type.  
 Europe spa ita - aus ger fra cha net den got nor.  
 Russia 6 - 4 3 2. Siberia. Kamtschatka.  
 — America; Gray's Manual.

720. *Gentiana nivalis*, Linn.

Provinces - - - - - 15 [16]. Native.  
 Lat. 56—57. Perth; Syme! Gourlie! — Forfar! [Inverness].  
 Zones - - - 5. Highlands about 900 yards, and upwards.  
 Census 1 2 2. Ireland 0. Highland type of distribution.  
 Europe - ita - aus ger fra - - - - nor swe lap fin.  
 Russia - - - - 1. Davuria?  
 — Iceland. Greenland. Labrador. “Arctic America.”

721. *Gentiana Amarella*, Linn.

Provinces 1 2 3 4 5 6 7 8 9 10 11 12 - 14 15 16 17 18. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4. Humber to 700 yards. Tyne to 500 yards.  
 Census 17 32 67. Ireland 10. British-english type.  
 Europe all, except Lapland? “Altenfiord”; Martins voy. bot.  
 Russia 6 - 4 3 2 1. West-asia. Siberia. Davuria.  
 — Iceland. “America” and “Columbia”; a distinct species there?

722. *Gentiana campestris*, Linn.

Provinces all. Native.  
 Lat. 51—61. Cornwall! Wight! Sussex. — Orkney, Shetland.  
 Zones 1 2 3 4 5. Highlands to 800 yards. Humber to 600 yds.  
 Census 18 35 80. Ireland 11. British-scottish type.  
 Europe all, except Turkey. South Finmark; Andersson.  
 Russia - - - 3 2. Western Siberia.  
 — Faroe. Iceland.

723. *Cicendia filiformis*, Reich.

Provinces 1 2 [3] - - 6. Native.  
 Lat. 50—52. Cornwall! Devon, Dorset, Hants! Sussex! Pemb.  
 Zone 1. Low grounds.  
 Census 3 5 7. Ireland 1. English-atlantic type.  
 Europe spa ita tur aus ger fra cha net den.  
 Russia, absent. Eastward to Greece and Transylvania.  
 Azores.

724. *Erythræa Centaurium*, Pers.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Hebrides, Shetland.

Zones 1 2 3. Low grounds. Humber to 200 yards.

Census 18 36 91. Ireland 11. British type of distribution.

Europe spa ita tur aus ger fra cha net den got.

Russia 6 5 4 3 2. West-asia. India.

Algeria. Morocco. Canaries. Azores. — (America).

724\*. *Erythræa latifolia*, Sm. (vera).

Provinces [1 2 - - - 6 7] - 9 - - [12 - - - 16]. Native.

Lat. 53—54. Lancashire only. Formerly in Cheshire?

Zone - 2. Littoral. An irregular growth of *Centaurium*?

Census 1 1 1. [Ireland]. Local type of distribution.

Europe? N.B. The habitats of "France," "Norway," "Algeria,"

"Azores," are referred to *Centaurium*. Authors who cite fig.

2719 in E. Bot. Sup. evidently misunderstand Smith's plant.

724\*. *Erythræa littoralis*, Fries.

Provinces 1 2 - 4 - 6 7 9 - 11 12 13 14 15 16 - 18. Native.

Lat. 50—58. "Cornwall," "Sussex." — Moray? Heb.? Shetl.?

Zones 1 2 ? Littoral. Suffolk! Holy Isle! Arran! etc.

Census 13 18 31 (as reported). [Ireland]. British type?

Europe spa - tur aus ger fra cha net den got nor swe. N.B. This

includes the *E. linearifolia* or *linariæfolia* with *E. chloodes* as a single aggregate species. Range in Britain uncertain.

724\*. *Erythræa pulchella*, Fries.

Provinces 1 2 3 4 - 6 7 8 9 10 - [12] 13 [14]. Native.

Lat. 50—55 or 56. Cornwall, Wight, Kent. — Dumfries, York?

Zones 1 2. Littoral and low grounds.

Census 10 19 33. Ireland 2. English type of distribution.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3 2. West-asia. Siberia.

Algeria. Canaries? Azores; Drouet flo. — (America, introduced).

725. *Chlora perfoliata*, Linn.

Provinces 1 2 3 4 5 6 7 8 9 10 [11 12]. Native.  
 Lat. 50—55. Devon, Wight, Kent. — York, Cumberland?  
 Zones 1 2. Low grounds. Humber to 100 yards.  
 Census 10 21 41. Ireland 9. English type of distribution.  
 Europe spa ita tur aus ger fra cha net.  
 Russia 6 5. West-asia.  
 Algeria; but the African plant is *C. grandiflora*, Viv.

726. *Villarsia nymphæoides*, Vent.

Provinces - 2 3 4 (5 - - 8 9 10 11 12 13 14 15). Native.  
 Lat. 50—53. Sussex, Surrey, Berks. — Northampton, Norfolk.  
 Zones 1 (2). Low grounds. “Wild” in Sussex; Mr. Hemsley.  
 Census 3 5 10. Ireland 0. Germanic type of distribution.  
 Europe spa ita tur aus ger fra cha net den.  
 Russia 6 - 4 3. West-asia. India. Siberia. Davuria. China.  
 —.

727. *Menyanthes trifoliata*, Linn.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4. Lakes to 600 yards. Highlands to 510 yards.  
 Census 18 38 88. Ireland 12. British type of distribution.  
 Europe all.  
 Russia 6 - 4 3 2 1. Himalaya. Siberia. Davuria.  
 — Faroe. Iceland. Greenland. America. Columbia.

728. *Polemonium cæruleum*, Linn.

Provinces (1 2 3 4) 5 - (7) 8 - 10 11 12 (13 14 15 16). Native.  
 Lat. 52—56. Stafford, Derby! York! — Westmorel., Cheviotl. !  
 Zones - 2 3. Cheviotland at 200 yards. Cumberland?  
 Census 5 5 6. Ireland 0. Intermediate type of distribution.  
 Europe - ita - aus ger fra - - - (got) nor swe lap fin.  
 Russia 6 - 4 3 2 1. Himalaya. Siberia. Davuria. Kamtsch.  
 — [N.E. Greenland, by a misnomer]. America? Columbia?

729. *Convolvulus arvensis*, Linn.

Provinces 1 to 15 - - [18]. Native. Denizen in N. Britain.  
 Lat. 50—58. Cornwall, Wight, Kent. — Renfrew, Moray.  
 Zones 1 2 3. Low grounds. Humber to 150 yards.  
 Census 15 30 72. Ireland 9. English-british type.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 2. West-asia. India. Sib. Dav. "China."  
 Algeria. Egypt. Canaries. Azores.

730. *Convolvulus sepium*, Linn.

Provinces 1 to 16. Native. Denizen in 14 15 16.  
 Lat. 50—58. Cornwall, Wight, Kent. — Isla, Elgin.  
 Zones 1 2 3. Low grounds. Humber to 150 yards. .  
 Census 16 33 79. Ireland 11. English-british type.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 2. Siberia. Davuria.  
 Algeria. Azores. — America, a variety or subspecies.

731. *Convolvulus Soldanella*, Linn.

Provinces 1 2 3 4 - 6 7 8 9 10 11 12 13 ? 15 16. Native.  
 Lat. 50—57. Cornwall, Wight, Kent. — Isla, Forfar.  
 Zones 1 2. Littoral.  
 Census 14 21 38. Ireland 7. English type of distribution.  
 Europe spa ita tur aus ger fra cha net.  
 Russia 6 5. West-asia.  
 Algeria. [Azores; Drouet flo. a mistake].

732. *Cuscuta europæa*, Linn.

Provinces 1 2 3 4 5 - - 8 [9 (10) - - 13 14 15]. Native.  
 Lat. 50—53 or 55. Wight, Sussex. — Leicester or York.  
 Zones 1 2. Low grounds. Much confused with the other species.  
 Census 6 12 23. Ireland 0. English-germanic type.  
 Europe all, except Lapland and Finmark.  
 Russia - - 4 3 2. Siberia. The species not certain.  
 Algeria. Egypt. The same remark as in line above.



734. *Cuscuta Epithymum*, Linn.

Provinces 1 to 11 - 13 [14]. Native. 13 *C. europæa*, Burgess.  
 Lat. 60—56. Cornwall, Wight, Kent. — York or Cheviotland.  
 Zones 1 2. Low grounds. Humber to 100 yards.  
 Census 12 20 36. Ireland 1. English type of distribution.  
 Europe spa ita tur aus ger fra cha net den.  
 Russia? West-asia.  
 Algeria. Canaries.

735. *Cuscuta Trifolii*, Bab.

Provinces 1 2 3 4 5 - - 8 9 10 11 - - 14 15. Alien or Colonist.  
 Lat. 50—56. Devon, Wight, Kent. — Fife; always sown?  
 Zones 1 2. Low grounds. Humber to 250 yards.  
 Census 11 20 ? (Ireland). English type of distribution.  
 Europe - ? France; South Sweden; Nyman Sylloge.

N.B. Difficult to decide whether an old native in Britain, not distinguished apart, or a late introduction with clover seeds.

736. *Hyoscyamus niger*, Linn.

Provinces 1 to 17. Native. Denizen in Scotland.  
 Lat. 50—58. Cornwall, Wight, Kent. — Dumbarton, Ross.  
 Zones 1 2 3. Low grounds. Humber to 100 yards.  
 Census 17 32 76. Ireland 9. English-british type.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 2. West-asia. India. Siberia. Davuria.  
 Algeria. — (America, introduced).

737. *Solanum nigrum*, Linn.

Provinces 1 2 3 4 5 6 7 8 9 10 (11 - 13 14 15). Native.  
 Lat. 50—55. Cornwall, Wight, Kent. — Lancaster, York.  
 Zones 1 2. Low grounds. Humber to 100 yards.  
 Census 10 21 41. Ireland 4. English type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 2. India. Siberia.  
 Algeria. Canaries. Azores. — (America). "Columbia."

738. *Solanum Dulcamara*, Linn.

Provinces 1 to 17. Native. Denizen in N. Britain.  
 Lat. 50—58. Cornwall, Wight, Kent. — Isla, Ross.  
 Zones 1 2 3. Low grounds. Humber to 200 yards.  
 Census 16 34 82. Ireland 11. British-english type.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 2. West-asia. India. "China."  
 Algeria. — (America, introduced).

739. *Atropa Belladonna*, Linn.

Provinces 1 to 12 (13 14 15 16). Denizen.  
 Lat. 50—56. Sussex, Kent. — Westmoreland, Northumberland?  
 Zones 1 2 (3). Humber to 250 yds. Native in Yorkshire; Baker.  
 Census 12 23 41. (Ireland 4). English type of distribution.  
 Europe spa ita tur aus ger fra cha net den.  
 Russia 6 5.  
 Algeria. — (America, escaped from gardens).

740. *Verbascum Thapsus*, Linn.

Provinces 1 to 16. Native. Denizen in North Britain.  
 Lat. 50—57. Cornwall, Wight, Kent. — Arran, Forfar.  
 Zones 1 2. Low grounds. Humber to 200 yards.  
 Census 16 30 74. Ireland 10. English-british type.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 2. West-asia. India. Siberia.  
 (Azores, but likely introduced). — (America, introduced).

741. *Verbascum Lychnitis*, Linn.

Provinces (1 2) 3 4 5 - (7 8 - 10 - - - 15 16). Native?  
 Lat. 50—54 (or 57). Devon? Sussex, Kent. — Denbigh, Stafford.  
 Zone 1. Low grounds; very sparsely scattered.  
 Census 3 ? ? Ireland 0. English type of distribution.  
 Europe spa ita - aus ger fra cha net den (got - swe).  
 Russia 6 5 4 3. West-asia, a variety.  
 — (America, introduced).

742. *Verbascum pulverulentum*, Vill.

Provinces [1 2 3] 4 - - - [8 - 10 - - - 15]. Native?

Lat. 52—53. Suffolk! Norfolk! Hants? Surrey?

Zone 1. Low grounds.

Census 1 2 4. Ireland 0. Germanic type of distribution.

Europe "spa" ita tur aus ger fra cha net. N.B. It is probable that *V. nigrum* or *Lychnitis* has been mistaken for this in some of the English counties. Madeira?

743. *Verbascum nigrum*, Linn.

Provinces 1 2 3 4 5 6 - 8 - (10 11 - - 14). Native.

Lat. 50—54. Cornwall, Wight, Kent. — Stafford, Notts.

Zones 1 2. Low grounds.

Census 7 17 38. (Ireland). English type of distribution.

Europe all, except Lapland and Finmark.

Russia 6 - - 3 2. Siberia.

— N.B. Next to *Thapsus*, the most native-seeming in Britain.

744. *Verbascum Blattaria*, Linn.

Provinces 1 2 3 4 5 6 - - (9 10 11 12). Alien or Denizen.

Lat. 50—53. Cornwall, Wight, Kent. — Stafford, Norfolk.

Zone 1. Low grounds; often temporary.

Census 6 ? ? (Ireland 3). English type of distribution.

Europe spa ita tur aus ger fra cha net.

Russia 6 5 4 3. West-asia. India. Siberia?

Algeria. Azores; Drouet flo. — (America, introduced).

745. *Verbascum virgatum*, With.

Provinces 1 - 3 4 5 6 (7 8 - 10). Alien or Denizen.

Lat. 50—(55). Cornwall, Devon! — (Denbigh, Lincoln, York).

Zone 1. Low grounds; mostly as a Casual.

Census 5 ? ? (Ireland 2). Atlantic-english type.

Europe spa ita - - - fra cha (net). Stated to extend northward into Belgium and even possibly into Holland.

Algeria. Azores. — Not in Flora Rossica.

746. *Veronica spicata*, Linn.

Provinces [1 - 3] 4 5 6 7 - - - - 12 - - - - - [18]. Native.  
 Lat. 51—55. Gloucester, Suffolk, Radnor, N. Wales, Westmorel.  
 Zones 1 2. Low grounds (*spicata*) and cliffs (var. *hybrida*).  
 Census 5 5 8. Ireland 0. English-intermediate type.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 2. Siberia. N.B. Some other subordinate forms  
 included for the European and Russian areas.

747. *Veronica arvensis*, Linn.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Humber to 650 yards. Tyne to 600 yards.  
 Census 18 38 94. Ireland 12. British type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 2. West-asia. Siberia. Cyprus.  
 Algeria. Canaries. Azores. — (America).

748. *Veronica verna*, Linn.

Provinces - [2 3] 4 - - [7]. Native.  
 Lat. 52—53. Suffolk! Norfolk!  
 Zone 1. Low grounds. [London. Sussex. Denbigh].  
 Census 1 2 3. Ireland 0. Local-germanic type.  
 Europe spa ita - aus ger fra cha net den got nor swe.  
 Russia 6 5 4 3 2. West-asia. India. Siberia.  
 —.

749. *Veronica triphyllos*, Linn.

Provinces - - [3] 4 [5] - - - - 10. Native.  
 Lat. 50—54. Suffolk! Norfolk! West York!  
 Zones 1 2. Low grounds. [London. Warwick].  
 Census 2 3 5. [Ireland]. Germanic type of distribution.  
 Europe spa ita tur aus ger fra cha net den got.  
 Russia 6 5 4 3. West-asia. India. Western Siberia.  
 Algeria.

750. *Veronica serpyllifolia*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4. Highlands to 850 yards? Humber to 850 yds.

Census 18 38 95. Ireland 12. British type of distribution.

Europe all, if it be this in Finmark,—not the *V. humifusa*.

Russia 6 5 4 3 2 1. West-asia. Himalaya. Siberia. Kamtsch.

Algeria. Azores. — Faroe. Iceland. America. Columbia.

750, b. *Veronica humifusa*, Dicks.

Provinces - - - - - 7 - - - 11 12 - - 15 16 17. Native.

Lat. 53—59. Denbigh; Bowman. — Sutherl.; Northern Flora.

Zones - - - 4 5 6. Highlands to 1260, 1210, 1200, 1060 yards.

Census 6 7 11. Ireland 0. Highland type of distribution.

Europe? N.B. Not distinguished apart from *V. serpyllifolia* by Continental writers. Said to occur on the 'Rocky Mountains' of Western America. Verification of "Denbighshire" desirable.

751. *Veronica alpina*, Linn.

Provinces - - - - - 15 16. Native.

Lat. 56—58. Stirling, Perth, Forfar. — Westernness, Easternness.

Zones - - - 5 6. Highlands between 700—1230 yards.

Census 2 4 7. Ireland 0. Highland type of distribution.

Europe spa ita - aus ger fra - - - - nor swe lap fin.

Russia - - - - - 1. Siberia. Kamtschatka.

— Faroe. Iceland. Greenland. America. Columbia.

752. *Veronica saxatilis*, Linn.

Provinces - - - - - 15 ? 17. Native.

Lat. 56—59. Perth! Forfar! — Sutherl. Cruachan? Nevis?

Zones - - - 5 6. Highlands between 700—1000 yards.

Census 3 4 6. Ireland 0. Highland type of distribution.

Europe spa ita - aus ger fra - - - - nor swe lap fin.

Russia, absent. Eastward to Transylvania.

— Faroe. Iceland. Greenland.

753. *Veronica scutellata*, Linn.

Provinces 1 to 17 [18]. Native. "Orkney; Barry's list."  
 Lat. 50—59. Cornwall, Wight, Kent. — Skye, Sutherland.  
 Zones 1 2 3 4. Humber to 750 yards. Highlands to 500 yards.  
 Census 17 34 79. Ireland 11. British type of distribution.  
 Europe all, except Finmark. "Thrace"; Lecoq. geogr.  
 Russia - - 4 3 2 1. West-asia. Siberia. "Persia."  
 Algeria. — Iceland. America. Columbia.

754. *Veronica Anagallis*, Linn.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Lake province to 300 yards.  
 Census 18 38 85. Ireland 12. British type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3. West-asia. India. Siberia. Davuria.  
 Algeria. Canaries. Azores. — Faroe. Iceland. Am. Col.

755. *Veronica Beccabunga*, Linn.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4 5. Highlands to 930 yards. Tyne to 650 yards.  
 Census 18 38 94. Ireland 12. British type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 2. West-asia. India. Siberia.  
 Algeria. Canaries. — Faroe. Iceland. America? Aleutia.

756. *Veronica officinalis*, Linn.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4 5. Highlands to 980 yards. Humber to 800 yds.  
 Census 18 38 92. Ireland 11. British type of distribution.  
 Europe all, except Finmark.  
 Russia 6 5 4 3 2. India. Siberia.  
 Azores. — Faroe. Iceland. America, introduced?

757. *Veronica montana*, Linn.

Provinces 1 to 16. Native.

Lat. 50—58. Cornwall, Wight, Kent. — Skye, Moray.

Zones 1 2 3. Humber to 350 yards. Tyne to 200 yards.

Census 16 32 72. Ireland 10. British-english type.

Europe spa ita - aus ger fra cha net den got.

Russia - - 4 3. Western Siberia.

Algeria.

758. *Veronica Chamædrys*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4 5. Highlands to 900 yards. Humber to 800 yds.

Census 18 37 97. Ireland 12. British type of distribution.

Europe all. Northward to Finmark; N. J. Andersson.

Russia 6 5 4 3 2 1. West-asia. Siberia.

— (America, introduced).

759. *Veronica hederifolia*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Humber to 300 yards.

Census 18 36 83. Ireland 9. British type of distribution.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3 2. West-asia. Cyprus, Euphrates, &c.

Algeria. — (America, an introduced weed).

760. *Veronica agrestis*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Tyne to 400 yards. Lakes to 300 yards.

Census 18 36 88. Ireland 12. British type of distribution.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3 2. West-asia. India. Siberia.

— Algeria. — (America, introduced).

761. *Veronica polita*, Fries.

Provinces 1 to 16. Native. Frequently recorded as *V. agrestis*.  
Lat. 50—57. Cornwall, Wight, Kent. — Dumbarton, Forfar.

Zones 1 2. Tyne to 330 yards. Lakes to 300 yards.

Census 16 30 69. Ireland 12. British-english type.

Europe - ita - aus ger fra cha net den got - (swe).

Russia - ? Included under *V. agrestis* in Ledeb. flo. ross. But  
the two are abundantly distinct.

762. *Veronica Buxbaumii*, Ten.

Provinces 1 to 15. Alien, becoming a Colonist.

Lat. 50—58. Cornwall, Wight, Kent. — (Aberdeen, Moray).

Zones 1 2 (3). Tyne to 330 yards. Humber to 300 yards.

Census 15 28 ? (Ireland 7). English type of distribution.

Europe spa ita tur aus ger fra cha net.

Russia 6 - 4 3. West-asia. Punjab; Edgeworth.

— Algeria. — (America, probably introduced).

763. *Bartsia alpina*, Linn.

Provinces - - [3] - - - - 10 11 12 - - 15 [16 17]. Native.

Lat. 54—57. York! Durham! Perth! Westmoreland? Ross?

Zones - - - 4 5. Highlands about 900 y. Humber 300—600 y.

Census 4 4 5. Ireland 0. Intermediate-highland type.

Europe - ita - aus ger fra - - - (got) nor swe lap fin.

Russia - - - - 2 1.

— Faroe. Iceland. Greenland. Labrador.

764. *Bartsia viscosa*, Linn.

Provinces 1 2 - - - 6 - - 9 - - - 13 - - 16. Native.

Lat. 50—57. Cornwall, Wight, Sussex. — Argyle, Dumbarton.

Zones 1 2 ? Low grounds.

Census 6 10 17. Ireland 2. Atlantic type of distribution.

Europe spa ita tur aus - fra cha. Dalmatia for “aus.”

Russia 6. West-asia.

Algeria. Tunis. Egypt. Azores. Canaries; Bentham.



765. *Bartsia Odontites*, Huds.

Provinces all. Native.

Lat. 50—60. Cornwall, Wight, Kent. — Hebrides, Orkney.

Zones 1 2 3. Highlands to 400 yards. Tyne to 350 yards.

Census 18 37 93. Ireland 12. British type of distribution.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3 2. Siberia. Davuria.

— North Africa; Bentham, in De Cand. prodr.

766. *Euphrasia officinalis*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones-1 2 3 4 5 6. Highlands to 1200, 1120, 1090, 1080 yards.

Census 18 38 99. Ireland 12. British type of distribution.

Europe all.

Russia 6 5 4 3 2 1. West-asia. Himalaya. Siberia. Davuria.

[Azores; Drouet flo.] — Faroe. Iceland. Greenland. Am. Col.

767. *Rhinanthus Crista-galli*, Linn.

Provinces all. Native. R. major included.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4 5. Highlands to 850, 800, 680, 610, 580 yards.

Census 18 38 93. Ireland 11. British type of distribution.

Europe all, except Turkey.

Russia 6 5 4 3 2 1. West-asia. Siberia. Davuria.

— Faroe. Iceland. Greenland. America. Columbia.

768. *Melampyrum cristatum*, Linn.

Provinces - (2) 3 4 [5 - - - 10]. Colonist?

Lat. 51—53. Herts! Essex! Suffolk! Norfolk! Beds! Northton!

Zone 1. Low grounds. (South Hants) — [York].

Census 2 4 8. Ireland 0. Germanic type of distribution.

Europe spa ita tur aus ger fra cha - den got nor swe.

Russia - 5 4 3 2. Siberia.

—.

769. *Melampyrum arvense*, Linn.

Provinces - 2 3 4 [5 - - - 9]. Casual or Colonist.

Lat. 50—53. Wight! Essex! Herts. — Suffolk, Norfolk.

Zone 1. Low grounds. [Dorset, Gloucester, Warwick, Chester.]

Census 3 4 6. Ireland 0. Germanic type of distribution.

Europe spa ita tur aus ger fra cha net den got - swe.

Russia 6 5 4 3 2. West-asia.

— .

770. *Melampyrum pratense*, Linn.

Provinces all. Native. Often misreported as “sylvaticum.”

Lat. 50—60. Cornwall, Wight, Kent. — Hebrides, Orkney.

Zones 1 2 3 4 5. Highlands to 1030, 930, 900, 830, 800 yards.

Census 18 37 87. Ireland 11. British type of distribution.

Europe all, unless Turkey excepted.

Russia 6 - 4 3 2 1. Siberia.

— America. *M. pratense* var. *americana*.

771. *Melampyrum sylvaticum*, Linn.

Prov. [1 2 3 - 5 - 7 8 9] 10 11 12 13 14 15 17 [18]. Native.

Lat. 54—58. Westmoreland, York! — Moray! Ross.

Zones - 2 3. Highlands to 350 yards. Tyne to 300 yards.

Census 7 10 17. Ireland 1. Scottish type of distribution.

Europe spa ita - aus ger fra - net den got nor swe lap fin.

Russia 6 - - 3 2 1. Siberia.

— “America”; but the species not certain.

772. *Pedicularis palustris*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4. Highlands to 600 yards. Tyne to 550 yards.

Census 18 38 92. Ireland 12. British type of distribution.

Europe - ita - aus ger fra cha net den got nor swe lap.

Russia - - 4 3 2 1. West-asia. Siberia. Davuria.

— Faroe. America; Hook. flo. bor. am. Columbia?

773. *Pedicularis sylvatica*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4. Highlands to 670 yards. Tyne to 550 yards.

Census 18 38 94. Ireland 11. British type of distribution.

Europe spa ita - aus ger fra cha net den got nor swe lap.

Russia - - - 3 2.

[Algeria]. — Iceland; Hooker list, from Zoega.

774. *Scrophularia nodosa*, Linn.

Provinces all. Native.

Lat. 50—58. Cornwall, Wight, Kent. — Harris, Ross.

Zones 1 2 3. Humber to 500 yards. Tyne to 400 yards.

Census 18 36 90. Ireland 12. British type of distribution.

Europe all, except Finmark.

Russia 6 - 4 3 2. West-asia. Siberia.

— America. Columbia. *S. marilandica*, Linn.

775. *Scrophularia Balbisii*, Hornem.

Provinces 1 to 14 [15 - - 18]. Native.

Lat. 50—56. Cornwall, Wight, Kent.— Renfrew, Berwick.

Zones 1 2. Low grounds. Humber to 100 yards.

Census 14 27 65. Ireland 7. English type of distribution.

Europe spa ita tur aus ger fra cha net.

Russia 6. Siberia? India?

Algeria. “Canaries.” Azores.

775\*. *Scrophularia Ehrharti*, Stev.

Provinces - 2 3 - 5 - 7 - 9 10 - - ? 14. Native.

Lat. 50—56. Sussex, Middlesex. — Linlithgow or Edinburgh.

Zones 1 2. Low grounds. Humber at 200—250 yards.

Census 7 8 14. [Ireland]. English-intermediate type.

Europe - - - aus ger fra - net den (got). Imperfect?

Russia 6 5 4 3. Siberia? N.B. This and the ‘*Balbisii*’ have  
been confused under the common name of ‘*aquatica*.’

776. *Scrophularia Scorodonia*, Linn.

Provinces 1 - [3]. Native.

Lat. 50—51. Cornwall! Devon! [Hertford].

Zone 1. Low grounds.

Census 1 2 2. [Ireland]. Atlantic type of distribution.

Europe spa ita tur - - fra cha.

Russia 6.

Algeria. Canaries. Azores.

778. *Digitalis purpurea*, L.

Provinces all. Native.

Lat. 50—60. Cornwall, Wight, Kent. — Hebrides, Orkney.

Zones 1 2 3 4. Highlands to 660, 650, 630, 590, 570 yards.

Census 18 37 91. Ireland 12. British type of distribution.

Europe spa ita - aus ger fra cha net (den) got nor.

Russia - 5 - 3.

Madeira; Lemann. Azores; Drouet flo. Introduced?

780. *Antirrhinum Orontium*, Linn.

Provinces 1 2 3 4 5 6 7 - - (10 11 12). Colonist.

Lat. 50—54. Cornwall, Wight, Kent. — Anglesea, Norfolk.

Zone 1 ? Low grounds.

Census 7 17 39. Ireland 4. English type of distribution.

Europe spa ita tur aus ger fra cha net.

Russia - 5 3. West-asia. India.

Algeria. Canaries. Azores. — (America, introduced).

782. *Linaria spuria*, Mill.

Provinces 1 2 3 4 5 6 - 8 - (10 11). Colonist.

Lat. 50—54. Cornwall, Wight, Kent. — Notts, Lincoln.

Zone 1. Low grounds.

Census 7 18 41. Ireland 0. English-germanic type.

Europe spa ita tur aus ger fra cha net.

Russia 6 5 - 3. West-asia.

Algeria. Canaries. Azores. — (America, introduced).

783. *Linaria Elatine*, Mill.

Provinces 1 2 3 4 5 6 7 8 (9 10 11). Native or Colonist.  
 Lat. 50—55. Cornwall, Wight, Kent. — Anglesea, York.  
 Zones 1 2. Low grounds.  
 Census 8 19 49. Ireland 3. English type of distribution.  
 Europe spa ita tur aus ger fra cha net den got.  
 Russia 6 5. West-asia. India.  
 Algeria. Canaries. Azores. — (America, introduced).

784. *Liparia repens*, Ait.

Provinces 1 2 3 4 5 6 - (8 9 10 11) 12 (13 14 15). Native.  
 Lat. 50—55. Cornwall, Wight, Kent? — Westmoreland.  
 Zones 1 2. Low grounds.  
 Census 7 11 17. Ireland 3. English type of distribution.  
 Europe spa ita - aus ger fra cha net - - nor (swe).  
 Russia ? - - 3. West-asia? N.B. Perhaps more usually native  
 in the English habitats, than is indicated above.

785. *Linaria vulgaris*, Mill.

Provinces 1 to 16. Native.  
 Lat. 50—58. Cornwall, Wight, Kent. — Dumbarton, Moray.  
 Zones 1 2 3. Humber to 200 yards. Tyne to 200 yards.  
 Census 16 32 78. Ireland 8. British-english type.  
 Europe all, except Finmark, and possibly Spain.  
 Russia 6 5 4 3 2. Siberia. Davuria.  
 — (America, introduced).

787. *Linaria minor*, Desf.

Provinces 1 2 3 4 5 6 7 8 - 10 11 - 13 14 (15). Colonist.  
 Lat. 50—56. Cornwall, Wight, Kent. — Lanark, Roxburgh.  
 Zones 1 2. Low grounds. Humber to 200 yards.  
 Census 12 25 43. Ireland 4. English type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 2.  
 Algeria. N.B. Prof. De Candolle holds it an alien in Britain.

788. *Limosella aquatica*, Linn.

Provinces 1 2 3 4 5 - 7 8 9 10 11 - - 14 15. Native.  
 Lat. 50—57. Cornwall? S. Hants, Sussex. — Kincardine; D. G.  
 Zones 1 2. Low grounds mostly. Surrey to 300 yards.  
 Census 12 21 33. Ireland? Germanic-english type.  
 Europe all, except Turkey(?) and Finmark.  
 Russia - - 4 3 2 1. N.B. It is *L. tenuifolia* below, in Am. Col.  
 Algeria; Lecoq. — Faroe. Iceland. Greenland? [Am. Col.]

789. *Sibthorpia europæa*, Linn.

Provinces 1 2 - - - 6 - [8 - - - 12]. Native. Extinct in prov. 2.  
 Lat. 50—52. Cornwall, Devon, Somerset, Glamorgan, Caermarth.  
 Zone 1. Low grounds. Destroyed in Sussex; Mr. Hemsley.  
 Census 3 6 7. Ireland 1. Atlantic type of distribution.  
 Europe spa - tur - - fra cha. So-called *S. "africana"* in Balears.  
 Azores. N.B. The Azore plant is not separable from the usual  
 British form of *S. europæa*.

790. *Orobanche rapum*, Thuil.

Provinces 1 2 3 4 5 6 7 8 9 10 11 13 - [15 16]. Native.  
 Lat. 50—56. Cornwall, Wight, Kent. — Kirkudb., Cheviotland.  
 Zones 1 2. Low grounds. *O. major*, of many authors.  
 Census 12 24 54. Ireland 4. English type of distribution.  
 Europe spa ita - aus ger fra cha net.  
 Russia - - 4 3.  
 Algeria.

791. *Orobanche caryophyllacea*, Sm.

Provinces [1] - 3 4. Native. *O. "lucorum"* in province 3.  
 Lat. 51—53. South-east Kent. Semer; Flora of Suffolk.  
 Zone 1. Low grounds.  
 Census 2 2 2. Ireland 0. Germanic-local type.  
 Europe - ita tur aus ger fra cha - den.  
 Russia 6 5 4 3. West-asia. Siberia.

—.

792. *Orobanche elatior*, Sutton.

Provinces 1 2 3 4 5 6 [7] 8 - 10 11 - - - - [16]. Native.  
 Lat. 50—55. Cornwall, Dorset, Sussex. — York, Durham?  
 Zones 1 2. Low grounds. Several localities are uncertain.  
 Census 9 16 24. Ireland 0. English-germanic type.  
 Europe - ita tur aus ger fra - net den got.  
 Russia 6 - 4 3. Siberia.  
 — N.B. This, not *O. rapum*, said to be the true *O. major*, Linn.

793. *Orobanche minor*, Linn.

Provinces 1 2 3 4 5 [6 7] - 9 10 11. Native or Colonist.  
 Lat. 50—56. Cornwall, Wight, Kent. — York, Cheviotland.  
 Zones 1 2. Low grounds. Humber to 100 yards.  
 Census 8 17 34. (Ireland). English type of distribution.  
 Europe spa ita tur aus ger fra cha net (den got).  
 Russia 6 - 4.  
 Algeria. Madeira; Lemann list.

793\*. *Orobanche Picridis*, F. Schultz.

Provinces - 2 3 4 - 6. Native.  
 Lat. 50—53. Wight. Kent. Cambridge. Pembroke.  
 Zone 1. Low grounds.  
 Census 4 4 4. Ireland 0. English or Germanic type  
 Europe - ita - aus ger fra cha net.  
 N.B. Hitherto confused with *O. minor*, but alleged to be distinct  
 by those botanists who have seen it living.

793\*. *Orobanche Hederæ*, Duby.

Provinces 1 2 - - 5 6 7 8. Native. Likely in other provinces.  
 Lat. 50—54. Cornwall, Wight. — Carnarvon, Leicester.  
 Zone 1. Low grounds. Long united with *O. minor*.  
 Census 6 10 15. Ireland 9. English-atlantic type.  
 Europe spa ita - - ger fra cha net. N.B. The British stations  
 recorded by old Authors for so-called 'minor' on 'ivy,' have  
 been transferred to the present species. "West Asia."

794. *Orobanche rubra*, Sm.

Provinces 1 - - - - 6 - - - 10 - - - - 15 16 17. Native.

Lat. 50—58. Cornwall, York, Fife. — Skye, West Ross.

Zones 1 2 3. Coast rocks. Humber at 250 yards.

Census 6 7 8. Ireland 4. Scottish-atlantic type.

Europe - ita tur aus ger fra. Baltic Isles.

Russia 6 - - 3. N.B. The *O. rubra*, of Smith, latterly has been identified or united with *O. Epithymum*.

795. *Orobanche cærulea*, Vill.

Provinces 1 2 3 4 5 [6]. Native or Colonist.

Lat. 50—53. Cornwall, Wight! — Monmouth, Herts! Norfolk.

Zone 1. Low grounds.

Census 5 5 6. Ireland 0. English type of distribution.

Europe - ita tur aus ger fra cha net. Holland.

Russia - - 4 3. India.

—.

797. *Lathræa squamaria*, Linn.

Provinces 1 to 16. Native.

Lat. 50—57. Devon, Wight, Kent. — Westernness, Clackmannan.

Zones 1 2 3. Tyne to 330 yards. Humber to 250 yards.

Census 16 24 48. Ireland 6. English type of distribution.

Europe - ita tur aus ger fra cha net den got nor swe.

Russia 6 5 4 3 2. India. Western Siberia?

—.

798. *Verbena officinalis*, Linn.

Provinces 1 to 12 - - (15). Denizen or Native.

Lat. 50—56. Cornwall, Wight, Kent. — Cumberl., Northumb.

Zones 1 2. Low grounds; usually about inhabited places.

Census 12 25 60. Ireland 9. English type of distribution.

Europe spa ita tur aus ger fra cha net den got.

Russia 6 5 4 3. India. "China. Japan."

Algeria. Canaries. Azores. (America).



799. *Salvia Verbenaca*, Linn.

Provinces 1 to 12 - 14 15 - (17). Native. (17 Ross).  
 Lat. 50—57. Cornwall, Wight, Kent. — Fife, Forfar?  
 Zones 1 2. Low grounds. Humber to 150 yards.  
 Census 14 25 55. Ireland 5. English type of distribution.  
 Europe spa ita tur aus ger fra cha net. "Denmark."  
 Russia 6 5. West-asia.  
 Algeria. Canaries?

800. *Salvia pratensis*, Linn.

Provinces [1 2] 3 [4 5 6 7 8 - 10 11]. Denizen.  
 Lat. 51—52. Kent, certainly and for many years. Oxford.  
 Zone 1. Low grounds. Many erroneous localities.  
 Census 1 ? ? Ireland 0. Germanic-local type.  
 Europe spa ita tur aus ger fra cha net. (Sweden).  
 Russia 6 - 4 3. West-asia. Western Siberia.  
 —.

801. *Lycopus europæus*, Linn.

Provinces 1 to 17. Native. Rare in province 14.  
 Lat. 50—58. Cornwall, Wight, Kent. — Westernness, Ross.  
 Zones 1 2 3. Low grounds. Humber to 100 yards.  
 Census 17 34 83. Ireland 11. British-english type.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 2. West-asia. India. Siberia.  
 Algeria. Azores.

802. *Mentha rotundifolia*, Linn.

Provinces 1 2 3 4 5 6 7 8 - 10 11 12 - (14) [15 16]. Native.  
 Lat. 50—56. Cornwall, Wight, Kent. — Cumberl., Northumb.  
 Zones 1 2. Low grounds. Denizen in Mid Britain.  
 Census 11 23 40. Ireland 6. English type of distribution.  
 Europe spa ita tur aus ger fra cha net. Bornholm.  
 Russia - - - 3. West-asia. Siberia.  
 Algeria. Canaries. Azores. — (America, from gardens).

803. *Mentha sylvestris*, Linn.

Provinces 1 2 3 4 5 6 7 8 - 10 - 12 - 14 15 16. Native?  
 Lat. 50—58. Cornwall, Dorset, Kent. — Dumbarton, Moray.  
 Zones 1 2 3. Humber to 200 yards. True area uncertain.  
 Census 13 ? ? [Ireland]. English type of distribution.  
 Europe spa ita tur aus ger fra cha net den got.  
 Russia 6 5 4 3. West-asia. Cashmere. Siberia.  
 Algeria. Egypt. Morocco. Canaries. Azores.

805. *Mentha piperita*, Huds.

Provinces 1 2 3 4 5 6 7 8 9 10 11 12 - 14 15 16. Native?  
 Lat. 50—57. Cornwall, Dorset, Sussex. — Dumbarton, Aberd.?  
 Zones 1 2 ? Humber to 250 yards. Distribution uncertain.  
 Census 15 ? ? (Ireland 5). English type of distribution?  
 Europe - - - aus ger. N.B. So seldom indicated as a native  
 plant, in the Local Floras of Europe, that its area cannot be  
 satisfactorily traced out.

806. *Mentha aquatica*, Linn.

Provinces all? Native.  
 Lat. 50—60. Cornwall, Wight, Kent. — Skye, Orkney.  
 Zones 1 2 3. Humber to 500 yards. Lakes to 450 yards.  
 Census 18 34 87. Ireland 12. British type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3. West-asia. Siberia.  
 Algeria. Madeira; Lemann list. Azores; Drouet flo.

807. *Mentha sativa*, Linn.

Provinces 1 to 16. Native. Exclusive of *M. rubra*.  
 Lat. 50—57. Cornwall, Dorset, Sussex. — Isla, Kincardine.  
 Zones 1 2. Humber to 250 yards. Tyne to 200 yards.  
 Census 16 ? ? Ireland 9. British-english type.  
 Europe spa ita tur aus ger fra cha net den got nor. (Sweden?)  
 Russia? As a variety of *M. arvensis*, in Led. flo. ross.  
 Canaries. Azores?

808. *Mentha arvensis*, Linn.

Provinces all. Native.

Lat. 50—60. Cornwall, Wight, Kent. — Ross, Orkney.

Zones 1 2 3. Highlands to 350 yards. Humber to 300 yds.

Census 18 33 81. Ireland 9. British type of distribution.

Europe all, except Finmark.

Russia 6 - 4 3 2. Himalaya. Siberia. Davuria. Kamtschatka.

— Faroe. (America, introduced).

809. *Mentha Pulegium*, Linn.

Provinces 1 to 12 - (14 15). Native.

Lat. 50—55. Cornwall, Wight, Kent. — Man, Durham.

Zones 1 2. Humber to 200 yds. Is it wild in Lake province?

Census 12 23 43. Ireland 5. English type of distribution.

Europe spa ita tur aus ger fra cha net den.

Russia 6 5 4 3. West-asia. Western Siberia.

Algeria. Canaries. Azores. — “America.”

810. *Thymus Serpyllum*, Linn.

Provinces all. Native. T. Chamædryes included.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4 5 6. Highlands to 1180, 1100, 1010, 850 yards.

Census 18 38 98. Ireland 12. British type of distribution.

Europe all. T. “Chamædryes” from Spain to Norway.

Russia 6 - 4 3 2 1. West-asia. Himalaya. Siberia. Davuria.

— Faroe. Iceland. Greenland. [America].

811. *Origanum vulgare*, Linn.

Provinces 1 to 16. Native.

Lat. 50—58. Cornwall, Wight, Kent. — Isla, Moray.

Zones 1 2 3. Humber to 450 yards. Tyne to 350 yards.

Census 16 32 75. Ireland 9. British-english type.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3 2. West-asia. Himalaya. Siberia. Davuria.

Algeria? Canaries. Azores; Drouet flo. — (America).

812. *Calamintha Acinos*, Clairv.

Provinces 1 to 15. Native. Colonist in Scotland?  
 Lat. 50—58. Cornwall, Wight, Kent. — Aberdeen, Moray.  
 Zones 1 2 3. Low grounds. Humber to 100 yards.  
 Census 15 30 61. Ireland 2. British-english type.  
 Europe all, except Lapland (uncertain) and Finmark.  
 Russia 6 5 4 3 2.  
 Algeria.

813. *Calamintha Nepeta*, Clairv.

Provinces 1 2 3 4 5 6 [7 8] - 10 [11 12]. Native.  
 Lat. 50—55. Devon? Kent! Essex! Herts! Oxford! Gloucester!  
 Zones 1 2. Low grounds. Native in N. Yorkshire; Baker.  
 Census 7 ? ? Ireland? English-germanic type.  
 Europe spa ita tur aus ger fra cha net.  
 Russia 6 5 4. N.B. In England, confused with *C. officinalis*.  
 Algeria. Canaries. Azores; Drouet flo. — (America).

814. *Calamintha officinalis*, Auct.

Provinces 1 to 10 ? 12 - - (15). Native. *C. sylvatica* - 2.  
 Lat. 50—56 (57). Cornwall, Wight, Kent. — Westmoreland!  
 Zones 1 2. Humber to 200 yards. Extinct in province 11?  
 Census 11 24 56. Ireland 9. English type of distribution.  
 Europe spa ita tur aus ger fra cha net.  
 Russia 6 - - ? West-asia.  
 Algeria. Canaries. Azores.

815. *Calamintha Clinopodium*, Spenn.

Provinces 1 to 15. Native.  
 Lat. 50—58. Cornwall, Wight, Kent. — Aberdeen, Elgin.  
 Zones 1 2 3. Highlands to 350 yards. Tyne to 350 yards.  
 Census 15 30 73. Ireland 5. British-english type.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 2. West-asia. India. Siberia. "Japan."  
 Algeria. Madeira. Azores. — (America, introduced).

817. *Melittis Melissophyllum*, Linn.

Provinces 1 2 [3 - 5] 6 - [8]. Native.

Lat. 50—53. Cornw. Dors. Suss. — Cardigan; Miss Atwood!

Zone 1. Low grounds.

Census 3 7 10. Ireland 0. Atlantic type of distribution.

Europe spa ita tur aus ger fra cha.

Russia - - - 3. Eastward to Greece and Transylvania.

— N.B. Apparently confined to Europe.

818. *Teucrium Scorodonia*, Linn.

Provinces all. Native.

Lat. 50—60. Cornwall, Wight, Kent. — Hebrides, Orkney.

Zones 1 2 3. Tyne to 500 yards. Highlands to 400 yards.

Census 18 36 91. Ireland 12. British type of distribution.

Europe spa ita tur aus ger fra cha net (den). Norway.

Russia, apparently absent.

“Algeria.” “Morocco.” Madeira; Lemann list.

819. *Teucrium Scordium*, Linn.

Provinces 1 - 3 4 - - - 8 - 10. Native?

Lat. 51—55. N. Devon; Mrs. Russell! N.W. York; Bowman!

Zones 1 2. Low grounds. Oxf. Suff. Norf. Camb. North. Linc.

Census 5 7 9. Ireland 3. Germanic-english type.

Europe spa ita tur aus ger fra cha net den got.

Russia 6 - 4 3. West-asia. Cashmere. Siberia.

North Africa? “Abyssinia”; but this is beyond our limits.

822. *Ajuga reptans*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4 ? Highlands to 730, 620, 540, 530 yards.

Census 18 35 88. Ireland 12. British type of distribution.

Europe spa ita tur aus ger fra cha net den got.

Russia 6 - 4 3. N.B. A. “alpina,” of Forfarshire, 1831, was simply a misnamed example of this species.

823. *Ajuga pyramidalis*, Linn.

Provinces [1 - - - - 7] - - - - - 15 16 17 18. Native.  
 Lat. 56—60. Argyle, W.E. Inverness. — Hebrides, Orkney.  
 Zones - - 3 4. Orkney at 200 yards; Boswell Syme.  
 Census 4 6 8. Ireland 1. Scottish type of distribution.  
 Europe all, except Channel and Finmark. Loffoden Isles.  
 Russia 6 - 4 3 2.  
 — Greenland; Giesecke. N.B. Distribution in Britain anomalous.

824. *Ajuga Chamæpitys*, Schreb.

Provinces - 2 3 4 - [6 7]. Colonist. [Sussex, Gloucester, etc.]  
 Lat. 51—53. Surrey! Kent! — Herts! Cambridge! Bedford!  
 Zone 1. Low grounds. “N. Wilts. N. Hants. S. Essex.”  
 Census 3 5 8. Ireland 0. Germanic type of distribution.  
 Europe spa ita tur aus ger fra cha net.  
 Russia 6 5 4 3. West-asia.  
 Algeria.

825. *Ballota nigra*, Linn.

Provinces 1 to 15. Native. *B. ruderalis* in provinces 3 and 12.  
 Lat. 50—57. Cornwall, Wight, Kent. — Renfrew, Fife.  
 Zones 1 2. Low grounds. Humber to 150 yards.  
 Census 15 28 69. Ireland 8. English type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 2. West-asia.  
 Algeria. Madeira. Azores.

827. *Lamium Galeobdolon*, Crantz.

Provinces 1 2 3 4 5 6 7 8 9 10 - 12 - (14 15) [16]. Native.  
 Lat. 50—55. Cornwall, Wight, Kent. — Cumberland? York.  
 Zones 1 2. Low grounds. Humber to 150 yards.  
 Census 11 24 54. Ireland 3. English type of distribution.  
 Europe spa ita tur aus ger fra cha net den got nor.  
 Russia - - 4 3. Western Siberia.  
 —. N.B. A specimen came to Bot. Soc. London, labelled “Argyle.”

828. *Lamium album*, Linn.

Provinces 1 to 15 - - [18]. Native. Denizen in N. B.  
 Lat. 50—57. Cornwall, Wight, Kent. — Aberdeen, Moray.  
 Zones 1 2 3. Humber to 250 yards. Tyne to 215 yards.  
 Census 15 31 74. Ireland 7. British-english type.  
 Europe spa ita - aus ger fra cha net den got nor swe.  
 Russia 6 - 4 3 2. Siberia. Davuria.  
 [Barbary; Desf. flo. atla.] — Iceland; Lindsay list.

830. *Lamium amplexicaule*, Linn.

Provinces all. Native.  
 Lat. 50—60. Cornwall, Wight, Kent. — Hebrides, Orkney.  
 Zones 1 2 3. Low grounds. Humber to 200 yards.  
 Census 18 34 79. Ireland 7. British type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 2. West-asia. India. Siberia.  
 Algeria. Canaries. Azores. — Iceland; Lindsay list. (Am.)

830\*. *Lamium intermedium*, Fries.

Provinces - [2 - - 5 - 7] - - - 11 - 13 14 15 16 - 18. Native.  
 Lat. 54—61. Wigton, Dumfries, Cheviotland. — Orkney, Shetl.  
 Zones - 2 3. Low grounds. Tyne to 250 yards.  
 Census 6 12 18. Ireland 2. Scottish type of distribution.  
 Europe - - - aus ger - - - den got nor swe.  
 Russia - - - 3 2. Lithuania; flo. ross. Finland; Fries.  
 —. N.B. In Britain the distribution not well ascertained.

831. *Lamium purpureum*, Linn.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Tyne to 650 yards. Highlands to 350 yards.  
 Census 18 38 94. Ireland 12. British type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 2. West-asia. Siberia.  
 Canaries. Azores. — Faroe. Iceland.

831\*. *Lamium incisum*, Willd.

Provinces 1 to 16 - 18. Native. Any record for N. Highlands?  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Humber to 300 yards.

Census 17 31 53. Ireland 10. British type of distribution.

Europe spa ita - - ger fra cha net den got.

Russia - - 4 3.

— N.B. Doubtless often confused with *L. purpureum*.

832. *Galeopsis Ladanum*, Linn.

Provinces 1 to 16 - [18]. Colonist.

Lat. 50—58. Cornwall, Wight, Kent. — Skye, Elgin.

Zones 1 2 3. Low grounds. Humber to 250 yards.

Census 16 30 59. Ireland 3. English-british type.

Europe spa ita - aus ger fra cha net den got nor swe.

Russia 6 - 4 3 2. Armenia. Siberia.

— Faroe. Iceland. (America, introduced).

833. *Galeopsis ochroleuca*, Lam.

Provinces - - 3 - [5] - 7 (8 9) 10 11. Colonist.

Lat. 51—55. Essex! Carnarvon! York! Durham!

Zone 1 2. Low grounds. [Warwick]. (Notts? Lancaster?)

Census 4 6 7. Ireland 0. English-germanic type.

Europe spa ita - aus ger fra cha net den.

Russia - - - 3.

—

834. *Galeopsis Tetrahit*, Linn.

Provinces all. Native or Colonist. *G. bifida* included.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Tyne to 450 yards. Highlands to 400 yards.

Census 18 38 91. Ireland 12. British type of distribution.

Europe all, unless Turkey to be excepted.

Russia 6 - 4 3 2 1. Himalaya. Siberia. Davuria. Kamtsc.

— Faroe. Iceland. (America, introduced).



835. *Galeopsis versicolor*, Curt.

Provinces - 2 3 4 5 7 8 9 10 11 12 13 14 15 16 17. Colonist.  
 Lat. 50—58. Sussex, perhaps only casual? — Ross, west and east.  
 Zones 1 2 3. Highlands to 250 yards. Tyne to 250 yards.  
 Census 15 26 60. Ireland 7. Scottish-british type.  
 Europe - ita - aus ger - - net den got nor swe lap fin.  
 Russia 6 - 4 3 2 1. As a variety of *G. Tetrahit* in Flo. Ross.  
 — N.B. Perhaps truly a boreal variety of *Tetrahit*.

836. *Stachys Betonica*, Benth.

Provinces 1 to 16. Native. *Betonica officinalis*, Linn.  
 Lat. 50—58. Cornwall, Wight, Kent. — Skye, Ross.  
 Zones 1 2 3. Tyne to 400 yards. Lakes to 360 yards.  
 Census 16 29 70. Ireland 7. English-british type.  
 Europe spa ita tur aus ger fra cha net den got.  
 Russia 6 5 4 3 2. Western Siberia.  
 [Barbary; Desf. flo. atla.] Madeira; Lemann list.

837. *Stachys palustris*, Linn.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Tyne to 500 yards. Highlands to 350 yards.  
 Census 18 37 93. Ireland 12. British type of distribution.  
 Europe all, except Finmark.  
 Russia 6 5 4 3 2. West-asia. Himalaya. Siberia. Davuria.  
 — America. Columbia.

837, b. *Stachys ambigua*, Sm.

Provinces all, by the records. Native. Two or three sub-forms.  
 Lat. 50—61. Cornwall! Dorset! Kent! — Orkney! Shetland.  
 Zones 1 2 3. Tyne to 450 yards. Name often misapplied.  
 Census 18 32 46. Ireland 6. British type of distribution.  
 Europe - - - aus ger fra cha net (den got) nor.  
 Russia -? Caucasus? N.B. In the Flora Rossica, a *Stachys*  
 “*ambigua*” is made the type form of *S. palustris*.

838. *Stachys sylvatica*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Tyne to 500 yards. Highlands to 350 yards.

Census 18 38 91. Ireland 12. British type of distribution.

Europe all, except Finmark.

Russia 6 5 4 3 2. Himalaya. Siberia.

—.

839. *Stachys germanica*, Linn.

Provinces (1 2) 3 4 - - (8 - 10). Alien or Denizen.

Lat. 50—53. Formerly in Hants! Kent! — Oxford! Norfolk.

Zone 1. Low grounds. (Cornwall — York, by report).

Census 2 ? ? Ireland 0. Local-germanic type.

Europe spa ita tur aus ger fra cha net. (Denmark, extinct).

Russia 6 5 4 3. West-asia. Siberia. Northward to the Isle of Oesel, in European Russia.

840. *Stachys arvensis*, Linn.

Provinces all. Native or Colonist.

Lat. 50—60. Cornwall, Wight, Kent. — Sutherland, Orkney.

Zones 1 2 3. Low grounds. Humber to 150 yards.

Census 18 35 82. Ireland 7. British type of distribution.

Europe spa ita tur aus ger fra cha net. den got nor (swe).

Russia 6 - - 3. West-asia. India. Siberia.

Algeria. Canaries. Azores. — (America, introduced).

841. *Nepeta Glechoma*, Benth.

Provinces all? Native. 18 North Isles uncertain.

Lat. 50—58 or 60. Cornwall, Wight, Kent. — Ross, Orkney?

Zones 1 2 3. Tyne to 430 yards. Lakes to 300 yards.

Census 18 35 79. Ireland 12. British type of distribution.

Europe all, except Finmark. *Glechoma hederacea*, Linn.

Russia 6 5 4 3 2. West-asia. Siberia. Kamtschatka.

Azores, perhaps introduced. — (America, introduced).

842. *Nepeta Cataria*, Linn.

Prov. 1 2 3 4 5 6 7 8 (9) 10 11 - (13 14 15 - 17 18). Native?  
 Lat. 50—56. Cornwall, Wight, Kent. — Northumberland!  
 Zones 1 2. Low grounds. ("Lanark." "Berwick." "Perth.")  
 Census 10 21 45. Ireland 8. English-germanic type.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 2. West-asia. India. Siberia.  
 — (America, introduced).

843. *Marrubium vulgare*, Linn.

Provinces 1 to 12 - (14 15). Native in England?  
 Lat. 50—56 (or 58). Cornwall, Wight, Kent. — Man, Cheviotl.  
 Zones 1 2. Low grounds; often as a casual escape.  
 Census 12 ? ? Ireland 5. English type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3. West-asia. India.  
 Algeria. Canaries. Azores. — (America, introduced).

844. *Prunella vulgaris*, Linn.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4. Humber to 800 yards. Highlands to 730 yards.  
 Census 18 38 98. Ireland 12. British type of distribution.  
 Europe all, except Finmark? Loffoden Isles.  
 Russia 6 5 4 3 2. West-asia. Himalaya. Siberia. "Japan."  
 [Barbary]. Canaries. Azores. — Faroe. Icel. Am. Col.

845. *Scutellaria galericulata*, Linn.

Provinces all. Native.  
 Lat. 50—58. Cornwall, Wight, Kent. — Harris, Ross.  
 Zones 1 2 3. Humber to 200 yards. Tyne to 200 yards.  
 Census 18 35 82. Ireland 11. British type of distribution.  
 Europe all, except Finmark.  
 Russia 6 - 4 3 2 1. West-asia. Himalaya. Sib. Dav. Kamtsch.  
 Algeria. — America. Columbia.

846. *Scutellaria minor*, Linn.

Provinces 1 to 13 - - 16. Native.

Lat. 50—56. Cornwall, Wight, Kent. — Dumbarton, Durham.

Zones 1 2. Devon to 350 yards. Tyne to 200 yards.

Census 14 26 53. Ireland 7. English-atlantic type.

Europe spa ita - aus ger fra cha net.

Russia - - - 3. Siberia? N.B. Chiefly a western plant, extended in Europe from Portugal to Holstein; eastward to Transylv.

847. *Myosotis palustris*, Linn.

Provinces 1 to 15 - [17 18]. Native.

Lat. 50—57. Cornwall, Wight, Kent. — Perth! Forfar.

Zones 1 2 ? Humber to 200 yds. [“Aberdeen”—“Shetland”].

Census 15 30 74. Ireland 12. British-english type.

Europe all, except Finmark. Partly *M. repens* here?

Russia 6 - 4 3 2 1. Siberia. Davuria. Same query?

Algeria? — [Faroe. Iceland. America].

848. *Myosotis repens*, Don.

Prov. 1 2 3 [4] 5 6 [7] 8 9 10 11 12 13 14 15 16 17 18. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Hebrides, Shetland.

Zones 1 2 3 4. Humber to 750 yards. Highlands to 680 yards.

Census 16 27 44. Ireland 7. British-scottish type.

Europe —? Normandy? South Sweden.

Russia? N.B. Not included in the *Flora Rossica*; but perhaps passed by on the Continent, as a form of *M. palustris*.

849. *Myosotis cæspitosa*, Schultz.

Provinces all. Native. Much confused with *M. palustris*.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Tyne to 550 yards. Humber to 550 yards.

Census 18 36 76. Ireland 10. British type of distribution.

Europe spa ita - aus ger fra cha - den got nor swe lap.

Russia 6 - 4 3 2 1. Himalaya. Siberia. Davuria.

Algeria. — America; Hook. flo. bor. am. and DC, prodr.

850. *Myosotis alpestris*, Schmidt.

Provinces - - - - - 10 - 12 - - 15. Native.

Lat. 54—57. York! Westmoreland? Perth!

Zones - - - 5 6. Highlands to 1300 y. Humber at 750—800 y.

Census 3 3 3. Ireland 0. Highland type of distribution.

Europe - ita tur aus ger fra - - - - swe lap.

Russia 6 5 4 3 2 1. Sib. Dav. Confused with *M. sylvatica*?

— America. Columbia. “Common on the Rocky Mountains.”

851. *Myosotis sylvatica*, Ehrh.

Provinces 1 2 3 4 5 - 7 8 9 10 11 12 13 14 15. Native.

Lat. 50—57. Devon? Sussex, Kent. — Forfar, Aberdeen.

Zones 1 2 3. Humber to 400 yards. Tyne to 350 yards.

Census 15 22 38. Ireland 0. English-intermediate type.

Europe spa ita tur aus ger fra ? net den got nor. Finmark?

Russia 6 - - 3 2 1. West-asia. Siberia. Davuria.

Canaries. — America? Columbia? By misnomers?

852. *Myosotis arvensis*, Hoffm.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Tyne to 500 yards. Highlands to 410 yards.

Census 18 38 97. Ireland 12. British type of distribution.

Europe all.

Russia 6 5 4 3 2 1. West-asia. India. Siberia.

Madeira. Azores. — Faroe. Iceland. (Am. Col.)

853. *Myosotis collina*, Hoffm.

Provinces 1 to 15 - - [18]. Native. Shetland?

Lat. 50—58 or 61. Cornwall, Wight, Kent. — Banff, Elgin.

Zones 1 2 3. Highlands to 350 yards? Humber to 200 yards.

Census 15 29 62. Ireland 3. British type of distribution.

Europe all, except Lapland and Finmark.

Russia 6 - 4 3 2. West-asia.

Algeria. — Faroe. N.B. “Abundant in Shetland”; Edm.

854. *Myosotis palustris*, Lehm.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Tyne to 500 yards. Highlands to 400 yards.

Census 18 35 80. Ireland 12. British type of distribution

Europe spa ita tur aus ger fra cha net den got nor.

Russia 6 - - 3. West-asia.

Algeria. Canaries. Azores. — Iceland. “Columbia.”

855. *Lithospermum officinale*, Linn.

Provinces 1 to 17. Native; but doubtfully so in Scotland.

Lat. 50—58. Cornwall, Wight, Kent. — Elgin, Ross!

Zones 1 2 3. Low grounds. Humber to 200 yards.

Census 17 32 69. Ireland 9. British-english type.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3 2. West-asia. Siberia. Davuria.

— (America, introduced).

856. *Lithospermum arvense*, Linn.

Provinces all. Colonist.

Lat. 50—58. Cornwall, Wight, Kent. — Hebrides, Ross.

Zones 1 2 3. Humber to 300 yards. Tyne to 200 yards.

Census 18 32 77. Ireland 8. British type of distribution.

Europe all, except Finmark.

Russia 6 5 4 3 2. West-asia. India. Western Siberia.

Algeria. — (America, introduced).

857. *Lithospermum purpuro-cæruleum*, Linn.

Provinces 1 - 3 - [5] 6 7 - - [10 - 12]. Native.

Lat. 50—54. Devon, Somerset! Kent! Glamorgan! Denbigh!

Zone 1. Low grounds. [Hereford, York, Cumberland].

Census 4 5 6. Ireland 0. English-atlantic type.

Europe spa ita tur aus ger fra cha.

Russia 6 5 4 3.

—.

858. *Mertensia maritima*, G. Don.

Prov. [1 2] - - - ? 7 - - - 11 12 13 14 15 16 17 18. Native.  
 Lat. 53—61. Carnarvon, Cheviotland. — Orkney, Shetland.  
 Zones 1 2 3. Littoral. [Cornwall, Devon, Hants, Cardigan?]  
 Census 9 15 28. Ireland 4. Scottish type of distribution.  
 Europe - - - - - den got nor lap fin.  
 Russia - - - - 1. Siberia. Kamtschatka. Spitsbergen.  
 — Faroe. Iceland. Greenland. America. Columbia.

859. *Symphytum officinale*, Linn.

Provinces 1 to 15. Native. Denizen in North Britain.  
 Lat. 50—57. Cornwall, Wight, Kent. — Forfar, Kincardine.  
 Zones 1 2. Low grounds. Tyne to 150 yards.  
 Census 15 31 72. Ireland 12. English-british type.  
 Europe spa ita tur aus ger fra cha net den got nor (swe).  
 Russia 6 5 4 3 2. Western Siberia.  
 — (America, introduced).

860. *Symphytum tuberosum*, Linn.

Provinces - (2 3 4 5) - 7 8 - 10 [11] 12 13 14 15 16. Native.  
 Lat. 52—58. (Beds!), Merioneth, York. — Isla, Elgin.  
 Zones ? 2 3. Low grounds only? (Sussex, Herts, Essex, etc.)  
 Census 8 11 20. Ireland 0. Intermediate-scottish type.  
 Europe - ita tur aus ger fra.  
 Russia - - 4 3. "Davuria; Pallas." N.B. Possibly a native in  
 S. England, though usually recorded there with some distrust.

862. *Lycopsis arvensis*, Linn.

Provinces all. Native? Introduced; Alph. De Candolle.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Highlands to 350 yards; sown with corn?  
 Census 18 38 88. Ireland 6. British type of distribution.  
 Europe all, except Lapland (scarcely) and Finmark.  
 Russia 6 5 4 3 2. India. Western Siberia.  
 — (America, introduced).

864. *Achusa sempervirens*, Linn.

Provinces 1 to 17. Alien or Denizen. (Cornwall to Ross).  
 Lat. 50—58. Devon! Sussex! Kent! — Dumbarton! Kincard.!  
 Zones 1 2 3. Low grounds. Mostly a casual, from gardens.  
 Census 17 ? ? (Ireland 6). English type of distribution.  
 Europe spa ita - - - fra cha.  
 —. N.B. It would likely be wiser to discard this from the lists  
 of quasi-british plants, and treat it as truly an alien.

865. *Asperugo procumbens*, Linn.

Prov. [1 2 3 4] 5 - 7 - - - 11 - - 14 15 17. Alien or Denizen.  
 Lat. 52—58. Salop! Cheviotl.! Haddingt.! Fife! Forfar! Ross!  
 Zones 1 2 3. Low grounds. Misreported or extinct in many places.  
 Census 6 9 9. Ireland 0. Local-scottish type?  
 Europe all, except Channel.  
 Russia 6 5 4 3 2. West-asia. Himalaya. Siberia.  
 Algeria.

866. *Cynoglossum officinale*, Linn.

Provinces 1 to 12 - 14 15 - (17) [18]. Native.  
 Lat. 50—57 (or 58). Cornwall, Wight, Kent. — Fife. (Ross).  
 Zones 1 2 ? Humber to 250 yards.  
 Census 14 28 66. Ireland 6. English-british type.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 2. West-asia. Siberia.  
 Barbary; Desf. flo. atla. — (America, introduced).

867. *Cynoglossum montanum*, Linn.

Provinces - [2] 3 4 5 - - - - - (15). Native in England.  
 Lat. 51—53 (57). Surrey! Essex! Gloucester! Warwick!  
 Zone 1. Low grounds. [Sussex] — (Perth, Forfar).  
 Census 3 6 12. Ireland 1. English type of distribution.  
 Europe - ita tur aus ger fra cha.  
 Russia 6. N.B. Apparently mis-records occur in English books,  
 through mistaking *C. officinale* for the present species.



868. *Pulmonaria angustifolia*, Linn.

Provinces [1] 2 [3 4 - - 7]. Native. [1 Ravenshaw Flo. Dev.]

Lat. 50—51. Dorset. Wight! South Hants!

Zone 1. Low grounds. [Devon, Surrey, Suffolk, Flint].

Census 1 2 3. Ireland 0. Local-english type.

Europe spa ita - aus ger fra cha net (den) got nor.

Russia - - 4 3 2. N.B. *P. officinalis* occurs in many counties of Britain, as an escape from gardens, and is confused with this.

869. *Echium vulgare*, Linn.

Provinces all? Native. Alien or Colonist in North Britain.

Lat. 50—56 or 59. Cornwall, Wight, Kent. — Harris, Caithness.

Zones 1 2 3. Humber to 250 yards, Tyne to 150 yards.

Census 18 33 78. Ireland 5. British-english type.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3 2. Western Siberia.

Algeria. Azores. — [Iceland; Hooker list]. (America).

872. *Pinguicula vulgaris*, Linn.

Provinces all. Native. Rare in the South of England.

Lat. 50—61. Devon, Dorset, Hants. — Orkney, Shetland.

Zones 1 2 3 4 5. Highlands to 970, 930, 930, 900, 880 yards.

Census 18 34 75. Ireland 12. Scottish-british type.

Europe all.

Russia - - - 3 2 1. Siberia. Aleutia.

— Faroe. Iceland. Greenland. America. Columbia.

873. *Pinguicula alpina*, Linn.

Provinces - - - - - 16 17 [18]. Native.

Lat. 57—58. Skye; James Mackay! E. Ross; W. A. Stables!

Zone - - 3. Low grounds only?

Census 2 2 2. Ireland 0. Scottish type of distribution.

Europe - ita - aus ger fra - - - got nor swe lap fin.

Russia - - - 3 2 1. Himalaya. Siberia.

— Faroe. Iceland. Greenland; Giesecke.

874. *Pinguicula lusitanica*, Linn.

Provinces 1 2 - [4] - - - - - 12 13 - 15 16 17 18. Native.  
 Lat. 50—59. Cornwall, Dorset, Wight. — Hebrides, Sutherland.  
 Zones 1 2 3. Low grounds only? [West Norfolk, by an error].  
 Census 8 13 24. Ireland 12. Atlantic-scottish type.  
 Europe spa - - - - fra cha. Portugal to Normandy, and continued  
 northwards only in Britain and Ireland. A single locality in  
 the East Highland province, in its extreme North-west.

875. *Utricularia vulgaris*, Linn.

Provinces 1 to 15 - 17 18. Native. *U. neglecta* in 2 3 - 5.  
 Lat. 50 -61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Highlands to 500 yards; Prof. Dickie.  
 Census 17 32 66. Ireland 12. British type of distribution.  
 Europe all, except Finmark. *U. neglecta*, N. Italy to Sweden.  
 Russia - - 4 3 2. Siberia. Davuria.  
 Algeria. — America. Columbia.

876. *Utricularia intermedia*, Hayne.

Provinces [1] 2 - [4 5] - - - - - 11 12 - - 15 16 17. Native.  
 Lat. 50—59. Dorset, South Hants. — Ross, Sutherland.  
 Zones 1 2 3. Tyne to 250 yards. Several false localities?  
 Census 6 10 14. Ireland 5. Local-scottish type?  
 Europe - - - aus ger fra - net den got nor swe lap.  
 Russia - - 4 3 2 1. Siberia.  
 — America. N.B. The British localities mostly need verification.

877. *Utricularia minor*, Linn.

Provinces all. Native. Occasionally mislabelled “*intermedia*.”  
 Lat. 50—59. Cornwall, Wight, Kent. — Hebrides, Sutherland.  
 Zones 1 2 3. Tyne to 250 yards. Sparse or overlooked.  
 Census 18 33 57. Ireland 7. British type of distribution.  
 Europe - ita - aus ger fra cha net den got nor swe lap.  
 Russia - - 4 3. Himalaya. Siberia.  
 Algeria.

878. *Primula vulgaris*, Huds.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4. Humber to 550 yards. Highlands to 500 yards.

Census 18 38 92. Ireland 12. British type of distribution.

Europe spa ita tur aus ger fra cha net den (got) nor.

Russia 6 5 4. "Syria; Labill"; De Cand. Prodr.

Algeria; Munby cat. — Faroe.

879. *Primula elatior*, Jacq.

Provinces - - 3 4. Native. Not *P. elatior* of With. etc.

Lat. 51—53. Essex! Suffolk! Cambridge. [Middlesex].

Zone 1. Low grounds. Varieties of *P. vulgaris* excluded above.

Census 2 3 3. Ireland 0. Germanic type of distribution.

Europe spa ita - aus ger fra - net den got.

Russia 6 - - 3. Siberia.

Iceland; Lecoq. geogr. Surely this is an error?

880. *Primula veris*, Linn.

Provinces 1 to 15 - 17 (18). Native. Orkney; Gillies herb.

Lat. 50—59. Cornwall, Wight, Kent. — Caithness! Sutherl.!

Zones 1 2 3. Tyne to 550 yards. Highlands to 450 yards.

Census 16 30 77. Ireland 11. British-english type.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3 2. West-asia. Siberia.

Barbary; Desf. flor. atla. "Flores umbellati," etc.

881. *Primula farinosa*, Linn.

Provinces [1 3 - - - 7] - 9 10 11 12 - 14 - - [17 18]. Native.

Lat. 53—56. Lancaster, York. — Cumberland, Peebles.

Zones - 2 3 4. Humber 0—600 yards. Tyne to 550 yards.

Census 5 6 11. Ireland 0. Intermediate type of distribution.

Europe spa ita tur aus ger fra - - den got - swe. Lapland?

Russia 6 - 4 3 2. Siberia. Davuria. Mongolia.

— Iceland. "Greenland." Am. Col. The same species?

882. *Primula scotica*, Hook.

Provinces - - - - - 17 18. Native.

Lat. 58—60. Sutherland! Caithness! Orkney!

Zones - - 3. Low grounds only?

Census 2 2 3. Ireland 0. Scottish type of distribution.

Europe. Scandinavian mountains, nor swe lap. N.B. This seems quite satisfactorily distinct from *P. farinosa*, with which it is reunited in the Handbook of the British Flora, and in DC. prodr.

884. *Trientalis europæa*, Linn.

Provinces - - - - - 10 11 12 13 14 15 16 17 18. Native.

Lat. 53—61. Westmoreland, York. — Orkney? Shetland!

Zones - 2 3 4 5. Highlands to 930 yards. Tyne 70—500 yds.

Census 9 13 30. Ireland 0. Scottish-highland type.

Europe - ita - aus ger fra - net den got nor swe lap fin.

Russia - - 4 3 2 1. Siberia. Davuria. *T. arctica*, in Kamtsc.

— Iceland; Lindsay list. *T. arctica*, in Aleutian Isles.

885. *Hottonia palustris*, Linn.

Provinces 1 2 3 4 5 - 7 8 9 10 11 12 - - [15]. Native.

Lat. 50—55. Hants, Sussex, Kent. — Westmoreland, Durham.

Zones 1 2. Low grounds. [Dorset, on old authority.]

Census 11 19 41. Ireland 0. English type of distribution.

Europe - ita - aus ger fra cha net den got nor swe.

Russia - - 4 3 2. Western Siberia.

—.

886. *Lysimachia vulgaris*, Linn.

Provinces 1 to 16. Native.

Lat. 50—57. Cornwall, Wight, Kent. — Mull, Aberdeen.

Zones 1 2 3. Humber to 250 yards.

Census 16 32 70. Ireland 10. English-british type.

Europe all, except Finmark.

Russia 6 5 4 3 2 1. West-asia. Siberia.

Algeria.

887. *Lysimachia thyrsoflora*, Linn.

Provinces [1 2 3 - - 7] 8 [9] 10 - [12] 13 [14] 15 16. Native.  
 Lat. 53—57. Notts, York! — Lanark! Forfar!  
 Zones 1 2. Low grounds. Dumbarton or Stirling?  
 Census 5 7 8. Ireland 0. Intermediate-scottish type.  
 Europe - - - aus ger fra - net den got nor swe lap.  
 Russia - - 4 3 2 1. Siberia. Davuria.  
 — America. Columbia.

888. *Lysimachia nummularia*, Linn.

Provinces 1 to 13 (14 15). Native. (Renfrew to Forfar).  
 Lat. 50—56. Devon, S. Hants, Kent. — Dumfries, Northumb.?  
 Zones 1 2. Humber to 200 yards.  
 Census 13 25 56. Ireland 1 & (4). English type.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3.

—.

889. *Lysimachia nemorum*, Linn.

Provinces 1 to 17. Native  
 Lat. 50—59. Cornwall, Wight, Kent. — Skye, Sutherland.  
 Zones 1 2 3 4 5. Highlands to 810, 710, 700, 680, 670 yards.  
 Census 17 35 87. Ireland 12. British type of distribution.  
 Europe spa ita - aus ger fra cha net den got nor.  
 [“Kamtschatka; Rudolph”]. Not elsewhere in the Russian empire.  
 [“Azores”]. The Azoric plant is not identical with the European.

890. *Anagallis arvensis*, Linn.

Provinces 1 to 16. Native. Colonist in North Britain.  
 Lat. 50—58. Cornwall, Wight, Kent. — Moray, Banff.  
 Zones 1 2 3. Tyne to 200 yards. *A. cærulea* included.  
 Census 16 32 81. Ireland 12. British-english type.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3. West-asia. India. Western Siberia.  
 Algeria. Canaries. Azores. — (America, introduced).

891. *Anagallis tenella*, Linn.

Provinces all? Native. No authority for province 17.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Lakes to 250 yards. Humber to 250 yards.  
 Census 17 36 87. Ireland 12. British type of distribution  
 Europe spa ita tur aus ger fra cha net.  
 ["Eastern Siberia"]. Otherwise, unknown in the Russian Empire.  
 Algeria. — Faroe.

892. *Centunculus minimus*, Linn.

Provinces 1 2 3 4 5 6 7 - 9 10 - 12 13 14 15 16. Native.  
 Lat. 50—58. Cornwall, Wight, Kent. — Moray, Kincardine.  
 Zones 1 2 3. Low grounds.  
 Census 14 25 46. Ireland 7. English-british type.  
 Europe spa ita - aus ger fra cha net den got nor swe.  
 Russia - - 4 3. Siberia.  
 Azores. — Said to occur in South America.

893. *Samolus Valerandi*, Linn.

Provinces 1 to 16. Native.  
 Lat. 50—58. Cornwall, Wight, Kent. — Skye, Moray.  
 Zones 1 2 3. Low grounds; chiefly littoral.  
 Census 16 31 72. Ireland 10. English-british type.  
 Europe spa ita tur aus ger fra cha net den got - swe.  
 Russia 6 5 4 3. West-asia. India. Siberia. Kamtschatka.  
 Algeria. Canaries. Azores. — America. Columbia.

894. *Glaux maritima*, Linn.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Littoral.  
 Census 18 35 69. Ireland 9. British type of distribution.  
 Europe all, except Turkey.  
 Russia 6 - 4 3 2 1. Himalaya. Siberia. Davuria. China.  
 — Iceland. America. Columbia.

895. *Armeria maritima*, Auct.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4 5 6. Highlands to 1270, 1200, 1100, 1000 yards.

Census 18 34 71. Ireland 10. British type of distribution.

Europe all; if *A. elongata* or *vulgaris* be included herewith.

Russia - - 4 3 2. Arctic and Eastern Siberia.

— Faroe. Iceland. Greenland. America. Columbia.

897. *Statice Limonium*, Linn.

Provinces 1 to 13 - (15 - - 18). Native. Province 5 uncertain

Lat. 50—56. Cornwall, Wight, Kent. — Wigton, Cheviotland.

Zones 1 2. Littoral. (Fife. Shetland).

Census 13 21 33. Ireland 0. English type of distribution.

Europe spa ita tur aus ger fra cha net den got.

Russia, absent. But *S. Gmelini* of Rus. and Sib. is closely allied.

Algeria. Azores; the species not certain. — America.

898. *Statice bahusiensis*, Fries.

Provinces [1] 2 3 4 - 6 - - 9 10 11 12 13. Native.

Lat. 50—55. Wight, Sussex, Kent. — Wigton, Cheviotland.

Zones 1 2. Littoral. [Reported in Devon].

Census 10 11 18. Ireland 8. English type of distribution.

Europe -? France. Scandinavia, den got nor.

— N.B. Whether this is sufficiently and permanently distinct from *Limonium*, may be held an open question.

899. *Statice binervosa*, G. E. Smith.

Provinces 1 2 3 4 - 6 7 8 9 - - 12 13. Native.

Lat. 50—55. Cornwall, Dorset, Kent. — Wigton, Lincoln.

Zones 1 2. Littoral. *S. Dodartii*, Dorset? Norfolk?

Census 10 14 20. Ireland 4. Atlantic-english type.

Europe spa - - - - fra cha. *S. occidentalis* and *Dodartii*.

N.B. The prevailing form in England is *S. occidentalis*, of Lloyd; true *Dodartii* being very local or unknown.

900. *Statice caspia*, Willd.

Provinces [1 - 3] 4 - - [7] 8 - - - [12]. Native.

Lat. 52—54. Norfolk! Cambridge. "Lincoln; Banks. Herb."

Zone 1. Littoral. [By misnomers, in other counties also].

Census 2 3 4. Ireland 0. Germanic type of distribution.

Europe - ita tur aus ger fra.

Russia - 5 4. Siberia. East Asia.

— N.B. Friestone, Lincoln; Bab. Man. 6.

901. *Plantago major*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Tyne to 650 yards. Highlands to 530 yards.

Census 18 38 98. Ireland 12. British type of distribution.

Europe all. N.B. Carried widely over the earth.

Russia 6 5 4 3 2 1. Himalaya. Siberia. Davuria. Kamtsch.

Algeria. Canaries. Azores. — Far. Icel. Am. Col. (States).

902. *Plantago media*, Linn.

Provinces 1 to 15 - - [18]. Native. [Shetland, casual.]

Lat. 50—58. Cornwall, Wight, Kent. — Forfar, Aberdeen.

Zones 1 2 3. Tyne to 550 yards. Lakes to 360 yards.

Census 15 29 70. (Ireland). English-british type.

Europe all, except Finmark.

Russia 6 5 4 3 2 1. West-asia. Siberia. Davuria.

[Azores; Drouet flo.] — Faroe? Iceland? Columbia?

903. *Plantago lanceolata*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4. Wales to 750 yards. Highlands to 710 yards.

Census 18 38 101. Ireland 12. British type of distribution.

Europe all, except Finmark.

Russia 6 5 4 3 2. West-asia. Himalaya. Siberia.

Algeria. Canaries. Azores. — Far. Icel. Am. Col. (States).



904. *Plantago maritima*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Highlands to 600 yards. Humber to 600 yards.

Census 18 35 76. Ireland 8. British type of distribution.

Europe all.

Russia - 5 4 3 2 1. West-asia. Himalaya. Siberia. Davuria.

Barbary; Desf. flo. atla. — Far. Icel. Greenl. Am. Col.

905. *Plantago Coronopus*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Low grounds; often littoral. Humber to 200 yds.

Census 18 37 82. Ireland 9. British type of distribution.

Europe spa ita tur aus ger fra cha net den got nor.

Russia 6. West-asia.

Algeria. Canaries. Azores. — Faroe. Iceland.

906. *Littorella lacustris*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Dorset, Kent. — Orkney, Shetland.

Zones 1 2 3 4. Highlands to 550 yards; James Backhouse.

Census 18 34 64. Ireland 8. British type of distribution.

Europe all, except Turkey (overlooked there?) and Finmark.

Russia - - - 3. Lithuania only.

Azores; only the leaves found. — Faroe.

908. *Chenopodium olidum*, Cart.

Provinces 1 2 3 4 - - - 8 9 10 11 - 14 (15). Native.

Lat. 50—56. Cornwall, Wight, Kent. — Edinburgh. (Fife).

Zones 1 2. Low grounds. Humber to 100 yards.

Census 9 18 32. (Ireland 2). Germanic-english type.

Europe spa ita tur aus ger fra cha net den got.

Russia 6 5 4 3.

Algeria.

909. *Chenopodium polyspermum*, Linn.

Provinces 1 2 3 4 5 6 7 8 9 10 (11) - - - [15]. Native  
 Lat. 50—55. Cornwall, Wight, Kent. — Lancaster, York.  
 Zones 1 2. Low grounds. Scarcely indigenous in prov. 9 10?  
 Census 10 20 38. (Ireland). English type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia 6 - 4 3 2. Siberia.

—.

910. *Chenopodium urbicum*, Linn.

Provinces 1 2 3 4 5 - [7] 8 9 10 11 - - [14 15]. Native?  
 Lat. 50—56. Cornwall! Wight, Kent. — Chester, Cheviotland.  
 Zones 1 2. Low grounds. “Colonist” in provinces 10 11.  
 Census 9 18 34. Ireland? Germanic-english type.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 2. West-asia. Siberia. Davuria.  
 Canaries. — (America, introduced).

911. *Chenopodium rubrum*, Linn.

Provinces 1 2 3 4 5 6 7 8 9 10 11 - 13 14 15. Native.  
 Lat. 50—57. Cornwall, Wight, Kent. — Renfrew, Fife.  
 Zones 1 2. Low grounds. Humber to 150 yards.  
 Census 14 27 54. Ireland 3. English-germanic type.  
 Europe all, except Lapland and Finmark.  
 Russia 6 - 4 3 2. West-asia. Siberia. Davuria.  
 Azores. — “America.” “Columbia.”

911\*. *Chenopodium botryoides*, Sm.

Provinces [1 2] 3 4 - - [7 - - - 11 - - - 15]. Native.  
 Lat. 51—53. Kent! Essex. Suffolk. Norfolk!  
 Zone 1. Littoral. [C. pseudo-botryoides in 1 2 7 11 15.]  
 Census 2 3 4. Ireland 0. Local-germanic type.  
 Europe —? [Channel Isles, by a misnomer]. Scandinavia?  
 N.B. The European area (if any) of this plant cannot be determined  
 until its proper synonyms are ascertained.

912. *Chenopodium murale*, Linn.

Provinces 1 2 3 4 5 6 [7] 8 9 10 11 [12 13 14 15]. Native.  
 Lat. 50—56. Cornwall, Wight, Kent. — Lancaster, Northumb.  
 Zones 1 2. Low grounds. Humber to 100 yards.  
 Census 10 20 38. Ireland 3. English-germanic type.  
 Europe spa ita tur aus ger fra cha net den got.  
 Russia 6 5 4 3. West-asia. India.  
 Algeria. Egypt. Canaries. Azores. — (America, introduced).

913. *Chenopodium hybridum*, Linn.

Provinces 1 2 3 4 5 - - - - (11 - - 14). Native?  
 Lat. 50—53. Dorset! Kent! — Salop, Cambridge, Norfolk!  
 Zone 1. Low grounds. 1 South Somerset; Coleman.  
 Census 5 11 19. Ireland 0. English type of distribution.  
 Europe spa ita - aus ger fra cha net den got nor swe.  
 Russia 6 5 4 3. India. Siberia. Davuria.  
 Algeria. — (America, introduced).

914. *Chenopodium album*, Linn.

Provinces all. Native. Including *Ch. viride*, etc.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Humber to 300 yards. Tyne to 250 yards.  
 Census 18 38 90. Ireland 10. British type of distribution.  
 Europe all. *Ch. candicans*, *viride*, *paganum*.  
 Russia 6 5 4 3 2 1. West-asia. India. Siberia. Davuria.  
 Algeria. Egypt. Canaries. — Faroe. (America. Columbia).

915. *Chenopodium ficifolium*, Sm.

Provinces - 2 3 4 [5 - - 8] - (10 11). Native.  
 Lat. 50—53. Dorset? Sussex, Kent! — Cambridge, Norfolk.  
 Zone 1. Low grounds. Surrey! Middlesex! Essex!  
 Census 3 8 15. Ireland 3. Germanic type of distribution.  
 Europe spa - tur aus ger fra cha net.  
 Russia - - 4 3. Siberia. N.B. In England, the 'paganum'  
 variety of *Ch. album* is occasionally mistaken for this.

916. *Chenopodium glaucum*, Linn.

Provinces - 2 3 4 - 6 - - - 10 11 - - - (15). Native?  
 Lat. 50—55. [Dorset?], Wight, Hants. — Durham! (Fife!)  
 Zones 1 2. Low grounds; and very scarce.  
 Census 6 7 8. Ireland 0. Germanic type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 2. Cashmere. Siberia. Davuria.  
 Canaries. — (America, introduced).

917. *Chenopodium Bonus-Henricus*, Linn.

Provinces 1 to 15 - 17. Native? (Often near houses).  
 Lat. 50—58. Carnarvon, Wight, Kent. — Moray, Ross.  
 Zones 1 2 3. Humber to 400 yards. Tyne to 400 yards.  
 Census 16 32 74. (Ireland 10). British-english type.  
 Europe all, except Lapland and Finmark. Often semi-domestic.  
 Russia - - 4 3 2. Siberia. Davuria.  
 — (America, introduced).

918. *Obione portulacoides*, Moq.

Provinces 1 2 3 4 - 6 7 8 9 10 11 12 13 [14 - 16]. Native.  
 Lat. 50—56. Cornwall, Wight, Kent. — Wigton, Northumberl.  
 Zones 1 2. Littoral. [Dumbarton, Edinburgh.]  
 Census 12 20 28. Ireland 3. English type of distribution.  
 Europe spa ita tur aus ger fra cha net den. Sweden, extinct.  
 Russia - - 4 3. West-asia. Western Siberia.  
 Algeria. Egypt. Azores; Drouet flo. — “America.”

919. *Obione pedunculata*, Moq.

Provinces - - 3 4 - (6) - 8 - - (11). Native.  
 Lat. 51—53. Kent! Suffolk! Norfolk! Cambridge? Lincoln?  
 Zone 1. Littoral. (Caermarthen and Durham, on ballast).  
 Census 3 4 5. [Ireland]. Germanic type of distribution.  
 Europe - - - - ger fra cha net den got.  
 Russia 6 5 4 3. Siberia.  
 —. N.B. *Atriplex pedunculata* in Cyb. Brit. vol. 2.

920. *Atriplex arenaria*, Woods.

Provinces 1 2 3 4 - - 7 ? ? 10 11 ? 13 ? ? 16 17 [18]. Native.  
 Lat. 50—59. Cornwall, Wight, Kent! — Arran, Sutherland?  
 Zones 1 2 3. Littoral. Much confused with *A. Babingtonii*.  
 Census 10 13 18. Ireland 3. British-local type.  
 Europe - - - - fra cha net den got nor. "*A. crassifolia*, Mey."  
 Russia? N.B. This plant long stood in our books under the  
 name of *A. laciniata*, but is now alleged not to be that species.

921. *Atriplex Babingtonii*, Woods.

Provinces all. Native. Perhaps a variety of *A. hastata*?  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Littoral. Formerly confused with *A. arenaria*.  
 Census 18 31 55. Ireland 6. British type of distribution.  
 Europe —? Channel Isles. *A. hastata*, var. *salina*, Fl. de Fr.?  
 — N.B. This plant is not satisfactorily identified with any Eu-  
 ropean *Atriplex*.

922. *Atriplex hastata*, Linn.

Prov. all. Native. Including 'patula' (Sm.) and 'deltoidea' (Bab.)  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Tyne to 450 yards. Humber to 400 yards.  
 Census 18 38 88. Ireland 8. British type of distribution.  
 Europe all, except Finmark.  
 Russia 6 5 4 3 2. West-asia. India? Siberia.  
 Azores? — Faroe? (America, introduced).

923. *Atriplex angustifolia*, Sm.

Provinces all, if in 17. Native. *A. patula*, "Linn."  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Tyne to 350 yards. Lakes to 300 yards.  
 Census 17 34 69. Ireland 8. British type of distribution.  
 Europe all, if in Finmark.  
 Russia 6 5 4 3 2. West-asia. India? Siberia.  
 Algeria. Azores; Drouet flo. — Faroe. Iceland.

923\*. *Atriplex erecta*, Huds.

Provinces 1 2 3 4 5 6 - 8 - 10 11 - 13 14 15 16 - 18. Native.  
 Lat 50—58. Cornwall, Wight, Kent? — Skye, North Uist.  
 Zones 1 2 3. Low grounds. Scarcely separable from 'angustifolia.'  
 Census 14 23 36. Ireland 3. British type of distribution.  
 Europe - ita - - ger fra cha. Scandinavia? N.B. Wide extremes occur; from a weakly state often merged in 'angustifolia,' to an extra-luxuriant state figured in Eng. Bot. ed. 3.

924. *Atriplex littoralis*, Linn.

Provinces - 2 3 4 - 6 7 8 9 10 11 12 - 14 15. Native.  
 Lat. 50—57. Dorset, Wight, Kent. — West Perth, Fife.  
 Zones 1 2. Littoral. *A. marina* is included.  
 Census 12 19 32. Ireland 4. British type of distribution.  
 Europe spa ita - aus ger fra cha net den got nor swe.  
 Russia 6 - 4 3 2. West-asia. Siberia.  
 Algeria. — Columbia? "Kotzebue Sound," "Bay of Eschscholtz."

925. *Beta maritima*, Linn.

Provinces 1 2 3 4 5 6 7 ? 10 11 12 - 14 15 16 - (18). Native.  
 Lat. 50—57 or 61. Cornwall, Wight, Kent. — Isla, Fife.  
 Zones 1 2 ? Littoral. (18 Orkney & Shetland; Neill).  
 Census 13 19 33. Ireland 9. British-english type.  
 Europe spa ita tur aus ? fra cha - den.  
 Russia 6 - 4 3. West-asia. India.  
 Algeria. Canaries. Azores.

926. *Salsola Kali*, Linn.

Provinces 1 2 3 4 - 6 7 8 9 10 11 12 13 14 15 16. Native.  
 Lat. 50—58. Cornwall, Wight, Kent. — Argyle, Moray.  
 Zones 1 2 3. Littoral.  
 Census 15 25 50. Ireland 8. British-english type.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 2. West-asia. India. Siberia.  
 Algeria. Canaries? Azores. — America.

927. *Suaeda maritima*, Dum.

Provinces all? Native. No authority for province 13.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Littoral. *Schoberia maritima* in Cyb. Brit.  
 Census 17 29 51. Ireland 7. British type of distribution.  
 Europe all, except North Sweden, Lapland, Finmark.  
 Russia 6 5 4 3 2. India. Siberia.  
 Algeria. Canaries. — America.

928. *Suaeda fruticosa*, Foersk.

Provinces 1 2 3 4 - 6 - - - (10 11) [12]. Native.  
 Lat. 50—53. Devon? Dorset! Essex. — Glamorgan? Norfolk!  
 Zone 1. Littoral. Cornwall? Somerset?  
 Census 5 6 8. Ireland 0. Germanic-english type.  
 Europe spa ita tur aus - fra. Dalmatia for 'aus.'  
 Russia 6 - 4. West-asia. India.  
 Algeria. Canaries. N.B. *Schoberia fruticosa* in C. B.

929. *Salicornia herbacea*, Linn.

Provinces all. Native. *S. procumbens* (Sm.) included.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Littoral.  
 Census 18 31 55. Ireland 9. British type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 2. India. Siberia. Davuria.  
 Algeria. — America.

930. *Salicornia radicans*, Sm.

Provinces [1] 2 3 4 - [6] - - - 10 - - - - [15]. Native.  
 Lat. 50—55. Dorset! Wight! Kent! — Norfolk! York!  
 Zones 1 2. Littoral. [Somerset, Glamorgan, Forfar].  
 Census 4 8 10. [Ireland]. Germanic type of distribution.  
 Europe spa ita - - - fra - - den got. N.B. The area is not well  
 traceable by books, apart from that of 'fruticosa,' in which  
 Smith's *S. radicans* is merged as a variety by several authors.

931. *Polygonum Bistorta*, Linn.

Provinces 1 to 17 (18). Native; but introduced to many counties.  
 Lat. 50—58. Cornwall, Dorset, Kent. — Skye, Ross.  
 Zones 1 2 3. Tyne to 350 yards. Humber to 300 yards.  
 Census 17 ? ? Ireland 8. British-intermediate type.  
 Europe spa ita tur aus ger fra cha net (den) got - (swe).  
 Russia 6 - 4 3 2 1. West-asia. Himalaya. Siberia. Kamtsc.  
 — Iceland; Hooker list, from Zoega. Am.? Col.? A var. there?

932. *Polygonum viviparum*, Linn.

Provinces - - - [5] - 7 [8] - 10 11 12 - - 15 16 17 18. Native.  
 Lat. 53—61. Carnarvon, York. — Orkney, Shetland.  
 Zones - ? 3 4 5 6. Highl. 20—1310 y. Humber 200—450 y.  
 Census 8 13 27. Ireland 1. Highland type of distribution.  
 Europe spa ita tur aus ger fra - - - got nor swe lap fin.  
 Russia 6 - - 3 2 1. Himalaya. Siberia. Kamtsc. Spitsbergen.  
 — Faroe. Iceland. Greenland. America. Columbia.

933. *Polygonum amphibium*, Linn.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Humber to 250 yards. Tyne to 150 yards.  
 Census 18 38 94. Ireland 12. British type of distribution.  
 Europe all, except Finmark.  
 Russia 6 5 4 3 2 1. West-asia. India. Siberia. Dav. China.  
 Algeria. — Iceland. America. Columbia.

934 (935). *Polygonum lapathifolium*, Linn.

Provinces 1 to 17. Native. *P. laxum* (of Eng. auth.) included.  
 Lat. 50—58. Cornwall, Wight, Kent. — Isla, Elgin.  
 Zones 1 2 3. Humber to 300 yards. Lakes to 250 yards.  
 Census 17 34 77. Ireland 8. British-english type.  
 Europe all, except Finmark.  
 Russia 6 5 4 3 2. India. Siberia. Davuria.  
 Algeria. — (America, introduced).



935 (934). *Polygonum Persicaria*, Linn.

Provinces all. Native. No authority for Sutherland.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Tyne to 400 yards. Lakes to 400 yards.  
 Census 18 37 93. Ireland 12. British type of distribution  
 Europe all. Northward to Finmark; N. J. Andersson.  
 Russia 6 5 4 3 2 1. Himalaya. Siberia. Davuria.  
 Algeria. Canaries. Azores; Drouet flo. — Far. Icel. (Am.)

936. *Polygonum mite*, Schrank.

Provinces ? 2 3 4 - [6 7 9] 10 - ? -. Native.  
 Lat. 50—55. Dorset! Surrey! — Hunts! Northton! York.  
 Zones 1 2. Low grounds. "Cornwall" to "Cumberland"?  
 Census 4 8 12. Ireland 0. Germanic type of distribution.  
 Europe - ita - aus ger fra cha net den got.  
 Russia 6 - - 3. N.B. This is nearly allied to *Persicaria*, but has  
 been strangely confused with the less similar *P. minus*.

937. *Polygonum Hydropiper*, Linn.

Provinces 1 to 16 - [18]. Native.  
 Lat. 50—58 or 61. Cornwall, Wight, Kent. — Skye, Shetland?  
 Zones 1 2 3. Lakes to 450 yards. Humber to 250 yards.  
 Census 16 32 86. Ireland 12. British type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia 6 - 4 3 2 1. India. Siberia. Davuria.  
 Algeria. Madeira. — Faroe. Iceland. America.

938. *Polygonum minus*, Huds.

Provinces 1 2 3 4 5 6 7 8 9 10 11 - 13 - [15]. Native.  
 Lat. 53—55. Wight, Sussex, Kent. — Kirkcudbright, Durham.  
 Zones 1 2. Humber to 150 yards. Somerset; Dr. Southby.  
 Census 12 19 33. Ireland 10. English type of distribution.  
 Europe spa ita - aus ger fra cha net den got nor swe.  
 Russia 6 - 4 3. India. Siberia. "China."  
 N.B. Clearly distinct from *P. mite*, see mem: under 936.

939. *Polygonum aviculare*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Tyne to 600 yards. Highlands to 460 yards.

Census 18 38 97. Ireland 12. British type of distribution.

Europe all. Spread hence over the earth.

Russia 6 5 4 3 2 1. Himalaya. Siberia. Davuria.

Algeria. Canaries. Azores. — Far. Icel. Greenl. (Am. Col.)

940. *Polygonum Raii*, Bab.

Provinces 1 2 - 4 - 6 7 - 9 - 11 12 13 14 15 16 - [18]. Native.

Lat. 50—57. Cornwall! Wight! Sussex. — Cantire! Forfar!

Zones 1 2 ? Littoral. [Shetland, "common"; Edm. flo.]

Census 12 18 29. Ireland 8. British type of distribution.

Europe. South France. Bretagne. Channel Isles. Euxine.

N.B. The range may be expected to extend from Spain to Scandinavia, but is ill ascertained as yet.

940\*. *Polygonum maritimum*, Linn.

Provinces [1] 2 - - - [6 7]. Casual or Native.

Lat. 50—51. South Hants; Borrer, in 1847. Extinct since?

Zone 1. Littoral. [P. Raii thus misnamed in 1 6 7.]

Census 1 1 1. Ireland 0. Local-english type.

Europe spa ita tur aus - fra cha.

Russia 5 4. West-asia. Cyprus.

Algeria. Egypt. Canaries. Azores. — America.

941. *Polygonum Convolvulus*, Linn.

Provinces all. Native. Colonist northward.

Lat. 50—60. Cornwall, Wight, Kent. — Hebrides, Orkney.

Zones 1 2 3. Highlands to 350 yards. Tyne to 300 yards.

Census 18 37 89. Ireland 12. British type of distribution.

Europe all, except Finmark.

Russia 6 5 4 3 2 1. Himalaya. Siberia. Kamts. Japan.

Algeria, probably introduced. — (America, certainly introduced).

942. *Polygonum dumetorum*, Linn.

Provinces 1 2 3 - 5 - - - - [11]. Native.

Lat. 50—52. Somer. ! Dorset ! Hants ! Surrey ! Herts ! Monm. !

Zone 1. Low grounds. Sussex ; Borrer. Essex ; Varenne.

Census 4 6 7. Ireland 0. English-germanic type.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3 2. India. Siberia.

— “America.” But the American plant is *P. scandens* exclusively?

943. *Rumex Hydrolapathum*, Huds.

Provinces 1 to 13 - [15] 16. Native.

Lat. 50—57. Cornwall, Wight, Kent. — Isla ! Perth ?

Zones 1 2 ? Low grounds. Formerly confused with *R. aquaticus*.

Census 14 26 58. Ireland 8. English type of distribution.

Europe spa ita ? aus ger fra cha net den got - swe.

Russia - - 4 3. Cyprus ?

— America ?

944. *Rumex crispus*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Tyne to 650 yards. Humber to 400 yards.

Census 18 38 95. Ireland 12. British type of distribution.

Europe all, except Lapland and Finmark ? “Altenfiord.”

Russia 6 5 4 3 2. West-asia. Siberia. China. Japan.

Algeria. Canaries. Azores. — (America, introduced).

944\*. *Rumex aquaticus*, Linn.

Provinces [1 - - 4 5] - - - - 10 11 12 13 14 15 16 17 18. Native.

Lat. 54—61. Westmoreland, York. — Orkney, Shetland.

Zones - 2 3 ? Highlands to 530 yards. Tyne to 450 yards.

Census 9 14 28. Ireland 0. Scottish type of distribution.

Europe - ? Germany. France. Scandinavia all.

Russia 6 - 4 3 2 1. Himalaya. Siberia. Kamtschatka.

— Faroe. (Iceland). Greenland. America. Columbia.

945. *Rumex pratensis*, Mert. et Koch.

Provinces 1 2 3 4 5 6 7 8 - 10 11 - - 15. Native.  
 Lat. 50—57. Cornwall, Wight, Kent. — Aberdeen; Syme.  
 Zones 1 2 ? Tyne to 400 yards. A species ill understood.  
 Census 10 21 34. Ireland —? English type of distribution?  
 Europe spa - - aus ger fra cha net.  
 Russia 6 5 - 3. "Specimina rossica non vidi"; Ledebour.  
 — N.B. A dubious species,—"R. cristatus, Wallr." "R. acutus, L."

947. *Rumex obtusifolius*, Auct. (Meisner, etc)

Provinces all. Native. No authority for S.W. Lowlands.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Tyne to 550 yards. Lakes to 510 yards.  
 Census 18 37 91. Ireland 12. British type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 2. India. Siberia.  
 Algeria. Canaries. — (America, introduced).

948. *Rumex nemorosus*, Schrad.

Provinces 1 to 16. Native. *R. sanguineus et viridis*.  
 Lat. 50—58. Cornwall, Wight, Kent. — Isla, Elgin.  
 Zones 1 2 3. Humber to 400 yards. Tyne to 250 yards.  
 Census 16 33 72. Ireland 12. British-english type.  
 Europe spa ita tur aus ger fra cha net den got.  
 Russia 6 - 4 3. West-asia.  
 — (America, introduced).

948\*. *Rumex conglomeratus*, Mur.

Provinces 1 to 16 - 18. Native. Common in Shetland; Edm. flo.  
 Lat. 50—58 or 61. Cornwall, Wight, Kent. — Skye. Shetland?  
 Zones 1 2 3. Humber to 300 yards. Tyne to 200 yards.  
 Census 17 30 73. Ireland 12. British type of distribution.  
 Europe spa ita tur aus ger fra cha net den got.  
 Russia 6 - 4 3. West-asia.  
 Algeria. Canaries. Azores. — Faroe? Iceland? (America).

949. *Rumex pulcher*, Linn.

Provinces 1 2 3 4 5 6 - 8 - - (11 - 13). Native?

Lat. 50—54. Cornwall, Wight, Kent. — Notts, Lincoln.

Zones 1 ? Low grounds. (Northumberland, on ballast.)

Census 7 17 38. (Ireland 5). English type of distribution.

Europe spa ita tur aus ger fra cha net.

Russia 6 5 4. West-asia.

Algeria. Canaries. Azores.

950. *Rumex maritimus*, Linn.

Provinces 1 2 3 4 5 ? ? 8 ? 10 11 - [13 - 15 - - 18]. Native.

Lat. 50—55. Devon, Dorset, Kent. — Durham; Prof. Lawson!

Zones 1 2. Low grounds. Humber to 100 yards.

Census 8 17 30. Ireland 1. English type of distribution.

Europe spa ita - aus ger fra cha net den got nor swe.

Russia 6 5 4 3. Siberia.

— America?

950\*. *Rumex palustris*, Sm.

Provinces 1 2 3 4 5 - - [8] 9 10 [11 - - - 15]. Native.

Lat. 50—55. Cornwall? Dorset, Kent. — Chester, York.

Zones 1 2. Low grounds. Humber to 100 yards.

Census 7 15 22. [Ireland]. English type of distribution.

Europe spa ita tur aus ger fra cha net den got.

Russia - - 4 3. India. Siberia. Davuria.

—

951. *Rumex Acetosa*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4 5 6. Highlands to 1350, 1320, 1270, 1230 yards.

Census 18 38 101. Ireland 12. British type of distribution.

Europe all.

Russia 6 5 4 3 2 1. West-asia. Himalaya. Siberia. Kamtsc.

— Faroe. Iceland. Greenland. America. Columbia.

952. *Rumex Acetosella*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4 5. Humber to 850 yds. Highlands to 710 yds.

Census 18 38 97. Ireland 12. British type of distribution.

Europe all. Carried thence almost over the globe.

Russia 6 - 4 3 2 1. West-asia. Himalaya. Siberia. Davuria.

Algeria. Canaries. Azores. — Far. Icel. Greenl. Am. Col.

953. *Oxyria reniformis*, Hook.

Provinces - - - - [5] - 7 - - [10] 12 - - 15 16 17 18. Native.

Lat. 52—60. Merioneth, Carnarvon. — Hebrides, Orkney.

Zones - - 3 4 5 6. Highlands to 1330, 1300, 1250 yards.

Census 6 10 20. Ireland 4. Highland type of distribution.

Europe spa ita tur aus ger fra - - - - nor swe lap fin.

Russia 6 - - - - 1. West-asia. Himalaya. Sib. Kamtsch. Spitsb.

— Faroe. Iceland. Greenland. America. Columbia.

954. *Hippophae rhamnoides*, Linn.

Provinces - - 3 4 - - - 8 - 10 (11 - - 14 - 16). Native in England.

Lat. 51—55. Kent! Suffolk. Norfolk! Lincoln. York!

Zones 1 2. Chiefly littoral. (Islay, Fife, etc.)

Census 4 5 5. (Ireland). Germanic type of distribution.

Europe spa ita - aus ger fra cha net den - nor swe.

Russia 6 - - 3 2. West-asia. India. Siberia.

—.

955. *Daphne Laureola*, Linn.

Provinces 1 2 3 4 5 - (7) 8 9 10 11 (12 13 14 15). Native.

Lat. 50—55. Cornwall, Wight, Kent. — York, Durham.

Zones 1 2. Low grounds. (Lanark, Fife, Kincardine.)

Census 9 19 42. Ireland 0. English-germanic type.

Europe spa ita tur aus ger fra cha net.

Russia, absent. Mount Olympus, in Bithynia.

Algeria. Azores, high on the Peak of Pico island.

956. *Daphne Mezereum*, Linn.

Provinces 1 2 3 4 5 - - 8 - 10 11 12. Alien or Denizen.  
 Lat. 50—55. Dorset, Hants, Sussex. — Westmorel., Durham.  
 Zones 1 2. Humber to 200 yards. Sussex, truly wild; Borrer.  
 Census 9 ? ? Ireland 0. English-germanic type.  
 Europe all, except Denmark (introduced?) and Finmark.  
 Russia 6 - 4 3 2 1. Siberia. N.B. A garden escape in various  
 localities in Engl., and now difficult to decide where it is native.

957. *Thesium humifusum*, De Cand.

Provinces 1 2 3 4 5. Native.  
 Lat. 50—53. Cornwall, Wight, Sussex. — Gloucester, Norfolk.  
 Zone 1. Low grounds; littoral sands and chalk hills.  
 Census 5 12 21. Ireland 0. English-germanic type.  
 Europe spa ita tur aus ger fra - net. *T. divaricatum*, DC prodr.  
 Russia 6. West-asia. "Crimea."  
 Algeria.

958. *Asarum europæum*, Linn.

Provinces 2 3 - - - (8) 9 10 (11 12 - 14 15). Denizen.  
 Lat. 51—55. Wilts! — S. Lancaster! York! Westmoreland?  
 Zones 1 2. Low grounds. Herts; Ray Syn. Berks; B. G.  
 Census 4 5 6. Ireland 0. Local-english type.  
 Europe spa ita tur aus ger fra cha net. (Scandinavia).  
 Russia 6 - 4 3. Western Siberia.  
 —. N.B. Decreasing in Britain, if ever well established.

960. *Empetrum nigrum*, Linn.

Provinces 1 [2] - - 5 to 18. Native. [2 Sussex, extinct.]  
 Lat. 50—61. Devon, 1866. Somerset! — Orkney, Shetland.  
 Zones 1 2 3 4 5 6. Highlands to 1350, 1170, 1130, 1110 yards.  
 Census 15 27 59. Ireland 8. Scottish-highland type.  
 Europe spa ita - aus ger fra - net den got nor swe lap fin.  
 Russia 6 - 4 3 2 1. West-asia. Siberia. Kamtschatka.  
 — Faroe. Iceland. Greenland. America. Columbia.

952. *Rumex Acetosella*. Linn.

Provinces all. Native. Native. Very rare and uncertain.  
 Lat. 50—53. Cornwall, 1831. Wight, before 1840. Glam., 1834.  
 Zone 1: Littoral. Devon, Dorset, Somerset, Cardigan.  
 Census 3 3 7. Ireland 1. Atlantic type of distribution.  
 Europe spa ita tur aus - fra cha. Dalmatia.  
 Russia 6 5 4 3. West-asia. Western Siberia.  
 Algeria. Egypt. Canaries. Azores.

962. *Euphorbia Helioscopea*, Linn.

Provinces all. Colonist.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Highlands to 350 yards. Lakes to 300 yards.  
 Census 18 38 93. Ireland 12. British type of distribution.  
 Europe all, except Finmark.  
 Russia 6 5 4 3 2. West-asia. India. Siberia. Japan.  
 Algeria. Canaries. — America, introduced.

963. *Euphorbia platyphyllos*, Linn.

Provinces 1 2 3 4 5 - - - (10 11). Casual or Colonist.  
 Lat. 50—53. Cornwall, Wight, Kent. — Worcester, Cambridge.  
 Zones 1 (2). Low grounds. Humber to 100 yards.  
 Census 5 10 24. Ireland 0. English type of distribution.  
 Europe - ita tur aus ger fra cha net.  
 Russia 6 5 4 3. West-asia.  
 Algeria. Canaries. — (America, introduced).

963\*. *Euphorbia stricta*, Koch.

Provinces [1 2] - - 5. Native. Not *E. stricta* of Smith.  
 Lat. 51—52. W. Gloucester; Hort. Monmouth; Watkins!  
 Zone 1. Low grounds?  
 Census 1 1 2. Ireland 0. Local-english type.  
 Europe - ita tur aus ger fra cha net.  
 Russia 6. West-asia.

—.



964. *Euphorbia hiberna*, Linn.

Provinces 1 - [3] - - - - - (10). Native.

Lat. 51—52. Linton, North Devon; Mrs. Russell!

Zone 1. Low grounds.

Census 1 1 1. Ireland 3. Local-atlantic type.

Europe. Italy. Sardinia. Corsica. France. Switzerland.

Russia, apparently absent. Said to occur in Galicia.

965. *Euphorbia pilosa*, Eng. Bot. Supp. 2787.

Provinces 1 2. Alien or Denizen. "Wild" in Sussex; Hemsley.

Lat. 51—52. 1 Somerset. 2 Westmeston, Sussex; Hemsley.

Zone 1. Low grounds. [Not *E. coralloides*, found at Slinfold.]

Census 2 2 2. Ireland 0. Local-english type.

Europe —? N.B. According to Bentham and Syme, this is *E. pilosa* of Linneus; while Boissier (DC. prodr.) and Babington hold it a form of *E. palustris* of Linneus. The area would be changed in accordance.

969. *Euphorbia Paralias*, Linn.

Provinces 1 2 3 4 - 6 7 - 9 - (11) 12 - [14]. Native.

Lat. 50—55. Cornwall, Dorset, Kent. — Cumberl. Suffolk.

Zones 1 2. Littoral.

Census 8 14 27. Ireland 6. Atlantic-english type.

Europe spa ita tur aus - fra cha net. Belgium.

Russia, absent? West-asia, several habitats recorded.

Algeria. Egypt. Canaries.

970. *Euphorbia portlandica*, Linn.

Provinces 1 2 [3] - - 6 7 - 9 - - 12 13. Native.

Lat. 50—55. Cornwall, Wight, Kent? — Wigton, Cumberland.

Zones 1 2. Littoral.

Census 7 10 16. Ireland 6. Atlantic type of distribution.

Europe. Spain. France. Channel Isles. Greece?

Russia, apparently absent.

Azores; Drouet. Perhaps a misnomer here.

971. *Euphorbia exigua*, Linn.

Provinces 1 to 15. Colonist.

Lat. 50—58. Cornwall, Wight, Kent. — Forfar, Banff.

Zones 1 2 3. Low grounds. Humber to 250 yards.

Census 15 30 70. Ireland 8. English-british type.

Europe spa ita tur aus ger fra cha net den got - (swe).

Russia 6 5 - 3. West-asia. India. Western Siberia.

Algeria. Canaries. Azores.

972. *Euphorbia Peplus*, Linn.

Provinces 1 to 17. Native or Colonist.

Lat. 50—59. Cornwall, Wight, Kent. — Skye, Caithness.

Zones 1 2 3. Highlands to 350 yards. Humber to 350 yards.

Census 17 33 82. Ireland 12. British-english type.

Europe all, except Lapland and Finmark.

Russia - - - 3. West-asia. India. Siberia.

Algeria. Canaries. Azores. — (America, introduced).

974. *Euphorbia amygdaloides*, Linn.

Provinces 1 2 3 4 5 6 7 8 10 11. Native.

Lat. 50—56. Cornwall, Wight, Kent. — Cheviotland; Bigge!

Zones 1 2. Low grounds.

Census 10 20 46. Ireland 1. English type of distribution.

Europe spa ita tur aus ger fra cha net. Isle of Oesel?

Russia 6 5 4. West-asia. Western Siberia.

—.

976. *Mercurialis perennis*, Linn.

Provinces 1 to 17, possibly 18. Native.

Lat. 50—58 or 61. Cornwall, Wight, Kent. — Ross, Orkney?

Zones 1 2 3 4. Highlands to 570 yards. Tyne to 550 yards.

Census 17 34 83. Ireland 6. British type of distribution.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3 2. Western Siberia?

Algeria.

977. *Mercurialis annua*, Linn.

Provinces 1 2 3 4 5 6 7 8 9 (10 11 12 - 14 15). Colonist?  
 Lat. 50—54. Cornwall, Wight, Kent. — Lancaster, Notts.  
 Zones 1 2. Low grounds. (York — Perth, a casual weed.)  
 Census 9 18 30. Ireland 4. English type of distribution.  
 Europe spa ita tur aus ger fra cha net (den - nor).  
 Russia 6 5 4. West-asia. Cyprus.  
 Algeria. Canaries. Azores.

978. *Urtica urens*, Linn.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Tyne to 550 yards. Highlands to 400 yards.  
 Census 18 38 92. Ireland 12. British type of distribution.  
 Europe all. Carried widely to other countries.  
 Russia 6 5 4 3 2 1. Himalaya. Siberia. Davuria.  
 Algeria. Canaries. — Iceland, introduced? (America).

979. *Urtica dioica*, Linn.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4 5. Highlands to 830 yards. Humber to 800 yds.  
 Census 18 38 97. Ireland 12. British type of distribution.  
 Europe all.  
 Russia 6 5 4 3 2 1. Himalaya. Siberia. Davuria.  
 Barbary; Desf. atlan. — Faroe. Iceland. (America). Aleutia.

982. *Parietaria officinalis*, Linn.

Provinces 1 to 15 - (17). Native.  
 Lat. 50—57 or 58. Cornwall, Wight, Kent. — Forfar! (Ross).  
 Zones 1 2 (3). Low grounds. Humber to 250 yards.  
 Census 15 30 74. Ireland 12. British-english type.  
 Europe spa ita tur aus ger fra cha net den got.  
 Russia 6 5 4 3. India. Western Siberia (*P. erecta*).  
 Algeria. Egypt. Morocco. Canaries. Azores.

983. *Humulus Lupulus*, Linn.

Provinces 1 2 3 4 5 6 7 8 9 10 (11 12 13 14 15). Native.  
 Lat. 50—55. Cornwall, Wight, Kent. — Lancaster, York.  
 Zones 1 2 (3). Highlands at 350 yards, doubtless introduced.  
 Census 10 23 50. (Ireland 10). British type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3. West-asia. Siberia.  
 — America, “truly indigenous”; Gray.

984. *Ulmus montana*, Sm.

Provinces all, wild or planted. Native.  
 Lat. 50—59. Cornwall, Wight, Kent. — Hebrides, Sutherland.  
 Zones 1 2 3. Humber to 450 yards. Tyne to 400 yards.  
 Census 18 36 ? Ireland 1 and (9). British type of distribution.  
 Europe spa ita tur aus ger fra - net den got nor swe.  
 Russia 6 5 4 3 2. Siberia. *U. campestris* var. *vulgaris*.  
 — N.B. Difficult to assign habitats of “*campestris*” between the two.

985. *Ulmus suberosa*, Ehrh.

Provinces 1 to 11 - (13 14 15). Denizen.  
 Lat. 50—55. Almost all England. Planted in Scotland.  
 Zones 1 2. Humber to 350 yards, not clearly native.  
 Census 11 ? ? (Ireland 12). English type of distribution.  
 Europe spa ita tur aus ger fra cha. Baltic Isles.  
 Russia 6 5 4 3. Siberia. Davuria. *U. campestris* var. *suberosa*.  
 Algeria. Azores; Drouet flo. *U. campestris*.

988. *Quercus pedunculata*, Ehrh.

Provinces 1 to 17. Native in all? “*Robur*” included.  
 Lat. 50—58. Cornwall, Wight, Kent. — Skye, Ross.  
 Zones 1 2 3. Humber to 450 yards. Tyne to 400 yards.  
 Census 17 34 80. Ireland 12. British type of distribution.  
 Europe all, except Lapland and Finmark. “*Robur*” included.  
 Russia 6 - 4 3. Varieties in West-asia.  
 Barbary; Desf. atlan. “*Q. Robur*.”

988\*. *Quercus sessiflora*, Auct.

Provinces 1 to 17. Native in all? Apart from "Robur."  
 Lat. 50—59. Cornwall, Wight, Kent. — Sutherl.; G Johnston.  
 Zones 1 2 3. Heights not ascertained for this species apart.  
 Census 17 32 ? Ireland 1. British type of distribution.  
 Europe spa ita tur aus ger fra cha net den got (nor swe).  
 Russia 6 5 4 3. West-asia, with varieties.  
 — N.B. Few British botanists appear to understand this.

989. *Fagus sylvatica*, Linn.

Provinces 1 to 17, wild or planted. Native in England.  
 Lat. 50—54. (Cornwall). Hants, Sussex. — Chester. (Ross).  
 Zones 1 2. Low grounds. Humber to 400 yards, planted.  
 Census 17 ? ? (Ireland). English type of distribution.  
 Europe spa ita tur aus ger fra cha net den got nor.  
 Russia 6 5 4 3. West-asia. N.B. It has become impossible to  
 fix the native limits of this in Britain.

990. *Carpinus Betulus*, Linn.

Provinces 1 to 15, wild or planted. Native in South Britain.  
 Lat. 50—53 (58). Sussex, Kent. — Cambridge; Bab. flo.  
 Zones 1 (2 3). Low grounds. (Devon — Moray.)  
 Census 15 ? ? (Ireland). English-germanic type.  
 Europe spa ita tur aus ger fra cha net den got.  
 Russia 6 5 4 3. West-asia. N.B. In Britain the true native  
 limits cannot be determined now. Decreasing?

991. *Corylus Avellana*, Linn.

Provinces all. Native. Formerly in Lewis and Shetland.  
 Lat. 50—60. Cornwall, Wight, Kent. — Skye, Orkney.  
 Zones 1 2 3. Highlands to 630 yards. Humber to 550 yards.  
 Census 18 36 92. Ireland 12. British type of distribution.  
 Europe all, except Finmark. Limit within South Lapland.  
 Russia 6 5 4 3 2. Davuria.  
 Algeria.

992. *Alnus glutinosa*, Linn.

Provinces all. Native. Wild in the Hebrides ?

Lat. 50—59. Cornwall, Wight, Kent. — Skye, Sutherland.

Zones 1 2 3 ? Highlands to 550 yards. Tyne to 400 yards.

Census 18 35 90. Ireland 12. British type of distribution.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3 2. West-asia. Siberia. "Japan."

Algeria. — [America. Columbia.]

993. *Betula alba*, Linn.

Provinces all. Native. Segregates included.

Lat. 50—60. Cornwall, Wight, Kent. — Sutherland, Orkney.

Zones 1 2 3 4 5. Highlands to (900?), 680, 670, 660, 630 yds.

Census 18 36 88. Ireland 12. British type of distribution.

Europe all. B. 'glutinosa' and 'pubescens' included.

Russia 6 - 4 3 2 1. West-asia. Siberia. Davuria. Kamtsc.

— Iceland; Hooker list, from Zoega. "America."

994. *Betula nana*, Linn.

Provinces - - - - - 11 - 13 14 15 16 17. Native.

Lat. 55—59. Lanark, Peebles, Cheviotland? — Sutherland.

Zones - - 3 4 5. Highlands to 920, 700, 650, 640, 600 yards.

Census 6 9 12. Ireland 0. Highland type of distribution.

Europe - ita - aus ger fra - - - got nor swe lap fin.

Russia - - - 3 2 1. West-asia. Siberia. Davuria. Kamtsc.

— Iceland. Greenland. America. Columbia.

995. *Populus alba*, Linn.

Provinces 1 to 16, wild or planted. Native in England ?

Lat. 50—58. Cornwall, Dorset, Sussex. — Cantire, Forfar.

Zones 1 2. Low grounds. N.B. provinces given as reported.

Census 16 ? ? (Ireland). English type of distribution.

Europe spa ita tur aus ger fra cha (net) den got (nor swe).

Russia 6 5 4 3. West-asia. Siberia. Kamtschatka ?

Algeria. N.B. Impossible to fix the native area in Britain.

996. *Populus canescens*, Sm.

Provinces 1 to 11, wild or planted. Native.

Lat. 50—55. Devon, Wight, Kent. — Cheviotland, “denizen.”

Zones 1 2. Low grounds.

Census 11 16 ? Ireland 0. English type of distribution.

Europe spa ita - aus ger fra - (net) den (got). By use of the name.

Russia? Caucasus and Siberia; if truly identical with *P. hybrida* of Bieb. flo. taur. cauc.

997. *Populus tremula*, Linn.

Provinces all. Native. No authority for S.W. Lowlands.

Lat. 50—60. Cornwall, Wight, Kent. — Hebrides, Orkney.

Zones 1 2 3 ? Humber to 550 yards. Highlands to 530 yards.

Census 18 36 78. Ireland 9. British type of distribution.

Europe all.

Russia 6 5 4 3 2 1. West-asia. Siberia. Davuria. “Japan.”

Algeria.

999. *Salix pentandra*, Linn.

Prov. (1 2 3 4) 5 6 7 8 9 10 11 12 13 14 15 16 - (18). Native.

Lat. 51—58. Pembroke; Bab. cat. — Argyle, Moray. (Harris).

Zones 1 2 3. North Yorkshire 0—350 yards. Tyne to 450 yds.

Census 12 18 33. Ireland 6. Scottish type of distribution.

Europe spa ita - aus ger fra - net den got nor swe lap.

Russia - - 4 3 2 1. West-asia. Siberia. Davuria. Kamtsch.

— Iceland.

1001. *Salix fragilis*, *Russelliana*, etc.

Prov. 1 2 3 4 5 6 7 8 9 10 11 - 13 14 15 16 (17 18). Native.

Lat. 50—57. Cornwall, (Wight), Kent. — (Moray, Ross).

Zones 1 2 3. Humber to 250 yards. Tyne to 450 yards.

Census 15 26 50. Ireland 7. British-english type.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3 2. West-asia. Siberia.

Azores; Drouet flo. Planted only? — (America, introduced).

1002. *Salix alba, vitellina, etc.*

Provinces 1 to 16 (17 18). Native in England.

Lat. 50—58. Cornwall, (Wight), Kent. — (Harris, Sutherland).

Zones 1 2 ? Humber to 200 yards. Tyne to 250 yards.

Census 16 33 51. Ireland 7. British-english type.

Europe spa ita tur aus ger fra cha net den got nor (swe).

Russia 6 5 4 3. West-asia. India. Siberia.

Algeria. — (America, introduced).

1004. *Salix triandra, amygdalina, etc.*

Provinces 1 2 3 4 5 6 7 8 9 10 11 (12) - 14 15. Native.

Lat. 50—57. Cornwall, Wight, Kent. — Perth. (Kincardine).

Zones 1 2. Low grounds; usually planted.

Census 13 24 43. Ireland 4. English-british type.

Europe all, except Lapland (uncertainly) and Finmark. "Tornea."

Russia 6 - - 3. Siberia. "Amur river."

— N.B. Surrey examples named "undulata" by Dr. Andersson.

1005. *Salix purpurea, Lambertiana, etc.*

Provinces 1 2 3 4 5 - - 8 9 10 11 - 13 14 15 16. Native.

Lat. 50—57. Devon, Sussex, Kent. — Isla, Perth.

Zones 1 2 ? Humber to 250 yards. Tyne to nearly 500 yards.

Census 13 23 43. Ireland 6. British-english type.

Europe spa ita tur aus ger fra cha net den got nor (swe).

Russia 6 5 4 3. West-asia. India. Siberia.

Algeria. — Iceland; Hooker, from Zoega. (America).

1005, e. *Salix Helix*, "Linn."

Provinces - 2 3 4 5 - 7 8 9 10 11 13 14 15 16. Native.

Lat. 50—57. Dorset, (Sussex), Kent. — Isla, Kincardine.

Zone 1 2 ? Low grounds; distribution uncertain.

Census 13 20 36. Ireland 3 or 5. British-english type.

Europe spa ita tur aus ger fra - net den (got).

Russia? N.B. In England, this has usually been deemed a segregate of *S. purpurea*. See no. 1006.



1006. *Salix rubra*, Huds. et Forbyana, Sm.

Provinces 1 2 3 4 5 7 8 - 10 11 12 - [14 15]. Native?  
 Lat. 50—56. Devon, Hants, Kent. — Cumberland, Cheviotland.  
 Zones 1 2. Low grounds; distribution ill ascertained.  
 Census 9 14 25. (Ireland 3). English type of distribution?  
 Europe - ita - aus ger fra - net den (got - swe).  
 Russia 6 - 4 3. "Mid Asia." Davuria.  
 —. N.B. Mr. Boswell Syme unites "Helix" herewith.

1007. *Salix viminalis*, Linn.

Provinces 1 to 16 - (18). Native.  
 Lat. 50—58. Cornwall, Wight, Kent. — (Elgin, Harris).  
 Zones 1 2 (3). Humber to 250 yards. Tyne to 450 yards.  
 Census 16 32 58. (Ireland 12). British-english type.  
 Europe spa ita tur aus ger fra cha net den got nor.  
 Russia - - 4 3 2. Siberia. Davuria. Kamtschatka; Anderssou.  
 — (America, as an introduced species).

1008. *Salix Smithiana*, Willd. 1009. *S. acuminata*, Anglor.

Provinces 1 to 16 - [18]. Native.  
 Lat. 50—57. Cornwall? Sussex, Kent. — "Isla." Fife; E. B. S.  
 Zones 1 2 3. Humber to 300 yards. Tyne to 450 yards.  
 Census 16 29 37. Ireland 5. English-british type.  
 Europe—? France. Germany. Netherlands. Scandinavia.  
 Russia. Siberia. Davuria. The English species?  
 — N.B. The British localities for these two are not separable.

1010. *Salix cinerea*, *aquatica*, *oleifolia*, Auct.

Provinces 1 to 16 - 18. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Harris, Orkney.  
 Zones 1 2 3. Tyne to 500 yards. Highlands to 400 yards.  
 Census 17 35 78. Ireland 12. British type of distribution.  
 Europe all, except Lapland (in extreme south?) and Finmark.  
 Russia 6 - 4 3 2. West-asia. Siberia. Kamtschatka?  
 — Recorded localities for these are not satisfactorily separable.

1012. *Salix caprea*, Linn.

Provinces 1 to 16 - (18). Native.

Lat. 50—58. Cornwall, Wight, Kent. — W. E. Inverness.

Zones 1 2 3 4. Highlands to 700 yards. Tyne to 550 yards.

Census 16 32 73. Ireland 9. British type of distribution.

Europe all, except Finmark, and perhaps Turkey.

Russia 6 5 4 3 2-1. West-asia. Himalaya. Siberia. Amur.

— Faroe. Icel. N.B. Our Highl. form may be *S. grandifolia*, Scr.

1013. *Salix nigricans*, Fries; cum segr. var.

Provinces [1 2 3 4 5 - - 8 9] 10 11 12 13 14 15 16. Native.

Lat. 54—58. Cumberland, York. — Isla, Aberdeen.

Zones - ? 3 4 5. Highlands to 700 or 800 yards.

Census 6 9 16. Ireland 1. Scottish-highland type.

Europe spa ita - aus ger fra - - - got nor swe lap fin.

Russia - - - 3 2 1. Siberia? Kamtschatka?

— N.B. Vix in Asia, nec in America; Andersson in DC. prodr.

1014. *Salix laurina*, Smith; cum segr.

Provinces [- 2 3 4 - 6 - - -] 10 11 12 - - 15. Native. S. Britain?

Lat. 54—57. Westmoreland, N.W. York. — Mid Perth, Forfar?

Zones - 2 3. Tyne to 450 yards. Distribution uncertain.

Census 4 4 6. Ireland 1. Scottish type of distribution?

Europe - - - - ger - - - - got nor - (lap). “*Silvestris rarius occurrit, in Saxonia, Anglia, parte meridionali Sueciæ et circa Petropoli observata; in hortis autem sat frequenter culta*”; Andersson.

1015. *Salix phylicifolia*, Linn. cum segr. var.

Provinces [- 2 3 - 4 - - -] 9 10 11 12 13 14 15 16 - 18. Native.

Lat. 53—60. “Cheshire,” “Lancashire.” — Orkney; B. Syme.

Zones - 2 3 4 5. Highl. to about 700 y. Humber at 50—550 y.

Census 9 12 19. Ireland 1. Scottish-highland type.

Europe spa - - aus ger fra - - - - nor swe lap fin.

Russia - - - 3 - 1. West-asia. Siberia? Kamtschatka?

— Iceland. “*Ex Siberia incerta, in America vix crescit*”; And.

1016. *Salix ambigua*, Ehrh. et *plicata*, Sm.

Provinces ? 2 3 4 - - - - - 11 - - 14 15 - 17 18. Native.  
 Lat. 50—60. S. Devon? Sussex; Borrer. — Orkney; Borrer.  
 Zones 1 2 3. Highlands at “400 yards.” Tyne at 150 yards.  
 Census 8 10 10. Ireland 1 or 2. Doubtful type.  
 Europe - - - - ger fra - - den got.  
 Russia - - - 3. N.B. A dubious species; perhaps better included  
 under *S. aurita*, as a segregate form.

1017. *Salix repens*, *fusca*, *prostrata*, etc.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4. Highlands to 700 yards. Humber to 550 yards.  
 Census 18 36 72. Ireland 9. British type of distribution.  
 Europe spa ita - aus ger fra cha net den got nor swe.  
 Russia - - 4 3 2 1. Siberia. Davuria?  
 — Iceland. America?

1021. *Salix arbuscula*, *prunifolia*, *vacciniifolia*, etc.

Provinces - - - - - [13] - 15 16 - [18]. Native.  
 Lat. 56—58. Argyle, Mid Perth, Forfar, South Aberdeen.  
 Zones - - - 4 5. Highlands to 800 yards, or upwards.  
 Census 2 3 4. Ireland 0. Highland type of distribution.  
 Europe spa ita - aus ger fra - - - - nor swe lap fin.  
 Russia 6 - - - 2 1. West-asia. Siberia. Kamtschatka.  
 — Faroe. Iceland. Greenland.

1022. *Salix Lapponum*, Linn. cum segr.

Provinces - - - - - [6 - - - - 11] - - 14 15 16 17 [18]. Native.  
 Lat. 55—59. Edinburgh; Maughan! — Sutherland; Graham!  
 Zones - - 3 4 5. Highlands to 800 or 900 yards.  
 Census 4 7 10. Ireland 0. Highland type of distribution.  
 Europe - ita - aus ger fra - - - - nor swe lap fin.  
 Russia - - 4 3 2 1. Siberia.  
 — Iceland. America. Columbia.

1023. *Salix lanata*, Linn.

Provinces ----- 15. Native.  
 Lat. 56—57. Mid Perth, Forfar, South Aberdeen.  
 Zones ---- 5. Highlands to 900, 860, 830 yards.  
 Census 1 2 3. Ireland 0. Highland type of distribution.  
 Europe. Scandinavia - nor swe lap fin.  
 Russia ----- 1. Arctic Siberia. Altai.  
 — Faroe. Iceland. Greenland. Aleutia.

1025. *Salix Myrsinites*, L. 1024. *S. procumbens*, Forbes.

Provinces ----- [8 - 10] ---- 15 16. Native.  
 Lat. 56—58. Argyle, Perth, Forfar, Aberdeen, Moray.  
 Zones ---- 5 ? Highlands to 900 yards, or upwards.  
 Census 2 4 5. Ireland 1 “procumbens.” Highland type.  
 Europe spa ita - aus ger fra ---- nor swe lap fin.  
 Russia - - - 3 2 1. Siberia. Kamtschatka. Aleutia.  
 — Iceland. Greenland. America. Rocky Mountains.

1026. *Salix reticulata*, Linn.

Provinces [----- 7 - - 10 - 12] - - 15 - 17. Native.  
 Lat. 56—59. Perth, Forfar, Aberdeen, Sutherland.  
 Zones ---- 5 6. Highlands to 1080, 1000, 900 yards.  
 Census 2 3 4. Ireland 0. Highland type of distribution.  
 Europe spa ita - aus ger fra ---- nor swe lap fin.  
 Russia ----- 1. Siberia. Davuria. Spitsbergen.  
 — Iceland. Greenland. America. Columbia.

1027. *Salix herbacea*, Linn.

Provinces ----- 6 7 - - 10 - 12 13 - 15 16 17 18. Native.  
 Lat. 52—61. Brecon, Carnarvon, York. — Orkney, Shetland.  
 Zones ---- 5 6. Highlands at 620—1440 yards.  
 Census 9 15 24. Ireland 7. Highland type of distribution.  
 Europe spa ita - aus ger fra ---- nor swe lap fin.  
 Russia ----- 2 1. Siberia. Davuria.  
 — Faroe. Iceland. Greenland. America. Columbia.

1028. *Myrica Gale*, Linn.

Provinces 1 to 17. Native. Province 8 uncertain.  
 Lat. 50—59. Cornwall, Wight, Sussex. — Sutherl., Caithness.  
 Zones 1 2 3 4. Highlands to 600, 560, 530, 510, 500 yards.  
 Census 17 30 60. Ireland 12. British type of distribution.  
 Europe spa - - - ger fra cha net den got nor swe lap.  
 Russia - - - 3 2 1. Siberia. Kamtschatka.  
 — America. Aleutia.

1029. *Pinus sylvestris*, Linn.

Provinces (- 2 3 4 5 - 7 8 9 10 11 12 13 14) 15 16 17. Native.  
 Lat. 56—59. Now truly wild in the Highland provinces only.  
 Zones (1 2) 3 4. Highlands to 740 yards. Planted to 840 yds.  
 Census 3 6 ? Ireland ? Scottish type of distribution.  
 Europe all. Extinct in Denmark, etc.  
 Russia 6 5 4 3 2 1. West-asia. Siberia. Davuria.  
 — N.B. Anciently spread throughout Britain.

1030. *Juniperus communis*, Linn.

Prov. ? 2 3 4 5 6 7 (8 9) 10 11 12 13 14 15 16 17 18. Native.  
 Lat. 50—61. Dorset? Sussex, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4 ? Highlands to 800, 732, 720 yards.  
 Census 15 30 58. Ireland 7. British type of distribution.  
 Europe all. N.B. Do some of the other habitats belong to *J. nana*?  
 Russia 6 5 - 3 2 1. West-asia. Himalaya. Siberia. Davuria.  
 — Faroe. Iceland. Greenland. America. Columbia.

1030, b. *Juniperus nana*, Willd.

Provinces - - - - - 7 - - [10 11] 12 - - 15 16 17 18. Native.  
 Lat. 53 -61. Carnarvon, Cumberland. — Orkney, Shetland.  
 Zones - ? 3 4 5. Highlands to 920, 900, 890, 880 yards.  
 Census 6 9 13. Ireland 0. Highland type of distribution.  
 Europe spa ita tur aus ger fra - - - - nor swe lap fin.  
 Russia - - - - 2 1. West-asia. Himalaya. Sib. Dav. Kamtsch.  
 "Algeria; Cosson!" — Greenland, America, Columbia.

**Taxus baccata**, Linn.

Provinces 1 to 16. Native. (Introduced to 9 13 14 ?)  
 Lat. 50—57. Devon, Dorset, Kent. — Argyle, Aberdeen.  
 Zones 1 2 3. Tyne to 500 yards. Humber to 450 yards.  
 Census 14 20 ? Ireland 7. English type of distribution.  
 Europe spa ita tur aus ger fra - - - got nor swe.  
 Russia 6 5 4 3 2. West-asia. Himalaya. “River Amur.”  
 Algeria. [Azores; Drouet flo.] — *T. canadensis* in Am. Col.

1032. **Goodyera repens**, Br.

Provinces [- 2 3 - - - - - 11 12] - 14 15 16 17. Native.  
 Lat. 55—58. Roxburgh. Berwick, Linlithgow. — Ross.  
 Zones - 2 3. Highlands to 150 or 200 yards.  
 Census 4 6 13. Ireland 0. Scottish type of distribution.  
 Europe - ita - aus ger fra - - - got nor swe lap fin. Pyrenees.  
 Russia 6 - - 3 2 1. Himalaya. Siberia.  
 — America.

1033. **Spiranthes autumnalis**, Rich.

Provinces 1 2 3 4 5 6 7 8 9 10 - 12. Native.  
 Lat. 50—55. Cornwall, Wight, Kent. — Westmoreland, York.  
 Zones 1 2. Humber 0—200 yards; Baker.  
 Census 11 23 57. Ireland 7. English type of distribution.  
 Europe spa ita tur aus ger fra cha net den. Bornholm.  
 Russia 6 - - 3.  
 Algeria.

1034. **Spiranthes æstivalis**, Rich.

Provinces - 2 - - ? Native. A single specimen found in Worc.  
 Lat. 50—53. South Hants; Brewer! Worcester; Gissing.  
 Zone 1. Low grounds.  
 Census 1 1 1 or 2 2 2. Ireland 0. Local-english type.  
 Europe spa ita tur aus ger fra cha.  
 Russia, absent.  
 Algeria.

1036. *Neottia Nidus-avis*, Rich.

Provinces 1 to 16. Native. 16 "Argyle; Carmichael."  
 Lat. 50—58. Cornwall, Wight, Kent. — Easternness; Miss Grant!  
 Zones 1 2 3. Humber to 200 yards. Highlands to 200 yards.  
 Census 16 31 65. Ireland 4. British-english type.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 2. Western Siberia.  
 — Iceland; Dr. Lindsay's list.

1037. *Listera cordata*, Br.

Provinces 1 2 - - 5 - 7 8 9 10 11 12 13 14 15 16 17 18. Native.  
 Lat. 50—61. North Devon, South Hants. — Orkney, Shetland.  
 Zones 1 2 3 4 5. Highlands to 900 yds. Humber 0—600 yds.  
 Census 15 23 50. Ireland 4. Scottish-highland type.  
 Europe - ita - aus ger fra - - - got nor swe lap fin. "Turkey."  
 Russia 6 - - 3 2 1. Siberia. Aleutia.  
 — Greenland. America. Columbia.

1038. *Listera ovata*, Br.

Provinces 1 to 17. Native.  
 Lat. 50—59. Cornwall, Devon, Kent. — N.W. Sutherland.  
 Zones 1 2 3. Tyne to 650 yards. Highlands to 350 yards.  
 Census 17 34 84. Ireland 12. British type of distribution.  
 Europe all, except Finmark.  
 Russia 6 5 4 3 2. Siberia.  
 — Iceland.

1039. *Epipactis latifolia*, All.

Provinces 1 to 16 [17]. Native.  
 Lat. 50—58. Cornwall, Wight, Kent. — Banff. "Ross."  
 Zones 1 2 3. Humber to 250 yards. Tyne to 200 yards.  
 Census 16 34 73. Ireland 7. British-english type.  
 Europe all, except Lapland and Finmark,  
 Russia 6 5 4 3 2. Siberia,  
 Algeria.

1039.\* *Epipactis media*, *E. purpurata*, Auct.

Provinces 1 2 3 4 5 - - 8 - 10 - 12 - 14. Native.

Lat. 50—56. Devon, Wight, Kent. — Cumberland. Linlithgow.

Zones 1 2. Low grounds. Distribution ill ascertained.

Census 9 15 26. Ireland 3. English-germanic type.

Europe. Mid-Europe? Scandinavia den got nor swe lap.

Russia? N.B. Synonyms uncertain; some of the British localities likely mis-assigned to *E. latifolia*.

1039\*. *Epipactis ovalis*, Bab.

Provinces - [2] - 4 5 - 7 - - 10 - 12 - - - - 17. Native.

Lat. 52—59. Norfolk, Heref., Carnarvon, York, Westm., Sutherl.

Zones 1 2 3. Humber 0—450 yards; Baker.

Census 6 6 7. Ireland 1. Intermediate type?

Europe spa - - - ger fra cha net den. “*Ep. atrorubens*.”

Russia 6 - 4 3. Western Siberia. N.B. Possibly the *Ep. atrorubens* may include ‘*media*’ with ‘*ovalis*.’

1040. *Epipactis palustris*, Sw.

Provinces 1 2 3 4 5 6 7 8 9 10 11 12 - 14 15 16. Native.

Lat. 50—58. Devon, Wight, Kent. — Fife! Skye; Lightf.

Zones 1 2 3. Humber 0—250 yards; Baker.

Census 15 24 51. Ireland 8. English-british type.

Europe spa ita - aus ger fra cha net den got nor swe.

Russia 6 5 4 3, Siberia.

— N.B. Verification in “*Skye*” desirable.

1041. *Cephalanthera grandiflora*, Bab.

Provinces 1 2 3 4 5 - - 8 - 10 - 12 - - [15 16]. Native.

Lat. 50—55 [57]. Dorset, Kent. — Cumberland. Scotland?

Zones 1 2. Low grounds.

Census 8 12 26. [Ireland]. English type of distribution.

Europe spa ita tur aus ger fra cha net den.

Russia 6 5 4 3. N.B. Are both this and ‘*ensifolia*’ found in Scotland or one of them only?



1042. *Cephalanthera ensifolia*, Rich.

Provinces - 2 3 - 5 - 7 8 - 10 11 12 - 14 15 16. Native.  
 Lat. 50—57. Hants, Sussex, Kent. — Isle of Mull, Perth.  
 Zones 1 2 3. Humber 100—250 yards; Baker.  
 Census 11 19 23. Ireland 3. English type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3. West-asia. Western Siberia. "Olympus."  
 —.

1043. *Cephalanthera rubra*, Rich.

Provinces 1 - - 4 5 - [7 - - 10]. Native.  
 Lat. 51—52. Somerset? Huntingdon? Gloucester.  
 Zone 1. Low grounds; but rarely found.  
 Census 3 3 3. Ireland 0. English-local type.  
 Europe spa ita tur aus ger fra cha - den got. Norway?  
 Russia 6 5 4 3. Western Siberia. N.B. *Ep. ovalis* has been  
 sometimes mis-labelled "*C. rubra*" by English collectors.

1044. *Epipogium aphyllum*, Sw.

Provinces - - - - 5. Native, if still existent in England.  
 Lat. 52—53. N.E. Herefordshire; Mrs. A. Smith, July, 1854.  
 Zone 1. Low grounds; but found once only.  
 Census 1 1 1. Ireland 0. Local type of distribution.  
 Europe - ita - aus ger fra - - den got nor swe.  
 Russia 6 - 4 3. Siberia.  
 —.

1044\*. *Corallorhiza innata*, Br.

Provinces - - [3] - - - - - 13 14 15 17. Native.  
 Lat. 55—58. Ayr, Berwick, Edinburgh. — Moray, Ross.  
 Zones - 2 3. Low grounds.  
 Census 4 5 10. Ireland 0. Scottish type of distribution.  
 Europe - ita - aus ger fra - - den got nor swe lap fin. Pyrenees.  
 Russia 6 5 - 3 2 1. Siberia. Davuria.  
 \* — Iceland. Greenland. America. Columbia.

1045. *Orchis Morio*, Linn.

Provinces 1 2 3 4 5 6 7 8 9 10 11 12 - [14 ? - - 18]. Native.  
 Lat. 50—56. Cornwall, Wight, Kent. — Cumberl. Cheviotl.  
 Zones 1 2. Humber 0—300 yards; Baker.  
 Census 12 24 57. Ireland 7. English type of distribution.  
 Europe spa ita tur aus ger fra cha net den got nor.  
 Russia 6 5 4 3. West-asia. Siberia. "Cyprus."  
 — [Faroe; Trevelyan, from Liugbye]. [Icel.; Hooker, from Zoega].

1046. *Orchis mascula*, Linn.

Provinces 1 to 18. Native. 16 Flo. Glot. "very common."  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2. Lakes to 500 yards. Humber to 350 yards.  
 Census 18 34 80. Ireland 12. British type of distribution.  
 Europe spa ita tur aus ger fra cha net den got nor.  
 Russia 6 5 4 3. Western Siberia.  
 Barbary; Desf. — Faroe. Iceland.

1048. *Orchis ustulata*, Linn.

Provinces 1 2 3 4 5 - - 8 9 10 11 12. Native.  
 Lat. 50—55. Devon, Wight, Kent. — Cumberland, Northumb.  
 Zones 1 2. Humber 0—200 yards; Baker.  
 Census 10 21 39. [Ireland]. Germanic-english type.  
 Europe spa ita - aus ger fra cha net den got. Norway?  
 Russia 6 - 4 3. Western Siberia.  
 — [Faroe; Landt descr.]

1049. *Orchis militaris*, "Linn."

Provinces - - 3. Native.  
 Lat. 51—52. Berks! Oxford! Bucks. Herts?  
 Zone 1. Low grounds. [Middlesex, Kent].  
 Census 1 2 4. Ireland 0. Germanic-local type.  
 Europe spa ita tur aus ger fra cha net den got.  
 Russia 6 5 4 3. Siberia. Davuria.

N.B. Localities of this and next two much confused.

1049\*. *Orchis Simia*, Lam.

Provinces - - 3. Native.

Lat. 51—52. Berks. Oxford! [Kent, Surrey].

Zone 1. Low grounds.

Census 1 2 2. Ireland 0. Germanic-local type.

Europe spa ita tur aus ger fra - net. Normandy? Belgium.

Russia 6 5 - 3.

Barbary?

1049\*. *Orchis fusca*, Jacq.

Provinces - [2] 3 - - - [8]. Native.

Lat. 51—52. Sussex, extinct. Kent! Surrey. Bucks.

Zone 1. Low grounds. [Lincoln; Carrington].

Census 1 2 3. [Ireland]. Germanic-local type.

Europe spa ita tur aus ger fra cha net. "Holland."

Russia 6 5 - 3. Siberia?

Algeria?

1050. *Orchis hircina*, Scop.

Provinces - - 3 4 - - - [8 - - - 12]. Native.

Lat. 51—53. Kent and Suffolk, still or recently.

Zone 1. Low grounds. Very rare, nearly extinct.

Census 2 2 2. [Ireland]. Germanic-local type.

Europe spa ita tur aus ger fra cha net. Belgium.

Russia - - - 3.

Algeria.

1051. *Orchis pyramidalis*, Linn.

Provinces 1 to 13 - [15 16]. Native. [Fife, Colonsa].

Lat. 50—55. Cornwall, Wight, Kent. — Wigton, Cheviotland.

Zones 1 2. Humber 0—150 yards; Baker.

Census 13 25 55. Ireland 10. Germanic-english type.

Europe spa ita tur aus ger fra cha net den. Baltic Isles.

Russia 6 5 - 3.

Algeria.

1052. *Orchis latifolia*, Auct.

Provinces all. Native. *O. incarnata* inclusively.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Tyne to 530 yards. Humber to 500 yards.

Census 18 37 83. Ireland 12. British type of distribution.

Europe all, except Finmark. *O. incarnata* spread more widely.

Russia 6 - 4 3 2 1. India. Siberia. Davuria. Kamtschatka.

Algeria? — Faroe. Iceland. "Columbia."

1053. *Orchis maculata*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4 5. Highlands to 1010, 960, 950, 930 yards.

Census 18 37 92. Ireland 12. British type of distribution.

Europe all.

Russia 6 4 3 2 1. West-asia. Siberia. Davuria.

— Faroe. Iceland.

1054. *Orchis conopsea*, Linn.

Provinces all? Native. Any authority for South Wales?

Lat. 50—61. Cornwall, Wight, Kent. — Shetland, one locality.

Zones 1 2 3 4. Highlands to 680 yards. Tyne to 500 yards.

Census 18 35 85. Ireland 10. British type of distribution.

Europe all.

Russia 6 5 4 3 2 1. West-asia. Siberia. Davuria.

N.B. *Gymnadenia conopsea*, of several authors.

1055. *Habenaria bifolia*, Auct.

Provinces 1 to 17. Native. *H. chlorantha* included.

Lat. 50—59. Cornwall, Wight, Kent. — Ross, Sutherland.

Zones 1 2 3. Tyne to 500 yards. Highlands to 350 yards.

Census 17 36 86. Ireland 11. British type of distribution.

Europe all, except Finmark. *H. chlorantha* not in Lapland.

Russia 6 5 4 3 2 1. Siberia. Davuria. Kamtschatka.

N.B. Localities of 'bifolia' and 'chlorantha' much confused.

1056. *Habenaria viridis*, Br.

Provinces all. Native. Rare in South England.  
 Lat. 50—61. Dorset, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4 5. Highlands to 850, 800 yards; also “830.”  
 Census 18 35 76. Ireland 10. British-scottish type.  
 Europe all, if in Turkey.  
 Russia 6 - 4 3 2 1. Siberia. Davuria.  
 — Faroe. Iceland. America.

1057. *Habenaria albida*, Br.

Provinces - 2 - [4 5] 6 7 - 9 10 11 12 13 - 15 16 17 18. Native.  
 Lat. 51—61. Sussex; Borrer. Cardigan. — Orkney, Shetland.  
 Zones 1 2 3 4. Highlands to 630 yards. Humber 200—450 y.  
 Census 12 18 38. Ireland 10. Scottish type of distribution.  
 Europe all, except Turkey.  
 Russia - - - 3 2 1. Western Siberia.  
 — Faroe. Iceland. Greenland.

1058. *Aceras anthropophora*, Br.

Provinces - 2 3 4 - - - 8 - 10. Native.  
 Lat. 51—54. Wilts? Sussex, Kent. — S.W. York? Lincoln.  
 Zones 1 ? Low grounds.  
 Census 5 9 16. Ireland 0. Germanic type of distribution.  
 Europe spa ita tur aus ger fra cha net. Belgium.  
 Russia - - - 3.  
 Algeria.

1059. *Herminium Monorchis*, Br.

Provinces [1] 2 3 4 5 - - - - [10 - 12]. Native.  
 Lat. 50—53. Dorset, Sussex, Kent. — Cambridge, Norfolk.  
 Zone 1. Low grounds. [Somerset; Dr. Davis, in F. B.]  
 Census 4 10 19. Ireland 0. Germanic-english type.  
 Europe - ita tur aus ger fra - net den got nor swe lap.  
 Russia 6 - 4 3 2 1. Siberia. Himalaya.

N.B. Extinct or mistaken in several English localities.

1060. *Ophrys apifera*, Huds.

Provinces 1 2 3 4 5 6 7 8 9 10 11. Native.

Lat. 50—55. "Cornwall," Wight, Kent. — Lancaster, Durham.

Zones 1 2. Severn to 350 yards; Rev. H. Roberts.

Census 11 25 50. Ireland 9. English-germanic type.

Europe spa ita tur aus ger fra cha net. Belgium.

Russia?

Algeria; but not a typical form.

1060, b. *Ophrys arachnites*, Reich.

Provinces - [2] 3 [4 5]. Native.

Lat. 51—52. Kent, Surrey? West Gloucester?

Zone 1. Low grounds. ["Suffolk," by an error].

Census 1 1 2. Ireland 0. Germanic type of distribution.

Europe spa ita tur aus ger fra cha net. Belgium.

Russia? "Isle of Oesel." N.B. If a good species, this would seem to be imperfectly known in England.

1061. *Ophrys aranifera*, Huds.

Provinces [1] 2 3 4 [5 - - 8 - 10]. Native.

Lat. 50—53. Dorset, Wight, Kent. — Northampton, Camb.?

Zone 1. Low grounds. Apparently decreasing.

Census 3 7 12. Ireland 0. Germanic type of distribution.

Europe spa ita tur aus ger fra cha.

Russia - - - 3. N.B. The 'aranifera' and 'fucifera' of English botanists are here taken together.

1062. *Ophrys muscifera*, Huds.

Provinces 1 2 3 4 5 - 7 8 9 10 11 12. Native.

Lat. 50—55. Dorset, Wight, Kent. — Westmoreland, Durham.

Zones 1 2. Humber at 50—200 yards; Baker.

Census 12 21 40. Ireland 5. English-germanic type.

Europe all, except Lapland and Finmark.

Russia - - - ? "Warsaw."

—;

1063. *Malaxis paludosa*, Sw.

Provinces 1 2 3 4 5 - 7 - 9 10 11 12 13 - 15 16 17. Native.  
 Lat. 50—59. Dorset, Sussex, Kent? — Ross, Sutherland.  
 Zones 1 2 3. Tyne to 500 yards. Highlands to 400 yards.  
 Census 14 22 32. Ireland 5. British type of distribution?  
 Europe - - - aus ger fra cha net den got nor swe.  
 Russia - - - 3 2 1. Siberia. Davuria.  
 N.B. Sparingly, though widely, distributed in Britain.

1064. *Liparis Loeselii*, Rich.

Provinces - - [3] 4. Native.  
 Lat. 52—53. Hunts, Cambridge, Suffolk, Norfolk. [Kent].  
 Zone 1. Low grounds.  
 Census 1 3 4. Ireland 0. Germanic type of distribution.  
 Europe - ita - aus ger fra cha net den got nor.  
 Russia - - 4 3.  
 N.B. "Ham Ponds near Eastry, Kent"; Dillwyn in B. G.

1065. *Cypripedium Calceolus*, Linn.

Provinces - - - - [5] - - - - 10 11 12. Native.  
 Lat. 54—55. York, Durham, Westmoreland. [Cumberland].  
 Zone - 2. Humber at 150 yards. Nearly extinct.  
 Census 3 4 4. Ireland 0. Intermediate type.  
 Europe spa ita tur aus ger fra - net - got nor swe lap.  
 Russia 6 5 4 3 2 1. Himalaya. Siberia. Davuria.  
 N.B. Very local and now rarely found in England.

1066. *Iris foetidissima*, Linn.

Provinces 1 2 3 4 5 6 7 8 - 10 11 - - (14 15). Native.  
 Lat. 50—55. Cornwall, Wight, Kent. — Durham. (Fife).  
 Zones 1 2. Low grounds.  
 Census 10 23 45. Ireland 6 (and 3). English type.  
 Europe spa ita tur aus - fra cha.  
 Russia 6.  
 Algeria. Canaries. Azores; Drouet flore.

1067. *Iris Pseudacorus*, Linn.

Provinces all. Native. Three segregates, in E. B. edit. 8.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Tyne to 200 yards. Humber to 150 yards.  
 Census 18 38 98. Ireland 12. British type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia 6 - 4 3 2. Siberia.  
 Algeria. — Faroe.

1068. *Gladiolus illyricus*, Koch.

Provinces (1) 2. Native?  
 Lat. 50—51. (Devon, Dorset, Wight). South Hants!  
 Zone 1. Low grounds.  
 Census 1 1 1. Ireland 0. Local-english type.  
 Europe spa ita - aus - fra.  
 Russia 6.  
 Algeria. N.B. Distribution varying with the nomenclature.

1068\*. *Trichonema Columnæ*, Reich.

Province 1. Native.  
 Lat. 50—51. South Devon; Sir W. C. Trevelyan!  
 Zone 1. Coast level.  
 Census 1 1 1. Ireland 0. Local-atlantic type.  
 Europe spa ita tur aus - fra cha. Dalmatia for "aus."  
 Russia, absent. West-asia. "Caria or Lycia."  
 Algeria. Azores.

1070. *Crocus nudiflorus*, Sm.

Provinces - - - 5 - - 8 9 (10). Denizen or Native.  
 Lat. 52—54. Warwick, Salop, Stafford. — Lancaster, Notts.  
 Zones 1 2. Low grounds.  
 Census 3 4 7. Ireland 0. Intermediate type.  
 Europe. Spain. France. Greece?  
 Russia, absent. N.B. Area not sufficiently known, and syno-  
 nyms somewhat uncertain.



1072 (1073). *Narcissus Pseudo-narcissus*, Linn.

Provinces 1 to 12 (13 14 15 16). Native.  
 Lat. 50—56. Cornwall, Wight, Kent. — Cumberl., Northumb.  
 Zones 1 2. Low grounds. Humber to 150 yards.  
 Census 12 23 46. (Ireland). English type of distribution.  
 Europe spa ita - aus ger fra cha net (den) got (nor swe).  
 Russia 6. N.B. Several recorded localities in England belong  
 to N. major escaped from gardens.

1074. *Leucojum vernum*, Linn.

Provinces - 2 - - (5). Alien or Denizen.  
 Lat. 50—51. Dorset; J. C. Mansel!  
 Zone 1. Low grounds. Predial claim unsettled.  
 Census 1 1 1. Ireland 0. Local type.  
 Europe spa ita tur aus ger fra cha (net den got).  
 Russia, absent. N.B. The right of this species to be held a  
 British plant, is yet undecided.

1075. *Leucojum æstivum*, Linn.

Provinces 1 2 3 4 (5) - - - - [11 12]. Denizen.  
 Lat. 50—52. Devon, Dorset, Kent. — Oxford, Suffolk.  
 Zone 1. Low grounds.  
 Census 4 5 7. Ireland 0. Germanic-english type.  
 Europe spa ita tur aus ger fra - (net) den.  
 Russia 6 5. N.B. This may perhaps be a native in province 3;  
 less likely so in other provinces of Britain.

1078. *Fritillaria Meleagris*, Linn.

Provinces (1) 2 3 4 (5 - - 8 - 10) - [12]. Denizen.  
 Lat. 51—53. Dorset, Hants, Sussex? — Bedford, Norfolk.  
 Zone 1. Low grounds.  
 Census 3 8 15. Ireland 0. English type of distribution.  
 Europe spa ita tur aus ger fra cha (net den got) nor swe.  
 Russia 6 - 4 3. West-asia.  
 N.B. Is this truly wild in Warwick or Stafford?

1081. *Allium Scordoprasum*, Linn.

Provinces [1 2 - - 5] - - - 9 10 11 12 13 14 15. Native.

Lat. 53—57. Lancaster, York. — Fife, Perth, Forfar?

Zone - 2. Humber 0—200 yards; Baker.

Census 7 9 15. Ireland 2. Intermediate-scottish type.

Europe - ita tur aus ger fra - net den got nor swe.

Russia 5 4 3 2. West-asia? "Cyprus"; Sibthorpe.

N.B. Confused with *A. vineale*, through the name "arenarium."

1082. *Allium oleraceum*, Linn.

Provinces 1 2 3 4 5 [6] - 8 - 10 11 12 [14] 15. Native.

Lat. 50—57. Devon, Sussex, Kent. — Fife, Forfar.

Zones 1 2. Humber to 200 or 300 yards.

Census 10 18 30. Ireland 0. Germanic-english type.

Europe spa ita - aus ger fra cha net den got nor swe lap.

Russia - - 4 3 2. Himalaya. Western Siberia.

Madeira; Dr. C. Lemann's manuscript list.

1083. *Allium vineale*, Linn.

Provinces 1 to 15. Native.

Lat. 50—57. Cornwall, Wight, Kent. — Lanark, Aberdeen.

Zones 1 2. Humber 0—200 yards; Baker.

Census 15 29 65. Ireland 5. English-british type.

Europe all, except Lapland and Finmark.

Russia - - - 3.

Canaries; Webb. phyt. can. — (America, introduced).

1084. *Allium sphærocephalum*, Linn.

Provinces - - - 5. Native?

Lat. 51—52. St. Vincent's Rocks, West Gloucester; Stephens!

Zone 1. Slight elevation. Another station in 1869.

Census 1 1 1. Ireland 0. Local-atlantic type.

Europe spa ita tur - ger fra cha net (den). Belgium.

Russia 6 - 4 3.

Algeria. Canaries.

1085. *Allium Schœnoprasum*, Linn.

Provinces 1 - - - (5 - - 8 - 10) 11 12 (13 14 15) [16]. Native?  
 Lat. 50—56. Cornwall! Westmorel.! Northumb.! Cheviotland.  
 Zones 1 2. Tyne at 150—250 yards; New Flora N. D.  
 Census 3 3 4. Ireland 0. Local-intermediate type.  
 Europe spa ita - aus ger fra - (net). Finmark, 'sibiricum.'  
 Russia 6 - - 3 2 1. Himalaya. Siberia. Davuria. Kamtschatka.  
 — America. Columbia.

1086. *Allium ursinum*, Linn.

Provinces 1 to 17. Native.  
 Lat. 50—58. Cornwall, Wight, Kent. — Skye, Ross.  
 Zones 1 2 3. Humber to 400 yards. Tyne to 350 yards.  
 Census 17 34 82. Ireland 11. British-english type.  
 Europe spa ita - aus ger fra cha net den got nor swe.  
 Russia 6 - 4 3 2 1. Siberia. Kamtschatka.  
 —.

1087. *Gagea lutea*, Kerr.

Provinces 1 2 3 4 5 - - 8 9 10 11 12 13 14 15. Native.  
 Lat. 50—58. Dorset, Somerset, Surrey? — Moray; Stables!  
 Zones 1 2 3. Humber, Tyne, in each to 250 yards.  
 Census 13 18 29. Ireland 0. Intermediate-british type.  
 Europe spa ita tur aus ger fra - net den got nor swe.  
 Russia 6 - 4 3 2. India. Siberia. Davuria. Kamtschatka.  
 —.

1088. *Ornithogalum pyrenaicum*, Linn.

Provinces 1 2 [3] 4 [5]. Native. Extinct in Cambridge.  
 Lat. 50—53. Devon? Somerset! Wilts! Sussex. Bedford.  
 Zone 1. Low grounds. [Surrey, Middlesex, Salop].  
 Census 3 4 5. Ireland 0. English type of distribution.  
 Europe spa ita tur aus ger fra cha net. Belgium.  
 Russia 6 5.  
 Tripoli; Viviani flo. lyb.

1091. *Scilla verna*, Linn.

Provinces 1 [2] - - - 6 7 - - - 11 12 13 14 15 16 17 18. Native.  
 Lat. 50—61. Cornwall, Devon, [Wight]. — Orkney, Shetland.  
 Zones 1 2 3. Orkney to 300 yards; Dr. Gillies.  
 Census 11 18 23. Ireland 3. Atlantic-scottish type?  
 Europe spa - - - - fra cha. Norway?  
 Russia, absent.  
 — Faroe.

1092. *Scilla autumnalis*, Linn.

Provinces 1 2 3 - 5 [7 - - - - 12]. Native.  
 Lat. 50—52. Cornwall, Wight, Kent. — Gloucester, Middlesex?  
 Zone 1. Low grounds.  
 Census 4 5 7. Ireland 0. English type of distribution.  
 Europe spa ita tur aus ger fra cha.  
 Russia 6 5.  
 Algeria.

1093. *Hyacinthus non-scriptus*, Linn.

Provinces all. Native Not native in province 18?  
 Lat. 50—58. Cornwall, Wight, Kent. — “Harris,” Ross.  
 Zones 1 2 3. Lakes to 500 yards. Tyne to 350 yards.  
 Census 18 34 84. Ireland 12. British type of distribution.  
 Europe spa ita - aus ger fra cha net. Lombardy to Holland.  
 Russia, absent.  
 Algeria?

1094. *Muscari racemosum*, Mill.

Provinces - (2 3) 4 - - - (8). Denizen.  
 Lat. 52—53. Suffolk, Norfolk; alleged to be wild there.  
 Zone 1.  
 Census 1 2 3. (Ireland). Germanic-local type.  
 Europe spa ita tur aus ger fra cha (net).  
 Russia 6 5 4.  
 Barbary; Lecoq geogr. bot.

1095. *Lloydia serotina*, Reich.

Provinces - - - - - 7. Native.

Lat. 53—54. Snowden mountains, in Carnarvonshire.

Zone - - - 4. At 700—800 yards, or thereabouts.

Census 1 1 1. Ireland 0. Local type of distribution.

Europe - ita - aus ger fra.

Russia 6 - - - 1. Himalaya. Siberia.

— America. Columbia.

1095\*. *Simethis bicolor*, Kunth.

Provinces - 2. Alien or Denizen.

Lat. 50.—51. Dorset; Borrer!

Zone 1. Low grounds.

Census 1 1 1. Ireland 1. Local-atlantic type.

Europe. Spain. Italian isles. South France. Normandy.

Russia, absent.

Algeria.

1095\* (1175). *Narthecium ossifragum*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland

Zones 1 2 3 4 5 6. Highlands to 1060, 1010, 1000 yards.

Census 18 37 83. Ireland 12. British type of distribution.

Europe all, except Turkey and Finmark. Loffoden Isles.

Russia - - - 3. "Livonia"; otherwise non-russian.

— Faroe. *N. americanum*, its representative in America.

1096. *Asparagus officinalis*, Linn.

Provinces 1 (2 3 4 5) 6 7 (8 9 - - - 14). Native.

Lat. 50—54. Cornwall. (Wight, Kent). — (Lancaster, Lincoln).

Zone 1. Littoral. Often only the garden variety escaped.

Census 3 5 5. Ireland 2. Atlantic type of distribution.

Europe spa ita - aus ger fra cha net den got nor (swe).

Russia 6 5 4 3. Siberia.

Algeria. — (America, naturalised on the coast near New York).

1097. *Ruscus aculeatus*, Linn.

Provinces 1 2 3 4 [5] 6 - (8 - 10 11 13 14 15 16). Native.  
 Lat. 50—53. Cornwall, Wight, Kent. — Glamorgan, Suffolk.  
 Zones 1 (2). Low grounds. (Ayr, Lanark, Isla).  
 Census 5 11 20. (Ireland). Germanic-english type.  
 Europe spa ita tur aus ger fra cha net. Belgium.  
 Russia 6 5. West-asia.  
 Algeria. Madeira. Azores.

1098. *Maianthemum bifolium*, De Cand.

Provinces - - (3 4) - - - - [9] 10 (11). Denizen.  
 Lat. 54—55. N.E. Yorkshire, "wild"; James Ward!  
 Zone - 2. Humber at 150—200 yards; Baker.  
 Census 1 1 1. Ireland 0. Local type of distribution.  
 Europe all, except Turkey and Finmark.  
 Russia - - 4 3 2 1. Himalaya, Siberia, Davuria, Kamschatka.  
 — Iceland. America, not typical. "Columbia." Aleutia.

1099. *Convallaria majalis*, Linn.

Provinces 1 2 3 4 5 - 7 8 9 10 11 12 13 (14) 15. Native.  
 Lat. 50—58. Somerset, Hants, Sussex, Kent. — Moray.  
 Zones 1 2 3. Humber 50—300 yards. Tyne to 350 yards.  
 Census 13 26 50. Ireland 0. Germanic-british type.  
 Europe all, except Finmark.  
 Russia 6 5 4 3 2 1. Siberia. Davuria.  
 N.B. Clearly native; though introduced to some of its localities.

1100. *Polygonatum verticillatum*, All.

Provinces - - [3] - - - - - 10 - - (13) - 15. Native?  
 Lat. 55—57. Northumberland! Perth! (Dumfries, Forfar).  
 Zones - 2 3. Tyne, probably about 200 yards.  
 Census 2 2 2. Ireland 0. Scottish type of distribution.  
 Europe spa ita tur aus ger fra - net den got nor swe lap.  
 Russia 6 5 - 3. Himalaya.  
 —. N.B. Usually accepted as a native in Britain.

1101. *Polygonatum multiflorum*, All.

Provinces 1 2 3 4 5 - - 8 9 10 (11 12 13 14 15) [16]. Native.

Lat. 50—55. Devon, Hants, Sussex, Kent. — York.

Zones 1 2. Low grounds. Humber at 150 yards.

Census 8 15 21. (Ireland). English-germanic type.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3 2. Siberia. Davuria.

N.B. Difficult to decide where truly wild in Britain.

1102. *Polygonatum officinale*, All.

Provinces 1 2 [3 4] 5 6 - - 9 10 11 [12 - - 15]. Native.

Lat. 51—56. Somerset, Wilts, Hants? — Lancaster, Cheviotl.

Zones 1 2 3. Humber to 400 yards. Tyne about 150 yards.

Census 7 7 8. Ireland 0. English type of distribution.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3 2. Siberia. Davuria.

N.B. Localities of this and 'multiflorum' confused in books.

1103. *Paris quadrifolia*, Linn.

Provinces 1 to 15. Native.

Lat. 50—58. Dorset, Sussex, Kent. — Renfrew, Moray.

Zones 1 2 3. Humber to 400 yards. Tyne to 350 yards.

Census 15 28 78. [Ireland]. British-english type.

Europe all.

Russia 6 - 4 3 2 1. West-asia. Siberia.

— Iceland; Hooker's list.

1104. *Tamus communis*, Linn.

Provinces 1 to 12. Native.

Lat. 50—55 or 56. Cornwall, Wight, Kent. — Cumb., Northum.

Zones 1 2. Humber to 250 yards.

Census 12 25 65. Ireland 0. English type of distribution.

Europe spa ita tur aus ger fra cha net. Belgium.

Russia 6 5. West-asia. "Cyprus."

Algeria.

1105. *Colchicum autumnale*, Linn.

Provinces 1 to 12 - - [15]. Native.

Lat. 50—55. Dorset, Hants, Surrey. — Westmorel., Durham.

Zones 1 2. Humber, Tyne, in each to 200 yards.

Census 12 18 37. Ireland 3. English type of distribution.

Europe spa ita tur aus ger fra cha net den - - (swe).

Russia ? ? 4 3.

Algeria.

1106. *Tofieldia palustris*, Huds.

Provinces - - - - - [8] - 10 11 - - [14] 15 16 17. Native.

Lat. 54—59. York, Durham. — Skye, Ross, Sutherland.

Zones - - 3 4 5. Highlands to 800, 750, 710, 660 yards.

Census 5 9 13. Ireland 0. Highland type of distribution.

Europe - - - aus ger fra - - - - nor swe lap fin.

Arctic Russia. Western Siberia.

— Iceland. Greenland. America. Columbia.

1107. *Hydrocharis Morsus-ranæ*, Linn.

Provinces 1 2 3 4 5 6 7 8 9 10 11 - - [14]. Native.

Lat. 50—55. Devon, (Wight), Kent. — Lancaster, Durham.

Zones 1 2. Low grounds.

Census 11 22 43. Ireland 6. English type of distribution.

Europe spa ita - aus ger fra cha net den got nor swe.

Russia 6 - 4 3 2. Siberia.

—.

1108. *Stratiotes aloides*, Linn.

Provinces - (2 3) 4 [5] - - 8 9 10 11 [12] - (14 15). Native.

Lat. 52—56. Northampton, Suffolk. — Lancaster, Northumb.

Zones 1 2. Low grounds.

Census 5 7 14. (Ireland 3 or 5). Germanic-english type.

Europe spa ita - aus ger fra - net den got nor swe lap.

Russia 6 - 4 3 2. Siberia.

N.B. Certainly wild in the eastern provinces of England.



1109. *Alisma Plantago*, Linn.

Provinces 1 to 17 [18]. Native.

Lat. 50—58. Cornwall, Wight, Kent. — Ross. [Orkney?]

Zones 1 2 3. Humber to 200 yards.

Census 17 34 86. Ireland 12. British type of distribution.

Europe all, except Finmark.

Russia 6 5 4 3 2 1. India. Siberia. Davuria. Kamtschatka.

Algeria. — America. Columbia. Not typical in America.

1110. *Alisma ranunculoides*, Linn.

Provinces 1 to 17. Native.

Lat. 50—58. Cornwall, Wight, Kent. — East Ross!

Zones 1 2 3. Humber to 250 yards.

Census 17 34 73. Ireland 12. British type of distribution.

Europe spa ita aus ger fra cha net den got.

Russia - - - 3. "Lithuania." "Kursk."

Algeria.

1111. *Alisma natans*, Linn.

Provinces - - [3] - 5 6 7 - - 10 - 12 13. Native.

Lat. 51—55. Glamorgan? — Wigton? Cumberland? York "!"

Zones 1 2. Low grounds. Salop! Carnarvon!

Census 6 7 9. Ireland 3. Local-atlantic type.

Europe spa - - aus ger fra cha net den - nor.

Russia - - - 3. "Nowgorod." "Livonia." "Lithuania."

N.B. British localities mostly need verification.

1112. *Actinocarpus Damasonium*, Brown.

Provinces [1] 2 3 4 5. Native. [Cornwall; Bree].

Lat. 50—53. South Hants, Sussex. — Salop, Suffolk?

Zone 1. L<sup>w</sup> grounds.

Census 4 9 12. Ireland 0. Germanic type of distribution.

Europe spa ita - aus - fra cha. Dalmatia.

Russia 6 - - 3. Eastward to Moscow?

[Algiers].

1113. *Sagittaria sagittifolia*, Linn.

Provinces 1 to 13. Native.

Lat. 50—56. Devon, Sussex, Kent. — Renfrew, Durham.

Zones 1 2. Low grounds.

Census 13 24 53. Ireland 5. English type of distribution.

Europe all, except Lapland and Finmark.

Russia 6 - 4 3 2 1. India. Siberia. Davuria. Kamtschatka.

— America. Columbia. Not typical in America.

1114. *Butomus umbellatus*, Linn.

Provinces 1 2 3 4 5 6 7 8 9 10 11 12 - (14 15). Native.

Lat. 50—55. Cornwall, Wight, Kent. — Cumberland, Durham.

Zones 1 2. Low grounds.

Census 12 25 52. Ireland 6. English type of distribution.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3 2. West-asia. India. Siberia. Davuria.

—.

1115. *Triglochin maritimum*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Littoral.

Census 18 35 61. Ireland 10. British type of distribution.

Europe all, unless Turkey to be excepted.

Russia - - 4 3 2 1. India. Siberia. Davuria.

Algeria. — Faroe. America. Columbia.

1116. *Triglochin palustre*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4 5. Highlands to 960, 880, 710, 710 yards.

Census 18 38 92. Ireland 12. British type of distribution.

Europe all, unless Turkey to be excepted.

Russia 6 5 4 3 2 1. India. Siberia. Davuria. Kamtschatka.

Barbary. — Faroe. Iceland. Greenland. America. Columbia

1117. *Scheuchzeria palustris*, Linn.

Provinces - - - - 5 - - 8 9 10 - - - - 15. Native.

Lat. 52—57. Salop, Notts, Chester, York, Perth.

Zones 1 2 ? North Yorkshire at 50 yards.

Census 5 5 6. Ireland 0. Intermediate type of distribution.

Europe - - - aus ger fra - net den got nor swe lap.

Russia - - 4 3 2 1. Siberia.

— America. Rocky Mountains.

1118. *Potamogeton densus*, Linn.

Provinces 1 2 3 4 5 6 7 8 - 10 11 12 13 14. Native.

Lat. 50—56. Devon, Wight, Kent. — Lanark, Ediinburgh.

Zones 1 2. Lakes to 340 yards.

Census 13 24 52. Ireland 6. English type of distribution.

Europe spa ita tur aus ger fra cha net den.

Russia - - - 3.

Algeria. — America?

1119. *Potamogeton pectinatus*, Auct.

Provinces 1 2 3 4 5 - 7 8 9 10 11 12 13 14 15 - 17 18. Native.

Lat. 50—60. Cornwall, Wight, Kent. — Orkney. [Shetland?]

Zones 1 2 3. Tyne to 200 yards. Humber to 150 yards.

Census 16 28 63. Ireland 9. British type of distribution.

Europe all, except Finmark. *P. flabellatus* inclusive.

Russia 6 - - 3 2 1. Himalaya. Siberia.

Algeria. Azores. — Iceland. America. Columbia.

1119\*. *Potamogeton filiformis*, Nolte.

Provinces - [2 - 4 - - 7 8] - - - - 14 15 17 18. Native.

Lat. 56—61. Berwick, Fife, Forfar, Orkney, Shetland, etc.

Zones ? 2 3. Sub-littoral. Imperfectly on record.

Census 4 6 6. Ireland 2. Scottish type of distribution.

Europe spa ita - aus ger fra - - den got - swe.

Russia 6 5 4 3 2. “*P. marinus*, Linn. spec. 184.”

Algeria. — Iceland; Bab. cat. America; Gray bot.

1120. *Potamogeton trichoides*, Cham.

Prov. - - - 4 - [6]. Native. Var. of *P. pusillus*; Benth. Handb.  
 Lat. 52—53. Norfolk; A. M. Barnard!  
 Zone 1. Low grounds. An unsatisfactory species.  
 Census 1 1 2. Ireland 0. Local type of distribution?  
 Europe - ita - aus ger fra - net.  
 Russia - - - 3. N.B. Lombardy to Petersb. Schleswig to Hungary.  
 America.

1121 (1120). *Potamogeton pusillus*, Linn.

Prov. 1 to 16 - 18. Native. *P. "compressus"* partly included.  
 Lat. 50—60. Cornwall, Wight, Kent. — Orkney; Gillies herb.  
 Zones 1 2 3. Humber to 350 yards. Tyne to 200 yards.  
 Census 17 33 69. Ireland 8. British type of distribution.  
 Europe all, except Turkey and Finmark.  
 Russia 6 - 4 3 2. Himalaya. Siberia.  
 Algeria. Canaries. Azores. — Faroe. Icel. Greenl. America.

1123 (1121). *Potamogeton obtusifolius*, M. et K.

Provinces 1 2 3 4 5 - ? 8 9 10 11 ? 13 14 15 - - [18]. Native.  
 Lat. 50—57. Devon, Sussex, Kent! — Lanark! Kincardine!  
 Zones 1 2. Tyne to 200 yards.  
 Census 12 20 36. Ireland 5. English-british type.  
 Europe - - - aus ger fra cha net den got. Sweden, very local.  
 Russia - - - 3. Western Siberia. N.B. The *P. gramineus* of  
 British botanists; not so of several Continental botanists.

1123\*. *Potamogeton acutifolius*, Link.

Provinces - 2 3 4 - - - 8 - [10]. Native.  
 Lat. 50—53. Dorset! Sussex! Surrey! Norfolk! Lincoln.  
 Zones 1 ? Low grounds. Kent. Herts. Yorkshire?  
 Census 4 5 5. Ireland 0. Germanic-english type.  
 Europe - - - aus ger fra cha net den got nor.  
 Russia 6 - - 3. N.B. In Britain this also has occasionally been  
 labelled as *P. gramineus*.

1123\*. *Potamogeton zosterifolius*, Schum.

Provinces - [2] 3 4 5 - - 8 - [10] - - - 15. Native.  
 Lat. 51—57. [Sussex], Surrey. — East Perth, Forfar.  
 Zones 1 2. Low grounds.  
 Census 5 8 12. Ireland 1. English type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia - - 3 2. *P. compressus*, Led. ross. et Fries sum.  
 — America.

1124. *Potamogeton crispus*, Linn.

Provinces 1 to 16 - [18]. Native. [Shetland].  
 Lat. 50—58. Devon, Wight, Kent. — Isla, Elgin.  
 Zones 1 2 3. Humber to 250 yards. Tyne to 200 yards.  
 Census 16 32 71. Ireland 11. British-english type.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 2. India. Siberia.  
 — Iceland; Hooker's list, from Zoega. [America].

1125. *Potamogeton perfoliatus*, Linn.

Provinces all? No authority for South Wales? Native.  
 Lat. 50—61. Cornwall, Dorset, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Humber to 400 yards. Tyne to 200 yards.  
 Census 17 34 68. Ireland 10. British type of distribution.  
 Europe all, except Finmark.  
 Russia 6 - 4 3 2 1. India. Siberia. Davuria.  
 Algeria. — Faroe. Iceland. America.

1126. *Potamogeton lucens*, Linn.

Provinces 1 2 3 4 5 - 7 8 9 10 11 12 13 14 15 - - [18]. Native.  
 Lat. 50—58. Devon, Wight, Kent. — Aberdeen, Banff.  
 Zones 1 2 3. Tyne to 200 yards. Humber to 150 yards.  
 Census 14 28 55. Ireland 9. English-british type.  
 Europe all, except Lapland and Finmark.  
 Russia - - 4 3 2. Himalaya. Siberia. Davuria.  
 Algeria. Azores. — Faroe. Iceland. America.

1127. *Potamogeton prælongus*, Wulf.

Provinces - - 3 4 5 - - 8 - 10 11 12 - 14 15. Native.  
 Lat. 51—58. Berks! Surrey? — Westmoreland, Moray.  
 Zones 1 2 3. Low grounds; area not sufficiently ascertained.  
 Census 9 14 18. Ireland 5. Scottish-intermediate type.  
 Europe - - - aus ger fra - net den got nor swe lap.  
 Russia - - - 3 2. Himalaya.  
 — America.

1129. *Potamogeton heterophyllus*, Schreb.

Provinces - 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 18. Native.  
 Lat. 50—61. Dorset? Sussex? Kent. — Orkney, Shetland.  
 Zones 1 2 3. Humber to 300 yards.  
 Census 16 27 48. Ireland 0. British-english type.  
 Europe spa - - aus ger fra cha net den got nor swe lap.  
 Russia? N.B. Much confused with *obtusifolius*, *nitens*, *polygonifolius*, and other species.

1129\*. *Potamogeton nitens*, Weber.

Provinces - - - - - 15 16. Native.  
 Lat. 55—58. Bute, Perth, Elgin, Nairn.  
 Zones - 2 3. Low grounds.  
 Census 2 3 4. Ireland 2. Scottish type of distribution.  
 Europe - - - aus ger fra cha - den got nor swe.  
 Russia - - - 3 2. N.B. The *P. lanceolatus* (Sm.) is made up of this  
 and the next species; the Scottish localities belonging to this.

1129\* (1130). *Potamogeton lanceolatus*, Sm. in part.

Provinces [1 - - - 5] - 7 - - [10 - 12 13 15 - - 18]. Native.  
 Lat. 53—54. Isle of Anglesea only, as yet known.  
 Zone 1. Low grounds. Confused with *P. nitens*.  
 Census 1 1 1. Ireland? Local type of distribution.  
 Europe? N.B. The Anglesea plant has not been certainly  
 identified with any European species. By name it is enu-  
 merated in Babington's list of Ireland plants.

1131. *Potamogeton rufescens*, Schrad.

Provinces 1 to 17. Native.

Lat. 50—59. Cornwall? Sussex, Kent. — Isla, Caithness.

Zones 1 2 3. Tyne to 500 yards.

Census 17 26 38. Ireland 9. British type of distribution.

Europe - ita - aus ger fra cha net den got nor swe lap.

Russia - - - 3 2. Himalaya. Siberia. Davuria.

— Iceland; Lindsay flo. Greenland. America. Columbia.

1132. *Potamogeton natans*, Linn.

Provinces 1 to 15, or all by safe and unsafe records. Native.

Lat. 50—58 or 61. Cornwall, Wight, Kent. — Hebrides? Shetl.?

Zones 1 2 3. Low grounds. Confused with 'polygonifolius.'

Census 15 32 ? Ireland 12. British type of distribution.

Europe all, except Finmark.

Russia 6 - 4 3 2 1. India. Siberia. Davuria.

Algeria. Madeira. Azores? — Faroe. Iceland. America. Col.

1132 (1133). *Potamogeton polygonifolius*, Pourr.

Provinces all. Native. Often mislabelled 'natans.'

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4. Lakes to 590 yards. Highlands to 530 yards.

Census 18 34 65. Ireland 11. British type of distribution.

Europe spa ita - aus ger fra cha net den got nor swe.

Russia - - - 3. Siberia.

Algeria. Canaries? Azores! — America.

1132 (1134). *Potamogeton plantagineus*, Ducros.

Provinces - 2 3 4 - 6 7 8 - 10 11 12 - 14 - 16. Native.

Lat. 50—57. Wight, Hants, Kent. — Arran, Argyle.

Zones 1 2 3. Humber to 150 yards. Area ill ascertained.

Census 11 15 22. Ireland 9. English-british type.

Europe - ita - aus ger fra cha net den. N.B. Apparently restricted to Europe; but this and 'polygonifolius' have been much confused with each other and with 'natans.'

1135 (1136). *Ruppia maritima*, Linn.

Provinces 1 2 3 4 - 6 7 - 9 10 11 12 13 14 15 16 - 18. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Littoral. *P. rostellata*, Wight to Orkney.  
 Census 15 29 43. Ireland 9. British type of distribution.  
 Europe spa ita tur - ger fra cha net den got nor swe.  
 Russia 6 - 4 3 2. West-asia. Western Siberia.  
 Algeria. — America. Columbia.

1136 (1137). *Zannichellia palustris*, Linn.

Provinces 1 to 14 - - 17 18. Native.  
 Lat. 50—60. Cornwall, Wight, Kent. — Sutherland, Orkney.  
 Zones 1 2 3. Humber to 150 yards.  
 Census 16 28 56. Ireland 9. British type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia 6 - 4 3 2. India. Siberia.  
 Algeria. Canaries. — America. Columbia.

1137. *Zostera marina*, Linn.

Provinces 1 2 3 4 - 6 7 - 9 10 11 12 13 14 15 16 17 18. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Littoral.  
 Census 16 28 44. Ireland 9. British type of distribution.  
 Europe all, except Finmark.  
 Russia - 5 4 3 2.  
 — Faroe. Iceland. Greenland. America. Columbia.

1137\*. *Zostera nana*, Roth.

Provinces 1 2 - - - - - 11 13 - 15 16 [18]. Native.  
 Lat. 50—57. Dorset, Wight, Sussex. — Argyle, Forfar?  
 Zones 1 2 ? Littoral. Localities overlooked?  
 Census 6 8 10. Ireland 1. English type of distribution.  
 Europe - - - - - fra cha net den got.  
 Russia - 5.  
 Algeria.



1138. *Lemna minor*, Linn.

Provinces all. Native.

Lat. 50—60. Cornwall, Wight, Kent. — Skye, Orkney.

Zones 1 2 3. Lakes, Humber, in each to 300 yards.

Census 18 34 86. Ireland 12. British type of distribution.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3 2. India. Siberia.

Algeria. Canaries. Azores. — America.

1139. *Lemna gibba*, Linn.

Provinces 1 2 3 4 5 6 - 8 9 10 - - 14 15. Native.

Lat. 50—57. Devon, Wight, Kent. — Fife; B. Syme, 1840.

Zones 1 2. Low grounds. Perhaps often overlooked.

Census 11 20 37. Ireland 3. English-germanic type.

Europe spa ita - aus ger fra cha net den got nor swe.

Russia 6 - 4 3 2. Siberia.

Algeria. Canaries. — America, rarely.

1140. *Lemna polyrhiza*, Linn.

Provinces 1 2 3 4 5 6 7 8 9 10 - - 13 14. Native.

Lat. 50—56. Devon, Wight, Kent. — Lanark, Edinburgh.

Zones 1 2. Low grounds.

Census 12 24 46. Ireland 3. English type of distribution.

Europe - ita - aus ger fra cha net den got nor swe.

Russia 6 - 4 3 2. Siberia.

Madeira. — America.

1141. *Lemna trisulca*, Linn.

Provinces 1 to 15. Native.

Lat. 50—58. Devon, Wight, Kent. — “Banff; Dr. L. Stewart.”

Zones 1 2 3. Low grounds.

Census 15 28 60. Ireland 6. English-british type.

Europe all, except Finmark.

Russia 6 4 3 2. Siberia.

— America.

1141\*. *Wolffia arhiza*, Wimm.

Provinces - 2 3. Native. Likely in other provinces.

Lat. 50—52. Middlesex; Trimmen, 1866. Hants. Surrey! Essex.

Zone 1. Low grounds. Full area not ascertained.

Census 2 3 4. Ireland 0. Local-germanic type.

Europe spa ita - aus ger fra cha net. From England to Transylvania, from Naples to Holland. Sparsely reported, but minute and likely to be disregarded.

1142. *Arum maculatum*, Linn.

Provinces 1 to 14 (15). Native. (Edinburgh — Moray).

Lat. 50—56 (58). Cornwall, Wight, Kent. — Berwick, Roxburgh.

Zones 1 2. Tyne to 325 yards. Humber to 250 yards.

Census 14 28 62. Ireland 12. English type of distribution.

Europe spa ita tur aus ger fra cha net den got.

Russia - - 3. "Livonia. Lithuania. Warsaw."

Algeria; Desf. atlant.

1142\*. *Arum italicum*, Mill.

Provinces - 2. Native; but also planted at Steepphill.

Lat. 50—51. Isle of Wight; A. G. More!

Zone 1. Coast level or thereabout.

Census 1 1 1. Ireland 0. Local-english type.

Europe spa ita tur aus - fra cha net. Holland.

Russia, absent.

Algeria. Madeira? Azores.

1143. *Acorus Calamus*, Linn.

Provinces 1 2 3 4 5 6 - 8 9 10 - - (13). Native.

Lat. 51—55. Somerset, Hants, Surrey. — Lancaster, York.

Zones 1 2. Low grounds. (Devon, Sussex — Ayr, Renfrew).

Census 9 17 25. Ireland 0. English type of distribution.

Europe - ita tur aus ger fra - net den got nor swe.

Russia 6 - 4 3 2. India. Siberia. Davuria.

— (America, probably introduced; Gray Bot. N. S.)

1144. *Sparganium natans*, Auct.

Provinces all. Native. S. minimum inclusive.  
 Lat. 50—61. Dorset, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4. Highlands to 530 yards.  
 Census 18 32 66. Ireland 8. British-scottish type.  
 Europe all, except Turkey. S. minimum included.  
 Russia - - - 3 2 1. West-asia. Siberia.  
 Algeria. — Faroe. Iceland. Greenland. America. Columbia.

1145. *Sparganium simplex*, Huds.

Provinces 1 to 17 [18]. Native. [Orkney; Neill].  
 Lat. 50—58. Cornwall, Wight, Kent. — Isla, Ross.  
 Zones 1 2 3. Low grounds.  
 Census 17 34 76. Ireland 9. British-english type.  
 Europe all, except Lapland and Finmark.  
 Russia - - 4 3 2. West-asia. India. Siberia. Kamtschatka.  
 — America. Columbia.

1146. *Sparganium ramosum*, Huds.

Provinces all. Native.  
 Lat. 50—60. Cornwall, Wight, Kent. — Skye, Orkney.  
 Zones 1 2 3. Humber to 250 yards. Tyne to 200 yards.  
 Census 18 35 85. Ireland 12. British type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 2. India. Siberia.  
 Algeria. — America.

1147. *Typha latifolia*, Linn.

Provinces 1 to 15 - - [18]. Native. Formerly in Orkney?  
 Lat. 50—58. Cornwall, Wight, Kent. — Renfrew, Elgin.  
 Zones 1 2 3. Tyne to 200 yards.  
 Census 15 30 67. Ireland 10. British-english type.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3. India. Siberia.  
 Algeria, "La Calle"; Desf. atlant.

1148. *Typha angustifolia*, Linn.

Provinces 1 to 13 15. Native.

Lat. 50—57. Cornwall, Wight, Kent. — Kirkcudbright, Fife.

Zones 1 2. Low grounds. Truly wild in Fife; Arnott.

Census 13 25 48. Ireland 2. English type of distribution.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3 2. India. Siberia. Davuria.

Algeria. — America.

1149. *Eriocaulon septangulare*, With.

Provinces - - - - - 16. Native.

Lat. 56—58. Mid and North Ebudes.

Zones - - 3. Low grounds only?

Census 1 1 2. Ireland 5. Scottish-atlantic type.

Europe, absent.

Russia, absent.

— America.

Order 83. RESTIACEÆ.

1150. *Juncus filiformis*, Linn.

Provinces - - [3] - - - - [9] - - 12 - - 15 - - [18]. Native.

Lat. 54—58. Westmoreland. Cumberland! Kincardine! Perth?

Zones - 2 3. Lakes to 150 yards.

Census 2 2 3. Ireland 0. Intermediate type of distribution.

Europe all, except the Channel division.

Russia 6 - - 3 2 1. Siberia. Davuria. Kamtschatka.

— Greenland. America. Columbia.

1151. *Juncus conglomeratus*, Linn.

Provinces all. Native. Any authority for Sutherland?

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4. Highlands to 630 yards. Lakes to 560 yards.

Census 18 37 91. Ireland 12. British type of distribution.

Europe all, except Finmark. Loffoden Isles; Martins.

Russia 6 - 4 3 2. Himalaya? Siberia.

Madeira? — Faroe.

1151\*. *Juncus effusus*, Linn.

Provinces all. Native. Any authority for Hebrides?  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4. Highlands to 800 yards. Humber to 800 yards.  
 Census 18 37 96. Ireland 12. British type of distribution.  
 Europe all, except Finmark.  
 Russia 6 5 4 3 2 1. Himalaya? Siberia.  
 Algeria. Canaries. Azores. — Faroe. America. Columbia.

1151\* (1152). *Juncus diffusus*, Hoppe.

Provinces 1 2 3 4 5 - - 8 9 10 11 12 - - 15. Native.  
 Lat. 50—57. Dorset, Wight, Sussex. — West Perth; Bab. Man.  
 Zones 1 2. Humber, Tyne, in each to 250 yards.  
 Census 11 17 22. Ireland 0. English type of distribution.  
 Europe spa - - - ger fra - net den got.  
 Russia, not recorded in Ledebour's Flora.  
 N.B. A dubious species, usually or always infertile.

1152. *Juncus glaucus*, Sibth.

Provinces 1 to 15 - - [18]. Native. Orkney?  
 Lat. 50—58. Cornwall, Wight, Kent. — Lanark, Aberdeen.  
 Zones 1 2 ? Lakes, Humber, Tyne, in each to 400 yards.  
 Census 15 30 71. Ireland 10. English-british type.  
 Europe spa ita tur aus ger fra cha net den got.  
 Russia 6 5 4 3. Siberia.  
 Algeria. Madeira. Azores; Drouet flore.

1153. *Juncus balticus*, Willd.

Provinces - - - - - 15 17 18. Native.  
 Lat. 56—59. Forfar, Kincardine. — Hebrides, Sutherland.  
 Zones - 2 3. Littoral and Sub-littoral.  
 Census 3 5 9. Ireland 0. Scottish type of distribution.  
 Europe. North Germany. Scandinavia den got nor swe lap.  
 Russia - - - 3 2 1.  
 — Iceland. America. Columbia.

1154. *Juncus maritimus*, Linn.

Provinces 1 2 3 4 - 6 7 8 9 10 11 12 13 - 15 16. Native.

Lat. 50—58. Cornwall, Wight, Kent. — Isla, Nairn.

Zones 1 2 3. Littoral.

Census 14 25 45. Ireland 9. British-english type.

Europe spa ita tur aus ? fra cha net den got.

Russia 6 5. Western Siberia.

Algeria. Canaries. Azores. — America.

1155. *Juncus acutus*, Linn.

Provinces 1 2 3 4 [5] 6 7 - - - [12 13]. Native.

Lat. 50—54. Cornwall? Sussex, Kent. — Carnarvon, Flint?

Zone 1. Littoral. [North Lancashire? Kirkcudbright?]

Census 6 10 15. Ireland 3. English-atlantic type.

Europe spa ita tur aus - fra cha.

Russia 6.

Algeria. Canaries. Azores.

1156. *Juncus acutiflorus*, Ehrh.

Prov. all. Native. Any authority for subprovinces 16 and 26?

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Lakes to 600 yards. Tyne to 500 yards.

Census 18 36 89. Ireland 12. British type of distribution.

Europe all, except Lapland and Finmark? Loffoden Isles.

Russia? Siberia?

— America. Rocky Mountains.

1157. *Juncus lamprocarpus*, Ehrh.

Provinces all. Native. Any authority for Sutherland?

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4 5. Highlands to 800 yards; Prof. Dickie.

Census 18 37 89. Ireland 12. British type of distribution.

Europe all, except Finmark.

Russia 6 5 4 3 2. Himalaya. Siberia. Davuria. Kamtschatka.

Algeria. Madeira. — Faroe. Iceland. Greenland. America.

1158. *Juncus obtusiflorus*, Ehrh.

Provinces 1 2 3 4 5 6 7 8 9 10 11 13 14 [15]. Native.  
 Lat. 50—56. Cornwall, Wight, Kent. — Wigton, Haddington.  
 Zones 1 2. Humber to 200 yards?  
 Census 13 25 47. Ireland 3. English type of distribution.  
 Europe spa ita - aus ger fra cha net den got.  
 Russia, probably absent.  
 Algeria.

1159. *Juncus supinus*, Moench.

Provinces all. Native. Any authority for S.E. Lowlands?  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4 5. Highlands to 800 yards. Tyne to 700 yards.  
 Census 18 37 86. Ireland 12. British type of distribution.  
 Europe all, except Turkey and Finmark. Loffoden Isles.  
 Russia 6 - - 3 2.  
 Azores. — Faroe. Iceland. America?

1160. *Juncus compressus*, Jacq.

Provinces 1 to 16 - 18; but doubtful in several of them. Native.  
 Lat. 50—58. Cornwall, Dorset, Kent. — Skye? Shetland?  
 Zones 1 2 3. Low grounds. Surrey and Middlesex; H. C. W.  
 Census ? ? ? Ireland —? British type of distribution?  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 2. West-asia. Siberia. Davuria. Persia.  
 — Iceland; Hooker list. America. Columbia.

1160, b. *Juncus Gerardi*, Lois.

Provinces 1 2 3 4 - 6 7 8 9 10 11 12 13 14 15 16 - 18. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Littoral. Often labelled "compressus."  
 Census 16 30 50. Ireland —? British type of distribution.  
 Europe all? Scarcely distinct from 'compressus.'  
 Russia 6 - 4 3 2 1. Siberia.  
 — America? Is it this, not 'compressus,' in Iceland?

1162. *Juncus bufonius*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 ? Lakes to 650 yards. Tyne to 550 yards.

Census 18 38 95. Ireland 12. British type of distribution.

Europe all.

Russia 6 - 4 3 2 1. India. Siberia. Davuria.

Algeria. Canaries. Azores. — Far. Icel. Greenl. Am. Col.

1163. *Juncus squarrosus*, Linn.

Provinces all. Native. Any authority for S.W. Wales?

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4 5 6. Highlands to 1080, 1000, 960 yards.

Census 18 37 84. Ireland 11. British type of distribution.

Europe all, except Finmark.

Russia - - 4 3 2. Siberia.

— Faroe. Iceland. Greenland.

1164. *Juncus castaneus*, Linn.

Provinces [1] - - - - - [11] - - - 15 16. Native.

Lat. 56—58. Mid Perth! Forfar! South Aberdeen! Argyle!

Zones - - - 5 6. Highlands at 800—1000 yards.

Census 2 3 4. Ireland 0. Highland type of distribution.

Europe. Alps of Switzerland and Austria. Norway, Sweden, Lapl.

Russia - - - 2 1. Himalaya. Siberia. Davuria.

— Greenland. America. Columbia.

1165. *Juncus trifidus*, Linn.

Provinces - - - - - [12] - - 15 16 17 [18]. Native.

Lat. 56—59. Dumbarton, Perth. — Skye, Sutherland. Orkney?

Zones - - - 5 6. Highlands at 550—1410 yards.

Census 3 7 10. Ireland 0. Highland type of distribution.

Europe spa ita tur aus ger fra - - - - nor swe lap fin.

Russia - - - 2 1. West-asia. Siberia. Persia.

— Faroe. Iceland. Greenland. America.



1167. *Juncus biglumis*, Linn.

Provinces - - - - - 15 [16]. Native.  
 Lat. 56—58. Perth! Forfar? Aberdeen. Banff?  
 Zones - - - 5 6. Highlands to 1100 y. Down to 2000 ft.; Dickie.  
 Census 1 3 4. Ireland 0. Highland type of distribution.  
 Europe. Norway, Sweden, Lapland, Finmark.  
 Russia - - - - 1. Himalaya. Siberia. Davuria.  
 — Faroe. Iceland. Greenland. America. Columbia.

1168. *Juncus triglumis*, Linn.

Provinces - - - - - 7 - - (10) 11 12 - - 15 16 17 18. Native.  
 Lat. 53—61. Carnarvon, Durham. — Sutherland, Shetland.  
 Zones - - ? 4 5 ? Highlands at 400—1000 yards.  
 Census 7 11 17. Ireland 0. Highland type of distribution.  
 Europe spa ita - aus ger fra - - - - nor swe lap fin.  
 Russia 6 - - ? 2 1. Himalaya. Siberia. Davuria. Kamtsch.  
 — Faroe. Iceland. Greenland. America. Rocky Mountains.

1169. *Luzula sylvatica*, Bich.

Provinces all. Native. Orkney?  
 Lat. 50—61. Cornwall, Wight, Kent. — Hebrides, Shetland.  
 Zones 1 2 3 4 5 ? Highlands to 1030, 900, 900, 860 yards.  
 Census 18 36 85. Ireland 12. British type of distribution.  
 Europe spa ita tur aus ger fra cha net den nor - lap. Loff.  
 Russia ? - - ? 6 Caucasia? 3 Isle of Oesel?  
 — Faroe. "America."

1170. *Luzula pilosa*, Willd.

Provinces all. Native. L. Borreri - 2 3 - 5.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Highlands to 630 yards. Lakes to 560 yards.  
 Census 18 36 86. Ireland 6. British type of distribution.  
 Europe all.  
 Russia 6 5 4 3 2 1. West-asia. Siberia. Kamtschatka.  
 Algeria. — Faroe. Iceland. Greenland. America. Columbia.

1171. *Luzula Forsteri*, De Cand.

Provinces 1 2 3 - 5 6 - - - - [12 13 - 15]. Native.  
 Lat. 50—53. Cornwall, Wight, Kent. — Cardigan, Essex.  
 Zone 1. Low grounds. [Cumb. Ayr. Forfar.]  
 Census 5 13 25. Ireland 0. English type of distribution.  
 Europe spa ita tur - ger fra cha.  
 Russia 6.  
 Algeria.

1172. *Luzula campestris*, Willd.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4 5. Highlands to 1080 yards. Wales to 1080 yds.  
 Census 18 37 91. Ireland 12. British type of distribution.  
 Europe all.  
 Russia 6 5 4 3 2 1. Himalaya? Siberia. Davuria. Kamtsch.  
 Madeira. Azores. — Iceland; Hooker list. Greenl. Am. Col.

1173. *Luzula multiflora*, Lej.

Provinces all? Native. Any authority for N. Highlands?  
 Lat. 50—60. Cornwall, Wight, Kent. — Hebrides, Orkney.  
 Zones 1 2 3 4 5. Highlands to 980 yards. Tyne to 850 yards.  
 Census 17 34 73. Ireland 12. British type of distribution.  
 Europe all. Confused with 'campestris' in the older books.  
 Russia 6 - 4 3 2 1. Siberia.  
 Madeira. — Iceland; Bab. cat. America; Taylor, etc.

1174. *Luzula arcuata*, Hook.

Provinces - - - - - 15 17. Native.  
 Lat. 56—59. Forfar? Aberdeen! Banff. Sutherland!  
 Zones - - - - 6. Highlands at 1100—1440 yards.  
 Census 2 3 3. Ireland 0. Highland type of distribution.  
 Europe. Norway, Sweden, Lapland.  
 Russia - - - - 2 1. Siberia. L. hyperborea to Spitzbergen.  
 — Greenland. America. Columbia.

1175. *Luzula spicata*, De Cand.

Provinces - - - - - 7 - - - - 12 - - 15 16 17 18. Native.  
 Lat. 53—59. Carnarvon, Westmoreland. — Hebrides, Sutherl.  
 Zones - - - 4 5 6. Highlands to 1440, 1310, 1270, 1200 yards.  
 Census 6 10 14. Ireland 0. Highland type of distribution.  
 Europe spa ita tur aus ger fra - - - - nor swe lap fin.  
 Russia 6 - - 3 - 1. Himalaya. Siberia. Davuria.  
 — Faroe. Iceland. Greenland. America. Columbia.

1176. *Cyperus longus*, Linn.

Provinces ? 2 3 [1 5] 6. Native. Cornwall? Somerset?  
 Lat. 50—52. Dorset, Wight, Kent. — Pembroke, Wilts.  
 Zone 1. Low grounds. [Norfolk. Stafford.]  
 Census 3 4 5. Ireland 0. Atlantic-english type.  
 Europe spa ita tur aus ger fra cha.  
 Russia 6 5 4.  
 Algeria. Madeira. Azores.

1177. *Cyperus fuscus*, Linn.

Provinces - - 3 - - - - - [10]. Native.  
 Lat. 51—52. Surrey, Middlesex. [York, an error].  
 Zone 1. Low grounds.  
 Census 1 2 2. Ireland? Local-germanic type.  
 Europe spa ita tur aus ger fra cha net den got.  
 Russia 6 5 4 3. West-asia. Siberia.  
 Algeria.

1178. *Cladium Mariscus*, Brown.

Provinces 1 to 14 [15] 17. Native.  
 Lat. 50—59. Cornwall, Wight, Kent. — Berwick, Sutherland.  
 Zones 1 2 3. Low grounds. [Formerly in Forfar].  
 Census 15 22 30. Ireland 10. English-british type.  
 Europe spa ita tur aus ger fra cha net den got.  
 Russia 6 5 3. Siberia.  
 Algeria. Canaries, a variety. Azores.

1179. *Schœnus nigricans*, Linn.

Provinces all. Native. Rare in provinces 2 3 5 and 13 14.  
 Lat. 50—61. Cornwall, Dorset, Hants. — Orkney, Shetland.  
 Zones 1 2 3. West Highlands to 350 yards.  
 Census 18 34 56. Ireland 11. British type of distribution.  
 Europe spa ita tur aus ger fra cha net den - nor. Baltic isles.  
 Russia 6 - - 4 3. Siberia.  
 Algeria.

1180. *Rhynchospora alba*, Vahl.

Provinces 1 2 3 4 5 6 7 8 9 10 11 12 13 - 15 16 17 18. Native.  
 Lat. 50—61. Cornwall, Wight, Sussex. — Hebrides, Shetland.  
 Zones 1 2 3. Tyne to 150 yards.  
 Census 17 32 61. Ireland 11. British type of distribution.  
 Europe spa ita - aus ger fra cha net den got nor swe lap.  
 Russia - - 4 3 2. Siberia.  
 — America. Columbia. “North States, common in bogs.”

1181. *Rhynchospora fusca*, Sm.

Provinces 1 2 - - [5] 6 - - - [10]. Native.  
 Lat. 50—52. Cornwall? Somerset! Dorset! Glamorgan.  
 Zone 1. Low grounds. [Reported in Salop and York].  
 Census 3 5 5. Ireland 4. Atlantic type of distribution.  
 Europe - ita - aus ger fra cha net den got nor swe.  
 Russia - - - 3. “Isle of Oesel.” “Lithuania”  
 — America; Gray's Botany of the Northern States.

1182. *Blysmus compressus*, Panz.

Provinces 1 2 3 4 5 - 7 8 9 10 11 12 13 14 - [16]. Native.  
 Lat. 50—56. Cornwall? Dorset, Kent. — Ayr, Haddington.  
 Zones 1 2 3. Tyne to 500 yards. Humber to 400 yards.  
 Census 13 25 45. [Ireland]. English type of distribution.  
 Europe - ita - aus ger fra cha net den got nor swe.  
 Russia 6 5 4 3 2. Siberia.  
 — Iceland; Hooker's list, from Zoega.

1183. *Blysmus rufus*, Link.

Provinces - - - - - 7 - 9 - 11 12 13 14 15 16 17 18. Native.  
 Lat. 53—61. Anglesea, Durham. — Orkney, Shetland.  
 Zones 1 2 3. Littoral.  
 Census 10 16 31. Ireland 4. Scottish type of distribution.  
 Europe. North Germany. Scandinavia den got nor swe lap.  
 Russia - - - 3 2. India. Siberia. Davuria.  
 — Iceland; Lindsay flo.

1184. *Scirpus lacustris*, Linn.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Dorset, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Humber to 250 yards. Tyne to 150 yards.  
 Census 18 38 75. Ireland 10. British type of distribution.  
 Europe all, except Finmark.  
 Russia 6 5 4 3 2 1. Himalaya. Siberia.  
 Algeria. — Iceland; Hooker, from Zoega. America. Columbia.

1184, b. *Scirpus glaucus*, Sm.

Provinces 1 2 3 4 5 6 7 8 - 10 11 13 14 15 16 - [18]. Native.  
 Lat. 50—57. Cornwall, Wight, Kent. — Isla, Forfar.  
 Zones 1 2. Low grounds; sub-littoral.  
 Census 14 25 32. Ireland 8. English-british type.  
 Europe spa ita - aus ger fra cha net den got nor swe.  
 Russia 6 - 4 3 2. Siberia. Davuria.  
 N.B. S. Tabernæmonti of Continental authors.

1184\*. *Scirpus carinatus*, Sm.

Provinces - 2 3 - [5 - - 8 - - 11]. Native.  
 Lat. 50—52. Sussex, Kent, Surrey, Middlesex.  
 Zone 1. Low grounds. [Provinces 5 - - 8 by misnomers].  
 Census 2 3 5. Ireland 0. Germanic type of distribution.  
 Europe - - - aus ger fra - net den.  
 Russia, absent. N.B. An unsatisfactory species; its localities  
 confused with those of 'triqueter' and 'glaucus.'

1185 (1188). *Scirpus triqueter*, Linn.

Provinces - 2 3 [4 - - - 8]. Native.

Lat. 50—52. Sussex, Surrey, Middlesex.

Zone 1. Low grounds. [Norfolk. Leicester.]

Census 2 3 3. Ireland 0. Germanic type of distribution.

Europe spa ita ? aus ger fra cha net den.

Russia 6 - 4.

— [America]. “Columbia.”

1186. *Scirpus setaceus*, Linn.

Provinces all. Native.

Lat. 50—60. Cornwall, Wight, Kent. — Hebrides, Orkney?

Zones 1 2 3. Humber to 500 yards. Lakes to 480 yards.

Census 18 36 79. Ireland 8. British type of distribution.

Europe spa ita tur aus ger fra cha net den got nor.

Russia 6 5 4 3. Siberia.

Algeria? Azores. — Iceland.

1187. *Scirpus Savii*, Seb. Maur.

Provinces 1 2 - 4 - 6 7 9 - - 12 13 - - 16. Native.

Lat. 50—56. Cornwall, Devon, Wight. — Isla; Prof. Balfour!

Zones 1 2. Low grounds. Eastward in Suffolk and Norfolk.

Census 9 15 22. Ireland 7. Atlantic type of distribution.

Europe spa ita tur - - fra cha.

Russia, absent.

Algeria. Azores.

1188 (1185). *Scirpus Holoschœnus*, Linn.

Provinces 1 [2 - - 5 - - - - - 12]. Native.

Lat. 51—52. North Devon! [Somerset? Dorset? Hants?]

Zone 1. Sub-littoral.

Census 1 1 1. Ireland 0. Local-atlantic type.

Europe spa ita tur aus ger fra.

Russia 6 5 4. Siberia.

Algeria. Canaries.

1190. *Scirpus maritimus*, Linn.

Provinces 1 to 17. Native.

Lat. 50—58. Cornwall, Wight, Kent. — Skye, Ross.

Zones 1 2 3. Littoral.

Census 17 29 56. Ireland 10. British-english type.

Europe all, except Lapland and Finmark.

Russia 6 5. Western Siberia.

Algeria. Canaries. Azores. — Faroe. America Columbia.

1191. *Scirpus sylvaticus*, Linn.

Provinces 1 to 16. Native. Occasionally mislabelled “*carinatus*.”

Lat. 50—58. Cornwall, Wight, Kent. — Argyle, Banff.

Zones 1 2 3. Humber, Tyne, in each to 150 yards.

Census 16 31 61. Ireland 6. British-english type.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3 2. Siberia. Davuria.

— America. Columbia.

1192. *Scirpus palustris*, Linn.

Provinces all. Native. *S. uniglumis* partly included?

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Humber to 400 yards. Highlands to 350 yards.

Census 18 36 84. Ireland 12. British type of distribution.

Europe all.

Russia 6 5 4 3 2 1. India. Siberia. Davuria.

Algeria. Canaries. Azores. — Far. Icel. Greenl. Am. Col.

1193. *Scirpus uniglumis*, Link.

Provinces - 2 - - - 7 - 9 - 11 - - 14 15 16 - 18. Native.

Lat. 50—60. Dorset, Sussex. — Orkney; Boswell-Syme.

Zones 1 2 3. Altitude - ? Localities imperfectly known.

Census 8 10 13. Ireland 1. British-scottish type.

Europe all, except Finmark.

Russia 6 - - 3 2 1. Himalaya.

— Iceland. N.B. Ill understood in Britain.

1194 (1193). *Scirpus multicaulis*, Sm.

Provinces all. Native. Partly confused with *S. uniglumis*?  
 Lat. 50—60. Cornwall, Wight, Kent. — Orkney; B.-Syme.  
 Zones 1 2 3. Low grounds; also higher?  
 Census 18 30 55. Ireland 9. British type of distribution.  
 Europe spa ita - - ger fra cha net den got.  
 Russia - - - 3. Lithuania; Ledeb. flo ross.  
 Algeria. Azores. — America. Columbia.

1195 (1194). *Scirpus pauciflorus*, Lightf.

Provinces 1 to 17 [18]. Native.  
 Lat. 50—59. Cornwall, Wight, Kent. — Ross, Sutherland.  
 Zones 1 2 3 4. Humber, Lakes, in each to 700 yards.  
 Census 17 32 61. Ireland 5. British type of distribution.  
 Europe all, except Turkey.  
 Russia 6 5 4 3 2. West-asia. Siberia. Davuria.  
 Madeira; Lemann's list. — Faroe. "Rocky Mountains."

1196. *Scirpus cæspitosus*, Linn.

Provinces all. Native. Occasionally mislabelled "pauciflorus."  
 Lat. 50—61. Cornwall, Dorset, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4 5 6. Highlands to 1160, 1060, 980 yards.  
 Census 18 36 77. Ireland 12. British-scottish type.  
 Europe all, except Turkey.  
 Russia - - - 3 2 1. Siberia.  
 — Faroe. Iceland. Greenland. America. Columbia.

1197. *Scirpus acicularis*, Linn.

Provinces 1 to 15 - - [18]. Native. [Orkney; Lowe].  
 Lat. 50—57. Cornwall, Dorset, Sussex. — Perth, Forfar?  
 Zones 1 2. Low grounds.  
 Census 15 28 49. Ireland 4. English-british type.  
 Europe all, except Turkey and Finmark.  
 Russia 6 - 4 3 2 1. India. Siberia. Davuria.  
 — Faroe. Iceland. America. Columbia.



1198. *Scirpus fluitans*, Linn.

Provinces all? Native. Any authority for S. Wales?  
 Lat. 50—60. Cornwall, Wight, Kent. — Hebrides, Orkney.  
 Zones 1 2 3. Humber to 400 yards. Tyne to 200 yards.  
 Census 17 33 59. Ireland 8. British type of distribution.  
 Europe spa ita - aus - fra cha net den got.  
 Russia - - - 3. Warsaw; Ledeb. flo. ross.  
 Azores. — Faroe.

1199 (1200). *Eriophorum vaginatum*, Linn.

Provinces all. Native. [E. alpinum, 15 - 17].  
 Lat. 50—61. Cornwall, Devon, Sussex. — Orkney, Shetland.  
 Zones 1 2 3 4 5. Highlands to 980 yards. Lakes to 950 yards.  
 Census 18 34 73. Ireland 11. British-scottish type.  
 Europe all, except Turkey.  
 Russia - - 4 3 2 1. West-asia. Siberia.  
 — Faroe. Iceland. Greenland. America. Columbia.

1200 (1201). *Eriophorum angustifolium*, Roth.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4 5 6. Highlands to 1160, 1060, 1050 yards.  
 Census 18 38 96. Ireland 12. British type of distribution.  
 Europe all.  
 Russia - - 4 3 2 1. West-asia? Siberia. Davuria.  
 — Faroe. Iceland. Greenland. America. Columbia.

1201 (1200). *Eriophorum latifolium*, Hoppe.

Provinces 1 to 15 - 17. Native.  
 Lat. 50—59. Devon, Wight, Kent. — Ross! Sutherland!  
 Zones 1 2 3. Tyne to 500 yards. Humber 100—400 yards.  
 Census 16 25 37. Ireland 3. British-english type.  
 Europe all, except Finmark.  
 Russia 6 - 4 3 2 1. Siberia. Davuria. Kamtschatka.  
 — Iceland; Lindsay flo. America. Columbia.

1202. *Eriophorum gracile*, Koch.

Provinces - [2] 3 - [5 - 7] - - 10 - - - - [15]. Native.  
 Lat. 51—55. Surrey! York; Woods, Borrer.  
 Zones 1 2. Humber at 100 yards. [Sus. Worc. Carn. Per. Forf.]  
 Census 2 2 2. Ireland 0. Local-english type.  
 Europe all, except Finmark and perhaps Spain.  
 Russia - - - 3 2 1. Siberia.  
 — America. Columbia.

1203. *Kobresia caricina*, Willd.

Provinces [1] - - - - - 10 11 12 - - 15. Native. [Devon].  
 Lat. 54—57. York! Durham! Westmoreland? Perth!  
 Zones - - 3 4 5. Highlands (say) 900 y. Humber 400—600 y.  
 Census 4 4 4. Ireland 0. Intermediate type of distribution.  
 Europe. Alps - ita aus ger. Scandinavia - nor swe lap.  
 Russia 6.  
 — Greenland. America. Rocky Mountains.

1204. *Carex dioica*, Linn.

Provinces all; but the Peninsula not certain. Native.  
 Lat. 50—61. Dorset, Sussex; Borrer. — Orkney, Shetland.  
 Zones 1 2 3 4 5. Highlands to 960, 900, 830, 710 yards.  
 Census 17 34 62. Ireland 9. Scottish-british type.  
 Europe all, except Turkey and perhaps Channel.  
 Russia - - - 3 2 1. Siberia.  
 — Iceland. Greenland. America. "Columbia."

1205. *Carex pulicaris*, Linn.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4 5. Highlands to 900, 810, 810, 800 yards.  
 Census 18 37 81. Ireland 9. British type of distribution.  
 Europe spa ita - aus ger fra cha net den got nor swe.  
 Russia 6 - - 3 2. Siberia.  
 — Faroe. Iceland.

1206. *Carex pauciflora*, Lightf.

Provinces - - - - [5] - - - - 10 11 13 - 15 16 17. Native.  
 Lat. 54—59. Dumfries, N.E. York. — Ross, Sutherland.  
 Zones - ? 3 4 5. Highlands to 900 yards. Tyne 150—250 yds.  
 Census 6 10 19. Ireland 0. Highland type of distribution.  
 Europe - ita - aus ger fra - net den got nor swe lap fin.  
 Russia - - - 3 2 1.  
 — America. Columbia.

1207. *Carex rupestris*, All.

Provinces - - - - - 15 17. Native.  
 Lat. 56—59. Perth. Forfar. Aberdeen! Sutherland!  
 Zones - - - ? 5. Highlands at 800 or 850 y. Also “low rocks.”  
 Census 2 3 4. Ireland 0. Highland type of distribution.  
 Europe spa ita - aus ger fra - - - - nor swe lap fin.  
 Russia - - - - 1. Siberia. Davuria. Spitsbergen.  
 — Iceland. Greenland. America. Rocky Mountains.

1208. *Carex incurva*, Lightf.

Provinces - - - - - 14 15 - 17 18. Native.  
 Lat. 55—61. Holy Isle, in Cheviotland. — Shetl.; Edmondston.  
 Zones - 2 3. Littoral or Sub-littoral in Britain.  
 Census 4 7 14. Ireland 0. Scottish type of distribution.  
 Europe - ita tur aus ger - - - den got nor - lap fin.  
 Russia 6 - - - 1. “India.” Siberia.  
 — Faroe. Iceland. Greenland. America. Columbia.

1209. *Carex stellulata*, Good.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4 5. Highlands to 990, 980, 960, 700 yards.  
 Census 18 38 87. Ireland 12. British type of distribution.  
 Europe all, except Finmark. Loffoden Isles.  
 Russia 6 - 4 3 2 1. West-asia. Siberia.  
 Algeria. Azores. — Faroe. America. Columbia.

1210. *Carex lagopina*, Wahl.

Provinces ----- 15. Native. *C. leporina*, in C. B.

Lat. 57—58 (about 57). Aberdeenshire; Prof. Dickie!

Zones - - - - 6. Highlands at about 1200 yards; Dickie.

Census 1 1 1. Ireland 0. Highland type of distribution.

Europe spa ita - aus ger fra - - - - nor swe lap fin.

Russia - - - - 1. Siberia. Kamtschatka.

— Iceland. Greenland. America. Columbia. Rocky Mountains.

1211. *Carex ovalis*, Good.

Provinces all. Native. *C. leporina* of various authors.

Lat. 50—61. Cornwall, Wight, Kent. — Hebrides, Shetland.

Zones 1 2 3 4. Lakes to 560 yards. Highlands to 500 yards.

Census 18 35 81. Ireland 10. British type of distribution.

Europe all, except Finmark. Loffoden Isles.

Russia - - 4 3 2. Siberia.

La Calle; Desf. atla. — Iceland? Greenland; Taylor list. Col.

1212. *Carex curta*, Good.

Provinces 1 to 16. Native.

Lat. 50—58. Devon, Wight, Kent. — Isla, Elgin.

Zones 1 2 3 4 ? Highlands to 750 yards, more or less.

Census 16 30 52. Ireland 9. British type of distribution.

Europe all, except Spain and Turkey.

Russia 6 - - 3 2 1. Siberia. Kamtschatka. \*

— Iceland. Greenland. America. Columbia.

1212, b. *Carex alpicola*, Wahl.

Prov. - - - - - 7 - - 10 11 - - - 15 - 17. Native. "*C. curta*, var."

Lat. 53—58. Merioneth; Hort. York; Mudd. Ross; Babington.

Zones - - 3 4 5 6. Highlands to 1200 y. Humber below 300 y.

Census 5 6 8. Ireland 0. Highland type of distribution.

Europe - ita - aus ger fra - - - got nor swe lap fin.

Russia - - - 3 2 1. As varieties of *C. curta*.

— America? Columbia. "Unalashka; Eschsc."

1213. *Carex elongata*, Linn.

Provinces - - 3 - 5 - - - 9 10. Native.

Lat. 51—55. Surrey, Kent, Essex. — Lancaster, York.

Zones 1 2. Low grounds. Also in Salop and Chester.

Census 4 5 7. Ireland 1. English type of distribution.

Europe all, except Finmark.

Russia - - - 3 2. Western Siberia. Davuria.

— Iceland; Hooker list, from Zoega. Columbia. “Sitcha.”

1214. *Carex remota*, Linn.

Provinces 1 to 17. Native.

Lat. 50—58. Cornwall, Wight, Kent. — Argyle, Ross.

Zones 1 2 3. Humber to 350 yards. Tyne to 330 yards.

Census 17 32 69. Ireland 9. British-english type.

Europe all, except Lapland and Finmark.

Russia 6 - - 3 2. India. Siberia. Kamtschatka.

Algeria. — Columbia. “Sitcha.”

1215. *Carex axillaris*, Good.

Provinces 1 2 3 4 5 - - 8 9 10 - - - [14 15]. Native.

Lat. 50—55. Devon, Wight, Kent. — Lancaster, York.

Zones 1 2. Low grounds.

Census 8 15 27. Ireland 2. English type of distribution.

Europe. Tyrol. North-west Germany.

Russia? The Caucasian plant, apparently *C. Bœnninghauseni-*  
*ana*, is placed as a variety of this, in Ledeb. flo. ross.

1216. *Carex Bœnninghauseni*ana, Willd.

Provinces - 2 3 - - - - ? - - - - 14 15. 9 Chester?

Lat. 50—58. Wight? Sussex, Kent. — Aberdeen, Banff.

Zones 1 2 3. Low grounds.

Census 4 8 10 Ireland 0. Germanic type of distribution?

Europe. Germany. Denmark. Scania. N.B. A most un-  
satisfactory species; some examples approximating to *C.*  
*axillaris*, others to depauperised *C. paniculata*.

1217. *Carex intermedia*, Good.

Provinces 1 2 3 4 5 6 7 8 9 10 11 - 13 14 15 16. Native.  
 Lat. 50—57. Cornwall, Wight, Kent. — Isla, Kincardine.  
 Zones 1 2 3. Highlands to 400 yards? Tyne to 200 yards.  
 Census 15 27 56. Ireland 11. English-british type.  
 Europe all, except Lapland and Finmark.  
 Russia - - - 3 2. Siberia. Davuria.  
 — America?

1218. *Carex arenaria*, Linn.

Provinces all? Native. Any authority for Severn province?  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Littoral; rarely inland.  
 Census 17 33 58. Ireland 8. British type of distribution.  
 Europe spa ita - aus ger fra cha net den got nor swe.  
 Russia 6 5 4 3 2. Siberia.  
 — Faroe. Iceland.

1219. *Carex divisa*, Huds.

Provinces 1 2 3 4 - 6 7 8 - [10 11 - - 14 15]. Native.  
 Lat. 50—54. Cornwall, Wight! Kent! — Lincoln? York?  
 Zone 1. Littoral. [Northumb. Edinb. Forf.]  
 Census 7 15 21. Ireland 1. English type of distribution.  
 Europe spa ita tur aus ger fra cha.  
 Russia 6 5 4 3. India? Western Siberia.  
 Algeria. Canaries.

1220. *Carex muricata*, Linn.

Provinces 1 to 16. Native.  
 Lat. 50—58. Cornwall, Wight, Kent. — Dumbarton, Elgin.  
 Zones 1 2 3. Humber, Tyne, in each to 250 yards.  
 Census 16 31 65. Ireland 5. British-english type.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 2. Siberia.  
 Algeria. Canaries. — Iceland. (America). Columbia?

1221. *Carex divulsa*, Good.

Provinces 1 2 3 4 5 - 7 8 - 10 [11 - 13 14]. Native.  
 Lat. 50—55. Cornwall, Wight, Kent. — Denbigh! York!  
 Zones 1 2. Humber to 150 yards. [Renfrew, Edinburgh].  
 Census 8 19 40. Ireland 4. English-germanic type.  
 Europe spa ita tur aus ger fra cha net den got.  
 Russia, absent?  
 Algeria. Canaries. Azores.

1222. *Carex vulpina*, Linn.

Provinces 1 to 16 - 18. Native.  
 Lat. 50—59. Cornwall, Wight, Kent. — Hebrides, Elgin.  
 Zones 1 2 3. Low grounds.  
 Census 17 34 76. Ireland 7. British type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 2. Siberia.  
 Algeria. Canaries. Azores. — Iceland. America.

1223. *Carex teretiuscula*, Good.

Provinces 1 2 3 4 5 6 7 8 9 10 11 - 13 14 15. Native.  
 Lat. 51—58. Devon, Wight, Kent. — Lanark, Moray.  
 Zones 1 2 3. Humber to 150 (or, to 400?) yards.  
 Census 14 25 42. Ireland 5. British-english type.  
 Europe all, except Turkey and Finmark.  
 Russia - - 4 3 2. Himalaya.  
 Canaries. — America. Rocky Mountains.

1223\*. *Carex paradoxa*, Willd.

Provinces - - - [4] - - - - 10. Native.  
 Lat. 54 or thereabouts. Yorkshire only? [Suffolk].  
 Zones - 2. Low grounds. A dubious species.  
 Census 1 2 2. Ireland 1. Local-intermediate type.  
 Europe - ita - aus ger fra cha net den got nor swe lap.  
 Russia 6 - - 3 2. Siberia.  
 — “America; Dr. Richardson.”

1224. *Carex paniculata*, Linn.

Provinces all? Native. Any authority for the Lake province?  
 Lat. 50—60. Cornwall, Wight, Kent. — Orkney; B. Syme.  
 Zones 1 2 3. Humber to 250 yards. Tyne to 150 yards.  
 Census 17 30 62. Ireland 9. British type of distribution.  
 Europe spa ita tur aus ger fra cha net den got.  
 Russia 6 - - 3. Western Siberia.  
 Canaries. — America.

1225. *Carex alpina*, Vahl.

Provinces - - - - - 15. Native. C. Vablii, Schk.  
 Lat. 56—57. Forfar, Aberdeen.  
 Zones - - - 5. Highlands at 800—850 yards, or thereabouts.  
 Census 1 1 2. Ireland 0. Highland type of distribution.  
 Europe. Switzerland. Tyrol. Scandinavia - - nor swe lap fin.  
 Russia - - - - 1. Himalaya. Siberia. Davuria. Caucasus?  
 — Iceland. Greenland. America. Columbia.

1227. *Carex atrata*, Linn.

Provinces - - - - - 7 - [9] - - - 13 - 15. Native.  
 Lat. 53—58. Carnarvon. Dumfries? Perth! Forfar! Aberdeen!  
 Zones - - - 5 6. Highlands at 850—1250 yards.  
 Census 3 4 5. Ireland 0. Highland type of distribution.  
 Europe spa ita tur aus ger fra - - - - nor swe lap fin.  
 Russia 6 - 4 3 - 1. India. Siberia. Davuria.  
 — Faroe. Iceland. Greenland. America. Columbia.

1228. *Carex vulgaris*, Fries.

Provinces all. Native. C. cæspitosa of Smith, etc.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4 5. Highlands to 980, 900, 880 yards.  
 Census 18 36 88. Ireland 12. British type of distribution.  
 Europe all, unless Finmark excepted.  
 Russia 6 - - 3 2 1.  
 — Faroe. Iceland. Greenland. America.



1229. *Carex rigida*, Good.

Provinces [1] - - - - 7 - - 10 11 12 13 14 15 16 17 18. Native.  
 Lat. 53—61. Carnarvon, York. — Hebrides, Shetland.  
 Zones - - - - 5 6. Highlands to 1440, 1310, 1270, 1200 yards.  
 Census 10 15 23. Ireland 4. Highland type of distribution.  
 Europe - - - aus ger fra - - - - nor swe lap fin.  
 Russia 6 - - 3 2 1. India. Siberia. Davuria.  
 — Iceland. Greenland. America. Columbia.

1230. *Carex aquatilis*, Wahl.

Prov. - - - - - - - - - ? - 15. Native. Two species included?  
 Lat. 56—58. Lanark? Fife? Forfar! Aberdeen!  
 Zones - - ? - 5 6. Highlands at 900—1100 y. And much lower?  
 Census 1 2 2. Ireland 0. Highland type of distribution.  
 Europe. Scandinavia - got nor swe lap fin.  
 Russia - - - 3 2 1.  
 — Iceland; Nyman Sylloge. Greenland. America. Columbia.

1231. *Carex stricta*, Good.

Provinces 1 to 12 [13 14 15 16]. Native. In Scotland?  
 Lat. 50—55. Dorset, Sussex, Kent. — Westmoreland, Durham.  
 Zones 1 2. Low grounds. Confused with *C. acuta*, etc.  
 Census 12 25 38. Ireland 11. English-intermediate type.  
 Europe all, except Lapland and Finmark.  
 Russia 6 - 4 3 2.  
 Algeria. — Faroe. America. Columbia.

1232. *Carex acuta*, Linn.

Provinces 1 2 3 4 5 6 7 8 9 10 11 - 13 14 15 16 - [18]. Native.  
 Lat. 50—58. Cornwall, Wight, Kent. — Argyle, Moray.  
 Zones 1 2 3. Humber to 200 yards. "Kingussie, 1830."  
 Census 15 29 56. Ireland 5. British-english type.  
 Europe all, except Finmark.  
 Russia 6 5 4 3 2 1. West-asia. Siberia. Davuria.  
 — Faroe. Iceland. America. Columbia.

1233. *Carex saxatilis*, "Linn."

Provinces ----- 15 16 17. Native. C. pulla, Good.  
 Lat. 56—59. Dumbarton, Perth, Forfar. — Skye, Sutherland.  
 Zones - - - 5 6. Highlands about 800—1030 yards.  
 Census 3 6 10. Ireland 0. Highland type of distribution.  
 Europe. Scandinavia - - nor swe lap fin.  
 Russia - - - 2 1. Spitsbergen.  
 — Iceland. Greenland. America. Columbia.

1234. *Carex flava*, Linn.

Provinces all. Native. C. "Oederi" unavoidably included.  
 Lat. 50—60. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4 5. Highlands to 960, 900, 800, 800 yards.  
 Census 18 36 86. Ireland 12. British type of distribution.  
 Europe all. For 'flava' and 'Oederi' alike?  
 Russia - - 4 3 2 1. West-asia. India.  
 Madeira. Azores. — Faroe. Iceland. Greenland. America.

1235. *Carex extensa*, Good.

Provinces 1 2 3 4 [5] 6 7 - 9 10 11 12 13 14 15 16 - 18. Native.  
 Lat. 50—60. Cornwall, Wight, Kent. — Hebrides, Orkney.  
 Zones 1 2 3. Littoral.  
 Census 15 26 41. Ireland 7. British type of distribution.  
 Europe spa ita - aus ger fra cha net den got - swe.  
 Russia 6 5 4. ·  
 Algeria.

1236. *Carex pallescens*, Linn.

Provinces 1 to 17. Native.  
 Lat. 50—59. Devon, Dorset, Wight, Kent. — Sutherland  
 Zones 1 2 3 4. Highlands to 630, 600, 410 yards.  
 Census 17 31 65. Ireland 6 or 8. British type of distribution.  
 Europe all, except Spain and Finmark. Loffoden Isles.  
 Russia 6 - 4 3 2 1. Siberia.  
 — Faroe. Iceland. America.

1237. *Carex fulva*, Good.

Provinces all? Native. *C. speirostachya* inclusive.  
 Lat. 50—59. Devon? Wight, Kent. — Hebrides, Sutherland.  
 Zones 1 2 3 4. Highlands to 630 yards. Humber to 600 yards.  
 Census 18 33 69. Ireland 9. British type of distribution.  
 Europe - ita tur aus ger fra cha net den got nor swe.  
 Russia 6 - - 3 2.  
 — America; “Dr. D. B. Greene” and “Dr. Goodenough.”

1238. *Carex distans*, Linn.

Prov. 1 2 3 4 5 6 7 [8] 9 10 11 13 14 15 16 17 18. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Littoral or Sub-littoral.  
 Census 16 27 44. Ireland 7. British type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 2; but perhaps *C. binervis*, not our *distans*.  
 Algeria.

1239. *Carex binervis*, Sm.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4 5. Highlands to 1030, 1010, 800 yards.  
 Census 18 36 75. Ireland 11. British type of distribution.  
 Europe spa - - - ger fra cha net - - nor. Portugal to Norway.  
 Russia? See the preceding species.  
 Algeria.

1240. *Carex lævigata*, Sm.

Provinces 1 2 3 - 5 6 7 8 9 10 11 12 13 14 15 16. Native.  
 Lat. 50—57. Cornwall, Wight, Kent. — Mull, Aberdeen.  
 Zones 1 2 3. Tyne to 350 yards. [Easternness; Ball].  
 Census 15 27 46. Ireland 8. British-english type?  
 Europe spa ita - - ger fra cha net. Gallicia. Holland.  
 Russia 6 - - 3. N.B. In Britain, confused with *C. binervis*.  
 Algeria. — America?

1241. *Carex panicea*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4 5. Highlands to 760 yards. Tyne to 750 yards.

Census 18 36 86. Ireland 12. British type of distribution.

Europe all, unless Turkey to be excepted.

Russia 6 5 4 3 2 1. Siberia. Kamtschatka.

— Faroe. Iceland. Greenland. America.

1241\*. *Carex vaginata*, Tausch.

Provinces - - - - - 15 16 17. Native.

Lat. 56—59. Dumbarton, Perth, Forfar, Aberdeen, Sutherland.

Zones - - - 5 6. Highlands to 1260, 1220 yards.

Census 3 5 6. Ireland 0. Highland type of distribution.

Europe - - - aus ger - - - - - nor swe lap.

Russia - - - - 2 1. Siberia.

— Iceland. Arctic America.

1242. *Carex depauperata*, Good.

Provinces 1 - 3 - - - - - [15 16]. Native.

Lat. 51—52. N. Somerset; Norman! Surrey; Salmon! Kent.

Zone 1. Low grounds.

Census 2 2 3. Ireland 0. Germanic type of distribution.

Europe spa ita tur aus ger fra cha.

Russia 6 5. Kamtschatka; Ermann, in flo. ross.

— N.B. Alleged to be "frequent" in Devon; is it so?

1243. *Carex capillaris*, Linn.

Provinces - - - - [5] - - - - 10 11 ? ? - 15 - 17 18. Native.

Lat. 54—61. Dumfries? Cumberland? York. — Shetland?

Zones - - 3 4 5. Highlands 0—900 yds. Humber 400—700 y.

Census 5 7 9. Ireland 0. Highland type of distribution.

Europe spa ita - aus ger fra - - - got nor swe lap fin.

Russia 6 - - 3 2 1. Siberia. Davuria. Kamtschatka.

— Iceland. Greenland. America. Columbia.

1244. *Carex limosa*, Linn.

Provinces [1] 2 - 4 5 6 7 - 9 10 11 12 13 14 15 16 17. Native.  
 Lat. 50—59. Dorset, Hants, Suffolk. — Skye, Sutherland.  
 Zones 1 2 3. Tyne 0—200 yards. *C. irrigua* included.  
 Census. 14 21 32. Ireland 7. Scottish type of distribution.  
 Europe all, except Turkey. *C. irrigua* in Finmark.  
 Russia 6 - - 3 2 1. West-asia. Siberia.  
 — Iceland. America. Columbia.

1245. *Carex rariflora*, Wahl., Sm.

Provinces - - - - - 15 - 17. Native.  
 Lat. 56—59. Forfar, Aberdeen, Banff, Moray, Sutherland?  
 Zones - - - 5. Highlands at 800—1000 yards.  
 Census 2 3 5. Ireland 0. Highland type of distribution.  
 Europe. Scandinavia - - nor swe lap fin.  
 Russia - - - 2 1. Kamtschatka.  
 — Iceland. Greenland. America. Columbia.

1246. *Carex strigosa*, Huds.

Provinces 1 2 3 4 5 6 7 8 9 10 - - - [14 - - 17]. Native.  
 Lat. 50—54. Dorset, Wight, Kent. — Chester, York.  
 Zones 1 2. Low grounds.  
 Census 10 18 31. Ireland 5. English type of distribution.  
 Europe - ita - aus ger fra cha net den.  
 Russia 6.  
 Algeria.

1247. *Carex sylvatica*, Huds.

Provinces 1 to 15. Native.  
 Lat. 50—58. Cornwall, Wight, Kent. — Lanark, Moray.  
 Zones 1 2 3 4 ? Highlands to 700 yards, or thereabout.  
 Census 15 29 67. Ireland 12. British-english type.  
 Europe spa ita tur aus ger fra cha net den got nor.  
 Russia - - - 3. Siberia. Davuria.

—.

1248. *Carex pendula*, Huds.

Provinces 1 to 15. Native. *C. maxima*, Scop.  
 Lat. 50—58. Cornwall, Wight, Kent. — Lanark, Elgin.  
 Zones 1 2 3. Humber to 150 yards.  
 Census 15 29 57. Ireland 5. British-english type.  
 Europe spa ita tur aus ger fra cha net. Belgium.  
 Russia 6 5.  
 Algeria. Madeira. Azores. *C. myosuroides*, Lowe.

1249. *Carex pseudo-Cyperus*, Linn.

Provinces 1 2 3 4 5 - 7 8 9 10 - - - (15) [16]. Native.  
 Lat. 50—55. Devon, Wight, Kent. — Lancaster, York.  
 Zones 1 2 3. Low grounds. (Elgin, planted). [Isla?]  
 Census 9 20 38. Ireland 8. English type of distribution  
 Europe all, except Lapland and Finmark.  
 Russia 6 - 4 3. India.  
 Algeria. — Iceland; Hooker, from Zoega. America.

1250. *Carex glauca*, Linn.

Provinces all. Native. *C. recurva*, of various books.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4. Humber to 750 yards. Highlands to 670 yds.  
 Census 18 36 89. Ireland 12. British type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia 6 - 4 3. Siberia.  
 Algeria.

1251. *Carex præcox*, Jacq.

Provinces 1 to 15 - - 18. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4 5. Highlands to 750 yards. Humber to 600 yds.  
 Census 16 32 75. Ireland 12. British type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia 6 - 4 3 2. Siberia. Davuria. Kamtschatka.  
 — (America, introduced; Gray's Bot. nor. sta.)

1251\*. *Carex ericetorum*, Linn.

Provinces - - - 4. May occur elsewhere?

Lat. 52—53. Cambridgeshire; Mr. Boswell-Syme!

Zone 1. Low grounds.

Census 1 1 1. Ireland 0. Local-germanic type.

Europe - ita - aus ger fra - net den got nor swe.

Russia 6 - 4 3 2 1. Siberia. Davuria.

— N.B. A recent addition to the English flora.

1251\*. *Carex montana*, Linn.

Provinces - 2 - - 5. Native.

Lat. 51—52 or 53. Sussex, Gloucester, Monmouth, Heref., Worc.

Zone 1. Low grounds; and higher?

Census 2 3 5. Ireland 0. English type of distribution.

Europe spa ita tur aus ger fra - net den got nor swe.

Russia - - - 3 2. Western Siberia.

— “Iceland”; but likely *C. pilulifera*.

1252. *Carex pilulifera*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Hebrides, Shetland.

Zones 1 2 3 4 5 6. Highlands to 1100, 1080, 1030 yards.

Census 18 35 69. Ireland 10. British type of distribution.

Europe all, except Lapland and Finmark.

Russia - - - 3 2. West-asia. Kamtschatka.

— Iceland? Greenland. America.

1253. *Carex tomentosa*, Linn.

Provinces - 2. Native.

Lat. 51—52. North Wilts! East Gloucester?

Zone 1. Channel at 150 yards; T. B. Flower.

Census 1 1 1. Ireland 0. Local-english type.

Europe - ita tur aus ger fra cha net. Baltic Isles.

Russia 6 5 4 3.

—

1254. *Carex clandestina*, Good.

Provinces 1 2 - - 5. Native. *C. humilis*, Bab. Man., etc.  
 Lat. 50—52. Somerset, Wilts, Dorset, Gloucester, Hereford.

Zone 1. Low grounds.

Census 3 4 5. Ireland 0. Local-english type.

Europe spa ita tur aus ger fra cha net. Belgium.

Russia 6 - 4 3. Siberia.

—.

1255. *Carex digitata*, Linn.

Provinces 1 2 - - 5 - - 8 - 10. Native.

Lat. 51—55. Devon? Somerset, Wilts. — Notts, York.

Zones 1 2. Humber at 0—200 yards; Baker.

Census 5 8 12. Ireland 0. English-local type.

Europe all, except Finmark.

Russia 6 5 - 3 2. Siberia.

—.

1256. *Carex filiformis*, Linn.

Provinces 1 2 - 4 5 - 7 8 9 10 11 12 13 14 15 16 17. Native.

Lat. 50—59. Devon? Somerset! Hants; Borrer. — Sutherland.

Zones 1 2 3. Humber to 200 yards. Tyne to 150 yards.

Census 15 20 31. Ireland 8. Scottish-british type.

Europe all, unless Spain and Turkey excepted.

Russia - - 3 2 1. Siberia.

— America.

1257. *Carex hirta*, Linn.

Provinces 1 to 16. Native.

Lat. 50—58. Cornwall, Wight, Kent. — Cantire, Moray.

Zones 1 2 3. Tyne to 400 yards. Humber to 350 yards.

Census 16 30 73. Ireland 11. British-english type.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3 2. Siberia. Davuria.

Algeria. — Iceland.



1258. *Carex ampullacea*, Good.

Provinces all. Native. C. "involuta" in province 9.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4 5. Highlands to 900, 780, 760, 710 yards.  
 Census 18 37 82. Ireland 12. British type of distribution.  
 Europe all.  
 Russia 6 - 4 3 2 1. Himalaya. Siberia.  
 — Iceland. Greenland. America. Columbia.

1259. *Carex vesicaria*, Linn.

Provinces 1 to 16. Native.  
 Lat. 50—58. Cornwall, Wight, Sussex. — Isla! Moray!  
 Zones 1 2 3. Humber to 250 yards. Tyne to 200 yards.  
 Census 16 32 58. Ireland 9. British-english type.  
 Europe all, unless Turkey excepted.  
 Russia 6 - 4 3 2 1. Himalaya? Siberia. Davuria. Kamtsc.  
 Algeria. — Faroe; Landt. Iceland. Greenland. Am. Col.

1260. *Carex paludosa*, Good.

Provinces 1 2 3 4 5 6 7 8 9 10 11 13 14 15 16 17. Native.  
 Lat. 50—58. Cornwall, Wight, Kent. — Ross; W. A. Stables!  
 Zones 1 2 3. Tyne to 400 yards. Humber to 300 yards.  
 Census 16 31 62. Ireland 4. British type of distribution.  
 Europe spa ita tur aus ger fra cha net den ger nor.  
 Russia 6 5 4 3 2. India. Western Siberia.  
 Algeria. — Columbia. "Sitcha."

1261. *Carex riparia*, Curtis.

Provinces 1 to 15. Native.  
 Lat. 50—58. Cornwall, Wight, Kent. — Banff, Dumbarton?  
 Zones 1 2 3. Humber to 150 yards. Tyne to 100 yards.  
 Census 15 31 64. Ireland 5. British-english type.  
 Europe all, except Lapland and Finmark.  
 Russia 6 - 4 3. Siberia.  
 Algeria. — Faroe.

1262. *Leersia oryzoides*, Sw.

Provinces - 2 3. Native.

Lat. 50 or 51—52. South Hants! West Sussex! Surrey!

Zone 1. Low grounds.

Census 2 3 3. Ireland 0. English-germanic type.

Europe spa ita - aus ger fra cha net den.

Russia 6 - - 3.

— America.

1263. *Spartina stricta*, Roth.

Zones 1 2 3 4 - - 8. Native. (*S. alterniflora* 2).

Lat. 50—54. Devon, Wight, Sussex, Kent. — Lincoln.

Zone 1. Littoral.

Census 5 8 10. Ireland 0. Germanic type of distribution.

Europe spa ita - aus - fra cha net.

Russia, absent. N.B. *S. alterniflora*, established in South Hants, is supposed to have been introduced from America.

1264. *Cynodon Dactylon*, Pers.

Provinces 1 2 (3). Native.

Lat. 50—51. Cornwall, Devon, Dorset. (Surrey).

Zone 1. Littoral or Sub-littoral; on sand.

Census 2 3 3. Ireland 0. Atlantic-local type.

Europe spa ita tur aus ger fra cha net. Holland.

Russia 6 5 4 3. India. Western Siberia.

Algeria. Canaries. Azores. — (America, introduced).

1265. *Digitaria humifusa*, Pers.

Provinces - 2 3 4 - - - - (10 - - - - 15). Colonist or Native.

Lat. 50—53. Hants, Surrey, Suffolk, Norfolk. (York).

Zone 1. Low grounds.

Census 3 4 5. Ireland 0. Germanic type of distribution.

Europe spa ita - aus ger fra cha net den got.

Russia 6 5 4 3.

— America?

1267. *Setaria viridis*, Beauv.

Provinces - (2) 3 4 (5 - - - 9 10 11) - - - [15]. Colonist or Native.  
 Lat. 50—53. Surrey, Suffolk, Norfolk.  
 Zone 1. Low grounds. (Wight to Tyne, occasionally).  
 Census 2 3 4. Ireland 0. Germanic type of distribution.  
 Europe spa ita tur aus ger fra cha net den got nor (swe).  
 Russia 6 5 4 3 2. Siberia. Davuria.  
 Algeria. Azores; Drouet flo. — (America, introduced).

1269. *Phalaris arundinacea*, Linn.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Tyne to 450 yards. Humber to 400 yards.  
 Census 18 37 93. Ireland 10. British type of distribution.  
 Europe all.  
 Russia 6 5 4 3 2 1. West-asia. Siberia. Davuria.  
 — Faroe. America. Columbia.

1271. *Anthoxanthum odoratum*, Linn.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4 5 6. Highlands to 1130, 1080, 1000 yards.  
 Census 18 37 95. Ireland 12. British type of distribution.  
 Europe all, except Finmark? Loffoden Isles.  
 Russia 6 - 4 3 2 1. West-asia. Siberia. Davuria.  
 (Algeria). Canaries. Azores. — Far. Icel. Greenl. Am.

1271\*. *Hierochloe borealis*, Linn.

Provinces - - - - - [15] - 17. Native.  
 Lat. 58—59; formerly also 56—57. Caithness; Robert Dick!  
 Zones - - 3. Low grounds? [Forfarshire, formerly].  
 Census 1 1 1. Ireland 0. Scottish type of distribution.  
 Europe - ita - aus ger fra - net den got nor swe lap fin.  
 Russia 6 - 4 3 2 1. West-asia. Siberia. Davuria. Kamtsc.  
 — Iceland. America. Columbia.

1272. *Phleum alpinum*, Linn.

Provinces ----- 15 [16]. Native.

Lat. 56—58. Perth, Forfar, Aberd. "Garvay Moor"; Dickson.

Zones - - - - 5 6. Highlands about 700—1200 yards.

Census 1 3 4. [Ireland]. Highland type of distribution.

Europe spa ita tur aus ger fra - - - got nor swe lap fin.

Russia 6 - - - 2 1. West-asia. Himalaya. Siberia. Kamtsc.

— Iceland. Greenland. America. Columbia.

1273. *Phleum pratense*, Linn.

Provinces all. Native. (Hebr. Ork. Shetl. introduced?)

Lat. 50—59 (61). Cornwall, Wight, Kent. — Skye, Sutherland.

Zones 1 2 3. Tyne to 450 yards. Highlands to 350 yards.

Census 18 37 90. Ireland 9. British-english type.

Europe all.

Russia 6 5 4 3 2 1. West-asia. Siberia.

Algeria. — Faroe. Iceland. (America). "Columbia."

1274. *Phleum arenarium*, Linn.

Provinces 1 2 3 4 - 6 7 8 9 10 11 12 - 14 15. Native.

Lat. 50—58. Cornwall, Wight, Kent. — Aberdeen; Dickie.

Zones 1 2 3. Low grounds.

Census 13 23 38. Ireland 6. English-british type.

Europe spa ita tur aus ger fra cha net den got nor.

Russia - - - 3. "Specimina rossica non exstant"; Ledebour.

Algeria. N.B. Three reporters for it in West Russia.

1276. *Phleum Boehmeri*, Wibel.

Provinces - - 3 4 [5]. Native?

Lat. 51—53. Essex. Herts! Suffolk! Norfolk! Cambridge!

Zone 1. Low grounds. [Gloucester; Buckman B. G. C.]

Census 2 4 5. Ireland 0. Germanic type of distribution.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3 2. Siberia. Davuria.

N.B. No certainly English *P. asperum* seen by myself.

1277. *Alopecurus alpinus*, Linn.

Provinces - - - - - 15 - 17. Native.

Lat. 56—58. Perth? Forfar, Aberdeen, Easternness, Ross.

Zones - - - - 5 6. Highlands about 700—1200 yards.

Census 2 4 5. Ireland 0. Highland type of distribution.

Europe, absent.

Russia - - - - 1. Arctic Siberia. Spitsbergen.

— Greenland. America. Columbia.

1278. *Alopecurus pratensis*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Tyne to 650 yards. Highlands to 430 yards.

Census 18 36 85. Ireland 8. British type of distribution.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3 2 1. West-asia. India. Siberia. Davuria.

Barbary; Desf. atlan. — Faroe. "Am. Col." (North States).

1279. *Alopecurus geniculatus*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Tyne to 650 yards. Lakes to 520 yards.

Census 18 38 91. Ireland 10. British type of distribution.

Europe all, except Turkey.

Russia 6 - 4 3 2 1. India. Siberia. Davuria.

Algeria. Egypt. — Far. Icel. Greenl. Am. Col. (States).

1280. *Alopecurus fulvus*, Sm.

Provinces - 2 3 4 5 - 7 8 - [10 - - - - 15]. Native.

Lat. 50—54. Sussex, Wilts, Surrey. — Denbigh, Leicester.

Zone 1. Low grounds. [York? "Fife, Forfar."]

Census 6 11 17. Ireland 0. English type of distribution.

Europe all, except Finmark. A. paludosus, Beauv.

Russia - - 4 3 2 1. Siberia.

— N.B. Not to be confused with *A. agrestis*.

1281. *Alopecurus bulbosus*, Linn.

Provinces 1 2 3 4 5 6 - - 9 10 [11]. Native.

Lat. 50—55. Devon, Wight, Kent. — Chester, York.

Zones 1 2. Low grounds.

Census 8 12 18. [Ireland]. English type of distribution.

Europe spa ita - aus - fra cha net. N.W. Germany.

Russia, absent. N.B. Perhaps a state of *A. geniculatus*, as held in Bentham's Handbook.

1282. *Alopecurus agrestis*, Linn.

Provinces 1 to 12 (13 14 15). Colonist. (Casual in Scotland).

Lat. 50—56. Devon, Wight, Kent. — Lancaster, Northumberl.

Zones 1 2. Low grounds.

Census 12 23 55. (Ireland). English type of distribution.

Europe spa ita tur aus ger fra cha net den. Baltic. (Sweden).

Russia 6 5 4 3. Siberia.

Algeria.

1283. *Knappia agrostidea*, Sm.

Provinces - - [3] - - - 7 - - - - - (14). Native?

Lat. 53—54. Anglesea only, at present.

Zone 1. Coast level. [Essex, extinct]. (Haddington, sown).

Census 1 1 1. Ireland 0. Local-atlantic type.

Europe spa ita - aus ger fra cha net. Hanover.

Russia, absent.

Algeria. N.B. *Agrotis minima*. *Mibora minima*.

1284. *Gastridium lendigerum*, Gaud.

Provinces 1 2 3 4 5 6 7. Colonist?

Lat. 50—54. Cornwall, Wight, Kent. — Flint? Norfolk.

Zone 1. Low grounds.

Census 7 15 25. Ireland 0. English type of distribution

Europe spa ita tur aus ger fra cha.

Russia, absent. Asia minor.

Algeria. Canaries. Azores.

1285. *Polypogon littoralis*, Sm.

Provinces - 2 3 4. Native.

Lat. 50—53. Dorset? Hants! Kent! Essex. Norfolk!

Zone 1. Littoral or Sub-littoral.

Census 3 4 5. Ireland 0. Germanic type of distribution.

Europe spa - - - - fra cha net. Constantinople? N.W. Germany.

Russia, absent.

—.

1286. *Polypogon monspeliensis*, Desf.

Provinces (1) 2 3 4 (5 - - - - 11 - - 14). Native?

Lat. 50—53. Hants! Kent! Essex! Norfolk!

Zone 1. Coast-level. (Devon to Fife, casually).

Census 3 4 5. Ireland 0. Germanic-english type.

Europe spa ita tur aus ger fra cha net. Holland.

Russia 6 5. India.

Algeria. Canaries. Azores.

1287. *Milium effusum*, Linn.

Provinces 1 to 16 [18]. Native.

Lat. 50—58. Cornwall, Wight, Kent. — Argyle, Moray.

Zones 1 2 3. Lakes to 350 yards. Humber to 150 yards.

Census 17 31 67. Ireland 7. British-english type.

Europe all. Northward to Mageroe.

Russia 6 5 4 3 2 1. West-asia. Siberia.

— Iceland; Hooker list, from Zoega. America.

1288. *Apera Spica-venti*, Beauv.

Provinces - 2 3 4 (5 6 7 8) 9 10 11 [12 - 14]. Colonist.

Lat. 50—56. Hants, Sussex, Kent. — Durham, Northumberland.

Zones 1 2. Low grounds.

Census 6 10 22. [Ireland]. Germanic type of distribution.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3 2 1. Siberia. "Russian Lapland."

Barbary; Desf. atlant.

1288\*. *Apera interrupta*, Beauv.

Provinces - - [3] 4. Colonist.

Lat. 51—53. Essex? Suffolk! Norfolk! Cambridge.

Zone 1. Low grounds.

Census 1 3 3. Ireland 0. Germanic type of distribution.

Europe spa ita - aus ger fra cha net. Holland?

Russia 6 - 4.

— N.B. Barely distinct from *Spica-venti*.

1289. *Agrostis setacea*, Curtis.

Provinces 1 2 [3] - - 6 [7 - - 10]. Native.

Lat. 50—52. Cornwall, Wight, Sussex. — Glamorgan. Surrey?

Zone 1. Low grounds.

Census 3 7 9. Ireland 0. Atlantic type of distribution.

Europe spa - - - - fra cha net. Northward to Belgium.

Russia, absent.

—.

1290. *Agrostis canina*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Humber, Tyne, in each to 150 yards.

Census 18 35 67. Ireland 12. British type of distribution.

Europe all. Northward to Mageroe.

Russia 6 - 4 3 2 1. Himalaya. Siberia.

— Faroe. Iceland. Greenland. America? Rocky Mountains?

1291. *Agrostis vulgaris*, With.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4 5. Highlands to 1060 yards. Tyne to 850 yards.

Census 18 38 98. Ireland 12. British type of distribution.

Europe all.

Russia 6 - 4 3 2 1. India.

Algeria. — Faroe. Iceland. Greenland. America. Columbia.



1292. *Agrostis alba*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Humber to 450 yards. Highlands to 350 yards.

Census 18 38 92. Ireland 12. British type of distribution.

Europe all.

Russia 6 5 4 3 2 1. West-asia. Siberia. Davuria.

Algeria. Canaries. Azores. — Faroe. Iceland. Am. Col.

1293. *Ammophila arundinacea*, Host.

Provinces all. Native. Psamma arenaria, Bab. man.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Littoral.

Census 18 32 57. Ireland 9. British type of distribution.

Europe spa ita tur aus ger fra cha net den got nor.

Russia - - 4 3 2.

Algeria. — Iceland. America.

1294. *Arundo Phragmites*, Linn.

Provinces all. Native. Phragmites communis, Bał. mar.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Humber to 250 yards. Tyne to 150 yards.

Census 18 38 90. Ireland 12. British type of distribution.

Europe all, except Finmark.

Russia 6 5 4 3 2 1. West-asia. Himalaya. Siberia. Davuria.

Algeria. Madeira. — Iceland. America. Columbia.

1295. *Arundo Calamagrostis*, Linn.

Provinces 1 2 3 4 5 6 - 8 9 10 11 [12]. Native.

Lat. 50—56. Devon, Wight, Kent. — Lancaster, Cheviotland.

Zones 1 2. Humber to 150 yards.

Census 10 20 33. [Ireland]. English type of distribution.

Europe all? Calamagrostis lanceolata, Roth.

Russia - 5 4 3 2 1. West-asia. Siberia. Davuria.

— Labrador; Meyer pl. labr.

1296. *Arundo Epigejos*, Linn.

Provinces 1 2 3 4 5 6 7 8 9 10 11 ? ? [14] 15 16. Native.  
 Lat. 50—58. Devon, Wight, Kent. — Mull, Aberdeen.  
 Zones 1 2 3. Highlands to 250 yards? Humber to 150 yards.  
 Census 13 25 48. Ireland 1. English-british type.  
 Europe all, except Spain and Finmark.  
 Russia 6 5 4 3 2 1. Himalaya. Siberia. Davuria.  
 — Iceland; Hooker, from Zoega.

1298. *Arundo stricta*, Schrad.

Provinces - - - - - 9 - - - - [15]. Native.  
 Lat. 53—54. Cheshire; F. M. Webb! [Forfar, extinct].  
 Zones - 2. At about 550 feet; Mr. J. Robinson.  
 Census 1 1 1. Ireland 2. Local-intermediate type.  
 Europe - - - - ger - - net den got nor swe lap fin.  
 Russia - - - 3 2 1. Davuria. C. neglecta, Gærtn.  
 — Iceland. America. Columbia.

1299. *Sesleria cærulea*, Scop.

Provinces [1 - - - 5] - - - - 10 11 12 - - 15 - 17. Native.  
 Lat. 54—58. Westmoreland, York. — West Ross; Lightfoot.  
 Zones - ? 3 4 5. Highlands to 850 y. Humber at 200—800 y.  
 Census 5 5 8. Ireland 4. Highland-intermediate type.  
 Europe spa ita tur aus ger fra cha net - got - swe.  
 Russia - - 4 3 2.  
 — Iceland; Babington cat.

1300. *Aira cæspitosa*, Linn.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4 5. Highlands to 980, 970, 930, 900 yards.  
 Census 18 38 93. Ireland 12. British type of distribution.  
 Europe all.  
 Russia 6 - 4 3 2 1. Himalaya. Siberia. Davuria. Kamtsch.  
 — F'aroe. Iceland. Greenland. America. Columbia.

1301. *Aira alpina*, Linn.

Provinces - - - - - ? - - - [11] - - - 15 16 17 [18]. Native.  
 Lat. 53 or 56—58. Carnarvon? Perth. — Harris? Sutherland.  
 Zones - - - - 5 6. Highlands to 1380, 1360, 1230 yards.  
 Census 3 5 8. Ireland 0. Highland type of distribution.  
 Europe. Scandinavia - - nor swe lap.  
 Russia - - - - 2 1. Spitsbergen. *Deschampsia alpina*, R. et S.  
 — Faroe. Iceland. Greenland. Columbia.

1302. *Aira flexuosa*, Linn.

Provinces all. Native. "*Aira uliginosa*," provinces 2, 15.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4 5 6. Highlands to 1230, 1220, 1200 yards.  
 Census 18 37 78. Ireland 8. British type of distribution.  
 Europe all. *A. uliginosa* in Ireland; *A. G. More!*  
 Russia 6 5 - 3 2 1. West-asia. Western Siberia.  
 — Faroe. Iceland. Greenland. America. Columbia.

1303. *Aira caryophyllea*, Linn.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Highlands to 450, 400, 360, 350 yards.  
 Census 18 36 82. Ireland 12. British type of distribution.  
 Europe spa ita tur aus ger fra cha net den got.  
 Russia - 5 - 3. Siberia?  
 Algeria. Canaries. Azores.

1304. *Aira præcox*, Linn.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4. Humber to 600 yards. Highlands to 500 yards.  
 Census 18 37 86. Ireland 12. British type of distribution.  
 Europe spa ita - aus ger fra cha net den got nor.  
 Russia - 5 - 3.  
 — Iceland; Hooker, from Zoega. (America, introduced).

1305. *Aira canescens*, Linn.

Provinces [1 2] 3 4 - - - [8]. Native.

Lat. 51—53. Kent, Suffolk, Norfolk.

Zone 1. Low grounds. [Notts, Dorset, Somerset].

Census 2 3 3. Ireland 0. Germanic type of distribution.

Europe spa ita tur aus ger fra cha net den got nor.

Russia 6 - 4 3. Siberia.

— N.B. *Corynephorus canescens*, of Bab. Man.

1307. *Avena fatua*, Linn.

Provinces 1 to 11 - - (14 15 - - 18). Colonist.

Lat. 50—(61). Cornwall, Wight, Kent. — (Orkney, Shetland).

Zones 1 2 3. Humber to 300 yards. Tyne to 200 yards.

Census 11 23 55. Ireland 3. British-english type.

Europe all, except Finmark; and scarcely in Lapland.

Russia 6 5 4 3 2. India. Siberia.

Algeria. Canaries.

1309. *Avena pratensis*, Linn.

Provinces 1 to 17. Native.

Lat. 50—58. Devon, Wight, Kent. — Skye, Ross.

Zones 1 2 3 4 5. Highlands to 750 yards? Tyne to 550 yards.

Census 17 30 61. Ireland? British type of distribution.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3 2. Siberia. Davuria.

Algeria.

1310. *Avena pubescens*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4. Tyne to 550 yards. Highlands to 450 yards.

Census 18 34 68. Ireland 9. British type of distribution.

Europe - ita - aus ger fra cha net den got nor swe lap. Loff.

Russia 6 - 4 3 2. Siberia. N.B. The British localities for

'pratensis' and 'pubescens' are somewhat confused together.

1311. *Avena flavescens*, Linn.

Provinces 1 to 12 - 14 15 - - [18]. Native.

Lat. 50—58. Cornwall, Wight, Kent. — Aberdeen; Dickie.

Zones 1 2 3. Tyne to 550 yards. Humber to 450 yards.

Census 14 28 67. Ireland 8. English-british type.

Europe spa ita tur aus ger fra cha net den got nor (swe).

Russia 6 - 4 3. Himalaya. Siberia. Davuria. Kamtsch.

Algeria.

1312. *Arrhenatherum avenaceum*, Beauv.

Provinces all. Native. *Avena elatior*, Linn.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Tyne to 500 yards. Highlands to 350 yards.

Census 18 38 98. Ireland 12. British type of distribution.

Europe all, except Lapland and Finmark.

Russia 6 - 4 3 2. Armenia.

Algeria. Canaries. Azores. — (America, introduced).

1313. *Holcus lanatus*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4. Humber to 600 yards. Highlands to 510 yards.

Census 18 38 100. Ireland 12. British type of distribution.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3. Siberia.

Algeria. Canaries. Azores. — Faroe. (America, introduced).

1314. *Holcus mollis*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Harris, Shetland.

Zones 1 2 3. Tyne to 500 yards. Humber to 450 yards.

Census 18 36 82. Ireland 8. British type of distribution.

Europe spa ita - aus ger fra cha net den got nor swe.

Russia - - 4 3.

Barbary; Desf. atlant. — Faroe.

1315. *Triodia decumbens*, Beauv.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4. Humber to 600 yards. Highlands to 560 yards.

Census 18 37 84. Ireland 12. British type of distribution.

Europe all, except Lapland and Finmark.

Russia - - - 3 2.

Algeria. Madeira. Azores.

1316. *Koeleria cristata*, Pers.

Provinces 1 to 17. Native. South Wales; Miss Atwood.

Lat. 50—59. Cornwall, Wight, Kent. — Ross, Sutherland.

Zones 1 2 3. Humber to 600 yards. Highlands to 450 yards.

Census 17 33 62. Ireland 8. British type of distribution.

Europe spa ita tur aus ger fra cha net den (got - swe).

Russia 6 5 4 3. India. Siberia. Davuria. Kamtschatka.

Algeria. — America. Columbia.

1317. *Melica uniflora*, Retz.

Provinces 1 to 15 - - [18]. Native.

Lat. 50—58. Cornwall, Wight, Kent — Elgin; Coll. Mor.

Zones 1 2 3. Tyne, Humber, in each to 350 yards.

Census 15 29 68. Ireland 10. English-british type.

Europe all, except Lapland and Finmark.

Russia 6 - 4 3.

— N.B. Northward to Shetland, by Edmondston's Flora.

1318. *Melica nutans*, Linn.

Provinces [1 2 3 4] 5 - 7 8 9 10 11 12 13 14 15 16 17. Native.

Lat. 52—58. Salop, Stafford, Derby. — Argyle? Ross.

Zones 1 2 3. Tyne, Highlands, in each to 450 yards.

Census 12 18 32. Ireland 0. Scottish type of distribution.

Europe all, except the Channel division.

Russia 6 - 4 3 2 1. Siberia. Kamtschatka.

— N.B. *M. uniflora* formerly thus misnamed in England.

1319. *Molinia cærulea*, Moench.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4 5. Highlands to 950, 850, 750, 660 yards.

Census 18 37 85. Ireland 12. British type of distribution.

Europe all. *Enodium cæruleum*, Fries, sum. veget.

Russia 6 5 4 3 2 1. West-asia. Siberia.

Algeria. — Faroe. Iceland?

1320. *Catabrosa aquatica*, Presl.

Provinces 1 to 16 - 18. Native.

Lat. 50—61. Devon, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Humber to 300 yards.

Census 17 33 74. Ireland 9. British type of distribution.

Europe all, if in North-west France.

Russia 6 5 4 3 2 1. Himalaya. Siberia.

Algeria. — Iceland. Greenland. America. Columbia.

1321. *Glyceria aquatica*, Sm.

Provinces 1 to 15. Native.

Lat. 50—57. Devon, Wight, Kent. — Forfar. (Moray).

Zones 1 2 3. Humber to 150 yards.

Census 15 29 63. Ireland 4. English-british type.

Europe - ita tur aus ger fra cha net den got nor swe.

Russia 6 5 4 3 2 1. Himalaya. Siberia.

— America. Columbia. Is it the European species there?

1322. *Glyceria fluitans*, Brown.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4. Humber to 550 yards. Highlands to 500 yards.

Census 18 38 94. Ireland 12. British type of distribution.

Europe all, except Lapland and Finmark.

Russia 6 - 4 3 2. Himalaya. Western Siberia.

Algeria? Madeira. — Faroe. Iceland. Greenland. Am. Col.

1322, b. *Glyceria plicata*, Fries.

Provinces 1 2 3 4 5 - 7 8 9 10 11 - - 14 15 - - [18]. Native.

Lat. 50—57. Cornwall, Wight, Kent. — Fife. Orkney?

Zones 1 2 3. Humber to 400 yards. Tyne to 250 yards.

Census 12 21 36. Ireland 3 or more. English-british type.

Europe spa ita - aus ger fra cha - den got nor.

Russia, absent or not distinguished from 'fluitans.'

Algeria; Munby cat. G. fluitans; Munby flore?

1323. *Sclerochloa maritima*, Lindley.

Provinces 1 2 3 4 5 6 7 - 9 10 11 - 13 14 15 16 17 18. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Littoral.

Census 16 30 53. Ireland 9. British type of distribution.

Europe spa ita tur - - fra cha net den got nor. "Finmark."

Russia 6 - - - - 1. Siberia. G. angustata, Sib. Spitsbergen.

Algeria. — Iceland? Greenl.? G. angustata, Gre. Am. Col.

1324. *Sclerochloa distans*, Bab.

Provinces 1 2 3 4 5 6 7 8 9 10 11 12 - - 15 - - 18. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Shetland; Tate cat.

Zones 1 2 3. Littoral; occasionally inland.

Census 14 25 43. Ireland 3. English-british type.

Europe all, if in Turkey.

Russia 6 5 4 3 2 1. Himalaya. Siberia.

Algeria. — Columbia; Dr. Scouler.

1324\*. *Sclerochloa Borreri*, Bab.

Provinces - 2 3 4 - - - - 10. Native.

Lat. 50—55. Wight, Sussex, Kent. — York; Mudd, in N. Y.

Zones 1 2. Littoral. Localities imperfectly ascertained.

Census 4 6 8. Ireland 1. Germanic type of distribution.

Europe - - - - ger fra - - - got nor swe. Likely elsewhere.

Russia, absent or overlooked.

— N.B. An unsatisfactory species, not understood by H. C. W.



1325. *Sclerochloa procumbens*, Beauv.

Provinces 1 2 3 4 5 6 - - 9 10 11 - - - [15]. Native.

Lat. 50—56. Cornwall, Wight, Kent. — Lancaster, Cheviotland.

Zones 1 2. Littoral.

Census 9 14 22. Ireland 2. English-germanic type.

Europe spa ita - - - fra cha net. Holland.

Russia, absent.

—.

1326. *Sclerochloa rigida*, Link.

Provinces 1 2 3 4 5 6 7 8 9 10 11 12 - 14 15 - 17. Native.

Lat. 50—58. Cornwall, Wight, Kent. — Ross; Boswell-Syme.

Zones 1 2 3. Humber to 300 yards.

Census 15 29 62. Ireland 7. British-english type.

Europe spa ita tur aus ger fra cha net. Holland.

Russia 6 5 - 3.

Canaries. Azores.

1327. *Sclerochloa loliacea*, Woods.

Provinces 1 2 3 4 - 6 7 - 9 10 11 12 13 14 15 - - [18]. Native.

Lat. 50—57. Cornwall, Wight, Kent. — Fife! [Harris].

Zones 1 2. Littoral.

Census 13 20 32. Ireland 7. English type of distribution.

Europe spa ita tur aus - fra cha. Dalmatia for "aus."

Russia, absent.

Algeria. Azores. *Festuca rothoelloides*, Kunth.

1328. *Poa annua*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4 5 6. Highlands to 1080, 1060, 1000 yards.

Census 18 38 99. Ireland 12. British type of distribution.

Europe all. And carried to the Southern hemisphere.

Russia 6 5 4 3 2 1. West-asia. India. Sib. Dav. Kamtsc.

Algeria. Canaries. Azores. — Far. Icel. Greenl. Am. Col.

1329. *Poa bulbosa*, Linn.

Provinces 1 2 3 4. Native.

Lat. 50—53. Devon, Wight, Kent. — Somerset? Norfolk!

Zone 1. Low grounds, sub-littoral.

Census 4 7 9. Ireland 0. Germanic type of distribution.

Europe spa ita tur aus ger fra cha net - got - swe.

Russia 6 5 4 3 2. Siberia.

Algeria. Canaries.

1330. *Poa alpina*, Linn.

Provinces - - [3] - - - 7 - - 10 - 12 - - 15 16 17. Native.

Lat. 54—59. Westmoreland, York. — Sutherland.

Zones - - - 4 5 6. Highlands to 1310, 1260, 1180 yards.

Census 6 8 13. Ireland 2. Highland type of distribution.

Europe spa ita tur aus ger fra - - - - nor swe lap fin.

Russia 6 - - - 2 1. Olympus. Himalaya. Siberia.

— Faroe. Iceland. Greenland. America. Columbia.

1330\*. *Poa laxa*, Hænke.

Provinces - - - - - - - - - - 15 16. Native.

Lat. 56—58. Westernness? Forfar? Aberdeen; Boswell-Syme!

Zones - - - - 6. Highlands at "1200 yards."

Census 2 2 3. Ireland 0. Highland type of distribution.

Europe spa ita - aus ger fra - - - - nor swe lap. Finmark?

Russia - - - - 1. Siberia. Spitsbergen.

— Iceland; Lindsay flo. Greenland. America.

1330\*. *Poa minor*, Gaud.

Provinces - - - - - - - - - - 15 16. Native.

Lat. 56—58. Westernness. Aberdeen; Boswell-Syme.

Zones - - - - 6. Highlands at "1200 yards."

Census 2 2 2. Ireland 0. Highland type of distribution.

Europe spa ita - aus ger fra - - - - nor - lap.

Russia, absent?

— America? N.B. Much confused with *P. laxa*.

1331. *Poa pratensis*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4 5. Humber to 800 yards. Highlands to 750 yds.

Census 18 38 91. Ireland 12. British type of distribution.

Europe all. *P. pratensis* var. *alpigena*, Spitsbergen.

Russia 6 5 4 3 2 1. India. Siberia. Davuria. Kamtschatka.

Azores; Drouet. — Far. Icel. Greenl. Am. Col. (States).

1332. *Poa trivialis*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4 5. Highlands to 830 yards. Lakes to 710 yards.

Census 18 37 90. Ireland 12. British type of distribution.

Europe all.

Russia 6 5 4 3 2 1. Siberia. Davuria.

Algeria. Canaries. Azores. — Faroe. Iceland. (Am.)

1333. *Poa compressa*, Linn.

Prov. 1 2 3 4 5 6 7 8 - 10 11 12 13 14 15 - 17 [18]. Native.

Lat. 50—58. Devon, Wight, Kent. — Ross; Boswell-Syme.

Zones 1 2 3. Humber to 300 yards. Tyne to 150 yards.

Census 15 27 53. Ireland 1. British-english type.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3. West-asia. Siberia. Kamtschatka.

— Iceland? (American States, introduced).

1334. *Poa nemoralis*, Linn.

Provinces 1 to 16. *P. Parnellii*, 10 11.

Lat. 50—58. Cornwall, Wight, Kent. — Skye, Elgin.

Zones 1 2 3 4. Highlands to 530 yards, perhaps higher.

Census 16 29 59. Ireland 3. British type of distribution.

Europe all.

Russia 6 5 4 3 2 1. India. Siberia. Davuria. Kamtsc.

— Iceland. Greenland. America. Columbia.

1334\*. *Poa cæsia*, Sm. *P. Balfourii*, Bab. Man.

Provinces - - - - - 7 - - 10 11 - - - 15 16. Native.  
 Lat. 53—58. Carnarvon, York. — Argyle, Aberdeen.  
 Zones - - - - 5. Highlands about 750—1000 yards.  
 Census 5 6 8. Ireland 0. Highland type of distribution.  
 Europe - ita tur aus ger fra - - - - nor swe lap fin. “Sleswig.”  
 Russia - - - - - 1. Siberia.  
 — Faroe. Iceland. America. Columbia.

1335. *Briza media*, Linn.

Provinces 1 to 15 ? 17 (18). Native. 16 “about Glasgow.”  
 Lat. 50—58. Cornwall, Wight, Kent. — Ross. (Orkney).  
 Zones 1 2 3 4. Humber to 700 yards. Highlands to 630 yards.  
 Census 16 30 80. Ireland 12. British-english type.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 2. West-asia. Siberia.  
 — (America, introduced).

1336. *Briza minor*, Linn.

Provinces 1 2 (3) - [5 - - - 9]. Casual or Colonist.  
 Lat. 50—51. Cornwall, Devon, Dorset, Wight, Hants.  
 Zone 1. Low grounds. Somerset? (Middlesex).  
 Census 2 4 5. (Ireland 1). Atlantic-english type.  
 Europe spa ita tur aus ger fra cha.  
 Russia 6.  
 Algeria. Canaries. Azores.

1337. *Cynosurus cristatus*, Linn.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Tyne to 600 yards. Highlands to 530 yards.  
 Census 18 38 96. Ireland 12. British type of distribution.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 2.  
 Algeria. Azores; Drouet.

1339. *Dactylis glomerata*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Tyne to 550 yards. Highlands to "450 yards."

Census 18 38 97. Ireland 12. British type of distribution.

Europe all, except Finmark.

Russia 6 5 4 3 2. India. Siberia.

Algeria. Canaries? — Faroe. (America, introduced).

1340. *Festuca uniglumis*, Sol.

Provinces 1 2 3 4 - 6 7 - 9 [10]. Native.

Lat. 50—54. Devon, Wight, Kent. — Lancaster, Norfolk.

Zones 1 2. Littoral or Sub-littoral.

Census 7 13 19. Ireland 2. English-atlantic type.

Europe spa ita tur aus ger fra cha net.

Russia, absent.

Algeria.

1341. *Festuca sciuroides*, Roth.

Provinces 1 to 17 (18). Native. F. bromoides, Anglor.

Lat. 50—58. Cornwall, Wight, Kent. — Ross. (Orkney).

Zones 1 2 3. Humber to 300 yards. Tyne to 200 yards.

Census 17 33 74. Ireland 9. British type of distribution.

Europe spa ita tur aus ger fra cha net den got.

Russia? V. Myurus, "Ind. cauc. p. 22 cum var. bromoide."

Algeria. Canaries. Azores.

1341\*. *Festuca pseudo-myurus*, Soy.

Provinces 1 2 3 4 5 6 7 8 9 10 (11) - [13 14 15]. Native.

Lat. 50—54. Cornwall, Dorset, Kent. — Chester, York.

Zones 1 2. Humber to 300 yards.

Census 10 20 38. Ireland 8. English type of distribution.

Europe spa ita tur aus ger fra cha net.

Russia 6 5 ? "F. pseudo-myurus, C. Koch."

Algeria? Canaries? — Col.; Hook. bor. am. "E. Bot. t. 1412."

1342. *Festuca ovina*, Linn.

Provinces all. Native. Much confused with *F. duriuscula*.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4 5 6. Highlands to 1440, 1310, 1270 yards.  
 Census 18 38 94. Ireland 12. British type of distribution.  
 Europe all.  
 Russia 6 5 4 3 2 1. India. Siberia.  
 Algeria. — Faroe. Iceland. Greenland. America. Columbia.

1343. *Festuca duriuscula*, Linn.

Provinces all. Native. Much confused with *F. ovina*.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4 5. Highlands to 900 yards? Tyne to 750 yards.  
 Census 18 34 75. Ireland 12. British type of distribution.  
 Europe all, except Finmark; and scarcely in Lapland.  
 Russia 6 5 4 3 2. Siberia.  
 Algeria. — Faroe. Iceland. (America, introduced).

1344. *Festuca rubra*, "Linn."

Provinces all? Native. Confused with *F. duriuscula*.  
 Lat. 50—59. Cornwall, Wight, Kent. — Hebrides, Ross.  
 Zones 1 2 3. Tyne to 250 yards? Humber to 200 yards?  
 Census 17 28 45. Ireland 12. British type of distribution.  
 Europe all, unless Turkey excepted.  
 Russia 6 - 4 3 2 1. Siberia.  
 — Iceland. Greenland. America. Columbia.

1345. *Festuca sylvatica*, Vill.

Provinces - 2 - - 5 [6] - - - 10 11 12 13 14 15 16. Native.  
 Lat. 50—58. Wilts, Sussex. — Westernness, Elgin, Banff.  
 Zones 1 2 3. Lakes to 300 yards. Tyne to 250 yards.  
 Census 9 13 20. Ireland 6. Scottish type of distribution.  
 Europe - ita - aus ger fra - net den got nor.  
 Russia - - - ? "Lithuania; Eichw." "Grodno; Lindem." But  
 Ledebour adds the words "Specimina rossica non exstant."

1346. *Festuca elatior*, *F. arundinacea*, Anglor.

Provinces 1 2 3 4 5 - 7 8 9 10 11 12 13 14 15 16 - 18. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Tyne to 450 yards. Humber to 400 yards.  
 Census 16 33 70. Ireland 9. British type of distribution.  
 Europe all, except Lapland and Finmark; but not certain.  
 Russia - - 4 3 2. Himalaya. Western Siberia.  
 Algeria. Azores. — Far. Icel. Am. Col. (States).

1347. *Festuca pratensis*, *F. loliacea*, Anglor.

Provinces all. Native. Much confused with *F. elatior*.  
 Lat. 50—60. Devon, Wight, Kent. — Ross, Orkney.  
 Zones 1 2 3. Tyne to 550 yards. Humber to 400 yards.  
 Census 18 32 69. Ireland 12. British type of distribution.  
 Europe all, except Finmark; but synonyms uncertain.  
 Russia 6 5 4 3 2. Siberia. Davuria.  
 — Columbia; Douglas.

1348. *Bromus giganteus*, Linn.

Provinces 1 to 16. Native. *Festuca gigantea* of Bab. Man. etc.  
 Lat. 50—58. Devon, Wight, Kent. — Argyle, Elgin.  
 Zones 1 2 3. Humber to 350 yards. Lakes to 250 yards.  
 Census 16 32 77. Ireland 12. British-english type.  
 Europe spa ita - aus ger fra cha net den got nor swe.  
 Russia 6 - 4 3 2. Siberia. N.B. A *Bromus* in general appearance, rather than a *Festuca*.

1349. *Bromus asper*, Linn.

Provinces 1 to 16. Native.  
 Lat. 50—58. Cornwall, Wight, Kent. — Cantire, Elgin.  
 Zones 1 2 3. Humber to 400 yards. Tyne to 330 yards.  
 Census 16 32 80. Ireland 12. British-english type.  
 Europe all, except Lapland and Finmark.  
 Russia 6 - 4 3. Siberia.

—.

1350. *Bromus sterilis*, Linn.

Provinces 1 to 15. Native. 16 Dumbarton?  
 Lat. 50—58. Cornwall, Wight, Kent. — Elgin, Banff.  
 Zones 1 2 3. Humber to 250 yards. Tyne to 150 yards.  
 Census 15 29 76. Ireland 10. British-english type.  
 Europe spa ita tur aus ger fra cha net den got - (swe).  
 Russia 6 5 4 3. Western Siberia.  
 Algeria. — (America, introduced).

1351. *Bromus madritensis*, Linn.

Provinces 1 2 3 - 5 6 - - - - (11 - - 14 15). Native?  
 Lat. 50—52. Devon, Hants, Kent. — Pembroke, Surrey.  
 Zone 1. Coast-level or low grounds.  
 Census 5 9 11. Ireland 1. Atlantic-english type.  
 Europe spa ita tur aus - fra cha. Dalmatia for "aus."  
 Russia - 5 4.  
 Algeria. Canaries. Azores.

1353. *Bromus erectus*, Huds.

Provinces 1 2 3 4 5 6 7 8 - 10 11 13 14 15. Native.  
 Lat. 50—57. Wight, Sussex, Kent. — Kirkeudbright, Fife.  
 Zones 1 2. Humber to 150 yards. Dorset?  
 Census 13 22 40. Ireland 3. Germanic-english type.  
 Europe spa ita tur aus ger fra cha net den got - swe.  
 Russia 6 5 4 3.  
 Algeria.

1354. *Bromus secalinus*, Linn.

Provinces 1 to 17. Colonist; but uncertain in its localities.  
 Lat. 50—58. Cornwall, Wight, Kent. — Isla, Ross.  
 Zones 1 2 3. Humber to 150 yards.  
 Census 17 32 60. (Ireland 5). British-english type.  
 Europe all, except Lapland ("inquilina") and Finmark.  
 Russia 6 - 4 3 2. Western Siberia.  
 Algeria. — (America, introduced).



1355. *Bromus commutatus*, *B. racemosus*, Anglor.

Provinces 1 to 16 - (18). Native.

Lat. 50—58 or 61. Cornwall, Wight, Kent. — Moray. (Shetl.)

Zones 1 2 3. Highlands to 400 yards. Humber to 300 yards.

Census 16 31 70. Ireland 8. British type of distribution.

Europe spa ita tur aus ger fra cha net den got nor.

Russia - - - ? "Specimina rossica non exstant"; Led. flo. ross.

Algeria. N.B. In Britain, confused with 'mollis,' 'secalinus,' etc.

1356. *Bromus mollis*, Linn.

Provinces all. Native. Any authority for S.E. Wales ?

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Tyne to 600 yards. Humber to 500 yards.

Census 18 37 95. Ireland 12. British type of distribution.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3 2. Western Siberia.

Algeria. Canaries. Azores, a var. — (America, introduced).

1357. *Brachypodium sylvaticum*, Beauv.

Provinces all. Native.

Lat. 50—60. Cornwall, Wight, Kent. — Orkney; Gillies herb.

Zones 1 2 3. Humber, Tyne, in each to 350 yards.

Census 18 35 84. Ireland 12. British type of distribution.

Europe all, except Lapland and Finmark.

Russia 6 5 4 3. India.

Algeria. Canaries. Azores.

1358. *Brachypodium pinnatum*, Beauv.

Provinces 1 2 3 4 5 - - 8 - 10 [11 12 - - 15]. Native.

Lat. 50—55. Devon, Dorset, Sussex, Kent. — W.E. York.

Zones 1 2. Humber to 150 yards.

Census 7 17 36. [Ireland]. Germanic-english type.

Europe all, except Lapland and Finmark.

Russia 6 - 4 3 2. Siberia.

Algeria.

1359. *Triticum caninum*, Huds.

Provinces 1 to 15 - 17 [18]. Native.

Lat. 50—59. Cornwall, Wight, Kent. — Sutherland. Orkney?

Zones 1 2 3. Humber to 450 yards. Tyne to 400 yards.

Census 16 32 72. Ireland 7. British type of distribution.

Europe all, unless Turkey to be excepted.

Russia 6 - - 3 2 1. Himalaya. Siberia.

— Iceland. America. Columbia. (N. States).

1360. *Triticum repens*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Tyne to 450 yards. Highlands to 400 yards.

Census 18 38 93. Ireland 12. British type of distribution.

Europe all.

Russia 6 5 4 3 2 1. Himalaya. Siberia. Davuria.

Algeria. Canaries. Azores. — Far. Icel. Greenl. Am. Col.

1362. *Triticum junceum*, Auct.

Provinces all. Native. Two or more species here.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Littoral.

Census 18 34 56. Ireland 9. British type of distribution.

Europe spa ita tur aus ger fra cha net den got nor.

Russia 6 5 4 3. Siberia.

Algeria. — “Columbia; Douglas.”

1363. *Lolium perenne*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3. Tyne to 550 yards. Humber to 500 yards.

Census 18 38 97. Ireland 12. British type of distribution.

Europe all, except Finmark.

Russia 6 5 4 3 2. West-asia.

Algeria. Madeira. Azores. — (America, introduced).

1364. *Lolium temulentum*, Linn.

Provinces 1 to 16 - 18. Colonist. *L. arvense*, With., included.  
 Lat. 50—58. Cornwall, Wight, Kent. — Islay, Elgin.  
 Zones 1 2 3. Low grounds; usually sown with the crop.  
 Census 16 30 ? Ireland 9. British-english type.  
 Europe all, except Lapland and Finmark.  
 Russia 6 5 4 3 2. India. Western Siberia.  
 Algeria. Madeira. — (America, introduced).

1365. *Elymus arenarius*, Linn.

Prov. [1 2] 3 4 - [6] 7 8 [9] 10 11 12 13 14 15 16 17 18. Native.  
 Lat. 51—61. Devon? Dorset? Essex. — Orkney, Shetland.  
 Zones 1 2 3. Littoral. Confused with *Ammophila*.  
 Census 13 18 30. Ireland 4. Scottish-british type.  
 Europe all, except Italy?  
 Russia 6 - 4 3 2 1. Siberia. Kamtschatka.  
 — Faroe. Iceland. Greenland. America. Columbia.

1366. *Hordeum sylvaticum*, Huds.

Provinces - 2 3 4 5 - [7] 8 9 10 11. Native.  
 Lat. 51—56. Wilts, Hants, Kent. — Chester, Northumberland.  
 Zones 1 2. Tyne to 200 yards. Humber to 150 yards.  
 Census 8 13 24. Ireland 1. Germanic-english type.  
 Europe spa ita - aus ger fra - net den got.  
 Russia 6 - 4 3. *Elymus europæus*, Linn.  
 — "Canada; Mrs. Percival," in Hooker flo. bor. am.

1367. *Hordeum pratense*, Huds.

Provinces 1 2 3 4 5 6 7 8 9 10 11 13 14 15. Native.  
 Lat. 50—57. Devon, Wight, Kent. — Fife, Perth.  
 Zones 1 2. Low grounds.  
 Census 14 25 59. Ireland 5. English type of distribution.  
 Europe spa ita - aus ger fra - net den got.  
 Russia 6 - 4. India. Siberia. Davuria.  
 — "Columbia."

1368. *Hordeum murinum*, Linn.

Provinces 1 2 3 4 5 6 7 8 9 10 11 - - 14 15 - - [18]. Native.  
 Lat. 50—58. Cornwall, Wight, Kent. — Kincardine. (Elgin).  
 Zones 1 2. Humber to 150 yards.  
 Census 13 27 66. Ireland 6. English-british type.  
 Europe spa ita tur aus ger fra cha net den got.  
 Russia - 5 4 3.  
 Algeria. Canaries. Azores.

1369. *Hordeum maritimum*, With.

Provinces 1 2 3 4 5 6 - 8 9 10 11 [12 - - 15]. Native.  
 Lat. 50—55. Cornwall, Wight, Kent. — Chester, Durham.  
 Zones 1 2. Littoral.  
 Census 10 17 25. [Ireland]. English-germanic type.  
 Europe spa ita tur aus - fra cha net den. N.W. Germany.  
 Russia? "Dubia imperii rossici civis est"; Led. flo. ross.  
 Algeria. Canaries.

1370. *Nardus stricta*, Linn.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4 5 6. Highlands to 1100, 1070, 1060 yards.  
 Census 18 37 84. Ireland 9. British type of distribution.  
 Europe all.  
 Russia 6 - 4 3 2 1.  
 Azores; T. C. Hunt! — Faroe. Iceland. Greenland.

1371. *Lepturus filiformis*, Trin.

Provinces 1 to 14 (15). Native. L. incurvatus, a casual?  
 Lat. 50—56. Cornwall, Wight, Kent. — Linlithgow. (Fife).  
 Zones 1 2. Littoral.  
 Census 14 22 41. Ireland 9. English type of distribution.  
 Europe spa ita - aus - fra cha net den (got). N.W. Germany.  
 Russia, absent.  
 Algeria. L. incurvatus and L. filiformis both there.

1372. *Ceterach officinarum*, Willd.

Provinces 1 2 3 4 5 6 7 8 9 10 [11] 12 13 [14] 15 16. Native.  
 Lat. 50—57. Cornwall, Wight, Kent. — Argyle, Perth.  
 Zones 1 2 3. Humber to 250 or “450” yards.  
 Census 14 27 54. Ireland 12. English type of distribution.  
 Europe spa ita tur aus ger fra cha net.  
 Russia 6 5. West-asia. Cashmere. Siberia? Warsaw?  
 Algeria. Canaries.

1373. *Woodsia ilvensis*, Brown.

Provinces - - - - - 7 - - [10] 11 12 13 - 15. Native.  
 Lat. 53—57. Carnarvon, Durham. — Dumfries, Perth, Forfar.  
 Zones - - - 4 5. Highlands 630—900 yards.  
 Census 5 6 6. Ireland 0. Highland type of distribution.  
 Europe - - - aus ger - - - - got nor swe lap.  
 Russia 6 5 - 3 2 1. Himalaya. Siberia. Davuria. Kamtsc.  
 — Iceland. Greenland. America. Rocky Mountains. Sitcha.

1373\*. *Woodsia hyperborea*, Brown.

Provinces - - - - - 7 - - - - [13] - 15. Native.  
 Lat. 53—56. Carnarvon! Perth! [Dumfries. Forfar].  
 Zones - - - - 5. Altitude ... ?  
 Census 2 2 2. Ireland 0. Highland type of distribution.  
 Europe spa ita - aus ger fra - - - - nor swe lap.  
 Russia - - - - 2 1. Himalaya. Sib. “Mandschuria (Maack)”; Milde.  
 — Greenland. America. Columbia.

1374. *Polypodium vulgare*, Linn.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4. Humber to 800 yards. Highlands to 700 yards.  
 Census 18 38 97. Ireland 12. British type of distribution.  
 Europe all. “South Africa. Mexico. Japan.”  
 Russia 6 5 4 3 2 1. West-asia. Siberia. Davuria.  
 Algeria. Canaries. Azores. — Far. Icel. Am. Col.

1375. *Polypodium Phegopteris*, Linn.

Prov. 1 2 [3] - 5 6 7 8 9 10 11 12 13 14 15 16 17 18. Native.  
 Lat. 50—61. Cornwall, Devon, Dorset, Sussex. — Ork. Shetl.  
 Zones 1 2 3 4 5 6. Highlands to 1150, 910, 900, 850 yards.  
 Census 16 28 62. Ireland 9. Scottish-british type.  
 Europe all, unless Spain to be excepted.  
 Russia 6 - - 3 2 1. West-asia. Siberia. Kamtschatka, a var.  
 — Faroe. Iceland. Greenland. America. Columbia.

1376. *Polypodium Dryopteris*, Linn.

Prov. [1 2 3] - 5 6 7 8 9 10 11 12 13 14 15 16 17 18. Native.  
 Lat. 51—61. Glamorgan, Gloucester. — Sutherland, Shetland.  
 Zones 1 2 3 4 5. Highlands to 910, 850, 830, 820 yards.  
 Census 14 23 54. Ireland 2. Scottish type of distribution.  
 Europe all, unless Turkey to be excepted.  
 Russia - - - 3 2 1. West-asia. Himalaya. Sib. Dav. Kamtsc.  
 — Iceland. Greenland. America. Columbia.

1377. *Polypodium Robertianum*, Hoffm.

Provinces 1 2 3 - 5 6 7 8 9 10 11 12 - - [15]. Native.  
 Lat. 51—55. Somerset! Bucks. — Westmoreland! Durham!  
 Zones 1 2 3. Tyne to 400 yards. Reported in Perth.  
 Census 11 13 18. Ireland 0. English-intermediate type.  
 Europe - - tur aus ger fra cha net - - nor swe.  
 Russia - - - 3. Lithuania; Siberia altaica; Ledebour flo. ross.  
 — America; Gray bot. under *P. Dryopteris*.

1378. *Allosurus crispus*, Bernh.

Provinces 1 - - - 5 6 7 8 9 10 11 12 13 14 15 16 17 18. Native.  
 Lat. 51—59. North Devon or Somerset. — Harris, Sutherland.  
 Zones - 2 3 4 5 6. Highlands to 1160 yds. Wales to 1110 yds.  
 Census 15 24 38. Ireland 3. Highland type of distribution.  
 Europe spa ita tur aus ger fra - net - - nor swe lap. Loffoden.  
 Russia - - - - 1. Olympus. Himalaya? Siberia?  
 — Iceland; Lindsay. Greenland; Milde. America? Columbia?

1379. *Cystopteris fragilis*, Bernh.

Provinces all. Native. Numerous segregate forms.  
 Lat. 50—60. Devon, Sussex, Kent? — Hebrides, Orkney.  
 Zones 1 2 3 4 5. Highlands to 1300, 1080, 960 yards.  
 Census 18 28 57. Ireland 10. British-highland type.  
 Europe all. "Omnium filicum maxime boream versus progreditur."  
 Russia 6 5 4 3 2 1. West-asia. Siberia. Davuria. Kamtsch.  
 Algeria. Canaries. Azores. — Far. Icel. Greenl. Am. Col.

1381. *Cystopteris montana*, Link.

Provinces - - - - - [7] - - - - - 15. Native.  
 Lat. 56—57 or 58. Mid Perth! Forfar! S. Aberdeen. [Carn.]  
 Zones - - - - 5 6. Highlands at about 1200 yards.  
 Census 1 2 3. Ireland 0. Highland type of distribution.  
 Europe spa ita - aus ger fra - - - - nor swe lap. Denmark? Belg.?  
 Russia, absent. Kamtschatka.  
 — Rocky Mountains, in America.

1382. *Polystichum Lonchitis*, Roth.

Provinces - - - [4 - 6] 7 - - 10 11 [12 13] - 15 16 17 [18]. Native.  
 Lat. 53—59. Carnarvon, York. — Sutherland. [Orkney].  
 Zones - ? 3 4 5 6. Highlands to 1080, 1000, 960, 920 yards.  
 Census 6 10 16. Ireland 3. Highland type of distribution.  
 Europe spa ita tur aus ger fra - - - got nor swe lap fin.  
 Russia 6 - - - - 1. Olympus. Himalaya. Siberia.  
 — Faroe. Iceland. Greenland. America. Columbia.

1383. *Polystichum aculeatum et lobatum*, Anglor.

Provinces 1 to 17. Native. Confused with *P. angulare*.  
 Lat. 50—58. Cornwall, Wight, Kent. — Skye, Ross.  
 Zones 1 2 3 4. Humber to 800 yards. Highlands to 700 yards.  
 Census 17 34 85. Ireland 11. British type of distribution.  
 Europe spa ita tur aus ger fra cha net. "Scandinavia."  
 Russia 6. West-asia.  
 [Azores; Drouet]. — America. Columbia.

1384. *Polystichum angulare*, Newm.

Provinces 1 2 3 4 5 6 7 8 9 10 11 12 - 14. Native.

Lat. 50—56. Cornwall, Wight, Kent. — Cumberland! Roxb.

Zones 1 2. Humber to 300 yards.

Census 13 25 49. Ireland 12. English type of distribution.

Europe spa ita tur aus ger fra cha net - [got nor].

Russia 6. West-asia. Himalaya. Synonyms uncertain.

Algeria. Canaries. Azores.

1385. *Lastrea Thelypteris*, Presl.

Provinces 1 2 3 4 5 6 7 8 9 10 11 12 - - 15 - - [18]. Native.

Lat. 50—57. Dorset, Wight, Sussex, Kent. — Forfar!

Zones 1 2. Low grounds.

Census 13 21 36. Ireland 8. English type of distribution.

Europe spa ita - aus ger fra cha net den got nor swe.

Russia 6 - - 3 2. Himalaya. Siberia.

Algeria. — Iceland; Hooker, from Zoega. America.

1386. *Lastrea Oreopteris*, Presl.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Hebrides, Shetland.

Zones 1 2 3 4 5. Highlands to 980 yards. Humber to 550 yds.

Census 18 37 81. Ireland 10. British type of distribution.

Europe all, except Sweden and Finmark.

Russia - - - 3. West-asia.

—.

1387. *Lastrea Filix-mas*, Presl.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland?

Zones 1 2 3 4. Humber to 800 yards. Highlands to 500 yards.

Census 18 37 96. Ireland 12. British type of distribution.

Europe all.

Russia 6 5 4 3 2 1. West-asia. Himalaya. Siberia. "Japan."

Algeria. Madeira. Azores. — Faroe. Iceland. Greenland.



1388. *Lastrea rigida*, Presl.

Provinces [1] - - - - - 9 10 - 12. Native.  
 Lat. 53—55. Lancaster, York, Westmoreland. [Somerset].  
 Zones - - 3. Probably about 400—500 yards.  
 Census 3 3 5. [Ireland]. Intermediate type.  
 Europe spa ita - aus ger fra - - - - nor. *L. pallida*, spa ita tur.  
 Russia, absent. *L. pallida*, West-asia.  
*L. pallida*, Tunis. — [America?]

1389. *Lastrea cristata*, Presl.

Provinces [1 - 3] 4 [5] - - 8 9 [10 - - - - 15]. Native.  
 Lat. 52—54. Suffolk, Norfolk, Hunts, Notts, Chester.  
 Zones 1 2. Low grounds. [Essex? Derby?]  
 Census 3 5 6. [Ireland]. English-intermediate type.  
 Europe spa ita tur aus ger fra - net den got nor swe.  
 Russia 6 - 4 3. Western Siberia.  
 — America.

1390. *Lastrea spinulosa*, Anglor.

Provinces 1 2 3 4 5 ? ? 8 9 10 11 12 - - 15 16 [17 18]. Native.  
 Lat. 50—57. Cornwall, Wight, Kent. — Perth! Inverness!  
 Zones 1 2 3. Low grounds. West Inverness; Mrs. Maskelyne!  
 Census 14 24 53. Ireland 9. English-british type.  
 Europe spa ita - aus ger fra cha net. Scandinavia?  
 Russia - - - 3 2 1. "Amur. Manchuria." Kamtsch. a variety.  
 [Pico, Azores; Milde]. — America, "forma genuina." Sitcha, "var."

1391. *Lastrea dilatata*, Anglor.

Provinces all. Native. Strangely confused with *L. spinulosa*.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4 5 6. Highlands to 1230, 1200, 1150 yards.  
 Census 18 36 86. Ireland 12. British type of distribution.  
 Europe all, unless Turkey and Finmark to be excepted.  
 Russia 6 - 4 3 2 1. West-asia. Siberia?  
 Azores. — America. Columbia.

1392. *Lastrea æmula*, Brack.

Provinces 1 2 3 - 5 6 7 - - 10 11 12 - 14 [15] 16 - 18. Native.  
 Lat. 50—60. Cornwall! Sussex! Kent! — Mull, Skye, Orkney!  
 Zones 1 2 3. Humber to 150 yards.  
 Census 12 18 24. Ireland 12. Atlantic-british type.  
 Europe. Bretagne, in herbario Preslii; Milde, p. 142.  
 Russia, absent or not observed.  
 Madeira. Azores. Fœnisicii of Lowe, recurva of Bree.

1393. *Pseudathyrium alpestre*, Newm.

Provinces - - - - - 15 16 17. Native. *P. flexile*, 15.  
 Lat. 56—59. Argyle, Perth, Forfar — Sutherland; Oliver!  
 Zones - - - 4 5 6. Highlands between “600—1200 yards.”  
 Census 3 5 8. Ireland 0. Highland type of distribution.  
 Europe spa - - aus ger fra - - - - nor swe lap.  
 Russia 6 - - 3 - 1. West-asia.  
 — Greenland. Columbia; Dr. Lyall.

1394. *Athyrium Filix-fœmina*, Roth.

Provinces all. Native. Two species, but localities confused.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4. Tyne to 750 yards. Highlands to 550 yards.  
 Census 18 38 88. Ireland 12. British type of distribution.  
 Europe all, except Finmark. Loffoden Isles.  
 Russia 6 - 4 3 2 1. West-asia. Himalaya. Sib. Dav. Kamtsc.  
 Algeria. Canaries. Azores. — Faroe. Iceland. Am. Col.

1395. *Asplenium viride*, Huds.

Prov. - (2 3) - ? 6 7 8 9 10 11 12 13 ? 15 16 17 18. Native.  
 Lat. 51—61. Glamorgan! Worcester, extinct? — Shetl.; Tate.  
 Zones - 2 3 4 5. Highlands to 960 yds. Humber 200—800 yds.  
 Census 12 17 30. Ireland 5. Highland type of distribution.  
 Europe spa ita tur aus ger fra - - ? - nor swe lap fin.  
 Russia 6 5 - - 2. West-asia. Siberia.  
 — New Brunswick. Rocky Mountains. Aleutian Isles.

1396. *Asplenium Trichomanes*, Linn.

Provinces all. Native. A. anceps included below.  
 Lat. 50—66. Cornwall, Wight, Kent. — Hebrides, Orkney.  
 Zones 1 2 3 4. North Wales to 650 yards. Tyne to 550 yards.  
 Census 18 37 88. Ireland 12. British type of distribution.  
 Europe all, except Finmark. Lapland; Milde, not Fries sum.  
 Russia 6 5 4 3 2. West-asia. Siberia. Japan; Milde.  
 Algeria. Canaries. Azores. — Faroe. America. Columbia.

1397. *Asplenium marinum*, Linn.

Provinces 1 2 - - - 6 7 - 9 10 11 12 13 14 15 16 17 18. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Littoral; rarely far inland.  
 Census 14 25 46. Ireland 10. British-atlantic type.  
 Europe spa ita - - - fra cha. Corsica; Milde fil. eur.  
 Russia, absent. "Jamaica. Helena. Bermudas."  
 Algeria. Canaries. Azores. — British America.

1398. *Asplenium lanceolatum*, Huds.

Provinces 1 2 3 - 5 6 7 - - [10]. Native.  
 Lat. 50—53. Cornwall, Sussex, Kent. — Merioneth, Gloucester.  
 Zones 1 2. North Wales to 200 yards.  
 Census 6 9 10. Ireland 1. Atlantic type of distribution.  
 Europe spa ita tur - ger fra cha.  
 Russia, absent. N.B. A. obovatum, spa ita tur - - fra.  
 Algeria. Madeira. Azores.

1399. *Asplenium Adiantum-nigrum*, Linn.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4. Highlands to 630 yards. Tyne to 500 yards.  
 Census 18 37 90. Ireland 12. British type of distribution.  
 Europe spa ita tur aus ger fra cha net den got nor.  
 Russia 6 - - ? West-asia. Himalaya. Western Siberia.  
 Algeria. Canaries. Azores. Abyssinia; Milde fil.

1400. *Asplenium Ruta-muraria*, Linn.

Provinces all. Native.

Lat. 50—60. Cornwall, Wight, Kent. — Hebrides, Orkney.

Zones 1 2 3. Humber to 650 yards. Tyne to 550 yards.

Census 18 37 87. Ireland 12. British type of distribution.

Europe all.

Russia 6 5 4 3 2. West-asia. Cashmere. Siberia.

Algeria. — America.

1400\*. *Asplenium germanicum*, Weiss.

Provinces - - - - - 7 - - - 11 12 - 14 15. Native.

Lat. 53—57. Carnarvon! Cheviotland! — Cumberland, Perth!

Zones ? 3. Tyne at about 150 yards.

Census 5 5 7. Ireland 0. Scottish type of distribution.

Europe spa ita - aus ger fra cha net - got nor swe.

Russia - - - - 2. "Fennia australi prope Helsingfors."

"Desideratur in Asia, Africa et America"; Milde fil. eur.

1401. *Asplenium septentrionale*, Hull.

Provinces 1 - [3] - - - 7 - - 10 11 12 - 14 15 - - [18]. Native.

Lat. 51—58. North Devon, Carnarvon. — Perth, Aberdeen.

Zones - 2 3 4 5. North Wales to 1000 yds.? Lakes to 500 yds.

Census 7 8 11. Ireland 0. Scottish type of distribution.

Europe all, except Finmark. Lapland; Milde, not Fries.

Russia 6 5 4 3 2. West-asia. Himalaya. Siberia.

— Iceland; Hooker list. Greenland; Giesecke. America; Milde.

1402. *Scolopendrium vulgare*, Sym.

Provinces 1 to 16 - 18. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney? Shetland.

Zones 1 2 3. Humber to 150 yards.

Census 17 35 83. Ireland 12. British-english type.

Europe spa ita tur aus ger fra cha net. Gottland.

Russia 6 - 4 3. West-asia. Western Siberia. "Japan."

Algeria. Madeira. Azores. — America, very local. Sitcha?

1403. *Blechnum boreale*, Sw.

Provinces all. Native. *Blechnum Spicant*, Newm.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4 5 6. Highlands to 1300, 1160, 1080 yards.  
 Census 18 38 95. Ireland 12. British type of distribution.  
 Europe all, except Finmark. Crete; Heldreich.  
 Russia 6 - - 3. Kamtschatka.  
 Canaries. Azores. — Faroe. Columbia.

1404. *Pteris aquilina*, Linn.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Highlands to 640 yards. Humber to 600 yards.  
 Census 18 38 98. Ireland 12. British type of distribution.  
 Europe all, except Finmark.  
 Russia 6 5 4 3 2. West-asia. Himalaya. Sib. Dav. Kamtsc.  
 Algeria. Canaries. Azores. — America. Columbia, a var.

1405. *Adiantum Capillus-Veneris*, Linn.

Provinces 1 2 - - [5] 6 - [8 - 10] - 12 - - [15 16]. Native.  
 Lat. 50—55. Cornwall, Devon, Som., Dorset, Glamorgan, Man.  
 Zones 1 2. Coast level. [Sal. Staff. Derb. Kinc. Arran].  
 Census 4 6 7. Ireland 4 or 5. Atlantic type of distribution.  
 Europe spa ita tur aus ger fra. "Limbourg."  
 Russia 6. West-asia. North-west India. Western Siberia.  
 Algeria. Canaries. Azores. "Sandwich Islands."

1407. *Hymenophyllum tunbridgense*, Sm.

Provinces 1 2 3 - ? 6 7 ? 9 10 11 12 13 14 ? 16 [17]. Native.  
 Lat. 50—57. Cornwall, Sussex, Kent. — Mull, Argyle.  
 Zones 1 2 3. Peninsula to 350 yards. Tyne at "300 yards?"  
 Census 12 15 25. Ireland 8. Atlantic type of distribution.  
 Europe - ita - aus ger fra cha net.  
 Russia, absent. Extends to the Southern hemisphere.  
 Canaries. Azores; Drouet.

1408. *Hymenophyllum Wilsoni*, Hook.

Provinces 1 - - - 5 6 7 - 9 10 11 12 13 14 15 16 17 18. Native.  
 Lat. 50—61. Cornwall, Devon. — Orkney, Shetland.  
 Zones 1 2 3 4 ? Hebrides to 950 yards?  
 Census 14 22 40. Ireland 9. Atlantic-highland type.  
 Europe. Norway. Overlooked elsewhere?  
 Russia, absent. Extends to the Southern Hemisphere.  
 Canaries. Azores. — Faroe.

1409. *Osmunda regalis*, Linn.

Provinces all. Native. Very rare in Shetland.  
 Lat. 50—61. Cornwall, Wight, Kent. — Hebrides, Shetland.  
 Zones 1 2 3. Tyne to 300 yards. Humber to 150 yards.  
 Census 18 34 70. Ireland 12. British type of distribution.  
 Europe spa ita tur aus ger fra cha net den got - swe.  
 Russia 6 - - 3. West-asia. India. China. Japan.  
 Algeria. Azores. — America, if *O. spectabilis*, Willd.

1410. *Botrychium Lunaria*, Linn.

Provinces all. Native. *B. rutaceum* in province 15?  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3 4 5. Highlands to 900 yards. Humber to 550 yds.  
 Census 18 34 78. Ireland 12. British-scottish type.  
 Europe all, unless Turkey to be excepted. "Australia."  
 Russia 6 5 4 3 2 1. West-asia. Himalaya. Sib. Dav. Kamts.  
 — Faroe. Iceland. Greenland. America. Columbia.

1411. *Ophioglossum vulgatum*, Linn.

Provinces 1 2 3 4 5 - 7 8 9 10 11 12 13 14 15 16 - 18. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Lakes to 300 yards. Humber to 150 yards.  
 Census 16 32 69. Ireland 11. British type of distribution.  
 Europe all, except Turkey and Finmark  
 Russia 6 5 4 3 2. West-asia. Himalaya. Western Siberia.  
 Madeira; Milde. Azores. — Iceland; Hooker. Am. Col.

1412. *Lycopodium clavatum*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Devon, Sussex. — Orkney, Shetland.

Zones 1 2 3 4. Humber to 850 yards. Highlands to 650 yards.

Census 18 34 67. Ireland 9. British type of distribution.

Europe all, except Turkey.

Russia - - 4 3 2 1. Himalaya. Siberia. Amur; Milde. fl.

— Faroe. Iceland. Greenland. America. Columbia.

1413. *Lycopodium annotinum*, Linn.

Provinces - - - - - 7 8 [9 - 11] 12 - - 15 16 17 18. Native.

Lat. 53—60. Carnarvon, Leicester. — Ross, Orkney.

Zones - ? 3 4 5. Highlands to 900, 900, 880, 860 yards.

Census 7 10 14. Ireland 0. Highland type of distribution.

Europe - ita - aus ger fra - net den got nor swe lap fin.

Russia - - 4 3 2 1. West-asia. Siberia. “Amur. Kamtsch.”

— Iceland. Greenland. America. Columbia.

1414. *Lycopodium inundatum*, Linn.

Provinces 1 2 3 4 5 - - 8 9 10 - 12 - - 15 16 17. Native.

Lat. 50—58. Cornwall, Dorset, Sussex, Kent. — Ross.

Zones 1 2 3. Low grounds.

Census 12 24 43. Ireland 1. British-english type.

Europe spa ita - aus ger fra cha net den got nor swe.

Russia - - 4 3.

— America; but perhaps a species sufficiently distinct.

1415. *Lycopodium alpinum*, Linn.

Prov. 1 - - - [5] 6 7 8 9 10 11 12 13 14 15 16 17 18. Native.

Lat. 51—61. Somerset, Wales, Derby. — Orkney, Shetland.

Zones - - 3 4 5 6. Highlands to 1300, 1200, 1130 yards.

Census 14 24 45. Ireland 7. Highland type of distribution.

Europe spa ita - aus ger fra - net - - nor swe lap. Loffoden.

Russia - - - - 1. West-asia. Himalaya. Siberia. Kamtsch.

— Faroe. Iceland. Greenland. America. Columbia.

1416. *Lycopodium Selago*, Linn.

Provinces all. Native. Rare in South-east England.  
 Lat. 50—61. Cornwall, Devon, Sussex. — Orkney, Shetland.  
 Zones 1 2 3 4 5 6. Highlands to 1440, 1330, 1300 yards.  
 Census 18 34 68. Ireland 9. British-highland type.  
 Europe all, except Turkey.  
 Russia 6 - - 3 2 1. West-asia. Siberia.  
 Azores. — Faroe. Iceland. Greenland. America. Columbia.

1417. *Lycopodium selaginoides*, Linn.

Prov. [1] - - - - 7 8 9 10 11 12 13 14 15 16 17 18. Native.  
 Lat. 53—61. Anglesea, Carnarvon, Derby? — Orkney, Shetland.  
 Zones - 2 3 4 5 6. Highlands to 1080, 930, 910, 900 yards.  
 Census 12 19 43. Ireland 10. Highland type of distribution.  
 Europe spa - - aus ger fra - - den got nor swe lap fin.  
 Russia 6 - - 3 2 1. Himalaya. Siberia. *Selaginella spinulosa*.  
 — Faroe. Iceland. Greenland. America. Columbia.

1418. *Isoetes lacustris*, Linn.

Provinces - - - - [5 6] 7 - - [10 11] 12 - - 15 16 17. Native.  
 Lat. 52—59. Salop? Glamorgan? Merioneth. — Skye, Sutherl.  
 Zones - 2 3 4. Highlands to 600 or 700 yards, or upwards.  
 Census 5 7 16. Ireland 6. Highland type of distribution.  
 Europe - - - aus ger fra - net den got nor swe lap.  
 Russia - - - 3 2 1. Western Siberia.  
 — Faroe. Iceland. Greenland. America.

1419. *Pilularia globulifera*, Linn.

Provinces 1 to 17. Native.  
 Lat. 50—59. Cornwall, Dorset, Sussex. — Skye, Sutherland.  
 Zones 1 2 3. Wales to 300 yards. Humber to 150 yards.  
 Census 17 33 47. Ireland 2. British type of distribution.  
 Europe - - - - ger fra cha net den got nor.  
 Russia - - 4 3.



1420. *Equisetum maximum*, Lam.

Provinces 1 to 16 - [18]. Native. E. Telmateia, Ehrh.  
 Lat. 50—58. Cornwall, Wight, Kent. — Skye, Aberdeen.  
 Zones 1 2. Humber to 400 yards. Rarely above 200?  
 Census 16 30 67. Ireland 8. English-british type.  
 Europe spa ita tur aus ger fra cha net den.  
 Russia 6 5 4 3. West-asia. Siberia.  
 Algeria. Canaries. Azores. — America. Columbia.

1421. *Equisetum umbrosum*, Willd.

Provinces - - - - - [8] 9 10 11 12 13 14 15. Native.  
 Lat. 53—58. Lancaster, York. — Perth, Aberdeen.  
 Zones 1 2 3. Tyne 30—400 yards. Humber to 300 yards.  
 Census 7 8 15. Ireland 2. Scottish type of distribution.  
 Europe - ita - aus ger fra cha - den got nor swe lap.  
 Russia 6 - 4 3 2. "All Siberia, to 70 lat." Caucasus; Milde fil.  
 — Iceland. America. Rocky Mountains.

1422. *Equisetum arvense*, Linn.

Provinces all. Native.  
 Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.  
 Zones 1 2 3. Tyne to 650 yards. Humber to 550 yards.  
 Census 18 38 94. Ireland 12. British type of distribution.  
 Europe all. Eastward to China and Japan.  
 Russia 6 - 4 3 2 1. Himalaya. Siberia. Davuria. Kamtsch.  
 North Africa; Milde. — Faroe. Iceland. Greenl. Am. Col.

1423. *Equisetum sylvaticum*, Linn.

Provinces all. Native.  
 Lat. 50—61. Devon, Wight, Kent. — Orkney, Sutherland.  
 Zones 1 2 3 4 5. Highlands to 900 yards on several hills.  
 Census 18 36 72. Ireland 10. British type of distribution.  
 Europe all, except Finmark.  
 Russia 6 - 4 3 2 1. West-asia. Siberia. Davuria. Kamtsch.  
 — Faroe. Iceland. Greenland. America. Columbia.

1424. *Equisetum palustre*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4 5. Highlands 830, 810, 790, 710 yards.

Census 18 37 86. Ireland 9. British type of distribution.

Europe all, except Finmark. Eastward to Japan.

Russia 6 5 4 3 2 1. West-asia. Siberia. Davuria.

— Faroe. Iceland. America. Columbia.

1425. *Equisetum limosum*. Linn.

Provinces all. Native. E. fluviatile, Linn., not of Smith.

Lat. 50—61. Cornwall, Wight, Kent. — Orkney, Shetland.

Zones 1 2 3 4. Highlands to 710 yards. Humber to 600 yards.

Census 18 35 81. Ireland 12. British type of distribution.

Europe all, except Finmark.

Russia - 5 4 3 2 1. Siberia. Davuria. Kamtschatka.

— Faroe. Iceland. America.

1426. *Equisetum hyemale*, Linn.

Provinces [1 2] 3 4 5 6 7 8 9 10 11 12 13 14 15 17. Native.

Lat. 51—58. Hereford, Surrey, Kent. — Ross, Moray.

Zones 1 2 3. Humber 0—200 yards; Baker.

Census 14 21 36. Ireland 5. Scottish-british type.

Europe all, except Finmark.

Russia 6 - 4 3 2 1. West-asia. Siberia. Kamtschatka.

Algeria. — Faroe. Iceland. America. Columbia.

1428. *Equisetum variegatum*, Schl.

Provinces 1 - - - - - 9 10 11 12 13 14 15 16 17. Native.

Lat. 50—58. Devon! Somerset? Chester! York! — Ross!

Zones 1 2 3. Humber to 600 yards. Tyne to 500 yards.

Census 10 12 16. Ireland 3 or 5. Scottish type of distribution.

Europe spa - tur aus ger fra - net den - nor. Baltic Isles.

Russia - - 3 2 1. Siberia.

Algeria. — Iceland; Mr. Carroll. Greenland. America.

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*Verbascum*, 252.  
*Verbena*, 266.  
*Veronica*, 254.  
*Viburnum*, 200.  
*Vicia*, 149.  
*Villarsia*, 249.  
*Vinca*, 246.  
*Viola*, 107.  
*Viscum*, 199.  
*Wolffia*, 348.  
*Woodsia*, 407.  
*Zannichellia*, 346.  
*Zostera*, 346.

### III. SEGREGATES AND THEIR NOMENCLATURE.

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In explaining the formula used in the 'Synopsis of Species,' on pages 79—120, it was intimated that a general commentary afterwards would include the Alien plants and "also several segregate species, the distribution of which is yet too imperfectly ascertained, to allow of the formula being adhered to for them, if taken apart from each other." Great difficulty is experienced in the attempt to shew the topographical distribution of that miscellaneous group of plants, which ought to include everything not already treated in the foregoing 'Synopsis.' Brevity is absolutely necessary in a single volume which professes to be only a Compendium; while something like sameness of plan is needful, to prevent brevity lapsing quite into non-intelligibility.

Looking to the *Segregates* in the first place. These may be distinguished roughly into three groups. *First*, those which have long been separated in books, more or less clearly, and which have thus become passably well known to botanical collectors and recorders of localities. Many of this first group have been already treated in the Synopsis, because the records of their localities were found sufficiently numerous, and in the main also sufficiently reliable, to afford the necessary data, when joined with those in the Author's own notes and herbarium, the accumulations of many years. *Second*, there are numerous recent severances, not yet become familiar to botanists who are guided by descriptive books in which these recent segregates remain unnoticed, or who have not seen such authentic examples as would suffice to render the novel species or variety (it matters not which it be called here)

clearly understood by them. Of course, the localities for these segregates are yet sparingly on record; and, if on record at all, they may usually have been assigned to some other more aggregate species. *Third*, there is the very troublesome class of "splits," in which not only are old familiar species subdivided into these recent and yet unfamiliar segregates, but in which also transfers of name from one thing to another, the raking up of old obsolete names to displace those in habitual use, and perverse misapplications of names so as to give them different meanings from heretofore,—all come in more or less, to make confusion and to insure false records and frequent misnomers.

The simple fact of severance always creates the topographical difficulty, even though quite warranted by clear differences in nature, and distinctly explained in books, without confusion-creating name-changes. Under these most favorable conditions it takes a long time before the segregates become so generally understood by botanists, that the recorded localities for them can also become numerous and generally correct. Too many of those which must here be treated after some fashion, have only quite recently been distinguished in books, as quasi-species, with special names and descriptions; and they have become known as yet to very few botanists. Some of them which have been admitted only into the latter editions of Professor Babington's carefully worked 'Manual of British Botany,' or have first appeared in this country in the new edition of 'English Botany,' under Mr. Boswell-Syme's discriminating Editorship, are yet imperfectly known to myself as living realities, or even remain still unknown either alive in nature or mummified in the herbarium. To the general body of botanical observers and collectors, scattered through England, several of them must be utterly unknown, or be so unfamiliar that little of reliance can be placed at present on reports of localities for them. Thus, in too many instances, the records being few, and not always reliable if made, the time is not yet come for condensing the localities into any fixed formula that would truly illustrate the distribution of the plants geographically considered.



Unfortunately, they are not the novel segregates only which are thus difficult to trace. The severance of any one of these from an older species, as previously recognized in books, must usually nullify all the past records about that old species, if the object now be to shew also its own distribution apart from the severed novelty; such former records having been made for the undivided aggregate, not specially for either of its severed portions, that is, neither for the segregate nor for the remnant. When aggregate species AB comes to be made into two by the severance of B from it, leaving A equally alone, what are we to do with all its old recorded localities? None of them were reported for A or for B specially by itself; and often the places must be re-visited, or authentic specimens be re-examined, in order to determine the doubtful alternative between A and B for each locality.

Such is the difficulty, at present almost an insurmountable difficulty, to be met in this division of the 'Compendium.' It must take inclusive notice of segregate species and varieties, familiar to few of us, and some of which are certainly ill-understood even by their own proposers or introducers into English books; and the localities for which are at best very sparingly recorded, if not in some cases already misrecorded for the wrong thing. A commencement only can be attempted here, by putting into an abbreviated form so much or so little as is yet known to the writer concerning the distribution or localities of the segregates. Some half-century henceforward, when new Local Floras and Lists and other records have accumulated, a successful attempt will become possible to the botanists of that future time. As to now tracing their distribution through other countries (which has been advised), the attempt to do so would be only a futile mockery of the former portion of this work, so meagre and uncertain would any such enumeration of foreign habitats unavoidably become.

Before proceeding to the brief summary alluded to, some pages will be devoted to expositions of the manner in which the aggregates (the recognized species of the older botanists, and still accepted in the same character by influential botanists of the present time) have passed into the modern segregates; which too

often bewilder us by their ill-defined pettiness, and doubtless drive away in disgust some of the students who might have become botanists under more encouraging conditions. The tendency of the practice must be to make book-botany attractive only to the lowest class of minds which can engage in science at all; the minds which devote themselves exclusively to minute details, and which find their right vocation there, simply because incapable of anything higher. A few aggregates will here be taken as special instances, and will be traced quasi-historically into their smaller segregates; the names of which now so greatly puzzle us, over and above the difficulty in distinguishing the things intended, one from another.

It is trusted that some few such expositions will not only bring home to readers the botanico-topographical difficulties consequent on the changes, but may serve also in some degree as warning suggestions, that other mischiefs and inconveniences will arise through the making or adopting of such changes with ill-considered haste. It will become apparent, that practically a good deal of confusion is the immediate result, chiefly through the name-transfers and misnaming which too often have accompanied well-meant changes supposed to be elucidations; and that the taste for this kind of innovation has already introduced much confusion into our nomenclature, by making the same name mean quite different things,—applicable to one species at one date,—to another, not identical species, at a second date,—to a third still varied species at a third date, and so on.

The expositions must be understood as examples only, on the rule of “*ex uno disce omnes.*” This work would lose its title and intended character of ‘*Compendium,*’ if similar expositions in detail should be entered into for any considerable number of the many other old aggregates, which of late have been converted into their more numerous modern segregates. And yet, in order clearly to understand these recent segregates, and to connect them at all with the past records of their localities, and too often even with the present records, such details ought to become known to botanical investigators. In the absence of that knowledge,

recorders of localities will be continually making mistakes, through their use of specific names which only confuse, instead of explaining, what the records were intended to make known.

1. *Ranunculus aquatilis*, Linn.—The various and very unequal divisions of this great aggregate species into a larger or smaller number of subordinate species, with their recombination into a single aggregate, in Bentham's 'Handbook of the British Flora,' have previously come under notice as illustrations of the "grades of species." They are well adapted further for illustrating the more immediate bearing of such changes upon those records of localities, at different dates, which must frequently be taken as present evidences in tracing out distribution, and also for shewing how inconveniently they nullify the usefulness of the records.

Independently of the *hederaceus* and *Lenormandi*, and leaving the intermediate *tripartitus* non-assigned to anything else, the Linnean *aquatilis* was treated as four several species on pages 81—2. The first of the four, the *aquatilis* of many authors, may be taken as synonymous with the type form which very usually has been named also *heterophyllus* in books. The second, given under the two modern names of *trichophyllus* and *Drouetii* very confusedly applied among English botanists, may be said to correspond with the old segregate recorded under the names of *tenuifolius* or *capillaceus*, or more lately as *pantothrix*; but excluding those terrestrial states of *heterophyllus*, which out of water are of course destitute of "floating" leaves, and which usually have only the multipartite leaves on them. Fries would absurdly restrict the old name of *heterophyllus*, used in so many books to mean *aquatilis* (after deducting *tenuifolius*, *circinatus*, and *fluitans*), to some very special form closely allied to *Drouetii* and *trichophyllus*; in other words, he tries to give the name an application and meaning quite different from what it has in all works of older date than his own. And he has found English imitators in this mischievous folly.

The remaining two out of the four, the *circinatus* and *fluitans*, also have been frequently confused with *pantothrix*, and indeed

still are so confused by some describers of plants and recorders of localities in the present day. And examples of *heterophyllus*, drawn out in running water, have been repeatedly mistaken for *fluitans*, while destitute of floating leaves; these mistakes having led to some false records for the latter. On the whole, however, it may be said that *circinatus* and *fluitans* are now familiar to most botanists, and that they are seldom confused with the other two unless by beginners. But as to the limits and distinctions between *heterophyllus* and *pantothrix*, or between the two groups of segregates into which they are cut up, these may still come under the old showman's liberally given choice to the childish mind, "Which you please, my little dears."

The four species were recognized as such by the ante-Linnean botanists two centuries ago. But for the object now in view it will be quite far enough to go back to the 'Synopsis' of Ray, edition of 1724, which Dillenius rendered the most convenient edition for reference. Ray's four species are thus characterized in the name-descriptions of ante-Linnean times:

1. R. "aquatilis" . . . "aquaticus folio rotundo et capillaceo."  
"Water Crowfoot with various leaves."
2. R. "aquatilis omnino tenuifolius" . . . "aquaticus capillaceus." "Fine leaved Water Crowfoot."
3. R. "aquaticus albus, circinatis tenuissime divisio foliis, floribus ex alis longis pediculis innixis."
4. R. "sive Polyanthemo aquatili albo affine Millefolium Maratriphyllum fluitans." "Fennel leaved Water Crowfoot."

There is no room for dispute as to what these name-descriptions intended; notwithstanding any mistakes or confusion which may have occurred among botanists, in actually applying the names to individual plants. Evidently, they intended the four species treated in this volume at pages 81—2.

In the 'Flora Anglica' of 1762 the Linnean *aquatilis* appears as a single species, including all the above four combined into one. "*Ranunculus foliis submersis capillaceis, emersis peltatis*" is made the type form or variety; the three others being added as

subordinate varieties. They still appeared the same in the 'Flora Britannica,' as also in the 'English Flora' just a century later than the third edition of Ray's 'Synopsis' above quoted.

In the 'Flora Oxoniensis,' before the dates of Smith's Floras, Sibthorpe had treated the same plants as four separate species, under the names of *heterophyllus*, *aquatilis*, *circinatus*, and *fluvialilis*. Three of these names were adopted from Wiggers (or Weber); that of *circinatus* being a specific adaptation of the adjective used in the old name-description before quoted from Ray. In Gray's 'Natural Arrangement of British Plants,' dated in 1821, all four were also continued as separate species; the *heterophyllus* being subdivided into two species distinguished by their "smooth" or "bristly" achenes; a variety *peltatus* also being distinguished by its leaves "orbicular, three-lobed, peltate." This was a movement towards the more recent pseudo-specific subdivisions of *heterophyllus*.

In the 'British Flora' of Hooker, in which a leading aim was condensation of matter, occasionally becoming injudicious omissions, Smith's single species was adhered to; the fourth variety *fluvialilis* or *fluitans* being entirely ignored in some editions, but it was restored in the fifth. (All the editions are not at hand, only three, five, six, eight.) In edition sixth, 1850, Dr. Arnott re-promoted *fluitans* and *circinatus* to the "rank of species"; keeping the specific name *aquatilis* to include *heterophyllus* and *pantothrix*, as the two forms or varieties of that species. The same arrangement is continued in edition eighth, 1860, with some mention of the segregate species of the 'Manual,' treated as subordinate forms under the two primary varieties mentioned above.

We can now turn to the 'Manual of British Botany,' a little book, but as great an Innovator among the various Floras of Britain, as Gray's great book the 'Natural Arrangement' had been. The latter work, being in some respects a quarter of a century in advance of its cotemporaries in 1821, was neglected accordingly; thus it effected neither good nor harm. The innovations of the 'Manual' have come much into use. Occasionally

they have been uncalled for, and simply mischievous; but more usually warranted, and made circumspectly. They seem to have been suggested by looking into foreign books or upon the labels of foreign specimens, rather than by looking at English plants. Examples of this fault will shortly be given, with its confusing consequences to our own botanical nomenclature; here given, not for the purpose of finding fault with the fault, but in order to shew the confusion brought into our names of plants through the characteristic mentioned. Of course, where the object is to shew the uncertainty of our locality records, arising from transfers of names and other changes in them, it is unavoidably to the *defects* of our descriptive Floras in this wise, rather than to their *compensating excellencies* otherwise, that attention must here be drawn.

In its first edition the 'Manual' differed from the 'English Flora,' as to the plants now under consideration, only by again describing the *circinatus* and *fluitans* as two species instead of two varieties. This course might be called giving judgment in favour of Ray, Sibthorp, Gray, and others, as against Linneus, Hudson, Smith, etc. Few botanists of the present time will be disposed to reverse that judgment; and the Author may well be forgiven for not so clearly recognizing the differences between the two first of the four species above quoted from Ray's book. Indeed, the Author of the 'Manual' seems to have less of that discriminative tact for recognizing tenable species, apart from casual variations, which is more a characteristic of Mr. Boswell-Syme's writings; and it is so pretty much because this latter botanical writer studies the real plants themselves in nature, more than at second-hand as described in the books of Fries or Koch.

In the second edition of the 'Manual' the *pantothrix*, which had been placed under *aquatilis* in the former edition, is now lost sight of in the Author's growing tendency to believe in anything Friesian, sound or unsound. After there describing *R. aquatilis* a remark was added which merits some critical notice, because it involves a fallacy frequent and detrimental among botanists, and not unknown among zoologists; although it is not usually made so

naively obvious. The words run: "Probably two or more species are confounded under this name, viz. (B) *heterophyllus* (Fries); floating leaves with dentate or cut lobes, flowers from the axils of the submersed or floating leaves; or (B) *peltatus* (Fries); floating leaves subpeltate with a cordate or truncate base and crenate lobes, flowers from the axils of the floating leaves alone. Often the floating leaves are wanting in the former; never in fertile plants of the latter." It was not a very sublime effort of reason to find out, after restricting the name *peltatus* to the plants with flowers "from the axils of the floating leaves alone," then, that the floating leaves would never be wanting on the fertile (i. e. on the flowering) plants of *peltatus*. If only men with red hair should be baptised *Rufus*, assuredly red hair would "never be wanting" on any bearded *Homo rufus*; and such men would thus admirably be proved a species of themselves, distinct from all other men, by the constancy of the character! The premisses so being laid down, the inverted conclusion is more undeniable than profound. But how about *Ranunculus peltatus* when it flowers out of water, and has no floating leaves above its multipartite leaves? Ceasing to be *peltatus*, what does it become?

In edition third of the 'Manual' *R. confusus* was separated from *aquatilis* as a distinct species; the rest of *aquatilis* being now distinguished into three varieties, — *heterophyllus*, *trichophyllus*, *subpeltatus*; the middle one of these three presumably being the *omnino tenuifolius* of the ancient authors, the *pantothrix* of edition first, slipt out of edition second to make room for that fine touch of Friesian ratiocination indicated above. The distinctions between the two other varieties, separated by its interposition between them, were perhaps better known to the writer than expressed to the reader.

In edition fourth a much larger change is ventured upon. *R. aquatilis* at length disappears, having diverged into seven other species, including its former divergence *confusus*. On the Darwinian theory there ought to have forthwith commenced among them an arduous struggle for existence on the same extent of habitable country which had so recently held only the one

undiverged parent species. But all of them have held their ground or water through editions five and six, without extinguishing each other. In this last edition they are even placed in living competition with an eighth divergence under name of *pseudo-fluitans*, given to our ancient friend *heterophyllus* when better adapted to external circumstances by elongating its growth and shape in running water. This being a state of *aquatilis* which had often been mistaken for true *fluitans*, the name is apt enough. The Author of the 'Manual' assigned the sponsorial paternity of this eighth species to Mr. Newbould; but he omits to tell us from which one of his own adopted species in former editions this eighth one had diverged by natural selection, or had been excised by botanical art

The first volume of 'English Botany,' edition third, bears date one year after the fifth edition of the 'Manual.' Mr. Boswell-Syme keeps up the ancient name *aquatilis* to fit an aggregate or super-species, which is divided into four "sub-species," namely, *peltatus*, *heterophyllus*, *Drouetii*, and *trichophyllus*; all of them being names and species of the 'Manual'; but the first of these four being re-composed of the *peltatus* and *floribundus* (with *pseudo-fluitans*), admitted into the 'Manual' as distinct species. This may be regarded as a case of orthodox convergence, rapidly supervening upon heterodox divergence. The other two species of the 'Manual' are represented by *Baudotii* as a type, with *confusus* for its subvariety. The eight species of the 'Manual' thus are represented in 'English Botany' by five species or sub-species and three subordinate varieties. So that, at any rate, these two good authorities for British plants agree in recognizing eight forms, more or less separable, of our familiar friend *aquatilis*; while they differ widely in the varietal or specific rank which they assign to the plants.

Having small faith indeed in these eight alleged species, I should really have preferred to continue the opposite extreme of Mr. Bentham's 'Handbook,' where all are converged into one, if that extreme did not also involve the necessity for re-sinking the long recognized *fluitans* and *circinatus* into varieties of *aquatilis*,



and not distinguishing the *circinatus* even as a mere variety from the *tenuifolius* of the ancient botanists, the *pantothrix* of their successors. As to the distinctions of this latter in England into *Drouetii* and *trichophyllus*, perhaps that may be found a matter of more or less confervoid growths in the water. Certainly such an intermixture often causes the finely divided leaves of *tenuifolius* and *heterophyllus* to cling together when drawn out of water; thus producing that valuable specific distinction of "collapsing segments."

And now, looking back to the dates of our first acquaintance with the eight species recently made out of *aquatilis*, will the Reader be pleased to declare how it is possible to trace their geographic or topographic distribution apart from each other? The older segregates *fluitans* and *circinatus* having become known to botanists before the present century, and having usually been distinguished in books indifferently well, a goodly number of localities are now found on record for them; although some confusion has occurred from time to time between those two and the plants now called *pseudo-fluitans* and *trichophyllus* or *Drouetii*. It is with these three and their five other congeners that the impossibility begins; for not only are the plants themselves ill-distinguished as species, but their names are contradictory and chaotic in their meanings, that is, in their applications to the plants.

In example, the botanists who have sought to follow the nomenclature of the 'Manual,' in its successive editions, must unavoidably have been using the same names with diverse meanings. Under what name, for instance, was the *R. floribundus* recorded in local lists before 1856? How are we to know, when meeting with an earlier record for a "*peltatus*," whether the *peltatus*, or the *floribundus*, or the *pseudo-fluitans* of later editions is intended by that name? And so on with the other names; each one in turn including more forms as we go back in dates, fewer forms as we go forward. This uncertainty will meet us even while keeping to the one single book, the 'Manual' only. And if we look to the records of botanists who name their plants

by other Floras,—say, by those of Hooker or Bentham,—how are we to understand their names as applicable to the eight segregates of the 'Manual'? All becomes inconsistency and confusion!

But without going outside the one book, the 'Manual' in its successive editions, the diversity of names, and especially the diversities in their meanings, is sadly perplexing. Here are the dates and names; the alleged species being numbered as a distinction between them and their included or component varieties:

1843.	1851.	1856—67.
1. <i>aquatilis</i> .	1. <i>aquatilis</i> .	1. <i>trichophyllus</i> .
a. <i>heterophyllus</i> .	a. <i>heterophyllus</i> .	2. <i>Drouetii</i> .
b. <i>pantothrix</i> .	b. <i>trichophyllus</i> .	3. <i>heterophyllus</i> .
	c. <i>subpeltatus</i> .	4. <i>confusus</i> .
	2. <i>confusus</i> .	5. <i>Baudotii</i>
		6. <i>floribundus</i> .
1847.		7. <i>peltatus</i> .
1. <i>aquatilis</i> .		8. <i>pseudo-fluitans</i> ,
- <i>heterophyllus</i> .		added in 1867.
- <i>peltatus</i> .		

Thus, in tracing backwards, the eight species of 1867 were compressed into two species, one of them composed of three varieties, before 1856;—into one species, of two varieties, before 1851;—into one species, of two other varieties, before 1847; that is, the two varieties of 1847—1850 not corresponding with the two preceding varieties of 1843—1846.

If it be wished to trace the distribution of any one of the seven or eight nominal species of 1856—1867, either by help of records made before 1856 or by records made since that date by botanists to whom the newly dissevered species are unfamiliar,—how is it to be done? The name *aquatilis* used before 1856, or since that date under the conditions mentioned, may mean any one of them, except perhaps *confusus* in the latter part of the time. Again, the name *heterophyllus* used as the only alternative of *pantothrix* in 1843, must have had quite a different meaning from that of the same name used as the only alternative of *peltatus* in 1847. So, the *heterophyllus* of 1851, as the third alternative against both

*trichophyllus* and *subpeltatus*, and these three all independently of *confusus*, must have had a much different and more restricted meaning in 1851—6.

Further, the same name *heterophyllus*, in contradistinction against six others in 1856, or against seven others in 1867, must have meant and belonged to a fragment quite different from the half of *aquatilis* in 1843, or a different half in 1847, or the third of a half in 1851; for it becomes only the quarter of a half (an eighth) of the old *aquatilis* in 1867. How are we ever again to know what is truly intended by this name *heterophyllus* so diversely employed, when finding it in a list of plants or connected with a locality? The 'Manual' has made it unmeaning in England, by giving to it a different meaning in each edition.

Truly, a Bentham to keep alive old names, used with some real and constant meaning, is not an useless Conservative for British botany, even if he do pull rather to an extreme in some cases. I could wish he had been conservative enough to retain in his 'Handbook' a prefixed arrangement of genera under the Linnæan system. But that system left out of question, I will here take the opportunity somewhat indirectly produced, to record my own conviction that Mr. Bentham's 'Handbook of the British Flora' is (time, 1869) the most recommendable Flora I have ever seen for a beginner in botany. It wanted only a little more fulness and clearness in noticing the severed segregates under their proper aggregates, to render it a thorough model guide for students of British botany. Those of them who might afterwards wish to acquire a more exact knowledge of the segregate species or varieties, could then very rapidly have passed on to Floras written under that view. For making records of localities, and for other such like uses, a good knowledge of the subdivisions in these latter works has now become indispensable; otherwise the records, though not wholly useless, are left much less useful than they might be made.

2. *Thalictrum minus*, "Linn." Auct.—This was treated as a single species on page 79 by reason of the impossibility of

bringing its localities under the formula in any other way. It must shortly be noticed in partition, as four or five segregate species of the 'Manual' and 'English Botany,' little as can yet be shewn about their areas or distribution when taken singly, apart from each other. In books it has been treated as one species, — then divided into two species, — then re-united into a single species, — then re-divided into two other species, not the same as the former two, — then further divided into four species, these reduced to three, and again expanded into four species, in rapid succession. At length, the old specific name *minus* (always retained for one or other of the fragments) has thus ceased to have any precise significance or fixed application, unless when used for the four-fold totality or old aggregate species; the manner in which it is applied in Bentham's 'Handbook' before quoted, and on page 79 of this volume.

In the 'Synopsis' of Ray the plant in question was entered as two species, namely, *Thalictrum minus* and *Thalictrum montanum minus foliis latioribus*. These two were still kept up in the third edition of Ray's work, by Dillenius; but they were accompanied by a note, on the testimony of Richardson, stating that culture in the garden had proved the two identical. This was virtually reducing the two into one species; and accordingly we find them so treated in the 'Flora Anglica' by Hudson, who there places the *montanum* as a variety of the Linnean *minus*.

In the 'Flora Britannica' and in the 'English Flora,' as in various other works based on those Floras of Smith, a two-fold division of this aggregate was again made, namely, into *minus* and *majus*; the species in this new dual division not corresponding with those in Ray's dual division, for Smith imitates Hudson in placing the *montanum* as a variety of *minus*, disconnecting his own *majus* from them. While this division by Smith served passably well for distinction in most instances, it naturally led botanists to look to size as a chief difference between the species; thus doubts would arise occasionally as to which of the two names was most applicable, whether an individual example was large enough to be *majus*, or small enough to remain *minus*. And

the whole plants of the former would seldom be accessible for examination in the study, because only fragments of such large plants could be conveniently preserved in the herbarium. Eventually, it was found necessary to discard Smith's name of *majus*; because the species of Jacquin, to which that specific name more properly belonged, was different from Smith's plant, and one not found in Britain. Unfortunately, too, the same name *majus* had been used earlier for our British species *flavum*; the consequence being, that at later dates some of the localities for *flavum* were mis-assigned to Smith's *majus* in books, *ex. gr.* in the original 'Botanist's Guide,' page 37.

The subsequent changes will best be shewn through the successive editions of the 'Manual of British Botany.' In the first and second editions the accustomed names of *minus* and *majus* were still retained, and the species were treated accordingly as two only. In the third edition of that work (1851) a change began. Two other names, those of *flexuosum* and *saxatile*, to represent newer species carved off from the two older, were placed between *minus* and *majus*; both the latter still retained there, and thus raising the alleged species from two to four. The two new names were both applied to plants at Cheddar, in Somerset; making it appear that two distinct species had been found in that locality; the latter name of the two being also applied to a plant from Brathay (by Windermere), in Westmoreland. In preceding books the Cheddar plants had been designated *minus*, as a single species. The plant of Brathay had probably been named the same; as, under the county of Westmoreland, in the 'Botanist's Guide,' we find Dawson Turner recording *minus* on the borders of Windermere, and *majus* located only on the "banks of Ullswater." The former is the plant erroneously published as *flavum* in Martineau's Guide to the Lakes.

In the fourth edition of the 'Manual' comes a further change. *T. majus* of Smith ceases to be a distinct species, and its name is made a synonym of *flexuosum*. The number of species is thus reduced back from four into three. In the same edition the *T. Kochii* of Fries is entered as a synonym of *T. saxatile*; the

localities assigned to this latter now being "Damp places in the Lake district"; but the locality of Cheddar was not repeated for it. Now, as Cheddar, in Somerset, is not a damp place in the Lake district, we had only the name of *flexuosum* left for the plants of Cheddar; and yet Smith's *majus*, pre-eminently a plant of the Lake district, was still made synonymous with *flexuosum*. Altogether, these were sufficiently puzzling emendations of the arrangements in former editions.

In the fifth edition of the same 'Manual' (1862) we find still other changes; the same names being retained, but applied in a somewhat different manner. The four names there used were *minus*, *flexuosum*, *Kochii*, and *saxatile*. The two first of these four specific names apparently were applied nearly as before; *Kochii* supplanted the name of *saxatile* (Bab. ed. 3, 4) for the species of "damp places in the Lake district"; and another *saxatile* (of Schleicher) was brought in, and the name bestowed upon a species of "stony places" in England exclusively. From which of the three species in edition fourth this new *saxatile* was split off, the Author of the 'Manual' did not explain to its readers.

In 'English Botany' (1863) and in the sixth edition of the 'Manual' (1867) the same four segregates last above named are adhered to. In the latter work they stand as so many equivalent species. But in the former work, the *flexuosum* figures only with the equivocal dignity of a "sub-species" under *minus*, and it is given as made up from parts of *minus* (Sm.) with parts of *majus* (Sm.) clubbed together. These various variations, whether approximating nearest to the sublime or to the ridiculous, may be epitomized historically in this fashion:—

Ray, 1696. Two species, *minus* and *montanum*.

Hudson, 1762. One species, *minus* with var: *montanum*.

Smith, 1800. Two species, *minus* and *majus*.

Babington, 1851. Four species, *minus*, *flexuosum*, *saxatile*, *majus*.

Ditto, 1856. Three species, *minus*, *flexuosum*, *saxatile* no. 1.

Ditto, 1862. Four species, *minus*, *flexuosum*, *Kochii*, *saxatile* no. 2.

English Botany, 1863. Four species, *minus* (including the two subspecies *eu-minus* and *flexuosum*), *Kochii*, *saxatile* no. 2 (this last not quite certainly a full species).

The *minus* of the 'Manual' (or the *eu-minus* of 'English Botany') is divisible further into var: *maritimum* and var: *montanum*. Including these two varietal subdivisions, the segregates now stand at five, and have remained so since 1862, but indications of other variations have already been given. I confess myself unable to apportion half the specimens in my own herbarium satisfactorily among the five; and hardly care to do so, in truth, under an expectation of other changes impending.

And now, puzzled Reader, can you instruct me how the localities recorded for *minus* or *majus* nominally, in the times of Ray, or Hudson, or Smith, or Babington up to 1856 inclusive, are to be apportioned among the four species of 1862—70; among the *eu-minus*, *flexuosum*, *Kochii*, *saxatile* no. 2, and the two varietal halves of *eu-minus*? Lists and localities, in or for which the old names of *minus* and *majus* have been used, have now become unavailable in attempting to trace out the distribution of any of the four or five segregates adopted for the present; but how soon to be rejected in favour of some other mode of dividing and naming the aggregate *minus*, who can say? Even should the writer of a Local Flora, or the recorder of a locality, expressly follow the 'Manual of British Botany' (and, it is fully admitted, he could hardly do better at present), it would still be necessary for him to inform his own readers, which one of the six editions he supposed himself to be following, in his nomenclature and species of *Thalictrum*. The next score years will prove insufficient time, in this instance, to rectify the mischief arisen, and still to arise, through an unwise introduction of new names and descriptions into books, before the plant-species themselves had been properly investigated and understood.

3. *Viola canina*, Auct.—The canine violets have been divided and treated under several names on page 108, because the separate distribution of some of these modern segregates could be shewn with fair approximation to accuracy, although still not fully shewn even in Britain by itself. Originally, they were treated as a single species by Ray and his predecessors; perhaps

not all of them known to him. They still appeared as such so late as 1858, in the 'Handbook' of Bentham, where the Linnean specific name *canina* is made applicable to the aggregate species, which has been treated segregately on pages 108—9 of this volume, under the names of *sylvatica*, *canina*, *lactea*, and *stagnina*. Possibly with the exception of *stagnina*, Mr. Bentham's use of the name is more truly the Linnean one, than is any restriction of it to forms exclusive of *sylvatica*.

In the 'Flora Britannica' (quoting Eng. Bot. t. 445) a severed species appears under name of *lactea*. But it seems that Smith (perhaps misled by Edward Forster) then confused with his *lactea* the other plant afterwards described under name of *flavicornis*. His words "Folia in hortis cordata evadunt, floresque cærulei" were likely suggested by a garden example of *flavicornis* confused with *lactea*. In the 'Flora Scotica' Hooker went farther astray; for he there transferred the name *lactea* to the species *flavicornis*, as is shewn by the specimens from Mr. Maughan, which belong to the latter. Has any botanist ever found true *lactea* in Scotland?

In the 'English Flora' the *Viola canina minor* of Dillenius (page 479) and his successors is again raised to the grade of a species under the name of *flavicornis* above mentioned. But it can hardly be questioned that Smith himself never clearly understood any one of his three species of canine violets. His *canina* certainly intended what is now called *sylvatica*; but along with this he seems to have constantly confused the larger examples of *flavicornis*. In situations the most favorable to its growth this latter rivals *sylvatica* in size; and yet Smith particularly distinguishes it as a "little plant," with leaves "scarcely half an inch long," and which remained of the like "humble stature" for above a dozen years in a garden. Edward Forster went beyond this union by size; clubbing together the little examples of *sylvatica* along with the little examples of *flavicornis*, to make up his idea of the latter species. Again, by Smith or others, the *lactea* has been confused with *flavicornis* on the one side, and with *stagnina* on the other side. No wonder that we, the immediate



successors of Smith and his cotemporaries, so long failed to make out his species clearly.

We may now look into the 'Manual of British Botany' for a gradual clearing away of the confusion, by bringing into use and prominence the real and sufficient distinctions between the several species. In this instance, the imitation of foreign Floras proved to be nearly the right course. Unfortunately, the clearance came so gradually and hesitatingly, as to put the successive editions of the 'Manual' inconveniently inconsistent with each other. In the first edition a retrogression was made, by re-combining or re-confusing Smith's three species into one; which was, however, correctly designated *canina* (Linn.) In the second edition a better course was taken, by separating *sylvatica* on the one side, and *lactea* on the other side; but still leaving the shorn *canina* something of an ill-understood jumble between them; and inconsistently keeping up the same name restrictedly to a third of the whole, which in edition first had meant the whole of the whole. It is this bad practice, as already shewn under *Ranunculus aquatilis*, which has repeatedly caused confusion, instead of elucidation, in Professor Babington's writings about English plants.

True, at the date of his second edition, he had not yet seen his way clearly among these plants. The *sylvatica* is far the most abundant of the three in England, and it had consequently become the representative of the Linnean *canina* in our herbaria, and was figured for it in 'English Botany.' But in that second edition it was indicated as questionably "common?" While the less plentiful *flavicornis* (the *canina* of that edition) was reported positively "common." These indications, taken in connexion with the imperfect descriptions, shew the Author of the 'Manual' not yet become quite familiar with the true species in their living reality, apart from books, so lately as 1847. And at that date, it may be, no English botanists were more clear and advanced in their knowledge of these canine violets.

In the third edition of the same book there is further progress; perhaps also an unwarranted retrogression. *Viola stagnina* is there added; having been previously confused with *lactea*. It

would have made a fourth species, had not this numerical increase been prevented by placing the true *lactea* as a variety of the Babingtonian *canina*. The three adopted species—*sylvatica*, *canina* (including *lactea*), and *stagnina*—are there at length fairly discriminated by physiological characters, derived from their different modes of growth or evolution. Nature is at length understood.

Thus have these canine violets remained up to edition sixth, in which another of them is added by name of *arenaria*; whether a true species, or a dwarf hill and sand form of *sylvatica*, for the present may be held “an open question.” The Author of the ‘Manual’ keeps it away from its near-akin *sylvatica*, by placing his *canina* between them, and so getting *arenaria* between his subform *lactea* and *stagnina*. Thus, the important character of “flowering branches axillary from a short flowerless central rosette of leaves,” the very character which connects them, is virtually blinked. In ‘English Botany,’ more faithful to natural affinities, the plant is mentioned under *sylvatica*, as the “*V. arenaria* D.C. which closely resembles *Riviniana*.”

The arrangement of these canine violets in ‘English Botany,’ though not materially different, is improved in clearness and expressiveness. Three primary “species” are described there; two of them subdivided into secondary or segregate “sub-species,” thus:—

- I. *Viola sylvatica*, Fries.
  1. *Riviniana*, Reich.
  2. *Reichenbachiana*, Bor.
  - (? *arenaria*, DC.)
- II. *Viola canina*, Bab.
  1. *flavicornis*, Sm.
  2. *lactea*, Sm.
- III. *Viola stagnina*, not subdivided.

This arrangement shews well the similitudes or relationships between the plants; in each instance, the distinctions between I and 2 being of slighter kind or character, than are those between I, II, III. *Riviniana* and *Reichenbachiana*, however, seem

more closely allied than are *flavicornis* and *lactea*. For instance, it would seem to my expectations more likely that *Reichenbachiana* should evolve from a seed of *Riviniiana*, than that *lactea* could evolve from a seed of *flavicornis*. It may be said that 'English Botany' virtually shews five species, which are treated as three only in the 'Manual.' But this is simply a question of degree; since all five are recognized in the 'Manual,' editions fifth and sixth, and are there distinguished either as species or as varieties. In making *Reichenbachiana* the type for *sylvatica*, instead of the more robust and abundant *Riviniiana*, Professor Babington followed his too frequent course of steering as wide of nature as he well could get; certainly not from an inability to understand nature, but in adhesion to some pet writer on the Continent. To prefer foreign writers before those of our own country, looks learned and may be held optional; but to prefer the artificial arrangements in foreign books, before the living nature we see around us at home, is surely something short of wisdom.

This historical sketch of *Viola canina* brings us again to the old difficulty. How are we now to know, when seeing the name of *canina* in a list of plants or connected with a locality, what exactly is intended by the name? (1). Is it the all-inclusive *canina* of Bentham's 'Handbook' and of the ante-Smithian botanists? If so it may intend any one of the five species or sub-species of 'English Botany.' (2). Is it the *canina* of Smith, made up from *sylvatica* with the large examples of *flavicornis* added in? If so, it may intend any of the three sub-species, exclusive of *lactea*. (3). Is it the *canina* of the 'Manual,' latter editions only, or of 'English Botany,' edition third? In this case, how are we to know whether it intends *flavicornis* or *lactea*, as the plant of the locality? The name of *Viola canina* has come to signify only 'this,' 'that,' or 'the other species.' How curiously exact and clear are we making our botanical nomenclature!

4. *Hypericum quadrangulum*, Auct. (say, of DC. prodr.)—The segregates of this have been more confused by false-naming, than by changeability of division in England. It affords an equally

instructive example, although one of a different kind from the three preceding aggregates. Its three segregates, treated apart on pages 129—30 of this volume, are now generally recognized and well understood; although an exclusive use of some descriptive works and editions might still much mislead a student. Beginning this time with the 'Flora Anglica,' we find Hudson's curt Linnean character for his one species "floribus trigynis, caule quadrato herbaceo" applicable to any of its three segregates now recognized as so many good species.

In 'Flora Britannica' the *dubium* appears as a distinct species, disconnected in print from *quadrangulum* by the interposition of *perforatum* between them. Smith there shews that he sufficiently understood these plants, by his contrasted characters of "foliolis calycinis lanceolatis" for the *quadrangulum*, and of "foliolis calycinis ellipticis" for the *dubium*. Hooker's 'British Flora' and other descriptive works kept up the same easily distinguished species; and thus there seemed scarcely a chance left for any English botanist to throw them into confusion. And yet, through the help of foreign importations, the chance has been found and acted upon twice over!

The Authors of the 'Flora of Shropshire' and 'Primitiæ Floræ Sarniciæ,' with the good intention of correcting the imputed errors of everybody else, did contrive to confuse our otherwise clear nomenclature, by their efforts to rectify it. They transferred the name *quadrangulum* to *Hypericum dubium*, discarding this latter specific name. They compensated our familiar species, the true *Hypericum quadrangulum*, by giving to it the name of *tetrapterum* instead of its own. This was an imitation of the Friesian model; being about equivalent to a declaration, that a misnomer by Fries was more reliable than a correct name used by all English botanists, themselves only excepted.

The two species thus each became blessed with two specific names. And as if to convert that simple inconvenience into a compound confusion, in each instance one of its two names now meant the other species also. The nomenclature was rectified into this highly unsatisfactory position:—

Species 1. *H. tetrapterum*, *alias* *quadrangulum*.

Species 2. *H. quadrangulum*, *alias* *dubium*.

Thenceforth, when recorders of localities used the familiar name of *quadrangulum*, the question would necessarily arise, 'Which of the two species they intended by that name?' The first or the second? This *quadrangulum* or That *quadrangulum*?

By good chance, that unlucky blunder never got into the much-used 'Manual'; it blemished only some local Floras and other works of less botanical importance. But one of the two plants under notice nevertheless seemed destined to keep up error and confusion among us, sown broadcast through the 'Manual' itself. There appeared a sort of unwillingness to let it get back its true name of *dubium* fully and honestly. In the first edition of the 'Manual' that poor victim was split unequally into two supposed species respectively named *maculatum* and *dubium*. And with a curious taste for confusing innovation, the old name was specially restricted to a "rare" plant, a very local and lesser half, while the new name *maculatum* was freely bestowed upon the better half, the comparatively common plant, which all preceding botanists had known as *dubium*. This perverse crotchet was carried into the second edition also. More wisely, in the third edition, the legitimate name *dubium* was restored in full to the species; that of *maculatum* being now in its turn restricted to a trifling variety of it.

The recent discovery of *Hypericum baticum* in Cornwall and Devon, by Mr. Archer Briggs, has completed the trio of quadrangular species, as treated in this volume at pages 129—30. Professor Babington takes up the older name *undulatum*, instead of the more recent *baticum*, for the plant of the peninsular province; and perhaps he is technically correct in doing so. Reichenbach's figure of *undulatum* may possibly have been intended for our species, although (if so) it is made an un-likeness of the plant through the exaggerated waving of the margins of the leaves and other defects. Equally exaggerated in another way, is the better figure in the 'Journal of Botany,' where the artist has represented our plant with the large flowers of *dubium* or

*perforatum*; whereas its own flowers are nearer to those of true *quadrangulum* (*tetrapterum*) in size, though still somewhat larger, and also deeper in their colour. Under which of the two names, *dubium* or *quadrangulum*, had the *baticum* passed before its distinctness was observed by Mr. Archer Briggs? Some among the many botanists who had sought plants in Cornwall and South Devon must surely have noticed it there?

Through some unexplained error it is enumerated in Seubert's 'Flora Azorica' under the name of *perforatum*. In Lowe's 'Flora of Madeira' it passes for the Linnean *quadrangulum*. Equally with *dubium* it was made one of the varieties of *quadrangulum* in the 'Prodromus' of De Candolle; that is, assuming it to be certainly the *undulatum* of Schousboe. Not conceiving it to be a variety distinguished from the Linnean *quadrangulum* in the 'Prodromus' only by the three words "foliis margine undulatis," I described it in the 'London Journal of Botany' under name of *H. decipiens*, a name suggested by the uncertainties about it. Subsequently, it was found to have been named and described independently by Botanists in different countries; and in consequence it had a different name in each country.

The purpose of this story is, to shew that the name *quadrangulum* may now unfortunately intend any one of the three species; it having been specially applied to each of them singly, and also to all of them unitedly. Hence a necessity now for using some other name for each one apart from the other two, or else for giving some sort of explanation, as to which of the three plants is really intended by the use of a name made inconveniently common to all of them.

5. *Valeriana officinalis*, Linn.—This plant affords an illustration of more simple character than the preceding examples. Originally treated as one species in Ray's 'Synopsis,' it was divided into two, or a second species added, by Dillenius. The original was recorded under the appropriate names of "*Valeriana sylvestris major*" and "*sylvestris magna aquaticum*." The added or parted species was described as "*Valeriana sylvestris major*

*montana*” and “*folio angustiore*.” Both are adopted in ‘Flora Anglica’ and in ‘Flora Britannica,’ as a single species under the Linnean name *officinalis*, the second being placed as a variety. They are still the same in the ‘English Flora’; but an important distinction is there made in indicating their situations of growth, namely, while the *officinalis* is located “in marshes, and about the banks of pools and rivers,” the montane variety is assigned to “dry mountainous woods and pastures”; the word *dry* being an addition to the previous description of place in the ‘Flora Britannica.’ This addition shewed that Smith had ascertained the narrow-leaved variety to be the inhabitant of drier situations.

Between the dates of Smith’s two Floras, Gray’s ‘Natural Arrangement’ had more decidedly distinguished the variety thus; —“Stem slender; leaves narrower; root more aromatic.” In Gray’s book the name *montana* was adopted for the narrow-leaved variety, with a reference to Dillenius. In the ‘British Flora’ by the late Sir William Hooker, the variety is lost sight of; and thus we got back to the single species of Ray. This neglect of the variety prepared the way for a subsequent confusion in our nomenclature presently to be pointed out. None of the above mentioned authors would appear to have observed the more numerous leaflets of the montane or narrow-leaved variety. Perhaps that variety was little known to them; for, if not absolutely rare in Britain, it is certainly much rarer or more local than their type form, that of the marshes and such like wet places.

The Author of the ‘Manual’ foreshadowed an innovation in his first edition, and carried it into effect in his second. He did so with a neglect of his English predecessors, in favour of anything foreign, which he had almost promised us on the first page of his first Preface. And here again, as in the preceding instance of *Hypericum*, an ill-considered foreign importation has thrown our nomenclature into confusion. In that second edition an alleged species is disjoined from *Valeriana officinalis*, under the name of “*sambucifolia* (‘Mikan’).” It is distinguished by its less numerous leaflets; which are stated at 7—10 pairs in *officinalis*, and at

4—5 pairs in *sambucifolia*. This difference prevails, but is far from constant; it being no unusual thing to see plants of *sambucifolia* with six pairs of leaflets, and others of *officinalis* with only five or six. And as the less numerous leaflets are usually wider and more serrate, the two chief differences almost disappear in many instances; for flowers, fruits, and stolons are the same in both.

The change in the 'Manual' was in truth only repeating in a topsy-turvy manner the distinctions made of old by Dillenius, Hudson, Withering, Smith, and Gray; converting their second species or variety into the type, and their type into the variety; disguising the real character of the change by help of the new foreign name *sambucifolia*. Much inconvenience and confusion were sure to arise through an unnecessary exchange of names such as this. The localities of the old type (re-named *sambucifolia*) are fifty times more numerous in Britain, and consequently that usual form represented *V. officinalis* in most of our herbariums, and had been figured for it rightly in 'English Botany.' Thus, when botanists were told of a supposed second species, under the new name of *sambucifolia*, they compared specimens of this imagined novelty with specimens of the same thing under its old name *officinalis*. Of course, they were only mystified by an attempt to enlighten them, which was so badly carried out. The matter has remained in this confused condition in the 'Manual' up to its latest or sixth edition; very likely, it has so remained because the Author of the book has never yet clearly understood his own handiwork. Even the same misleading notice as to situation of growth has been regularly repeated. Notwithstanding the differences more correctly indicated in 'English Flora' two score years ago, and even intimated by the mere names ("aquatica" and "montana") used in Ray's Synopsis, edition third, we have this information substituted in the 'Manual':—

*V. officinalis*. "Ditches and damp chalky places."

*V. sambucifolia*. "Damp places."

So that, as far as any difference of site is expressed by these words, students are told that it is the broad-leaved form, the one



with few leaflets, which grows in the less watery places. But *sambucifolia*, the form with 4—6 pairs of broad leaflets, is more especially the plant of ditches and watery places; while the other form, that with usually more numerous and narrower leaflets, is the plant of the less humid places. This difference is conspicuously shewn near Godalming in Surrey, for instance, where the narrow-leaved form is plentiful among nut-bushes on a sandstone hill infiltrated with chalk, known as Frith Hill; while the broad-leaved *sambucifolia* alone grows in a deep bog at its base, among alder bushes and various swamp plants. This is a noteworthy difference, considering that seeds from the hill plants are likely to be blown into the adjacent bog year after year. In each place the plants occur by hundreds; and elsewhere in the same county I observe the like connexion between the varieties and their places.

When Mr. Boswell-Syme took the question in hand for 'English Botany,' edition third, a more accurate observation and a better botanical judgment were brought to bear upon it. This botanist adheres to the single species, and gives it under its proper specific name *officinalis*. He distinguishes the two segregates, as varieties differing but little from each other. And he avoids the confusion, by giving to each of the segregates its own distinctive name; adopting that of *sambucifolia* for the abundant broad-leaved form, and fitting that of *Mikanii* to the rarer narrow-leaved form. In consequence, those botanists who may have occasion to speak of these plants, or to record localities for either, can now do so in an intelligible manner, by using the names of 'English Botany.' They can record any form of the species by its old and true name *officinalis*; or they can shew exactly which variety of it is intended, by using *Mikanii* or *sambucifolia*, as the case may require. Truly, we much needed a Boswell-Syme, to adjust our botanical nomenclature to the requirements of science and the dictates of common sense!

6. "*Aspidium spinulosum*, Sw." is the name used in 'Bentham's Handbook' to include under its broad wings the three

ferns treated separately on pages 411—2, under the specific names of *spinulosa*, *dilatata*, and *æmula*. The most dissimilar views still hold place among our botanical authorities in respect to the specific relationships of these ferns. They had, however, been described as distinct species so frequently, with so many special localities recorded for each, that it was found practicable to treat their distribution apart on preceding pages. Such was the rule followed in all cases where it was found at all possible to act up to it. But those botanists who have looked over the examples of name-confusion given on preceding pages, will hardly experience difficulty in believing that the rule must have proved an impossible one in some instances.

Ferns appear to have been understood very imperfectly by the ante-Linnean botanists; and even through the books of the eighteenth century there runs a want of clear distinctions between them. Perhaps some Fern-lovers will be ready to declare, that such want of clearness is still to be found in the writings of leading botanical authorities even past the middle of the nineteenth century. This want of clear perception about them may be attributed mainly to the examination of dried fronds in the herbarium, more than a careful observation of the whole living plants in the wilds, or even under less natural conditions in the gardens. Several of the allied species are so closely similar during the first few years of their existence, that single fronds of them in the herbarium can scarcely be distinguished, unless by those botanists who have become specially familiar with the several species as they appear at their different ages. In this respect they may be likened to shells, many species of which must be traced from young age to mature growth, through series of specimens, before they can be understood sufficiently. The manner of growth or evolution, the kind of rootstock or rhizome, so seldom shewn by herbarium specimens of ferns, will occasionally serve well to decide a question about difference, which fronds alone in the herbarium would leave unsolved.

An instance of this sort of assistance will not be unuseful, and here scarcely out of place, because it throws light on the

distinctions of the ferns which have been bundled together under the same name of *spinulosa*. Two of the species included under *spinulosa* by Mr. Bentham, Sir W. Hooker, and other botanists of the highest authority (the *spinosa* and *multiflora* of Newman, the *spinulosa* and *dilatata* of this volume), are quite easily distinguished by their root-like stems or rhizomes at all seasons of the year; so that a thousand plants of them promiscuously mingled in the winter, with every frond cut away, could still be sorted into their two kinds; perhaps without a single mistake, if no plants of less age than half a dozen years should be mingled among them. And yet, strange to say, a very recent and able writer on the Ferns of Europe (Milde) prints such an erroneous statement on this head, as almost to force a doubt whether he had ever seen both of these ferns alive. He writes "*Rhizoma Aspidii spinulosi nullo modo ab A. dilatato differt.*" Mr. Newman tells a different tale in the 'History of British Ferns;' although perhaps he rather over-states (or un-clearly states) the differences, instead of denying them altogether; thus:—

L. *spinulosa*. "Caudex stout, slowly but extensively creeping."

L. *dilatata*. "Caudex large and tufted; I have never found it either horizontally elongated or branched."

The spreading caudex of *L. spinulosa* had been correctly represented in 'English Botany,' no. 1460; a plate strangely referred to by Hooker and Arnott, as a figure of *L. recurva*.

A record in four words may be seen on page 411 of this volume, the detailed explanation of which will shew us a practical refutation of Milde's statement, and equally practical confirmation of Newman's description. The four words are "West Inverness; Mrs. Maskelyne!" When my manuscript for the page quoted from was sent to the printer, I was not aware of any sufficiently reliable record for true *spinulosa* farther northward than Perthshire. Before receiving the printer's proof of page 411 I had been shewn examples of that fern brought from Inverness-shire by the Lady named. She knew it apart from *dilatata* by the loose or less-tufted crowns of leaves, consequent on the branched and horizontally spreading character of the rhizome. Now, if the

rhizomes of the two species differ in no wise "*nullo modo*," how did the Lady named manage to distinguish one from the other by a difference in leaf-growth, depending entirely on the difference of underground stem or rhizome?

It may be useful to explain here, however, that plants of *spinulosa* may be found often enough without rhizomes extending horizontally under-ground. For example, such plants may be seen growing above the surface of the ground, about the branching stocks of alder bushes, in coppices periodically cut down, or on the mossy trunks of trees in swamps. Horizontal extension is only slightly possible in such situations; but the tendency to it is shewn by the crowns of *spinulosa* loosely dividing into small tufts of leaves, after few years of growth; not remaining like the dense crowns of *dilatata* under similar conditions. And there are still the other differences, in the form and colour of the scales, to assist diagnosis. But this is digressive; the object properly before us at present, is the change of segregate nomenclature, rather than the purely distinctive characters.

In 1858 Mr. Bentham stood not alone among us in England, by uniting into one all the three species now more usually accepted as distinct. Sir William Hooker was still doing the same up to the sixth edition of the 'British Flora.' (Edition seventh has not come under my own examination.) But in edition eighth the late Dr. Arnott diverged rather remarkably from that aggregation. Both the other great Botanists named had kept *cristata* quite apart from their inclusive *spinulosa*; Hooker even interposing *Filix mas* and *rigida* between them in his Flora; while Bentham, more true to nature, has avoided that unnatural separation, by bringing the two former into immediate sequence.

Dr. Arnott equally makes two aggregate species out of the four; but he does this in a different manner, namely by uniting *cristata* and *spinulosa*; thus leaving the Hookerian and Benthamian aggregate reduced to *dilatata* with *amula*, under the name of *Aspidium dilatatum*. This is a curious instance of discordant views; for it is taking away a part of one species (*vide* Hooker and Bentham) and patching it on to another and distinct species (*vide*

Hooker and Bentham still). Nevertheless, this was sound discrimination (borrowed from other observers) on the side of Dr. Arnott, for the two couples so formed bring each one of the four segregates into union with its next of kin; and we have only to split Arnott's couples (or perhaps only one of the two couples) to work down to things pretty clearly distinct from each other by physiological characters. The *dilatata* and *æmula* seem to be sufficiently distinct, by several permanent characters; and if once clearly known, they cannot afterwards be confounded with each other. But the *uliginosa* of Newman, a variety diverging from *cristata* towards *spinulosa*, or *vice versa*, keeps these two latter in closer relationship; seeing that botanists are ill agreed to which of the two it ought to be assigned. Sir William Hooker referred it to *spinulosa*. I thought him correct in this, while judging only from dried fronds. But after watching it in cultivation through some years, side by side with *spinulosa*, I now separate it from this latter and refer it to *cristata*. The three are closely alike in form and general habit, though divergent in the cutting of their fronds; and when they are full-grown and perfect, they look wide apart from the living *dilatata*. I think that scarcely any botanist could confound this last with the others in a wood or swamp, although he might readily do so through book descriptions, or even in the herbarium. On young or weakly plants of *dilatata* and *spinulosa* the fronds are short and subtriangular. On older and vigorous plants they are deltoid-lanceolate in *dilatata*, deltoid-linear in *spinulosa*; that is, lanceolate and linear, always tending to deltoid by the length of the lower wings, in much the same manner as *angulare* may be distinguished from truly lanceolate *lobatum*, or *Filix fœmina* from *rhæticum*.

Now going back some time in the chronological nomenclature of these ferns, we find Hudson's Flora (1762, etc.) describing a *Polypodium cristatum* to represent them, with the addition of a *Polypodium rhæticum* from Westmoreland, possibly to stand for a variety of one of them, not of *Cystopteris fragilis*. But we may hold it almost certain that Hudson had not seen either *æmula* or true *cristata*; and if so, his *Polypodium cristatum* meant simply

the two ferns we now know as *dilatata* and *spinulosa*. It is not conceivable that London botanists had seen only one of those two plentiful ferns before the end of the eighteenth century; but, like leading botanists of this time, they doubtless held them forms of a single species.

In the 'Flora Britannica,' 1804, we find a dual division into the *spinulosa* and *dilatata* as now understood,—the *Polypodium rheticum* of Hudson alluded to as seemingly a variety of *dilatata*,—a declaration that the *crinata* of Linneus is a species quite distinct from those,—with a compliment to Withering as the elucidator of *spinulosa*. This was a good advance beyond Hudson; but unfortunately succeeding botanists retrograded into confusion again. In 'English Flora,' a quarter century later, the dual division of its Latin predecessor was made tripartite by addition of a supposed third species under name of *dumetorum*, a fern which has since led to considerable discussion. On faith of the Banksian herbarium the *rheticum* of Hudson is quoted as synonymous, and it may be so.

By some fern-men it has been thought that Smith's *dumetorum* was the more modern species *æmula*. (See Newman's 'History,' pages 60 and 61 of first edition, page 230 of second edition). I assume this to have been a mistake, relying on the evidence of five fronds sent by Shephard to Smith, from a Derbyshire root cultivated in the Botanic Garden of Liverpool; also, of one frond picked by Dr. Godfrey Howitt, in "Smith's original locality of Cromford Moor," as stated on its label in my herbarium. These six fronds all belong to dwarf *dilatata*. The garden specimens are conspicuously convex (not concave or recurve) on their upper surface, their outline is not triangular as in *æmula*, and the scales on the stipes are dark and entire. They were found among miscellaneous plants bought at the sale of the Linnean Society's collections; and putting little circumstances together, I inferred that they had been sent to Smith in the year 1825. They are passably represented by Newman's figures of *dumetorum* on page 60 of the first edition, especially the upper figure, which is given for *nana* on page 222 of the second edition, repeated on page 153

of the third edition. I may add, however, in referring to Mr. Newman's *nana*, that my experience with living roots sent to me as "dwarf *dilatata*" by Mr. Tatham, is exactly the opposite of the statements made on the pages referred to. In my own garden, Mr. Tatham's plants have gradually increased in size and resemblance to ordinary *dilatata*, until they have become so similar thereto, that I should doubtless have passed by them as simply *dilatata*, if found wild. It seems safe to assume that Smith never knew *L. amula*. As Gray had done in 1821, so Smith in 1828 added true *cristata* to his enumeration of English ferns; but his specimens of it had been received from Francis in 1805, after publication of the 'Flora Britannica.'

Mr. Newman's beautiful 'History of British Ferns' began a new era in our fern-literature. True, the work of G. W. Francis was the first to meet the rising taste for ferns, being three years earlier in the field; but his figures were too small for clearness, and wanted the artistic elegance of those which adorn Newman's works. The first edition of the 'History,' indeed, gave only faint prognostication of what it subsequently became. In that edition, Mr. Newman started as a severe unionist; and it was not until the second edition, 1844, that he changed sides (on better knowledge?) and became as decidedly a separatist. In the first edition we find *cristata* kept apart, but Smith's other three species (*dilatata*, *dumetorum*, *spinulosa*) clubbed together under the one name of *dilatata*, made applicable to all. But four subordinate forms are clearly enough distinguished even in that first tentative edition, namely, Smith's three species with the addition of Bree's *recurva*, subsequently known as *Fæniseeii* of Lowe, and then as *amula*. In the second edition three several species are described under the names of *multiflora*, *spinosa*, and *recurva*; the *dumetorum* of Smith figuring as variety *nana* of the first. These names meant the species now familiar to us as *dilatata*, *spinulosa*, and *amula*; names much more correct than those of Mr. Newman, according to botanical rules. In his successive editions Mr. Newman fell more and more into the egotism of

name-changing; a procedure which has justifiably created some bias against his fern-books, otherwise so very recommendable.

The 'Manual of British Botany' may be said to have imperfectly imitated 'Newman's History.' In its first edition, 1843, Bree's *recurva* is unnoticed by name; *dumetorum* is mentioned as a sub-variety of "*triangularis*," which is assumed as the first or type variety of *dilatata*; while *spinulosa* is made a second variety under name of "*linearis*." In the second edition, 1847, we find Newman's three species recognized, and the 'History' referred to; but the better established names of *dilatata* and *spinulosa*, with *Fœnisecii*, were kept to instead of those taken up by Mr. Newman. Little change has been made subsequently.

It thus appears that Newman in 1840, Babington in 1843, Hooker in 1850 and later, and Bentham in 1858, were about on equality in their ideas concerning these three ferns, that is, they then alike clubbed all three into one inclusive aggregate. But subsequent to those dates, Mess. Newman and Babington have held that one aggregate to be more properly divisible into three true species with subordinate varieties; while Dr. Arnott, in dividing into two, united with *cristata* the form (*spinulosa*) which he severed from *dilatata*. The state of the nomenclature and division at different dates may be thus shewn:—

Hudson, 1762. Two species, *cristata* and *rhætica*.

Smith, 1804. Two species, *spinulosa* and *dilatata*.

Smith, 1828. Three species, *spinulosa*, *dilatata*, *dumetorum*.

Babington, 1843. One species, *dilatata*, with var: *linearis*.

Babington, 1847. Three species, *spinulosa*, *dilatata*, *Fœnisecii*.

Hooker & Arnott, 1850. One species, *spinulosa*.

Bentham, 1858. One species, *spinulosa*.

Hooker & Arnott, 1860. One and a half species, *dilatata* (including *œmula*) for one species; *spinulosa* (become a portion of *cristata*) for the half species.

Thus, through a long history, comes out again another illustration of the old difficulty. Writers of local Floras or other botanical records may profess to follow one or other of these Authors in their nomenclature, or to abide by that of Mr. Newman. This



would be insufficient explanation, although some local writers might excusably be unaware how or why it would be insufficient. If they wish to be intelligible, they must tell us further which edition they suppose themselves to be following. In cases where we do not find this more explicit information, and unfortunately in some instances even when we have it given, we may remain quite at a loss to know what is really intended by a specific name used. Take the name *spinulosa* in illustration of this uncertainty. According to the 'British Flora' of 1850 it may mean itself as a segregate species, corresponding with the *spinosa* of Newman; or it may mean *dilatata*, corresponding with the *multiflora* of Newman; or it may mean *æmula*, corresponding with the *recurva* of Newman. According to the same work, edition of 1860, it cannot mean either *dilatata* or *æmula*, but must exclusively mean a form of *cristata*. Or, take the name *dilatata*, almost equally confused and uncertain. According to the first editions of the 'History' or the 'Manual,' it will include and may mean either *dilatata* or *spinulosa*, or even *æmula* more or less confused with *dumetorum*. Thus, when meeting with localities on record for "spinulosa" or for "dilatata," without further and special explanation, how are we to know whether *spinulosa*, or *dilatata*, or *æmula*, or *dumetorum* is truly intended by either name? Each name may mean any one of the four ferns.

These instances given at some length from the genera *Ranunculus*, *Thalictrum*, *Viola*, *Hypericum*, *Valeriana*, and *Aspidium*, are only samples of many such confusions in our descriptive Floras. I could have wished to give other illustrations from the yet more confused and changeable nomenclature in the genera *Rubus*, *Rosa*, *Hieracium*, *Mentha*, *Salix*, and *Potamogeton*; were it not that their unavoidable length and tediousness would too far exhaust my own pages and the Reader's patience. Those Readers who may have thus far got through the half dozen illustrations, and have begun to estimate the difficulties they bring in the way of a writer on geographic or topographic botany, will feel no surprise that he should be so hostile to needless innovations which add to the difficulties by further increasing the confusion.

In general, however, the differences between our describing books turn more frequently on the greater or less number of segregate species which are taken up by them. And where this only has been the case, without such injudicious transfers of name from one plant to another, or from one combination to a different combination, the recorded localities can be made available so long as we are keeping to the larger aggregates. But nothing is gained in this way, towards ascertaining the special distribution of the segregates. For this latter purpose the requirements are different and more rigid. The subordinate forms, whether held to be species or varieties, need to be clearly discriminated; they must be mentioned by names which tell precisely what is meant, and nothing else; and whenever possible it should be stated whether only the one special form is found in the locality, or other forms also. So little hitherto has been done in this way for many of the segregate forms, that their treatment in the following pages can be only a meagre beginning.

How far to notice the more petty segregates, usually the more difficult to trace topographically, is a matter of some hesitation. Where it is practicable to do so, I am inclined to notice even petty segregates. But some limit must be set to this; and in general mere differences of size, or colour, or pubescence, will not be deemed sufficient to warrant separate treatment; even though such differences are made into specific distinctions by some botanical describers. In the old writers, of ante-Linnean times, the white-flowered varieties were not seldom taken up as species. And at the present time we find rather a tendency to make varieties "*minor*," different only by size from the typical forms. The absolute difference between "*glabra*" and "*hirsuta*" may be allowed usually to constitute good varieties; but that of a graduated pubescence, a little more or a little less, will be held insufficient distinction,

## IV. ADDITIONAL LIST.

INCLUDING

Segregates, Aliens, Casuals, Extincts, Errors and Ambiguities.

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### PRELIMINARY EXPLANATIONS.

This miscellaneous List is intended to include any plants reported to have been found seemingly wild in Britain, under conditions which have not been deemed sufficient to warrant their inclusion in the foregone 'Synopsis of Species,'—or, concerning the localities for which our knowledge is yet so imperfect that it was found practically impossible to bring them under the formula there adopted. The heterogeneous assemblage is divisible into various groups or categories, as above indicated; although such divisions will be found to pass one into another by almost insensible gradations, widely different in meaning as the terms used to designate them may appear to be. Just as gradually do they pass into the three categories of plants before treated in the Synopsis. These still remaining for notice, in the following list, are separated from those previously treated in the Synopsis, by an uncertain line, chiefly determined by our lack of sufficient knowledge about their localities, or by our individual differences of opinion respecting the degree or character of their wildness in this country. Nevertheless, it seems desirable to classify them into groups, if only to obtain a series of terms to epitomize explanations in the List presently to follow, by the substitution of single terms instead of many words. The sense or meaning of the several terms will be rendered more familiar by the subjoined brief account of them.

1. *Segregates*.—The character of this group has been fully shewn in the half-dozen examples which were taken to explain

the relations between Aggregates and Segregates, or the division of the former into the latter. The *practicability* of bringing these under the formula, which is mainly a question of time and familiarity, was unavoidably made the test for inclusion or exclusion, more than the recognizable distinctions between the plants themselves. Thus, *Habenaria bifolia* and *chlorantha*, *Epilobium tetragonum* and *obscurum*, *Polygala vulgaris* and *depressa*, *Salix Smithiana* and *acuminata*, *Sparganium natans* and *minimum*, with other such couplets, were before treated together as unit-species; so treated, not because there is now much difficulty in distinguishing the plants themselves, but because usually they have not been distinguished by recorders of localities. The result of that non-distinction being, that localities recorded under the first name of the two, long in use for both, cannot be safely assigned to either without re-examination. If the plants now understood by those couplets of names, had been well distinguished in books half a century ago, and habitually kept apart by subsequent authors and collectors, a stock of *data* would have been gradually accumulated, enabling us of the present time to trace their separate distribution sufficiently well. The great impediment to this satisfactory result has been raised by the very authors who did treat them apart; for, by adhering to the first of the two names for expressing the one half only, while in other works it expressed both halves or the whole, they stultified their own subdivision, and rendered the name meaningless through its uncertainty of application.

With very few exceptions, all the segregates may be held native plants; and in this respect they differ from the plants placed in the other groups. In the following pages they can be distinguished readily from almost all the rest, the non-indigenous plants, by their names being given in triplets; the name of the aggregate species being inserted between the generic name and the distinctive name of the segregate, as a brief and uniform manner of expressing the relation of one to the other. It is at the Reader's own choice to receive that distinctive name as varietal or as specific, in accordance with his own views in each separate

instance. And he will always be reminded of the more inclusive aggregate to which others refer the segregate plant, through the middle name so interposed. It should be mentioned, however, that the abbreviated authority given with the distinctive name has been often accepted here along with the name, without other more special verification; and it may mean either a variety or a species in the views of the Author cited. A general reference may be given here to the Third Edition of English Botany for explanations more special and complete.

A further circumstance should be noted. In some cases it will be necessary to notice all the segregate forms which go to make up the total aggregate, as treated in the Synopsis. Such will be the case when the distribution of the aggregate, as before set forth, will too uncertainly represent that of any one of the segregates by itself. Thus, according to present knowledge, the formulary distribution of *Thalictrum minus*, as given for the aggregate on page 79, would not be correct for any one of its five segregates. The same must be held true for the present, if not permanently so, in regard to the three segregates of *Thalictrum flavum*; the distribution of which, apart from each other, is yet almost entirely unascertained. And in the couplets of species shortly above quoted, we may find instances where the indicated distribution of the aggregate would perhaps less well represent that of the segregate retaining the like name, as its typical form, than it would represent that of the segregate named as a second or aberrant one. Certainty is not attained; but it seems likely on present knowledge, that *Polygala eu-vulgaris* is less general than *P. depressa*, and that *Epilobium eu-tetragonum* is less general than *E. obscurum*. If so, the formula filled in for the aggregate certainly over-states the distribution of the type form, while it may or may not over-state that of the segregate; a question to be answered only on further and more complete knowledge about their respective localities.

In other cases the segregate is so rare or local that its severance from the aggregate makes no difference in the stated distribution. Thus, *Caltha radicans* being known only from one or two of the

Highland counties, which certainly produce *Caltha palustris* also, the stated distribution in the Synopsis equally answers for the *C. palustris*, whether the *C. radicans* be included or be excluded. The same holds true of *Ranunculus reptans* and *Geranium lancastriense*; but here subject to some differences of opinion, as to whether these names should be applied strictly to very local plants, or more loosely to include other plants and localities also. *Sarothamnus prostratus* and *Genista humifusa* are very local varieties; and whether we unite them with the widely diffused *Sarothamnus scoparius* and *Genista tinctoria*, or separate them, the formulary distribution of these two latter remains unchanged.

2. *Aliens*.—These follow close on the denizens of the Synopsis. They may be said to differ from the latter only by being under greater distrust of their claims to be accounted aboriginal natives of Britain. Some few of them are so perfectly established amid the native vegetation, that no question might have arisen against their nativity here, had it not been known that their wildness in Britain is recent, and that they came into the Old World from America within the dates of modern history. Such are *Elodea canadensis*, so recently and so rapidly spread through England in damaging abundance; *Impatiens fulva* and *Mimulus luteus*, locally well established; *Erigeron canadensis* and *Oxalis stricta*, more casual and changeable in their places.

Others, of unknown origin, have become so well established in many places that botanists are beginning to believe that they must have existed in this country from pre-historic times, having originally got into it through natural agencies alone, quite independently of human agency. If all or most of us had concurred in this view, of course the plants in question would have been treated as natives. If opinions and evidences had seemed to be about on an even balance, the plants would have come under the category of denizens. They are classed with the aliens because only a minority regard them in the higher predial character; while the majority among those botanists best prepared to give a verdict, through general experience and trained judgment, hold a contrary

opinion about them. As examples, we may take *Geranium phæum*, *Spiræa salicifolia*, *Saxifraga umbrosa*, *Lonicera Xylosteum*, *Valeriana rubra* and *Galanthus nivalis*. On the contrary, at the other extremity of a series, some of the aliens are so very local, or so uncertain in persistence at any given place, as to be scarcely separable from the next group.

3. *Casuals*.—These together make a wide range of plants between the two extremes of the group. Some few of them are met with almost as frequently as some of the colonists; being now hardly separable from the latter, unless on the ground of only recent notice, that is, by the absence of records for them in the books of past generations. *Veronica Buxbaumii* was unnoticed in the 'English Flora' of Smith, under date in 1824. Now, it is seen so frequently on arable land, as to demand promotion to the quasi-indigenous rank of colonist. Midway between 1824 and 1869, it might have passed as a casual, occasionally introduced among clover or other agricultural seeds. Perhaps others of the plants, which remain still to be curtly noticed here as casuals only, may be gradually advancing now to the higher predial grade. It can scarcely be doubted that *Galinsoga parviflora*, *Crepis setosa*, *Cynosurus echinatus*, *Bromus arvensis*, with some other weeds of cultivated ground, are now met with more plentifully than was the case with them not many years back. As far as it can be applied, the best test to separate the colonists from the casuals, is that of regular self-maintenance in this country by seed ripened here, without the necessity of renewal through fresh importation. From other aliens, the casuals are to be distinguished chiefly by less persistence in their localities; a distinction often turning on their physiological character of annuals or perennials.

Passing to the other extreme of the series, we reach plants which have been so rarely seen, or have proved so transitory in any given place, that it is barely justifiable to enumerate them among things only casually quasi-british. Through such plants, the present group gradually merges into that of extinct plants;

some of these latter having been seen once or oftener, but being found here no longer. *Echinophora spinosa* may be one example of an extinct casual. Others appeared on or near the sites of the Exhibitions of 1851 and 1862, and lingered there a brief time; long enough, unfortunately, to encumber our book lists with names which it would have been more convenient, if not also more sensible, never to have admitted into them. It is to be regretted that more reticence is not practised by our juvenile botanists, so hurriedly anxious to make book records of such valueless facts. If all of us freely indulged in that practice, our list of casuals would soon be made longer than the list of all others put together. Almost anything in cultivation for use or ornament, outside hothouses, could be made into an occasionally-wild plant, through an industrious examination of the rubbish-heaps of gardeners and farmers. The refuse from oil and flour mills, dock sides where ship rubbish is thrown, and such like chances, might equally reward an equally useless industry.

One warm autumn, I met with a luxuriant plant of the Tomato, bearing ripe fruit, on a bit of waste space near the bridge over the Thames at Walton. But I did *not* make haste to record that grand discovery in a Journal of Botany, and to declare *Lycopersicum esculentum* "perfectly established" by the Thames in Surrey. I knew that the spot had been often used for throwing down waste refuse from a neighbouring house and garden; and as might readily have been expected, no descendants of my Tomato were to be seen there the two autumns following. In the same neighbourhood, I once saw the blue *Nemophila* quite abundant in a corn field; and repeatedly I have seen stray examples of the same favourite garden annual, in fields and on rubbish heaps. But I am guiltless of making a formal record of it as a "naturalised plant," and arguing for "the propriety of including it in the British Floras" for ever thereafter. It is to be hoped that the mention of the two plants here will not be pounced upon as an excuse for adding them to the list of Surrey plants, to be printed in any future Flora of the county. Not that I can myself be held wholly innocent of book records for merely casual aliens;



but my sins in that line have not gone so far as to encumber our books with names and localities for evanescent plants seen as single stragglers, or more numerous for a single season only. Here, it is wished to notice those only which have already been noticed elsewhere.

4. *Extincts*.—This is a very small group, while limited to native plants which are known to have become extinct; say, like *Carex Davalliana*, in Somerset. When we take in also other plants reported for localities at former times, but at present not found in the places named, the group becomes enlarged; and no absolute line of separation can then be traced between it and the temporary casuals, on the one side, or between it and the errors, on the other side. If a plant, otherwise not known as British, have been reported in a place once only by a supposed eye-witness, and cannot be again found in the same place when sought by others, there would seem fair reason to suspect an error or misnomer by the "eye-witness." The alternative would be, to regard the plant as a temporary casual on the spot indicated; while there would still also remain a bare possibility of a real extinction of a native plant, made no longer so. In this way, the small group of extincts lapses into the two others, or stands with undefined limits between them. Some truly English plants are gradually decreasing in the number of their localities, and in their own numbers in localities where they still linger. The *Scirpus parvulus*, so small and easily overlooked, may not really have been made extinct. *Cypripedium Calceolus* and *Orchis hircina* still exist, though in great risk of extirpation by gardeners and botanists. *Potentilla rupestris* is reported to be now (1869) very rare in its only locality, on Craig Breiddin. It is doubtful whether *Eriophorum alpinum* is extinct or not so. Like the *Hierochloa borealis* it may really turn up somewhere else in Scotland, away from its one county of Forfarshire, where it was destroyed by drainage. Professor Balfour's alleged habitat of Sutherland should belong to the category of errors, rather than to the present. While some actual extinctions among plants are probable, both

retrospective and prospective, the larger number of species no longer findable in recorded localities, may have more truly belonged to the list of errors, next to be mentioned.

5. *Errors*.—Unfortunately these are rather numerous. At first thought, it might seem allowable and even more judicious to let them drop out of notice altogether. An objection arises against this course, in the difficulty of deciding which are certainly errors, and which are only uncertainly so; these latter of course linking the present category closely with the others. If a plant cannot be found now in a locality formerly reported for it, there is a more or less uncertain choice between declaring it a case of extinction or a case of misnomer, as before intimated. Even the preservation of specimens in herbaria is by no means always satisfactory evidence, to warrant a decision in favour of extinction as against error. If it were held so, we should be compelled to accept the American *Potentilla tridentata* as having been a 'genuine britisher' up to a modern date, though found only by George Don. And the same with several other plants, alleged by Don to have been found wild in Scotland, and his specimens of which still exist in herbaria. In some cases, too, we seem to have better authority than Don, for the former finding of plants on the northern mountains, which have subsequently been sought there unsuccessfully. Examples of this occur in *Veronica fruticulosa*, alleged to have been found in Scotland by Robert Brown; and in *Hieracium villosum*, alleged to have been picked there by Thomas Drummond. Considering the wild character of their reported habitats, and that wide spaces among the Highland mountains remain still almost unexamined, we are scarcely yet entitled absolutely to dismiss these plants unnoticed in any full enumeration of plants British and possibly British. That the list of Highland plants was not completed by our predecessors, has been made quite clear by the first finding or first recording of some of them in post-Donian times. *Pseudathyrium alpestre*, *Sagina nivalis*, *Astragalus alpinus*, and other indisputably native plants are among such recent additions to the Scottish flora.

On the other side, if it be scarcely possible to trace a decided line of separation between errors and extinctions, or between errors and out-of-sight rarities, it is found equally impracticable to separate the errors from the casuals. A local botanist, of little botanical authority or experience, may report a non-British species, say, in Somerset or Gloucester, in Argyle or Perth. How are other botanists to know for certain whether he named his plant correctly or misnamed it? The plant may have been misnamed, or it may have been a rightly named casual, introduced with ballast or merchandize and soon extinct there. Add to such instances as these, the cases where the impositions of guides or dealers have caused temporarily planted species to be actually found, and their localities reported by indiscreet botanists; and it will be admitted that too many errors (very probably such, at best) must be allowed to remain in our lists of quasi-British plants. Still, it would be well to begin the practice of dropping them out of the regular lists in our General and Local Floras, by committing them to an Appendix list, altogether apart from the proper enumeration.

6. *Ambiguities*.—This term is sufficiently ambiguous itself to cover many cases which may fall more appropriately under one or other of the preceding heads. As here used it may be held to mean or include those doubtful plants which do not clearly fall into the other groups. The ambiguity may attach either to the plant itself, or to the fact of its existence wild in Britain. The latter case is illustrated by *Hutchinsia alpina*. Some ground has been shewn for admitting this true species among the plants of Britain, but the evidence in support seems incomplete or insufficient. The same may be held true of *Malva borealis* and *Thesium humile*, which cannot certainly be assigned to the category of errors, although not verified in the localities reported for them. *Alchemilla conjuncta* is a more complicated example. Though very similar to *A. alpina*, it has physiological or climatal peculiarities to assist in keeping it apart, so that as yet Professor Babington appears to have been quite warranted

in naming and describing it with the technical rank of species. The ambiguity lies in the testimony to be accepted in evidence of its alleged localities within Britain. Looking to its habitats outside of Britain, there seems a geographical probability in favour of this country; the species having been found in Faroe and probably also on the Alps and Pyrenees. Four different localities have been reported for it within Britain. In a collection of "British Plants" competing for a prize at a flower-show, there was a living example of this plant; but it was labelled "*A. alpina*—Wales." Mr. J. E. Bowman was cited as the authority for *conjuncta* having been found in Gatesgarth Pass or Dale, Cumberland; but he himself has expressly declared that the plant he brought thence was *alpina*, which remained unchanged in his garden; and Mr. Borrer unsuccessfully sought the *conjuncta* in the locality named, finding *alpina* there only. George Don distributed examples from the Forfarshire hills ostensibly; but Don habitually sent garden examples of supposed wild plants; so that his testimony alone goes for nothing. Mr. A. O. Black also reported the plant from Forfarshire, and shewed examples; but Mr. Black was convicted of reporting a planted American shrub as if also a true native of that county; so that, in relying on his testimony, we ought equally to include the *Diervilla canadensis* among truly British plants now and for ever. "Dr. Tyacke" is also stated to have found the plant in Arran, an island frequently visited by botanists, less fortunate than this Dr. Tyacke. If that habitat can be verified by some second collector, it will remove *A. conjuncta* from the group of ambiguities into that of native segregates.

In other cases the ambiguity inheres in the plants themselves, not in their localities; that is, the doubt being as to whether they ever existed as quasi-species anywhere, except in the printed words of their inventors. Through these instances, the ambiguities pass by insensible gradations into the segregates. Professor Babington described his *Cerastium atrovirens* and *Cerastium pedunculatum*, with usual parade of technical words; grandiose verbiage having a wonderful effect in decking petty varieties with

the cloak of species. Further consideration of those supposed species led their inventor to abandon them altogether, even as varieties seemingly. Instead of making haste to encumber our lists with false species, it would have been a wiser course first to ascertain their validity, and then to name and describe them only if warranted in doing so. Now, by the course taken, other botanists are left in this ambiguous position:—Are we to treat those two specific names simply as synonyms with *tetrandrum*, or are we to deal with them as representing segregate plants of a grade below species? Surely there must have been, and so still must be, *some* differences to warrant a specific severance of them from the ordinary *C. tetrandrum*? Again, the *Ranunculus floribundus* of the same botanist, the *Hieracium nudicaule* of Edmondston, *Poa polynoda* of Parnell, with various other names in printed books, may optionally represent either word-alone species or very ambiguous segregates.

The plants to come within the following List are thus seen to be so very miscellaneous in kind and in their claims to notice, that no precise plan for treating their distribution can be made successfully applicable to them; while they are so numerous that strict brevity is indispensable. As a rule, occasionally to be departed from, only three lines can be allowed to each plant; and the first of the three will be required for the name, which ought to stand alone for the sake of typographical clearness. The second line will enumerate the provinces, as was done in the Synopsis; and in cases where the provincial nos. are very few, the full series of intermediate blanks will be omitted; a little space being so gained for a brief remark, the citation of an authority, or name of a county, etc. The character of the plant in Britain will be indicated in the third line, by one of the terms before explained; in the case of 'Segregates' the No. of the 'Aggregate,' under which they fall in the Synopsis, is substituted instead of the categorical term. Many of the Alien plants and others were commented upon at some length in the original Cybele Britannica; and as they cannot be so treated within the much less space

allotted to them in the present Compendium, it seems desirable to substitute references to that more extended work. Occasionally it may be found desirable to add some few lines of comment or explanation; but any such addition will be the exception rather than the rule, or this Third Part would soon swell into a volume of itself. Looking forward to the many plants which may be held to claim some notice, however brief, eight or ten of them must be brought on a page; such closeness necessarily implying a very curt notice for each.

Records sufficiently in detail to show at least the county distribution of each plant, whether native or introduced, are still much to be desired. This subject was alluded to on page 119 of the 'Supplement to the Cybele Britannica.' The wish then expressed is still felt, although the prospect of its accomplishment becomes less with each year of delay; whilst the need of such a topographical summary is yearly becoming more apparent. In the absence of some such tabulated record, false statements are continually made by provincial collectors, to the effect that some given species had by them been discovered in some given county, and is there recorded for the first time; although the fact may be, that the same plant had been previously and even repeatedly found and recorded for the same county by other botanists. Of course, such false statements are simply exhibitions of half-learned self-sufficiency, not intentional deceptions; but equally their obvious tendency is to mislead other persons. Take an instance in point, printed so recently as this present year of 1869:—

In the *Phytologist* for 1844, page 650, a communication from Mr. Alfred Knight, then of Cirencester, points out the distinctions between *Fragaria vesca* and *F. elatior* better perhaps than they had been explained by any preceding English botanist. His opportunity for comparing them together in the living state, was found in the county of Gloucester and is thus stated;—"I found the two species growing together in Earl Bathurst's park in this neighbourhood." The *Phytologist* is a well-known *repertorium* of facts in local botany; and the original series of that journal was contributed to by many among the best English botanists at its

dates; and thus it is always consulted by writers on local botany. Mr. Prentice includes the same strawberry in his list of plants found in the neighbourhood of Cheltenham; whether Mr. Buckman has it also in his 'Botanical Guide,' cannot be ascertained here just now. At any rate, *F. elatior* was reported in Gloucestershire long before this present year of 1869 and by botanists fairly trustworthy. Nevertheless, in the Journal of Botany for July, 1869, we find the *Fragaria elatior* included in a short list of "New Gloucestershire Plants, collected by Dr. St. Brody in 1868." From that one county alone, and by that self-same botanist, a dozen or score of such easily contradicted asseverations about *newness* might be adduced. Such misleading statements would become utterly inexcusable in printed journals and other books, if there existed some ready means for ascertaining whether any given species had been already put on record for the county under consideration. But while no tabulated records specially for counties are available for consultation, there is some excuse for the ignorance of the mis-announcement, even in one who thus virtually announces himself thoroughly acquainted with the botanical records for his county. Obviously a most thorough knowledge must be first acquired, in order to warrant a printed assertion by any one that 'I alone, I by myself I, have found this plant in this county.'

For the present, the less precise provincial enumerations in this Compendium, with the help of the subordinate divisions in the Supplement to the Cybele Britannica, seldom for single counties, are the best tabulated summaries available in cases where county floras or other more local lists do not yet exist elsewhere. And although many blanks may remain to be afterwards filled in, a continuance of the similar provincial nos. through the following List will not be unuseful.

## 1. RANUNCULACEÆ.

*Thalictrum (minus) maritimum*, Eng. Bot. ed. 3.

Provinces - - - 4 - - - - 10 11 - - 14 15 - ? And others also?

Synopsis no. 3. The provinces are here indicated exclusively on the evidence of specimens in the herbarium of Mr. Boswell

Syme. Not seeing the way to any clear separation between the *eu-minus* of Syme (which includes the two sub-varieties *maritimum* and *montanum*) and the *flexuosum*, I do not venture to fill in the provincial nos. from my own herbarium; still less from books.

*Thalictrum (minus) montanum*, Eng. Bot. ed. 3.

Provinces 1 - - - 5 - 7 8 - 10 - - - ? From Syme herb.

Synopsis, no. 3. Somerset to York, possibly to Fife, etc.

*Thalictrum (minus) flexuosum*, Bernh.

Provinces 1 - - 4 - - 7 - - 10 11 12 - 14 15 ?

Synopsis, no. 3. Cornwall to Kincardine; Syme herb. West York; Baker North bot. Durham; Cheviotland; New flo.

*Thalictrum (minus) Kochii*, Fries.

Province 12. Damp places in the Lake district; Bab. man. ed. 5, 6.

Synopsis, no. 3. See pages 439—441 of this volume.

*Thalictrum (minus) saxatile*, Schleicher.

Provinces - - 3 4. North Essex; Gibson flo. Cambridge; Bab. flo.

Syn. no. 3. [Cheddar, Somerset. Dissert, Flint.]

*Thalictrum majus*, Sm. (not of Jacquin).

Provinces [1 2 3 4] 10 11 12 13 14 15. York to Perth.

Ambiguity. Cyb. i. 72. This may be regarded now as a spurious species, made up from the larger examples of any of the preceding segregates. Professor Babington holds it synonymous with his *flexuosum*; while Mr. Boswell Syme thinks this latter made up of *majus* partly and of *minus* partly. See pages 438—441.

*Thalictrum (flavum) sphaerocarpum*, E. B. 3.

Provinces - ? ? 4 5 - - 8 - - ? ? Camb. Heref. Derby; Eng. bot. Syn. 4. This and the two succeeding segregates are unnoticed in the 'Manual of British Botany'; and thus they are yet scarcely known among English botanists. Most of my herbarium examples of *T. flavum* are in flower, not in fruit. According to the achenes figured in 'English Botany,' plate 8, I have examples of this segregate from South Hants, Middlesex, Essex, Durham, and Westmoreland.

*Thalictrum (flavum) riparium*, "Jord." E. B. 3.

Provinces - - 3 - - - - 10. Surrey; Essex; York; Eng. bot.

Syn. 4. Middlesex; Trimen & Dyer flo.

*Thalictrum (flavum) Morisoni*, E. B. 3.

Provinces . . . ?

Syn. 4. "T. flavum, E. B. 367, is quoted by Reichenbach, under his figure of *T. Morisoni*"; Eng. bot. i. p. 9.

*Anemone apennina*, Linn.

Provinces 1 - 3 4 5 - - - - 10 - - - - 15. Devon to Banff.

Alien. Cyb. i. 75. Long established in Surrey.



*Anemone ranunculoides*, Linn.

Provinces - - 3 4 5 - - 8 - 10. [1 Devon. 14 Berwick.]  
 Alien. Cyb. i. 75. iii. 373. iv. 87.

*Ranunculus (aquatilis) peltatus*, "Fries." E. B. 3.

Provinces 1 2 3 4 5 - - - 9 10 11 - 13 - 15. Aberdeen?  
 Syn. 11. Including *R. floribundus* in part?

*Ranunculus (peltatus) floribundus*, "Bab." E. B. 3.

Provinces - 2 3 4 5 - - - 9 10 11 - - - - 15. England; Bab. man.  
 Syn. 11. Northward to Braemar, Aberdeen ("Bab. herb.") Syme.

*Ranunculus (peltatus?) pseudo-fluitans*, "Newb." E. B. 3.

Provinces 1 2 3 - 5. Probably in other provinces.  
 Syn. 11. Pages 434—436 of this volume.

*Ranunculus (aquatilis) heterophyllus*, Auct.

Provinces all, or few, according to the use of the name.  
 Syn. 11. See pages 429—437 of this volume.

*Ranunculus (aquatilis) Baudotii*, E. B. 3.

Provinces 1 2 3 4 5 - - - 9 10 11 - - 14 - 16.  
 Syn. 11. More or less including *confusus*, Godr.

*Ranunculus (aquatilis) confusus*, E. B. 3.

Provinces 1 2 3 4 ? 6 - - 10 11 - 13 14. Partly *R. Baudotii*?  
 Syn. 11. England only; Bab. man. 1867. Edinburgh; Eng. bot. 1863. It would seem that Professor Babington and Mr. Boswell Syme assign the individual examples differently between *Baudotii* and *confusus*; and if these two leading British botanists are thus in contradiction about the precise name applicable to the Scottish specimens, it may fairly be supposed that a like uncertainty must attach to the records made by less experienced botanists. There is even wider inconsistency between the two in regard to *R. floribundus*. In the first volume of English Botany, with the title-page date of 1863, we are told by the Editor that a specimen gathered by himself in Braemar, Aberdeenshire, "stands in Professor Babington's herbarium as *R. floribundus*;" yet in the two last editions of the Manual, 1862 and 1867, the Professor limits his *floribundus* to England exclusively. The like contradiction between them is shewn under the next two segregates. 'Who must decide, when experts disagree?'

*Ranunculus (pantothrix) Drouetii*, Schultz.

Provinces 1 2 3 4 5 - - - 9 10 11 - - 14. Edinburgh; Syme.  
 Syn. 11. England; Scotland; Eng. bot. England only; Bab. man.

*Ranunculus (pantothrix) trichophyllus*, Chaix.

Prov. 1 2 3 4 5 - - - 9 10 11 12 - 14 15 16 - 18. Clydesdale flo.  
 Syn. 11. England; Scotland; Eng. bot. England only; Bab. man.

*Ranunculus (trichophyllus) radians*, "Rev." Jour. Bot. no. 34.

Province 10. "Silverdale, Yorkshire"; Mr. Hiern.  
 Syn. 11. Said to be *trichophyllus* with floating leaves.

*Ranunculus (fluitans) Bachii*, "Wirtgen." E. B. 3.

Provinces - - - 5 - - - - - 14. Glouc. Staff. Berwick.

Syn. 11, page 82. Simply as a variety even in Bab. man.

*Ranunculus (Ficaria) incumbens*, F. Schultz.

Provinces 1 - 3 - 14. Likely to be found in other provinces.

Syn. 14. North Devon! Surrey! Near Edinburgh; Eng. bot.

The differences between this and the commoner *divergens* are not more than are seen between individual examples of *Caltha palustris* or of some other plants with cordate leaves.

*Ranunculus (Flammula) reptans*, Linn.

Province 15. And almost certainly elsewhere also.

Syn. 15. Cyb. i. 84. This may prove an instructive segregate either to the "splitters" or to the "lumpers" of species. Whether the *reptans* seen at Loch Leven, Kinross, be included or excluded, still the extreme forms of *Flammula* are so dissimilar that perhaps no describing botanist would have ventured to unite them as one single species, if only those extremes had been separately brought from some different and distant countries, without the intermediate links of connexion so plentifully found in this country. Is the *R. reptans* but a short grade farther in the series?—or, is it a ver-species apart? After years of hesitation, Mr. Boswell Syme has unintentionally induced me to answer the former alternative of the query in the affirmative. In 1869 he kindly sends me a plentiful supply of specimens from Loch Leven, the locality from which my herbarium before included only a solitary example. While it might be difficult to find a clear distinction between some of Mr. Syme's Scottish specimens and the Scandinavian examples of *R. reptans*, I deem it quite impossible to separate others of them from examples of the plant called *Flammula pseudo-reptans*, collected in other localities in Britain; notably so, from a series of specimens collected at Coniston, in the Lake province, by Mr. A. G. More, one of which is more filiform and reptant, than are several of those from Loch Leven. As to the leaves, I have examples from Surrey and other counties, with leaves inseparable from those of Loch Leven either by shape or by size. On the whole, but with only few Scandinavian examples to guide a decision, I think the differences between the Scottish and Scandinavian specimens rather stronger than are the differences between the Scottish and English specimens. It is worth while to note a change between the earlier and the more experienced views of Wahlenberg in relation to *R. reptans*. In 'Flora Lapponica' he declared it so unlike *Flammula*, that he deemed it nearer akin "affiniorem" to *R. hyperboreus*. But fourteen years later, in 'Flora Suecica,' he compares it with *Flammula* only, and writes of it "Itaque quam præcedenti forsan nimium affinis, tamen est forma valde memorabilis."

*Ranunculus gramineus*, Linn.

Province 7. Brought from North Wales, by Pritchard; With.  
Error. Cyb. i. 85. The Rev. W. W. Newbould informs me that there is a specimen of this plant in Withering's herbarium, received from Pritchard, but without locality stated.

*Ranunculus alpestris*, Linn.

Province 15. Clova mountains; G. Don, in Smith herb.  
Error. Cyb. i. 82. Now generally excluded from our flora.

*Ranunculus (acris) Steveni*, E. B. 3.*Ranunculus (acris) vulgatus*, Ditto.*Ranunculus (acris) rectus*, Ditto.

Provinces . . . ? The two first of these segregates are stated to be "very common throughout the kingdom"; the third "on Loch-nagar, Aberdeenshire, and probably in other places." I have not yet clearly understood them apart. Synopsis 19.

*Caltha (palustris) minor*, E. B. 3.

Provinces 12 - 14 15 16. In other provinces also.  
Syn. 26. Cyb. i. 92. A series of intermediate, apparently connecting, forms between the typical *C. palustris* and the widely aberrant *C. radicans*; some of which were certainly included under the latter name by Smith and his cotemporaries, as is shewn by the descriptions and the cited localities in 'English Flora.' The four provinces enumerated above are those in which I have gathered specimens, still kept in my herbarium; and some of those specimens seem more nearly allied to the *C. radicans* now under culture in gardens, than to the ordinary wild form of *C. palustris*, as seen in Surrey and elsewhere. "*Guerangerii*" is unknown to me.

*Caltha (palustris) radicans*, Forster.

Province 15. In a ditch, Carse, Forfarshire, 1790; G. Don.  
Syn. 26. Cyb. i. 92. In English Botany the Editor restricts the name of *radicans* to the garden plants, representatives of the ditch plant found by Don, as above indicated. The same name has been applied by others to examples of *Caltha* in various counties, even southwards to Dorset; and in this manner the topographical distribution is made into a question of nomenclature, or a difference between *Caltha radicans* (limited) and *Caltha radicans* (unlimited).

*Eranthis hyemalis*, Salisb. Helleborus, L.

Provinces - 2 3 - 5 - - 8 - 10 - - - 14. Sussex to Edinburgh.  
Alien. Cyb. i. 93. iii. 376. Surrey! Notts! Derby! York!

*Delphinium Consolida*, Linn.

Provinces . . . ? No province certainly known for this.  
Casual? Error? Reported from several provinces by name; erroneously so in all or most of them. The plant which is seen

occasionally in English corn-fields, and in places where garden refuse is cast, is the *D. Ajacis*, no. 32 in the Synopsis.

*Pæonia corallina*, Retz.

Provinces 1 - 5 - 10. Steep Holmes island, in Severn estuary.  
Alien. Cyb. i. 99. iii. 378. "Bath. Bristol. Yorkshire."

#### 1\*. BERBERACEÆ.

*Epimedium alpinum*, Linn.

Provinces 1 - - - - - 10 - 12 - 14 15 16. Leigh woods, Somerset?  
Alien. Cyb. i. 392. York. Cumb. Westm. Fife. Mor. Dumb.

#### 2. NYMPHÆACEÆ.

*Nuphar (lutea) intermedia*, "Ledeb."

Province 11. Chartner's Lough, Northumberland.  
Syn. 37. Cyb. i. 102. Formerly this was mistaken for *N. pumila*; which gave occasion to the report that the latter changed into *N. lutea* in the garden. *N. "pumila"*, rightly or erroneously so named, has been recorded also for Dorset, Salop, Notts, and Chester; counties from which I have not seen specimens. Rev. M. J. Berkeley informed me that the plant of "Thorney Abbey, Notts," is not distinct from *N. lutea*. Possibly that one and those from Salop and Chester may equally belong here. The county of Dorset may be entirely erroneous.

#### 3. PAPAVERACEÆ.

*Papaver (Rhœas) strigosum*, Boenn.

Provinces - 2 3 - - - - - 10. Probably in other provinces.  
Syn. 42. Seldom noticed in the local Floras.

*Papaver (dubium) Lamottei*, Boreau.

Provinces all? The ordinary *P. dubium* of England.  
Syn. 41. "A common weed throughout Britain, more frequent in Scotland than *P. Rhœas*, and reaching even to the Orkney and Shetland Islands;" Eng. bot. ed. 3.

*Papaver (dubium) Lecoqii*, Lamotte.

Provinces 1 2 3 4 5 6 - - - - - 15. Fife; Syme cat. 1869.  
Syn. 41. "Apparently much more local than *P. Lamottei*, and preferring a calcareous soil;" Eng. bot. ed. 3. Barely distinguishable from the other segregate? Mr. Boswell Syme thinks otherwise, and elevates them to the grade of "sub-species." Professor Babington also treats them as two clear species.

*Papaver somniferum*, Linn.

Provinces 1 to 16. But some may belong to *P. setigerum*.  
Casual. Cyb. i. 106. Some explanations seem required here, to

account for discrepancies of nomenclature. In English Botany, edition third, this poppy is divided into two sub-species named *hortense* and *officinale*. Two forms of it are found in our gardens, and both are occasionally found sub-spontaneous; namely, one having the peduncles hispid, the other having them glabrous. The former is the more frequent casual, and it has usually single flowers with narrower petals of a pale dull-purple colour. The latter is the stock of the handsomer garden varieties; its single flowers being often milk-white; it is represented in English Botany, original edition, no. 2145. In the 'London Catalogue of British Plants,' editions 5 and 6, the specific name *setigerum* was used for the former, that of *somniferum* being kept for the latter. In English Botany, third edition, the name *hortense* includes both these plants; that of *officinale* being given to a third segregate, unknown to myself, but as the representative of which "there is a specimen in the British Museum from Battersea meadows, collected by the late Mr. E. Forster." *P. setigerum* (Godron, not of De Candolle, *vide* Syme) is the colonist-casual of the corn-fields, I believe; and *P. somniferum* (Lond. cat.) more usually that of refuse heaps near gardens and river-sides.

*Papaver setigerum*, Godr.

Province - - 3. And elsewhere? See the preceding.

Casual. In Surrey, rarely. "Abundant in corn-fields at Greenhithe, Darenth, Cobham, and several other places in Kent, where it seems as well established as the common red Poppies; but this is the only county where I have seen it in the same places year after year;" Eng. bot. ed. 3. On faith of Kent specimens from Mr. Boswell Syme himself, that passage is assigned to the *setigerum* specially. Too often I have myself neglected to collect herbarium specimens of casual plants, assumed to be sufficiently known at the time of seeing them alive *in situ*.

*Glaucium violaceum*, Linn. *Rœmeria hybrida*, DC.

Provinces - 3 4. Cambridge. Norfolk. Surrey.

Casual. Cyb. i. 109. Extinct in Norfolk. Once seen in Surrey.

*Glaucium phœniceum*, Crantz. *G. corniculatum*, Curt.

Provinces - 2 3 4 - 10. "Horned Poppy" of the gardens.

Casual. Cyb. i. 109. iii. 379. Jour. of Bot. iv. 149.

### 3\*. FUMARIACEÆ.

*Corydalis lutea*, DC.

Provinces 1 2 3 4 5 6 - 8 9 10 11 12 - - 15. On walls, etc.

Alien. Cyb. i. 110. Well established in many places.

*Corydalis solida*, Sm.

Provinces - 2 3 - 5 - - 8 9 10 11 12.

Alien. Cyb. i. 110. iii. 379. An escape from gardens.

*Declytra formosa*, DC. *Corydalis formosa*, Pursh.

Provinces - 10 11. Seamerdale, in 1859. Hulne Rocks, Alnwick.  
Casual or Planted. Botany of N. Y. New Flora of N. D.

*Fumaria (capreolata) pallidiflora*, Jord.

Provinces 1 2 - - 5 6 7 - 9 10 11. South Somerset; E. B. 3.  
Syn. 50. Devon. Somerset. Wight. Salop. Glam. Caern.

*Fumaria (capreolata) Boræi*, Jord.

Provinces ? 2 3 - 5 6 - - 9 10 11 12 - 14 15 - - 18.  
Syn. 50. Probably common and generally distributed; Eng. Bot.  
i. 106. "Extremely like *F. pallidiflora*"; Ditto.

*Fumaria (capreolata) confusa*, Jord.

Provinces 1 2 - - - 6 7 - 9 10 - 12. Cornwall to Westmoreland.  
Syn. 50. *F. agraria*, Bab. in Bot. Gaz., i. 61. "*F. Bastardi*."

*Fumaria (capreolata) muralis*, Sonder.

Provinces 1 2 3 4 5 - 7 - 9 10 11. Wight to Durham.  
Syn. 50. Apparently rather rare; Eng. Bot. i. 108. "Very like  
*F. confusa*, but the flowers are rather smaller"; Ditto.

*Fumaria media*, DC.

Provinces - 2 9 - 15. Dorset. Chester. Forfar.  
Ambiguity. Perhaps this name may have intended *F. muralis*  
with us, as it certainly did in lists for Madeira and Azores; but it  
has been applied variously to forms of aggregate *capreolata* and  
also to luxuriant *officinalis*.

*Fumaria spicata*, Linn.

Province - 3. Kelvedon, Essex; E. G. Varenne!  
Casual. Introduced with grass seed in 1852.

#### 4. CRUCIFERÆ.

*Bunias orientalis*, Linn. "*Crambe orientalis*," Coll. Mor.

Provinces 3 - 15. Surrey! Middlesex; Dyer! Moray; Gordon!  
Casual. Cyb. i. 115, from N. B. G. E. C. rep. 1866.

*Isatis tinctoria*, Linn.

Provinces 1 2 3 4 5 - - 8 9 - 11 - - 14 15 16.  
Casual. Cyb. i. 117. Many counties; perhaps best established  
near Guildford, in Surrey, where it has been seen several years in  
large quantities.

*Thlaspi (alpestre) sylvestre*, Jord.

Provinces - 11 15. Durham. Northumberland. Forfar.  
Syn. 62. One of the three segregates in Cumberland also.

*Thlaspi (alpestre) occitanum*, Jord.

Provinces - 7 10 11. Caernarvon. York. Durham.  
Syn. 62. Bab. in Bot. Gaz. i. 4. New Flora of N. D.

*Thlaspi (alpestre) virens*, Jord.

Province - 8. Derby; Mr. Joseph Whittaker!  
Syn. 62. Bab. in Bot. Gaz. i. 4. Eng. Bot. i. 206.

*Hutchinsia alpina*, Brown.

Province - 10. Ingleborough, Yorkshire; but very uncertain.  
Ambiguity. See the Journal of Botany, i. 359.

*Lepidium Draba*, Linn.

Provinces 1 - 3 4 5 6 - 8 9 10 11 12.  
Casual. Cyb. i. 124. iii. 381. Journ. Bot. iii. 349.

*Lepidium hirtum*, Linn.

Province . . . ? L. Smithii was intended under this name.  
Error. "A plant in the Sloane herbarium, from the Welsh mountains, may be L. hirtum, but has the pods broader and more oval"; Eng. bot. i. 224.

*Lepidium sativum*, Linn.

Provinces 1 2 3 etc. On rubbish heaps. Not uncommon; E. B.  
Casual. Cyb. iii. 317. A waif from cultivation.

*Cochlearia (officinalis) alpina*, Bab. Man.

Provinces - [2] - - - - 7 ? - 10 11 12 [13] 15 16 - 18.  
Syn. 72. Cyb. i. 127. C. grœnlandica, With., etc.

*Armoracia rusticana*, Fl. Wett.

Provinces 1 2 3 4 5 6 7 8 9 10 11 13 14 - - - 18.  
Alien. Cyb. i. 129. iii. 381. Bot. Gaz. iii. 141. DeCand. Geog. 654.

*Draba (verna) brachycarpa*, E. B. 3. D. præcox, Reich.

Provinces 1 2 3 - - - - 9 10 11 - - - 15. 18 Orkney?  
Syn. 79. It seems quite easy to distinguish this from *D. eu-verna* in a book. The words, "pods once and a quarter to once and a half as long as broad" and "pods twice or more times as long as broad," read like a positive distinction. But this leaves only a distinction of one-half in the width relatively to the length, and I find in Surrey that variations of relative length from less than twice to more than thrice are intermediately connected by gradual transitions. I found, however, that some seeds of a short-podded form, brought from sterile gravel in Surrey, produced only the same short-podded form when sown in good garden mould. A second descent was not tried by re-sowing with the seeds produced in the garden; which would have been a better test.

*Draba (verna) inflata*, Hook.

Province - 15. Mid Perth. Also North-east York?  
Syn. 79. Has come up true in a garden, freely and repeatedly, self-sown from seed originally brought from Breadalbane.

*Camelina sativa*, Crantz.

Provinces all, or nearly all, but nowhere permanent.  
Casual. Cyb. i. 134. Often appearing among crops of flax, and

occasionally among clover and ryegrass. In English Botany, edition third, it is distinguished into two sub-species, under names of *eu-sativa* and *fætida*; the latter stated to be the more frequent segregate.

*Alyssum maritimum*, Lam. *Koniga maritima*, Br.

Provinces 1 2 3 4 5 6 - - 9 - - - - 15. A waif from gardens.

Casual. Cyb. i. 134. Partially established on south-west coast.

*Alyssum calycinum*, Linn.

Provinces 1 2 3 4 - - - 8 9 10 11 - - 14 15. Devon to Forfar.

Casual. Cyb. i. 135. iii. 382. Nowhere persistent?

*Alyssum incanum*, Linn. *Berteroa incana*, DC.

Province - 2. Dorset; Pulteney, 1766. Sussex; Borrer.

Casual. Cyb. iii. 317. Bab. man. ed. 3. Eng. bot. i. 224.

*Lunaria biennis*, Moench.

Province - 3. "Gerarde," in Middlesex flora.

Casual. Occasionally on refuse heaps in Surrey, etc.

*Vella annua*, Linn.

Provinces - 2 3. Wilts; Lawson, in Ray Syn. Oxford; Gulliver cat.

Error in 2. Casual in 3. A specimen of this plant is in my possession, labelled "Richmond, Surrey, 1846, perfectly naturalised.

A. W. Mac Ivor. Ex herb. E. Edwards"; J. G. Baker, msc. It is mentioned also among many other non-british plants in a list

appended to the Flora of Surrey, being foreigners which "have evidently originated from the siftings and sweepings of corn from

the Distillery, situate at the Water-side, Wandsworth." Many of the same plants are further noticed in the Journal of Botany

iv. 149—150. In Gulliver's Catalogue of Banbury Plants the *Vella* is said to be "not uncommon" there. Some error of name is

to be suspected in this case, as Mr. Beesley failed to find the plant there. In English Botany, edition third, we are told on authority

of the Rev. W. W. Newbould, "that the plant which represents it in the Sloane Herbarium is *Reseda lutea*."

*Rapistrum orientale*, DC.

Province - 15. Forfarshire; G. Don, the sole authority.

Error? Cyb. i. 136. The "*Myagrurn orientale*" of Don's list.

*Neslia paniculata*, Desv.

Provinces - 3 - 15. Kent. Surrey. Forfar?

Casual. Cyb. i. 136. The "*Myagrurn paniculatum*" of Don's Forfarshire list. It has occurred "on the beach, Sandown, by

Deal;" but a flour-mill stands close by. Also, has been found at Mitcham and Wandsworth, probably introduced with corn for a

distillery, as recorded in the Journal of Botany, iv. 149. These distillery plants are occasionally noticed in this Compendium, in

connexion with any other localities recorded for them; not so, if hitherto found there only.



*Cardamine (hirsuta) eu-hirsuta*, Syme, E. B. 3.

Provinces all? Cornwall to Shetland, by the records.

Syn. 86. Cyb. i. 138. iii. 317. My herbarium specimens of this are from provinces 1 3 9 10 13 15. See the next.

*Cardamine (hirsuta) sylvatica*, Link.

Provinces all? Devon to Hebrides by the records.

Syn. 86. Cyb. i. 139. iii. 318. Much confusion has occurred between the localities for the two segregates of *C. hirsuta*; and dissimilar as they may seem in their extreme forms, some of the examples are so intermediate that they can hardly be assigned with confidence to either one specially. My herbarium specimens here positively assigned to the *sylvatica* are from provinces 1 2 3 5 8 11 12 15 16. Occasionally, this segregate has been mistaken for *C. impatiens*.

*Cardamine bellidifolia*, Linn.

Provinces 1 - 5 - 7 - 10. "Scotland; With. Herb."

Error. Cyb. i. 140. Misnomers of *Arabis stricta* or *hirsuta* and *Cochlearia alpina*; Eng. bot. edit. 3.

*Arabis (ciliata) hispida*, Bab. Man. E. B. 3.

Province - 6. Lidstep, Pembroke; Bab. Man. ed. 6.

Syn. 92. Dr. Boswell Syme adds, "And probably in other places in the West of England, but overlooked on account of its resemblance to *A. sagittata*"; Eng. bot. i. 167. George Don reported *Arabis ciliata* as found in Forfarshire; see Gardiner's Flora of that county. In the 'Manual' this is placed as a variety of the Irish *Arabis ciliata*, usually so named. In 'English Botany' this latter is made a sub-species of *Arabis hirsuta*; the other sub-species being *A. sagittata*, DC., which is the usual plant of Britain, known under our more familiar specific name of *hirsuta*.

*Arabis Turrita*, Linn.

Provinces - 3 4 5 - 15. Kent. Oxf. Camb. Warw. Kinross.

Alien. Cyb. i. 143. On old walls rarely. (The *Arabis alpina* has been established many years, clinging in quantity on the outside of a high garden wall, in Walton-on-Thames.)

*Barbarea arcuata*, Reich.

Provinces ? 2 3 4 5 - 7 8 9 10 11 - - - 15. All erroneous?

Ambiguity. Cyb. i. 145. iii. 383. "I believe the English '*Barbarea arcuata*' a mere variety of *B. vulgaris*, whatever the foreign one, which differs a little, may be"; W. Borrer, in letter of October, 1850. This opinion is so far borne out by comparing Mr. Borrer's garden plant with the wild examples sent to me labelled as *arcuata* from Worcester, Warwick, York, and Cheviotland; the wild examples being different, and apparently *vulgaris*.

*Barbarea stricta*, Andr.

Provinces - 2 3 4 5 - - - 10 - - [13]. Mostly errors?  
Casual? Cyb. i. 145. iii. 319. Hereford! York! Native in  
Yorkshire, according to Mr. J. G. Baker.

*Barbarea intermedia*, Bor.

Provinces 1 - 3 - 9 10. Surrey. Chester. Lancaster. York.  
Colonist or Casual. In cultivation the pods become longer and  
spread away from the stem, much the same as they spread in  
*arcuata* and some states of *vulgaris*. In the 'Botany of North  
Yorkshire' Mr. Baker designates it a 'Colonist'; but he had seen  
it only "in one place and that quite recently." I brought a  
specimen from the neighbourhood of Manchester in 1845, and it  
has been frequently met with there since date. Reported also from  
South Devon and Surrey; but I have seen no specimen really  
of this from either county.

*Barbarea præcox*, Brown.

Provinces 1 2 3 4 5 6 7 8 9 10 11 12 13 14.  
Alien. Cyb. i. 146. Said to have become well established in the  
Isle of Wight and about Bristol; but more usually it appears to  
be only a casual waif from gardens.

*Nasturtium (officinale) siifolium*, Reich.

Provinces - 14 15. Apparently rare; Eng. bot. i. 177.  
Syn. 98. A luxuriant variety; a near approach to which, though  
perhaps not quite identical, occurs about streamlets in Surrey; the  
plants of these places having stems rising from a procumbent base,  
not strictly "erect."

*Nasturtium (sylvestre) anceps*, "DC. non Reich."

Provinces - 5 11 14, etc. Bab. man. editions 1, 2; not in 3—6.  
Syn. 100. Cyb. i. 148. Eng. bot. i. 180.

*Sisymbrium polyceratium*, Linn.

Provinces - 3 4. About Bury, Suffolk, introduced. Essex?  
Alien. Cyb. i. 152. iii. 384. Botanist's Guide, page 557.

*Sisymbrium austriacum*, Jacq.

Provinces - 3 - 11. Hartlepool, Durham, in 1852; J. G. Baker.  
Casual. Phytologist iv. 720. Flora of Surrey, app. 314.

*Sisymbrium pannonicum*, Jacq.

Provinces - 3 - 9. Crosby sand-hills, Lancashire; Fisher!  
Casual. E. C. report, 1862. Flora of Surrey, app. 314.

*Erysimum virgatum*, Roth.

Province 1. A weed near Bath; Bab. man. ed. 1.  
Casual. Extinct? Cyb. i. 153. Phytologist i. 310.

*Erysimum orientale*, Br. Brassica orientalis, L.

Provinces 1 2 3 4 5 6 - - - 11 13 14. Devon to Renfrew.  
Casual. Cyb. i. 154. Rep. Paisley P. S. 1865. Berw. proc. 1869.

*Cheiranthus Cheiri*, Linn.

Provinces 1 to 16. On old walls, ruins, etc.  
 Alien. Cyb. i. 155. iii. 109. Well established in some places.

*Malcolmia maritima*, Brown.

Provinces - 3 - 9. Kent. Chester. Surrey flo. app.  
 Casual. Cyb. i. 157. Waif from garden culture, etc.

*Hesperis matronalis*, Linn.

Provinces 1 to 16. Nowhere really permanent?  
 Alien or Casual. Cyb. i. 157. A waif from gardens.

*Brassica Napus*, Linn.

Provinces 1 to 15 - - 18; by name, but no reliable record.  
 Casual? Cyb. i. 160. iii. 385. No specimen seen by me.

*Brassica Rapa*, Linn.

Provinces 1 to 16; always a waif from culture.  
 Casual. Cyb. i. 160. iii. 385. Journal of Botany, vii. 346.

*Erucastrum incanum*, Koch. *Sinapis incana*, L.

Provinces - 2 3. Sussex, Surrey flo. app.  
 Casual. Cyb. iii. 386. Jour. Bot. iv. 149. E. B. S. no. 2843.

*Erucastrum Pollichii*, Schimp. et Spenn.

Province - 3. Near Saffron Walden; Joshua Clarke.  
 Casual. Seemann's Journal of Botany, iii. 169 & 221.

*Sinapis Cheiranthus*, Koch.

Provinces 1 - 11. [6. South Wales, by misnomer?]  
 Casual. Cyb. i. 166. iii. 386. Apart from *S. monensis*, in Syn. 122.

*Enarthrocarpus lyratus*, DC.

Provinces - 3 - 9. Surrey; Boswell Syme. Lancaster; Windsor.  
 Casual. E. C. report, 1861. Surrey flo. app. 314.

## 5. RESEDACEÆ.

*Reseda fruticulosa*, Linn. Also *R. alba*, L.

Provinces 1 2 3 4 5 6 - 8 9 10 11 12 - 14. From gardens.  
 Casual. Cyb. i. 170. iii. 387. One or other, as above.

*Reseda Phyteuma*, Linn.

Province - 10. Ballast-hills, Middlesborough, York.  
 Casual. Baker plt. crit. no. 2.

## 6. CISTACEÆ.

*Helianthemum (vulgare) Surrejanum*, Eng. bot. 1321.

Province - 3. Surrey; extinct, unless in gardens?  
 Syn. 128. Cyb. i. 170. *H. tomentosum* is another slight variety.  
 A third is distinguished by its large flowers.

*Helianthemum (canum) vineale*, "Pers." E. B. 3.

Province - 10. On Cronkley Fell, Teesdale, N. W. York.

Syn. 130. Barely a variety, when series of specimens from Cronkley Fell and other localities are examined together; the distinctions becoming very slight, if any left at all.

*Helianthemum guttatum*, Linn.

Provinces 1 - - - 5 - 7. Somerset. Gloucester. Caernarvon.

Error. Cyb. i. 173. iii. 388. See *H. Breweri*, in Syn. 131.

*Helianthemum ledifolium*, Willd. *C. salicifolius*, Huds.

Province 1. Brean Down, Somerset; Hudson flo. ang.

Error. Cyb. i. 172. [Correction:—At the foot of page 48, in the *Phytologist* for 1848, the name of *H. ledifolium* was inadvertently substituted for that of *H. polifolium*; thus making it appear, but incorrectly, that specimens of this present species had been received for distribution by the Botanical Society of London.]

#### 7. VIOLACEÆ.

*Viola biflora*??

Province - 10. Ambiguity. "A *Viola* (probably a variety of *palustris*) with roundish kidney-shaped leaves and yellow flowers, was found on the wolds near North Dalton, in the spring of 1834, by Mr. Fenton of Londesbro';" Baines *Flora of Yorkshire*, p. 14.

*Viola epipsila*, Ledeb.

Province - 18. North Uist, Scotland; Bab. man. ed. 2.

Ambiguity. Omitted from later editions of the 'Manual.'

*Viola (odorata) purpurea, lilacina, alba*, L.C. 6.

Provinces. Same as for the species?

Syn. 183. I am not prepared to shew the provincial distribution of these apart; not having kept them so in my own notes, whether original or copied. The lilac variety is less frequent, and passes gradually to the white, as far as colour is concerned.

*Viola (odorata) imberbis*, Leighton.

Province - 5. Leighton, in *Flora of Shropshire*, p. 116.

Syn. 133. Cyb. i. 174—176. A sub-variety of *alba*?

*Viola (hirta) calcarea*, Bab. man.

Provinces - 2 - 4. Portland and Gogmagog hills; Bab. man. 6.

Syn. 134. A dwarf state, becoming larger in its progeny.

*Viola (hirta) permixta*, Jord. *V. sepincola*?

Provinces 1 - 3 - 10. Devon; Briggs! Surrey! York; Baker!

Syn. 134. Forms inconveniently intermediate between *hirta* and *odorata*. Mr. Baker distributed the specimens from Beckdale, Yorkshire, labelled interrogatively as *V. sepincola* of Jordan. Those collected by Mr. Archer Briggs in South Devon, corresponding with others found by myself near Eashing in Surrey, have been

labelled *permixta*. By their scentless flowers, pubescence, position of stipules, and more divergent lobes of the leaf, they approximate to *hirta*; by their elongate runners, some of them a foot long, they approximate to *odorata*, although the runners root less freely, less strawberry-like. Mr. Baker's specimens from Beckdale appear to me to be divisible between *hirta* and *odorata*, not strictly connective of the two.

*Viola (sylvatica) Riviniana*, Reich.

Provinces all? The usual representative of *V. canina*, Sm.  
Syn. 135. See pages 441—5, for explanations about this plant.

*Viola (sylvatica) Reichenbachiana*, Bor.

Provinces 1 2 3 4 5 - - - 10 11. Cornwall to Durham.  
Syn. 135. Two sub-forms of this occur in Surrey.

*Viola arenaria*, DC.

Provinces - 11 12. Durham. Westmoreland. Page 444.  
Ambiguity. Eng. Bot. ii. 21, also 235. Jour. Bot. i. 325.

*Viola stricta*, Hornem.

Province - 4. Cambridge; Mr. Polwhele. Ireland; Prof. Babington.  
Error. Phytologist iv. 424, 615, 649. Bab. Man. ed. 4.

*Viola lepida*, Jord. "V. eu-tricolor"; *vide* Syme.

Province - 15. Glen Shee, Perthshire; J. G. Baker.  
Ambiguity. E. C. report, 1862. Eng. Bot. ii. 27.

*Viola (Curtisii) Forsteri*, L. C. ed. 6.

Provinces 1 - 7. North Devon! Anglesea. Yellow-flowered.  
Syn. 136. Cyb. i. 183. Cornwall? Caermarthen? Cumbria?  
By favour of Mrs. Russell, there are specimens in my herbarium, collected by that Lady at the Land's End, Cornwall, which I cannot separate from luxuriant garden examples raised from seeds of the diminutive *Curtisii* brought from Instow sands, North Devon. And those specimens may be said to pass into the mountain *V. lutea*, through a Tenby example labelled "*lutea*" by Professor Babington. *Curtisii* and *lutea* thus apparently meet by transition forms, although their opposite states seem so dissimilar by the habit of the plants and the size of their flowers.

*Viola (Curtisii) Mackaii*, L. C. ed. 6.

Province - 9. Flowers party-coloured, purple and yellow.  
Syn. 136. Cyb. i. 182. M. Jordan identifies with *Viola sabulosa*, Boreau, the pansy of the New Brighton Sand-hills, which seems the same with that of Portmarnock Sand-hills, Dublin, called '*Curtisii*' by Mackay; Exchange Club report, 1858.

*Viola (Curtisii) Symei*, Baker.

Provinces ? - - - ? Cornwall? Glamorgan?  
Syn. 136. This is a variety of *V. Curtisii* found in Ireland. See Eng. bot. ii. 27. Is the so-called *V. lutea* at the Land's End in

Cornwall, and Crumlyn Burrows in Glamorgan, the same with variety *Symeii*?

*Viola (lutea) hamulata*, Baker.

Province - 10. Near Richmond, Yorkshire; Baker.

Syn. 136. Botany of N. Yorkshire, 207. E. C. rep. 1865.

#### 8. DROSERACEÆ.

*Drosera (anglica) obovata*, Mert.

Provinces - 15 17. Aberdeen. Sutherland.

Syn. 140. To my eyes this seems a very slight variety of *anglica*. Dr. Boswell Syme holds it a hybrid between *anglica* and *rotundifolia*; which may be true of foreign specimens. The "only British specimen of it" seen by Dr. Syme is in flower, not advanced in fruit. See Eng. bot. ii. 33.

#### 9. POLYGALACEÆ.

*Polygala (vulgaris) eu-vulgaris*, E. B. 3.

Provinces - - 3 - - - 7 - - - - - 14 15. And doubtless elsewhere.

Syn. 141. Less common than *P. depressa*, which frequently represents the aggregate *P. vulgaris* in the herbarium, and bears that specific name in books.

*Polygala (vulgaris) ciliata*, Lebel.

Provinces - - 3 4. Surrey. Cambridge. And probably elsewhere.

Syn. 141. Apparently a spurious species, made up by specimens of any segregate which has the enlarged sepals ciliated, a character observed in *eu-vulgaris* and *oxyptera*, and perhaps also in *depressa*. E. C. reports, 1866 and 1867.

*Polygala (vulgaris) oxyptera*, Reich.

Provinces 1 2 3 4 - 6 - - 9 10 11 12. Cornwall to Man.

Syn. 141. Cyb. i. 186. Eng. bot. ii. 36.

*Polygala (vulgaris) depressa*, Wenderoth.

Provinces - 2 3 4 - - - 9 10 11 - - 14 15 - - 18. General?

Syn. 141. The most frequent of the segregates, and probably to be found in every province. See the remark under *eu-vulgaris*.

#### 10. FRANKENIACEÆ.

*Frankenia pulverulenta*, Linn.

Province - 2. Sussex; Brewer, in Dill. R. Syn. & Hudson.

Casual. Cyb. i. 187. Brit. herb. Linn. Soc. *vide* D. Oliver.

## 12. CARYOPHYLLACEÆ.

*Dianthus barbatus*, Linn.

Provinces - 3 - 10 - 13 14. Essex. York. Renfrew. Edinburgh.  
Casual. Cyb. i. 191. A waif from garden culture.

*Dianthus plumarius*, Linn.

Provinces - - 3 4 5 6 7 8 - 10 - - - - 15. On walls, etc.  
Alien. Cyb. i. 191. Several counties have been reported for this  
under the erroneous name of *Caryophyllus*.

*Dianthus Caryophyllus*, Linn.

Province - - 3. Walls in Kent; originally planted there?  
Alien. Cyb. i. 191. See above under *D. plumarius*.

*Dianthus (deltoides) glaucus*, Linn.

Provinces - 3 - 10 - 14. Surrey. York. Edinburgh.  
Syn. 150. Cyb. i. 192. [Cumberland; Hutton.]

*Saponaria (officinalis) hybrida*, Mill.

Provinces - 4 - 9. Northampton. Lancashire.  
Syn. 151. "A curious variety, or rather monstrosity"; E. B. ii. 53.

*Saponaria Vaccaria*, Linn.

Provinces - - 3 - 5 - - - - 10 - - - - 15. Kent to Moray.  
Casual. Cyb. i. 194. iii. 391. Among flax crops, corn siftings, etc.

*Cucubulus bacciferus*, Linn.

Province - 3. Middlesex. [7 Anglesea, by a misnomer.]  
Alien. Cyb. i. 194. Isle of Dogs, 1837—1853. Extinct?

*Silene Armeria*, Linn.

Provinces - 3 - 9 10. Surrey. Herts. Chester. York.  
Casual. Cyb. i. 201. A waif from gardens, etc.

*Silene quinquevulnera*, Linn.

Provinces 1 2 3 4 - 6 - - - 10. Anywhere native?  
Casual. Cyb. i. 198. Perhaps this name has been applied alike  
to casual waifs from garden culture and to native varieties of  
*S. anglica* with more coloured and larger flowers. In province 6 it  
was an imported casual, found "on ballast near the Custom House,  
Llanelly"; *vide* Motley msc. And it is enumerated among the  
foreign plants found near the Distillery at Wandsworth.

*Silene (nutans) paradoxa*, Sm.

Province - 3. On Dover cliffs, Kent.  
Syn. 156. Cyb. i. 199. A form of *nutans* which has been  
variously reported under the three names of *italica*, *patens*, and  
*paradoxa*. Dr. Boswell Syme rightly declares that it "is not  
distinguishable even as a variety"; that is to say, as imperfectly  
distinguishable as many other plants which pass for varieties.

*Silene italica*, Pers. *S. patens*, E. B. supp.  
Provinces - - 3 4. Kent. Cambridge. (Edinburgh, sown?)  
Alien? Cyb. i. 200. "It occurs along the side of the road  
between Dartford and Darenth, apparently perfectly wild"; Eng.  
bot. ii. 66.

*Silene annulata*, Thore.  
Province 4. Near Bungay. Mr. D. Stock.  
Casual. Introduced among the 'Excluded' plants of the London  
Catalogue, on faith of Mr. Stock's report that it was found. "In  
some plenty in a meadow half a mile from Bungay, about the year,  
1845." I have not seen any example of it.

*Silene alpestris*, Jacq.  
Province - 15. Forfar; "G. Don, in Borrer Herb."  
Error? Cyb. i. 203. Specimens from Don are now distrusted.

*Bufoia tenuifolia*, Sm. *B. annua*, DC.  
Provinces - 3 - 8. Middlesex. Lincoln.  
Error. Cyb. i. 233. Middlesex flo. 52. Bot. Guide 387.

*Sagina (maritima) alpina*, E. B. 3.  
Province - 16. Summit of Ben Nevis; G. Don.  
Syn. 167. Apparently not found by any living botanist; and the  
summit of Ben Nevis is almost destitute of phænogamous plants.

*Sagina (maritima) genuina & debilis*; E. B. 3.  
Provinces . . . ? As on page 117? "Rather common."  
Syn. 167. A third variety, under name of "*densa*, Jord.", dis-  
tinguished by stouter stems and shorter internodes, is mentioned  
in English Botany, ii. 117; and is said to be found "at Christ-  
church, Hants, and Wisbeach, Cambridgeshire." I do not under-  
stand these three segregates apart from each other.

*Sagina pilifera*, Fenzl. *Spergula pilifera*, DC.  
Province - 15. Hill of Moncrieffe, Perth; Mr. John Sim.  
Planted Alien. Supplement to Cyb. Brit. p. 38, for particulars.

*Spergula (arvensis) pentandra*, Sm. (not of Linn.)  
Provinces - 4 - 9. Bedford. Lancaster. Elsewhere?  
Syn. 172. *S. arvensis* var: *vulgaris*; Eng. Bot. ii. 127.

*Spergularia (marina) neglecta*, E. B. 3.  
Provinces 1 2 3 4 5 6 7 8 9 10 11 12 - - - - 18.  
Syn. 174. Cyb. iii. 394. Including also var. *media* & *salina*.

*Spergularia (marina) marginata*, E. B. 3.  
Provinces 1 2 - - - - 7 - 9 - 11 - - - - - 18. And others?  
Syn. 174. Perhaps this is general along the coasts.

*Spergularia (marina) rupestris*, "Lebel (non Camb.)"  
Provinces 1 2 - - - - 7 - 9 - - 12. Probably elsewhere.  
Syn. 174. *Lepigonum rupicola*, of Bab. man.



*Arenaria montana*, Linn.

Province - 3. Wimbledon Common, Surrey, 1858, 1865.  
 Alien. Prof. W. T. Dyer, in E. C. report 1865.

*Arenaria (serpyllifolia) Lloydii*, Jord.

Provinces 1 2 3 - 10 11. Corn. Wight. Kent. York? Durham?  
 Syn. 178. A contracted form, growing on stony or sandy soils  
 exposed to sea winds. I cannot separate Mr. Lloyd's own French  
 specimens from those of our southern coasts, notably, of the Isle  
 of Wight; and seeds of these latter, sown in an inland garden,  
 produced plants scarcely distinguishable from the forms usually  
 seen in fields and by road-sides. York and Durham are quoted  
 from the Exchange Club report for 1861; but whether the  
 examples from those counties are the same with those of the  
 southern coasts, I am not prepared to say.

*Arenaria (serpyllifolia) leptoclados*, Guss.

Provinces 1 2 3 4 5 - - 8 9 10 11. Scotland?  
 Syn. 178. An opposite state to *Lloydii*; being distinguished by  
 slenderness and diffuseness, with small capsules, narrower sepals,  
 etc. Dr. Boswell Syme remarks that the extreme forms of this  
 and *sphærocarpa* (the type form) are widely different, "but so many  
 specimens have come under my notice which cannot be satisfactorily  
 assigned either to the one or to the other, that it seems to me  
 better to consider them as varieties than to admit them as sub-  
 species"; Eng. bot. ii. 103. Certainly, some good English  
 botanists label specimens by the name '*leptoclados*' which appear  
 to my own eyes to be inseparable from ordinary *serpyllifolia*.

*Arenaria (verna) Gerardi*, Willd.

Province 1. The Lizard, West Cornwall. The only county?  
 Syn. 180. Cyb. i. 219. This form alone in Cornwall?

*Arenaria loricifolia*, Lightf. (not of Linn.)

Province - 15. Castle hill, near Forfar; Lightf. Scot.  
 Error. The plant intended was *A. verna*.

*Arenaria fastigiata*, Sm.

Province - 15. Forfar; Fife; G. Don.  
 Error? Cyb. i. 220. Dr. Arnott intimated in the British Flora  
 that he was in possession of Clova specimens "from Drummond as  
 well as Don." But Drummond may have got them from Don or  
 from Don's garden. And Dr. Arnott himself suggests, under  
 the head of *Carex hordeiformis*, that Drummond did distribute  
 specimens from Don's garden, as if collected elsewhere and wild.

*Stellaria (media) Borœana*, Jord. & *S. neglecta*, Weihe.

Provinces - 2 - 10. "Isle of Wight and Yorkshire;" Eng. bot. ii. 95.  
 Syn. 185. Two forms of chickweed learnedly named.

*Stellaria (media) umbrosa*, "Opitz." Bab. man.

Provinces 1 2 3 - 10. Kent; Ed. Edwards, 1846.

Syn. 185. Dr. Boswell Syme remarks of this, "most probably a sub-species, as the seeds are different in colour and sculpture," from those of the two other chickweeds above noticed. I raised this by seed taken from the Kentish specimens of Mr. Edwards. The characters of glabrous sepals and pedicels, with larger and somewhat paler seeds, were repeated in the garden seedlings. The other characters of "long slender peduncles" and "acuminated leaves" are occasionally seen on examples of *media* with hairy sepals; thus, are not distinctive.

*Stellaria (graminea) Babingtonii*, Deakin.

Province . . . ? "Flor. Brit. ii. 643, f. 735"; Bab. man. ed. 2.

Syn. 188. Cyb. i. 224. Omitted from later editions of Bab. man.

*Stellaria scapigera*, Willd.

Provinces - 15 16. Perth; Inverness; G. Don, in Eng. Flo.

Ambiguity. Cyb. i. 225. According to Dr. Boswell Syme this is "apparently a monstrosity of *S. graminea*"; whereas Professor Babington "can scarcely believe that this is a state of *S. graminea*." Professor Arnott says that its seeds produce *S. graminea*.

*Cerastium (triviale) holosteoides*, Fries.

Prov. - 11 - 15. Durham; Mr. Baker! Northumbri.; Mr. Storey!

Syn. 193. Also in Perth, according to the 'Manual.'

*Cerastium pumilum*, Curtis.

Provinces 1 2 3 4 5 - [7 11 15]. Wight! Gloucester!

Ambiguity. Cyb. i. 229. To my apprehension this remains still an ambiguous species. Is Professor Arnott right in referring it to *triviale*?

*Cerastium (tetrandrum) atrovirens*, Bab.

Provinces all. Isle of Wight; Bromfield. Shetland; Edm. flo.

Syn. 194\*. Cyb. i. 228. iii. 328. Mag. Zool. Bot. ii. 201.

Scarcely more than a synonym of *C. tetrandrum*; but having been elaborately described as a novel and genuine species, it cannot well be left out of a miscellaneous list in which even segregated varieties are generally noticed. The like remark may be applied to the next also. See pages 470—1.

*Cerastium (tetrandrum) pedunculatum*, Bab.

Provinces - 2 3. Isle of Wight and Essex; Bab. l. c. infra.

Syn. 194\*. Cyb. i. 228. iii. 328. Mag. zool. & bot. ii. 200.

*Cerastium (latifolium?) nigrescens*, Edm.

Province - 18. Shetland; Edmondston flo. 29—30.

No. 197. Cyb. i. 233. iii. 397. I am not able clearly to distinguish apart the other two forms of *C. latifolium* in English Botany; namely, the *Smithii* and *compactum*.

## 13. LINACEÆ.

*Linum usitatissimum*, Linn.

Provinces any. Sown as a crop, or casually among clover.

Casual. Cyb. i. 235. Occasionally scattered by bird-catchers.

## 14. MALVACEÆ.

*Malva borealis*, Wallm. *M. pusilla*, Sm.

Provinces - - 3 - - 6. Hythe, Kent. Cardiff, Glamorgan.

Ambiguity. Cyb. i. 240. Ray syn. 271. Eng. bot. ed. 1, no. 241.

More like *parviflora*, than *rotundifolia*, although it is usually compared with the latter.

*Malva parviflora*, Linn.

Provinces - - 3 - ? Journ. Bot. iv. 149. Midx. flo. Kent; Syme!

Casual. "Meadows, Gloucester." Not a pratal plant.

*Malva verticillata*, Linn.

Province - 6. Corn-fields, Llanelly, Caermarthen; Motley!

Casual. Cyb. iii. 329. Phytol. ii. 973. E. B. supp. 2953.

*Malva nicænsis*, All.

Province - 3. Surrey; Mr. Thomas Moore!

Casual. Cyb. iii. 329. Surrey flo. app. 314.

*Malva crispa*, Linn.

Province - 3. Surrey, on refuse heaps. Middlesex flo. 61.

Casual. Occasionally kept in gardens, for table decoration.

*Malva Alcea*, Linn.

Provinces - 5 - 8. Warwick. Leicester. Notts.

Error. Cyb. i. 240. Misnomer for *M. moschata*?

*Athæa hirsuta*, Linn.

Province - 3. Near Cuxton, Kent. Surrey flo. app.

Alien. Cyb. i. 241. Established many years in the Kent locality.

*Lavatera Olbia*, Linn.

Province - 3. Essex; H. Doubleday, in Phytol. 1842. Surrey flo. app.

Casual. Cyb. i. 242. (*L. punctata* has been found as a chance waif in a quarry at Northampton, along with *Datura Stramonium*. It is also enumerated in the Appendix to the Flora of Surrey.)

## 15. TILIACEÆ.

*Tilia intermedia*, DC. *T. europæa*, Anglor.

Provinces 1 to 16. Always a planted tree.

Alien. Cyb. i. 244. Apart from misnomers of *Tilia grandifolia* (which is satisfactorily distinct) this may be simply a cultivated variety, or set of varieties, of *T. parvifolia*.

## 16. HYPERICACEÆ.

*Hypericum (dubium) maculatum*, Bab. man.

Provinces 1 to 16; according to the use of the name.

Syn. 216. Cyb. i. 247. See pages 447—8 of this volume.

*Hypericum hircinum*, Linn.

Provinces - - 3 4 5 6 - - 9 - - - - 15. Surrey to Stirling.

Alien. Springs freely from fallen seed, and creeps much at the root where planted about shrubberies, etc.

*Hypericum elatum*, Ait. *H. anglicum*, Bab. man.

Provinces 1 - - 4 - - - - - - - 13 - 15 16. Cornwall to Argyle.

Alien. Cyb. iii. 330. Not *H. grandifolium*, Choisy? Somewhat impatient of severe frost in Surrey gardens, and killed to the ground in winters of unusual severity. The fruit is dry, quite dissimilar from that of *Androsænum*, as is the whole plant; and yet they have somehow become confused together.

*Hypericum barbatum*, Jacq.

Province - 15. Perth; G. Don, sole authority.

Ambiguity. A garden plant? Cyb. i. 254. In English Flora Smith accepts this as a true native, and without a word of doubt; attributing it to "bushy places in Scotland," as though there were any number of localities for it in addition to the one specially mentioned, "by the side of a hedge," in Strath Earn. Smith was too exclusively a botanist of the study, not of living nature in the wilds, to warrant any reliance on his decisions about the genuine nativity, or otherwise, of plants in Britain. And yet not alone foreign botanists (excusably) but even some English botanists (inexcusably) cite him as an authority whose decisions are to be received and abided by.

*Hypericum calycinum*, Linn.

Provinces 1 2 3 4 5 6 - 8 9 10 11 12 13.

Alien. Cyb. i. 253. Much planted in shrubberies and on banks; where it readily spreads by its creeping rootstocks; thus misleading the inexperienced botanist to suppose it native in this country.

## 17. ACERACEÆ.

*Acer Pseudo-platanus*, Linn.

Provinces 1 to 16. Much planted, and springing freely from seeds.

Alien. Cyb. i. 255. iii. 400. Described as a 'Denizen' in Baker's Botany of North Yorkshire; but given as an 'Alien' by the same botanist in the New Flora of Northumberland and Durham.

## 18. GERANIACEÆ.

*Erodium (cicutarium) chærophyllum*, DC.

Province - - 3. Surrey, and probably elsewhere.

Syn. 228. Scarcely separable from the ordinary state of *E. cicutarium*. The special notice of this variation in English Botany, third edition, is my only warrant for a special notice of it here; and the Editor himself said that "the transition between the two seems to be gradual." In the 'Manual of British Botany,' as in the 'English Flora' also, three subforms are mentioned. But Babington's three do not exactly correspond with Smith's three, nor of course can they do so with Syme's two.

*Erodium littoreum*, Willd.

Province - 3. Middlesex Flora, quoting "Irv. H. B. P. 752." Casual. Near the Chelsea old water-works, Pimlico.

*Geranium phæum*, Linn.

Provinces 1 to 15 - - [18]. Has been seen in many counties. Alien. Cyb. i. 259. iii. 400. Included in Edmondston's Flora of Shetland; but too likely only a garden plant there.

*Geranium striatum*, Linn.

Province 1 6 - 10. [12. Cumberland.] Alien. Cyb. i. 258. Said to be well established in Cornwall.

*Geranium angulatum*, Curtis.

Province - 12. Cumberland, as pretended by a Lake guide. Ambiguity. Cyb. i. 259. Phytologist ii. 430.

*Geranium nodosum*, Linn.

Provinces - 3 - 10 - 12 - 14. Herts. York. Cumberland. "Tweed." Alien. Cyb. i. 259. iii. 401. The subject of several errors, and perhaps of one wilful imposition.

*Geranium macrorrhizum*?

Province - 10. Washerlane, near Halifax; S. Gibson. Ambiguity. This was recorded in the 'New Botanist's Guide' under the name of "*G. nodosum*;" its locality being misread into Waterham. In Phytologist ii. 556, Mr. Gibson denies it as *nodosum* and declares it *pyrenaicum*; which latter name certainly is given on its label in Mr. Gibson's own handwriting. The specimen is a mere scrap, the top of a flowering stem or branch, and assuredly wide away from *G. pyrenaicum*. It may perchance be the old garden flower, as above named; the fragment itself perhaps picked in a garden. But "Washerlane" might be examined by a resident botanist.

*Geranium (molle) innominatum*, Lond. Cat. ed. 6.

Provinces - 3, etc. This means a "nameless" variety. There are two forms or states of the species, differing much in pubescence,

and slightly in other characters; but they remain for further observation.

*Geranium (Robertianum) purpureum*, Forster.

Provinces 1 2 3 4 - 6 7. Cornwall to Suffolk.

Syn. 239. Cyb. i. 266. iii. 402. (What is the variety "*pinguescens*," on Holy Island, recorded in Johnston's Flora of the Eastern Borders, but not mentioned in the New Flora of Northumberland and Durham?)

*Geranium (Robertianum) modestum*, Jord.

Province 1. "Torquay; Mr. C. Eyre Parker"; E. B. ii. 204.

Syn. 239. Unknown to myself, apart from the type or other var.

*Geranium (sanguineum) lancastriense*, With.

Province - 12. Walney Isle, Lake Lancashire.

Syn. 240. Cyb. i. 267. Borrer in Phytol. ii. 430. Page 464.

#### 19. BALSAMINACEÆ.

*Impatiens fulva*, Nutt.

Provinces - 2 3. Sussex; Miss Carr! Surrey! Midx. flo. 71.

Alien. Cyb. i. 268. Thoroughly established by the river Wey and Basingstoke Canal, Surrey, and in several places about the Thames.

*Impatiens parviflora*, DC.

Provinces - - 3 4. Surrey. Middlesex. Oxford. Cambridge.

Casual. Likely to become an established weed.

#### 20. OXALIDACEÆ.

*Oxalis corniculata*, Linn.

Provinces 1 2 3 - 5 - - - - - 13 15. Several counties.

Alien or Casual. Cyb. i. 271. iii. 402. Alph. De Cand. geog. bot. 660. Thought to have originally migrated from Asia into Europe. Although the first recorded, it is now less frequent than *O. stricta* within Britain; which latter is perhaps still occasionally mistaken for the present.

*Oxalis stricta*, Linn.

Provinces 1 2 3 - 5 - - - 9. Several counties.

Alien or Casual. Cyb. i. 272. iii. 403. Alph. DC. geog. bot. 724. Thought to have immigrated from America. See the preceding.

#### 21. CELASTRACEÆ.

*Staphylea pinnata*, Linn.

Provinces - - 3 - - - 7 - 9 10 11 12 13 14.

Alien. Cyb. i. 273. iii. 404. Nowhere permanent?

## 23. LEGUMINIFERÆ.

*Sarothamnus (scoparius) prostratus*, Bailey.

Province 1. West Cornwall; Charles Bailey.  
Syn. 248. Described in the Manchester Phil. Trans.

*Ulex (nanus) eu-nanus*, Syme, E. B. 3.

Provinces 1 2 3. And probably in 4 to 6 or 8.  
Syn. 250. Distribution ill ascertained apart from "nanus."

*Ulex (nanus) Gallii*, Planchon.

Provinces 1 2 3 ? 5 6 7 8 9 10 11 12 13. Cornwall to Ayr.  
Syn. 250. Cyb. iii. 330. Chiefly in the western counties.

"*Ulex strictus*, Lindley."

Provinces 1 2. Cornwall and Devon; Hore, in Phyt. i. 162.  
Error? Sussex; F. A. Malleon, in Gardener's Chronicle?

*Genista (tinctoria) humifusa*, "Dickson."

Province 1. Kynance Cove, Lizard, Cornwall.  
Syn. 251. "Between Caerthilian and the Lizard Lights"; C. Bailey.

*Ononis reclinata*, Linn.

Provinces - 2 - 13. Mull of Galloway; Graham, 1835.  
Casual? Cyb. i. 282. Devon, 1865; "Mr. E. Holmes,"—as reported in the Journal of Botany vi. 51; but erroneously referred to Dorset in the Index of same.

*Ononis ramosissima*, Desf.

Province - 15. Ballast heaps, Fife; Graham excurs. 1835.  
Casual. Cyb. i. 282. In 1834, and only once found?

*Anthyllis (vulneraria) Dillenii*, Schultz.

Provinces 1 - - - 6 7. Corn. Dev. Glam. Pemb. Angl.  
Syn. 257. "May be a distinct sub-species"; E. B. iii. 20.

*Medicago sativa*, Linn.

Provinces 1 to 15. Many counties; but usually temporary.  
Casual or Alien. Cyb. i. 283. Frequently sown as food for cattle; and occasionally found to linger awhile in fields, perhaps more especially in dry ground near the coast.

*Medicago (falcata?) sylvestris*, Fries.

Province - 4. Suffolk. Norfolk. Cambridge. Also Cheshire?  
Syn. 259. Cyb. iii. 331. Cambr. flo. 53. Eng. bot. iii. 23.

*Medicago (denticulata) apiculata*, Willd.

Provinces 5 10 11 - 15. Hereford. York. Durham? Fife?  
Syn. 262. The examples from Ross, Hereford (Purchas!) and Scarborough, Yorkshire (Bean!) have short straight spines; those from Hebburn ballast-hills (Storey!) and Charlestown, Fife (Syme!) are without spines, though the prominent nerves of the pod do make a sort of marginal tubercles.

*Medicago muricata*, All.

Province - 4. Said to have grown at Orford, Suffolk.

Extinct, if not Error. Cyb. i. 287. Bab. man. 71. "The Rev. W. W. Newbould informs me that Ray's plant was *denticulata*, on the faith of the specimens in the old herbaria"; Eng. bot. iii. 112.

*Melilotus arvensis*, Wallr.

Provinces 1 2 3 4 5 6 - - 9 10 11 - 13 15.

Casual or Alien. Cyb. iii. 332. Among crops, and on ballast, etc. This seems likely to become established as something more than a Casual, although unnoticed by Smith or Hooker (edition 5) and even in the earlier editions of the 'Manual.'

*Melilotus parviflora*, Linn.

Provinces - 3 - 5 - 9. Sur. Mid. Glouc. Ches. Lanc.

Casual. Cyb. iii. 332. (Some other species are mentioned in the Middlesex Flora and Appendix to the Flora of Surrey; namely, *sulcata*, *messanensis*, *cærulea*. The second of these also in the New Flora of Liverpool.)

*Trigonella Fœnum-græcum*, Linn.

Provinces - 3 - 9. New roads; New Flora of Liverpool.

Casual. E. C. report 1861. Surrey flo. app. 316. (In the Journal of Botany, iv. 149, *Trigonella laciniata* is enumerated among various exotics introduced at Mitcham, in Surrey, through corn imported for a Distillery at Wandsworth.)

*Trifolium incarnatum*, Linn.

Provinces any. Where sown, and left as a straggler.

Casual. Cyb. i. 294. In the sown fields this occurs occasionally with pale yellowish flowers; yet is then hardly the same with *T. Molinerii*.

*Trifolium hybridum*, Linn. Also *T. elegans*, Savi?

Provinces any. As a waif or relict of sown crops.

Casual. Cyb. iii. 332. Frequently sown of late. The *T. elegans* of English botanists, whether or not that of Savi also, seems to be just the same thing with the *hybridum* under rather different conditions of growth.

*Trifolium stellatum*, Linn.

Province - 2. Sussex, established on old ballast heaps.

Alien. Cyb. i. 297. [Som. Kent. Essex. Glouc.]

*Trifolium resupinatum*, Linn.

Provinces - 2 3 - 5 6 - - 9. Cornwall to Liverpool.

Casual. Cyb. i. 301. iii. 409. Nowhere permanent.

*Trifolium patens*, Schreb.

Province - 8. Leicestershire; Rev. W. H. Coleman.

Casual. Particulars in Phytologist, iv. 1100.



*Trifolium agrarium*, Linn.

Provinces - 3 - 11 - 15. Sown with grass or clover seed.

Casual. Eng. bot. iii. 61. "This species has been seen lately in many parts of England in forage fields laid down with imported seeds"; New Flora of Northumberland and Durham.

*Ornithopus compressus*, Linn.

Province - 9. Cheshire; F. M. Webb, in E. C. report 1861.

Casual. Ballast heaps by the Birkenhead Docks; New Flora of Liverpool, page 45.

*Scorpiurus subvillosus*, Linn.

Province - 3. Surrey; G. Lawson, in Phytol. iv. 461.

Casual. Cyb. iii. 335. Field near Wandsworth Rail Station.

*Coronilla varia*, Linn.

Provinces 1 2 - 4 - 9 - 12.

Casual. Cyb. i. 331. Dr. Bromfield tried to force this plant into the lists of British natives, on very unsatisfactory evidence wordily set forth in the Magazine of Nat. Hist. ix. 604. Two extracts from letters written by the late W. L. Notcutt will help to shew the worthlessness of such hearsay evidence. "It was gathered last year, I am informed, plentifully wild about four miles from Fakenham"; Letter of September 17, 1849. Again, a fortnight later, "I went to Bagthorpe, the station for *Coronilla varia*, last week; and though it looked wild at first, on inquiry I found that it had been planted there; the person who had planted it acknowledged this to me"; Same, October 1, 1849. Dr. Bromfield habitually tried to make out a case in support of nativity, much as though he were an advocate retained to support a side, right or wrong. Mr. Notcutt endeavoured to find out the truth. It will be well for future botanists to know of such differences between those of our own time. I should myself have been spared much trouble, and been saved from several false conclusions, if earlier put on my guard with respect to the trusty or untrusty peculiarities of botanists who flourished before (say) 1800 or even 1825.

*Vicia villosa*, Linn.

Provinces - 5 - 10. Gloucester. North-east York.

Casual. E. C. reports for 1867 and 1868.

*Vicia varia*, Host.

Province - 10. North-east York, 1861; Mr. W. Foggitt.

Casual. Botany of N. Y. p. 222. Same as the preceding?

*Vicia (angustifolia) Bobartii*, Forster.

Provinces - 3 - 15. Essex. Middlesex. Oxford. Fife. Elsewhere. Syn. 298. Common and generally distributed in England, more rare in Scotland; Eng. bot. iii. 98. A small state of *V. angustifolia*, not kept apart in my own notes of localities; nor, indeed, do I know where to trace the line of severance between *angustifolia*

and *Bobartii*. "The two varieties pass insensibly into each other, and intermediates often occur"; Eng. bot. l. c.

*Vicia hybrida*, Linn.

Provinces 1 - 8. Somerset. Lincoln. Extinct?

Ambiguity. Cyb. i. 319. A variety of *V. lutea*?

*Vicia lævigata*, Sm.

Province - 2. Portland Isle, Dorset; Cullum.

Ambiguity. Not found of late on Portland Isle.

*Vicia pannonica*, Jacq. var *purpurascens*, DC.

Province 1. South Devon; Mr. Briggs, E. C. report 1866.

Casual. "Weed in a garden, Honicknowle."

*Ervum Monanthos*, Linn.

Province - 11. Allenheads; New Flora of Northumberland.

Casual. Among cultivated *Vicia sativa*, July, 1865.

*Ervum Ervilla*, Linn.

Province 1. Somerset; Bab. man. ed. 3.

Casual. Cyb. iii. 336. Omitted from Man. ed. 4.

*Lathyrus latifolius*, Linn.

Provinces 1 2 3 4 5 - 7 - - 10 - 12 13 14 15. Partly errors?

Alien. Cyb. i. 327. In several counties, originating from gardens; but simply misnomers of *L. sylvestris* in others.

*Lathyrus (maritimus) acutifolius*, Bab.

Province - 18. Shetland; Edmondston's Flora.

Syn. 311. A slight variation or starved state of the species.

*Orobus (tuberosus) tenuifolius*, Roth.

Provinces 1 2 3 - 5 - 7 8 9 10 11 12 - 14 15.

Syn. 312. Cyb. i. 328. Widely dissimilar as the extremes are, leading some botanists to hold this variety distinct specifically from the type, the one form quite gradually passes to the other by intermediate variations.

## 24. ROSACEÆ.

*Prunus domestica*, Linn.

Provinces 1 to 16. As recorded, with exception of province 6.

Alien? Cyb. i. 330. Never truly wild; but whether an imported tree, or a gradual improvement of the wild bullace (or even sloe) seems an unsettled question. Professor Alphonse De Candolle considers the bullace and plum both as being wild species, natives of Caucasus and other Eastern lands; the bullace perhaps also of Europe. See Geogr. Bot. 878, 986.

*Spiræa salicifolia*, Linn.

Provinces 1 to 17. Chiefly in Wales and Scotland.

Alien. Cyb. i. 335. Much planted; long lasting.

*Aremonia agrimonioides*, DC.

Provinces - 10 - 15. York; Gissing flo. Perth; E. C. rep. 1858.  
Alien. Not noticed before 1856; *vide* E. B. iii. 260.

*Potentilla norvegica*, Linn.

Provinces - 4 5. Norfolk. Gloucester.  
Casual. Journal of Botany, vi. 302. E. C. rep. 1868.

*Potentilla hirta*, Linn.

Provinces - 3 7 - 15. Surrey. Merioneth. Perth.  
Casual. Casual in Surrey. Planted in Perth? (*P. recta*, Linn.  
Mitcham Station, Surrey; Jour. bot. iv. 150.)

*Potentilla opaca*, Sm. "P. intermedia, Nestl."

Province - 15. Perth and Forfar; G. Don only.  
Error. Cyb. i. 345. Possibly in Merionethshire.

*Potentilla (reptans?) mixta*, Nolte.

Province - 2. Near Valebridge, in Keymer, Sussex; Mr. Mitten.  
Syn. 331. London Jour. Bot. ix. 529. Eng. bot. iii. 148.

*Potentilla alba*, Linn.

Province - 7. Reported to have been brought from Wales.  
Error. Cyb. i. 347. Still remains unverified.

*Potentilla tridentata*, Sm.

Province - 15. Forfar; G. Don, the sole authority.  
Error. Cyb. i. 348. iii. 418. Not British or European.

*Fragaria (vesca) calycina*, Lindley (not Lois.)

Province - 11. Northumberland; Eng. Bot. supp. 2742.  
Syn. 335. New Flora of Northumberland and Durham, 158.

*Fragaria elatior*, Ehrh.

Provinces 1 2 3 4 5 - 7 8 9 10 11 13 14 15. Partly errors?  
Alien. Cyb. i. 349. iii. 419. The true *elatior* (Hautbois strawberry) is very rare. Stragglers of other garden strawberries are reported under this name; so that it becomes impossible to say in how many of the provinces enumerated this plant has truly occurred. Once I saw it copiously in a wood in Surrey, over a space about fifty yards across. Two years afterwards not a plant of it was to be found there.

*Rubus arcticus*, Linn.

Provinces - 10 - 15 16. York. Perth. Mull.  
Error. Cyb. i. 350. No safe authority for it in Britain.

*Rubus Leesii*, Bab.

Province 1. Devon; Bab. man. Somerset; Miss Gifford!  
Ambiguity. Seemingly a variety of *Rubus Idæus*.

*Rubi Babingtoniani*.

"Botanists are not held in over-reverence by the outer world, and collectors of Brambles are often rated very low even by botanists." Thus writes one of the Bramble-brotherhood, whose

own social position is too assured, to leave it matter of the slightest importance to himself, that no honour is gained by carrying a wicker basket behind his shoulders, suggestive of fish, but really stored instead with clippings from the bramble-bushes. The article which commences with the two lines of humility quoted, is deserving of perusal and of thought. Its tendency is sound; to recommend description and arrangement of the Bramble forms met with, but not prematurely or too dogmatically to make them into fixed species "of such diverse equivalent values," to wit, non-equivalents.

Still, something must be done with the quasi-species here and elsewhere. "We must faggot our Rubi forms into bundles somehow," it is remarked. And now that we find presented to us a volume which does faggot them into species, which shew the results of long continued attention to the living bushes, to the herbarium fragments, and to the descriptions of them in other books, all duly combined,—it seems safest and wisest for the "outer-world" of non-brambledom to accept the ready-made arrangement in thankful fealty. For the purposes of this Compendium, indeed, it would be useless to make any attempt at tracing out the areas or localities of the species, aggregate or segregate, unless on the rule of adhering to those named and treated in the writings of some one Botanist, known to have bestowed especial attention upon these entangling bushes, and whose species combinations or severances, with more or less continued sameness of nomenclature for them, are known to other reporters of localities, and practically accepted by them.

This consideration determines the course to be taken in the present volume; namely, strict adherence to the names and species, as they have lately been set forth in 'THE BRITISH RUBI,' by Professor C. C. BABINGTON of Cambridge. It is the course which has been rendered practically convenient, too, through the Professor's own method for shewing the distribution of his species being based on the same provinces and provincial nos. which are used in this present volume and in the original 'Cybele Britannica.' More detailed records by counties and special localities will be found in 'The British Rubi' itself. Its Author's own words may best express the reliability of the topographical portions of his Work:

"The localities for each species are with comparatively few exceptions founded upon specimens preserved in my own herbarium." And previously, "In the attempt that is made to point out the geographical distribution of the species I have been obliged to trust chiefly to my own collection for information; for in the present uncertain state of the nomenclature of brambles it is not advisable to accept the names given even by the best botanists."

The subjoined table, copied from Professor Babington, includes the 41 species of 'British Rubi'; the common Raspberry with the two herbaceous species being omitted, because already treated in this volume, on pages 160—1 of the Synopsis. These 41 Babingtonian Brambles are to be considered as segregates of *casius*, *corylifolius*, and *fruticosus*; most of them belonging to the latter.

I do not here take heed of segregates of lower grade than Professor Babington's species; partly because he himself has not exhibited their provincial distribution after the same methodical and quasi-complete fashion; partly because I am abundantly certain that even the species themselves will never become generally known to botanists, much less therefore their sub-varieties. They may become familiar to the very few who will spare much time for their critical study, and who can work under the assisting advantage of mutual instruction direct or indirect. Botanists will never generally name segregate brambles by printed descriptions only. Obviously, they are not usually named by book characters alone even among the few who care to study them. The species are empirical; their names given and communicated much after the methods resorted to by florists in naming their varieties of Rose or Geranium; that is, by oral communication, by labelled specimens, or by pictures. Individuals, not species, are described technically.

Still, 'The British Rubi' must be received as a very acceptable and truly valuable contribution to the literature of descriptive botany, even though it may give only the selected species of the individual writer. For this country we may be said now to possess a fair approximation to a definite standard. It matters less that some botanists may deem the species too numerous, or that others may deem them too few; and that Professor Babington neither can nor does claim oracular infallibility. The impossibility of any individual doing so is well illustrated in a Review of 'British Rubi' in the Journal of Botany for October, 1869. The reviewer thus writes, in reference to the vexed question as to what is or what is not a true species in bramble-dom:

"For our own part, we can only say that we heartily wish,—that, at any rate, it would save an enormous amount of trouble,—if he had in this work and his other writings on this subject, and if the numerous writers of the class which he represents had as firm ground under their feet as they seem to think that they are standing upon; but we cannot admit that the ground is firm, for this reason, amongst others, that after having examined authenticated specimens of every one of Professor Babington's species, and studied most of them in a growing state, we have had the opportunity of comparing with M. Genevier's work [Brambles of the Loire] a large collection of English and French specimens labelled by the latter, and that we cannot see that the 203 species in the

one case, individualized and defined in perfect good faith as the deliberate result of the labour of many years, cover a wider range of form, or a materially greater degree of variability within that range, than the 43 species in the other, individualized and defined with a sincerity and an amount of labour which every one in England, who knows anything about the matter, is fully prepared to appreciate."

The argument here seems unanswerable, and is in itself more clear than the language in which it is interred. It shews that bramble-species are really optional even among the special experts. Certainly, it does not show that bramble segregates cannot be discriminated; but it does show that those segregates are not species in the strict and usual acceptance of this term. Professor Babington writes, page 22, "I believe in the distinctness of species, although unable to demonstrate it." But in *whose* species of *Rubi* are *we* to believe? In the two hundred of M. Genevier?—In the two score of Professor Babington?—In the two units, *fruticosus* and *cæsius*, of Mr. Bentham's Handbook?

<i>Rubus.</i>	Provincial Distribution, from 'British Rubi.'															
3 suberectus	1	2	3	5	7	8	10	-	12	13	14	15	16			
4 fissus	1	-		5	7	8	9	10	11	12	13		15	16		
5 plicatus	1	2	3	5	6	8	9	10	11	12	13	14	15	16		
6 affinis	1	2	3	5	6	7	8	9	10	-	12	13	14	15	16	
7 Lindleianus	1	2	3	4	5	6	7	8	9	10	11	12	13		15	16
8 rhamnifolius	1	2	3	4	5	7	8	10		12	-	-	-	-	-	-
9 incurvatus	-	2	3	-	6	7	-	-		12	-	-	-	-	16	
10 imbricatus	-			5	-	-	-	-		-						
11 latifolius				5	-	-	-	-		-			14	15		
12 discolor	1	2	3	4	5	6	7	8	9	10	11	12	13		16	
13 thyroideus		2	3	4	5	7	8	-	-							
14 leucostachys	1	2	3	5	6	7	8	9	10	11	12		14			
15 Grabowskii	-	2	-		7	8	-	-								
16 Colemanii				5	8	-	10	-	-							
17 Salteri	1	2	-	5	7	8	-	10	-	-						
18 carpinifolius		2	3	4	5	6	7	8	9	10	11	12	-	-	16	
19 villicaulis, 17.	1	2	3	5	-	7	8	10	11	12			14	15		
20 macrophyllus	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
21 mucronulatus	1	-		5	7	8	-						14	15	16	
22 Sprengelii	-	2	3	5	7	8	9	10		12						
23 Bloxamii	1	-	-	5	-	8			11							
24 Hystrix	1	2	3	4	5	8	10	11								
25 rosaceus	1	2	3	5	7	8	10	11	12							
26 pygmæus	-		3													
27 scaber	1	2	3	5	-	7	8	10	-							
28 rudis	1	2	3	5	6	7	8	10	11	12	13	14				
29 Radula	1	2	3	4	5	6	8	10	11		13	14	-			

30	Koehleri	1 2 3 4 5	7 8 9 10 11 12 13	- 15 16
31	fusco-ater	- 2	5 - - 8 10 11	
32	diversifolius	1 2 3 4 5 6 7	9 10	
33	Lejeunii	2 3	5 7 9 10	12
34	pyramidalis	1	5 - 7	- -
35	Guntheri	1 3 5	- 8 10	
36	humifusus	3 5	7 9 10 11 12 13	15
37	foliosus	1 - - - 5		- - - -
38	glandulosus	2 3 5	7 8 - 10	- - -
39	Balfourianus	1 3 4 5	9 10	12 14
40	corylifolius	1 2 3 4 5 6 7 8 9 10		- 13 15 16
41	althæifolius	1 2 3 4 5	- 9 10 11 12	
42	tuberculatus	2 3 4 5	8 10	12
43	cæsius	1 2 3 4 5 6 7 8	10 11	13 14

*Rubus (glandulosus) obliquus*, Wirtgen.

Provinces 1 - 3 - 7 - 10. Surrey. Anglesea. N. York.  
An additional species reported by the Rev. Andrew Bloxam, in the  
Journal of Botany, for April, 1870;— while these pages are going  
through press.

*Rosa cinnamomea*, Linn.

Provinces - 10 11 13. York. Cheviot. Ayr. [12 Cumb.]  
Alien. Cyb. i. 359. New Flora of Northumberland & Durham.

*Rosa lucida*, Ehrh.

Prov. - 12. Cumberland; Phytol. ii. 427. "Tunbridge Wells."  
Alien. Cyb. i. 359. Planted in a hedgerow, Keswick.

*Rosa pomifera*, Herm.

Province - 5. Gloucester. Stafford. B. B. R. 210.  
Alien. E. C. report, 1868. Eng. bot. iii. 261.

*Rosa rubella*, Sm.

Province - 11. New Flora of N. D. p. 162.  
Ambiguity. Cyb. i. 355. Baker's British Roses, p. 203.

*Rosæ Bakerianæ*.

Woods, Smith, Borrer, and others successively tried their skill in  
"descriptions" and "revisions" of the British wild roses. Smith  
began with half-a-dozen in 1800, and ended with a score in 1824.  
The species of Woods were more numerous; those admitted by  
Borrer were somewhat less numerous. In 1858 'Bentham's  
Handbook' fell back on the very condensed number of five species.  
Which of these botanical writers was nearest to Nature? As in  
the Brambles, so in the Briars, evidently any number of species  
may be made at the option of the individual botanist, say from five  
to fifty.

The labours of his English predecessors have failed to satisfy  
the re-modelling mind of my much-esteemed friend in botany,

Mr. J. G. Baker. He in his turn has twice again sought to improve upon former species-arrangements. In 1864 he published his 'Review of the British Roses, especially those of the North of England.' And in 1869 he brings out 'A Monograph of the British Roses.' This latter commences with an account of his own personal qualifications for the task, on the ground of long study, practical observation, and special facilities for acquiring knowledge about our wild roses themselves, and about the ideas and nomenclature of other botanical Dog-rose-fanciers. These qualifications are so ample as to have required a full page of close text for the simple enumeration of them. Thus, on Mr. Baker's own assurance and shewing, it may be held certain that no other English botanist is now in so good a position for arranging over again the wild roses of this country.

The essay of Woods was published in the Transactions of the Linnean Society of London. The Monograph by Baker appropriately comes forth in the Proceedings of the same Society. Not many years ago, an Address by the President of that Society informed its Fellows that Authors on Brambles were providing the world with waste paper. *Appropos* of Briars, will another Address inform the Fellows that their funds are expended in the same serviceable manner? In regard to uncertainty of their species Brambles and Briars are in one category; and alike they require longer study than the generality of botanists care to bestow upon them. The uncertainty is curiously illustrated in Mr. Baker's Monograph set against the earlier Linnean paper by Woods. Not one of the various species invented by Woods appears to be retained as such by Baker. The names of Woods used in the Monograph of Baker are there made to represent varieties of more aggregate species, or are treated as no better than synonyms, not representing even separable varieties.

The characteristic of the new Monograph is combination of species, with severance of varieties; the latter being numerous; the former being comparatively few. In the Review of 1864 Mr. Baker intimated that the dozen roses there treated were what he understood as being "species of primary value," and of which he had "seen specimens from the six northern counties of England." Those 12 species, with *systyla* or *stylosa* for a thirteenth, were placed in 5 chief groups thus:—

1. spinosissima, Sabini, hibernica.
2. mollissima, tomentosa.
3. rubiginosa, micrantha, Borreri, Jundzilliana, cryptopoda.
4. canina,—alone, but including many varieties.
5. arvensis, systyla.

In the 'Monograph' of 1869 these thirteen are reduced to eleven species; two of those in the middle group being lowered to the rank of varieties. And it is further illustration of the uncertainty



or changability of species, even those of "primary value," that the two reduced species are now not placed as varieties of their congeners in the same group, but each of them is changed into a variety of another species in a different group. *Borreri* has become a variety of *canina*, the sole species of group 4; while *Jundzilliana* has sunk into a variety of *tomentosa* in group 2. *Cryptopoda* is retained in group 3, but there sinks into a variety of *pulverulenta*, an aggregate species first appearing in 1869.

Other evidences are to be found in the 'Monograph,' shewing that the combination of varieties into species of "primary value" is really much a matter of whim or fancy. Pretty full diagnoses are given for the species, which look very important and imposing in their latin words;—and then succeed descriptions of varieties which decidedly contradict the diagnosis, through the variety of one species assuming some of the distinctive characters attributed to the other species. Contrast the diagnoses of *rubiginosa* and *micrantha*, for instance, and then compare the descriptions of their varieties with the words of their specific diagnoses. It will be seen that the diagnostic characters of the one species appear in the varieties of the other species.

Such uncertainties and inconsistencies are not here imputed as faults in Mr. Baker's workmanship. Their true significance is quite different. They really shew that the various forms of our wild roses are so connected by the interchange and crossing of technical characters, only imagined to be diagnostic between them, that the book-species really depend on an arbitrary preference given to *this* or to *that* set of characters, as indicating affinity, and as necessitating union or severance.

With the omission of *Jundzilliana* and *cryptopoda*, two species which I was unable to understand at all, and the reluctant acceptance of *Borreri*, the species of the Synopsis on preceding pages of this volume are essentially the same with those of Mr. Baker's Review. Substituting *pulverulenta* for *Borreri*, they would be made to correspond with those of the new Monograph, although not absolutely so in respect to all included varieties. Probably much less so in respect to the recorded localities, on faith of which the formula for their distribution was filled in.

Anticipating now that the names and arrangements of the Monograph will be generally accepted by English botanists, I wish to add a tabular arrangement of the provincial distribution, as nearly similar to the one taken from 'The British Rubi' as the different treatment by the two Authors will allow it done. I shall seldom venture to add any province besides those in which Mr. Baker has cited localities, either in the Monograph or elsewhere and recently. The provincial nos. will thus be few, and blanks be numerous; for Mr. Baker has accomplished in the topographical department of his British Roses nothing like the

ample store of information to be found in 'The British Rubi.' The nos. preceding names will distinguish the species of "primary value"; the unnumbered names being those of their varieties; many of these latter being segregates held as proper species in the writings of Woods and his successors in the species-making line of botanical business. The two first roses in the series, *spinosissima* and *rubella*, need not be repeated here. The distribution of the former was given on page 162; and the ambiguous *rubella* is mentioned above, page 505. No. 5 in Mr. Baker's series is *R. pomifera*, not native.

*Rosa*. Provincial Distribution from Baker.

3	<i>involuta</i>	2 - 5 -	10 11	15 16 17
	Sabini	2 - -	10 11	15 17
	Doniana	2 - 5		
	Robertsoni		10 11	-
	Smithii		10	16
	lævigata		10	
	Wilsoni	7		-
4	<i>hibernica</i>	3 -	9 10 11 12	17
	cordifolia		11	-
6	<i>mollissima</i>	7 8 -	10 11 12	16 17
	cærulea		10 11 12	16
	ps. rubiginosa		10	
7	<i>tomentosa</i>	1 2 3 4 - 7 -	10 11 12 13	15 16 17
	subglobosa	1 2 3 4 - 7 -	10 11	
	farinosa		10	15
	scabriuscula	1 -	- 11	
	sylvestris		10	
	obovata		11	
8	<i>rubiginosa</i>	1 2 3 4	10 11 13	15 16
	permixta	3 -	-	
	sylvicola		10	
9	<i>micrantha</i>	1 2 3 - 5 - 7 - 9	10 11	-
	Briggsii	1		
	Hystrix	3 - 5 -		-
10	<i>pulverulenta</i>	1	5 - 10 11	
	Billietii	5 -		
	cryptopoda		10	-
11	<i>canina</i> "18"	1 2 3 4 5 6 7 8 9	10 11 12 13 14 15 16 ?	
	lutetiana	1	10 11	
	surculosa	2 -		
	sphærica	1 -		
	senticosa	1	-	-
	dumalis	1	5 - 8 - 10 11 12 13	16
	biserrata		- 10	
	urbica	-	10 11	

frondosa	2 -		10			
arvatica	-		9 10 11			
dumetorum	-	-	10 11			
pruinosa			10 11			
incana					-	15
tomentella	- 2 3 -		10 11		-	
andegavensis		-			-	15 -
verticillacantha	1 -			- - -		
collina	1 3 -					
cæsia	- 3 - -	- 8 -	11			16
concinna	1					
decipiens		- -	8 9 11			
Reuteri	- -		10			
subcristata		-	10 11			15
Hailstoni	-		10		-	
implexa	- -		10 -			
coriifolia			10 11 12		14 15	
Watsoni			11 12		15 16	
celerata			11			?
Borreri	2 3 - 5 -		10 11			
Bakeri			- 10			
marginata		- 7	10 11			16
12 stylosa	1 2 3 - 5 -					
systyla	1 2 3 - 5 -					
Desvauxii	2 -					
opaca	3 -					
gallicoides		5 -		- - -		- -
Monsoniæ	3 -					
13 arvensis	1 - 3 5 -		10 11 12			
bibracteata	1 2 3 4 -		11			

*Rosa sepium*, Thuiller. "R. rubiginosa, var. *sepium*, DC. prodr." Province - 3. Southern slope of Hind Head, Surrey, 1869. Additional species, recorded by Mr. Baker in the Journal of Botany, April, 1870; who writes, "I saw only a single bush . . . and could find no other anywhere else in the neighbourhood." The *Rosa sepium* of Eng. Bot. Supp. 2553 is the *Billietii* of Baker's Monograph.

*Sanguisorba (officinalis) media*, Don. (not Linn.) Province - 13 or 16. West of Scotland; G. Don. Syn. 354.\* Cyb. i. 360. A variety of *S. officinalis*; Mr. Borrer.

*Sanguisorba canadensis*, Linn. Province - 15. Perth; Mr. John Sim. Error? Journal of Botany, iv. 392. Perhaps the Canadian plant may have been found and rightly named; for it is pretty manifest that somebody has made a practice of introducing foreign plants to wild-seeming localities about Perth.

*Poterium (muricatum) platylophium*, Jord.

Provinces 1 2 3 - 5. "Som. Wight. Warw." And elsewhere.  
Syn. 355.\* Not clear to me, apart from the next.

*Poterium (muricatum) stenolophium*, Jord.

Provinces - 3 4. "Newmarket, Cambr." "St. Margaret's, Kent."  
Syn. 355.\* "There is so much difference between the fruits of the two forms, that very probably they ought to be separated as sub-species"; Eng. bot. iii. 135. But a specimen from St. Margaret's, given to me labelled "*stenolophium*" by Dr. Syme himself, has the "denticulated" wings attributed to *platylophium* in Eng. bot.

*Alchemilla (vulgaris) montana*, "Willd."

Provinces - - 3 4 5 - - 8 9 10 - - 13 14 15. Midx. to Aberdeen.  
Syn. 356. Eng. bot. iii. 138. Glot. flo. 25. Among the specimens of *A. vulgaris*, promiscuously in my British herbarium, I find those with the "petioles and under-side of leaves pilose" are more numerous than are those with the same parts "sub-glabrous"; and so far it would seem that the alternative variety "*genuina*" may be the less usual form.

*Alchemilla conjuncta*, Bab.

Provinces - 7 - 12 - 15 16. See pages 469—70 of this volume.  
Ambiguity. Cyb. i. 363. iii. 423. Eng. bot. iii. 139.

*Mespilus germanica*, Linn.

Provinces 1 2 3 4 5 - - - 9 10.  
Alien? Cyb. i. 364. iii. 424. Some reliable botanists hold this tree to be truly native in England.

*Cratægus (Oxyacantha) oxyacanthoides*, Thuil.

Provinces - - 3 - - - - 10 (11 - - - 15). And elsewhere.  
Syn. 360. Usually this has not been well distinguished in books; the aggregate name "*Oxyacantha*" being set against the segregate name *monogyna* or *ericarpa*. In Surrey this appears equally wild with the latter or type variety; but it is less frequent, and certainly less sown.

*Pyrus (communis) Achras*, "Boreau," E. B. 3.

Province - - 3. And elsewhere?  
Syn. 362. In English Botany this is separated as a sub-species from the commoner variety there named *Pyraster*. The evidence for it, as a tree really wild in England, is most unsatisfactory.

*Pyrus (Malus) acerba*, DC.

Provinces - 2 3 - 5 - - - 9. [Scotland?]  
Syn. 363. Two chief varieties of Crab-Apple are found in hedge-grows and copses. The true or austere Crab has nearly glabrous leaves, with small very sour fruit on slender pedicels. The wilding Apple has the under-side of the leaves and other surfaces clothed with cottony pubescence; its fruit is usually larger and less sour,

and on a shorter and thicker stalk. This latter is the more frequent variety, or rather series of varieties, filling up the interval between the sour Crab and the Garden Apples; and no doubt it is often produced directly from the latter, if not always so. I have seen the *acerba* certainly in Surrey and Cheshire, and very probably in other counties, without making special notes of it. In English Botany we are told that it is "not unfrequent, and generally distributed in the south and midland counties of England," but that it has never been seen in Scotland by the Editor.

*Pyrus (Aria) eu-Aria*, Syme in E. B. 3.

Provinces 1 2 3 - 5. (Teesdale. Scotland.)

Syn. 365. This segregate unfortunately has been labelled "*scandica*" by some botanists, and thus the recorded localities of the two have become confused in books.

*Pyrus (Aria) rupicola*, Syme in E. B. 3.

Provinces 1 - - - - 7 8 - 10 11 - - 14 - - - 18.

Syn. 365. Devon to Sutherland; Eng. bot. This is the *Aria* of many botanists; and really I do not see how to distinguish it satisfactorily from the eu-Aria.

*Pyrus (Aria) scandica*, E. B. 3. *P. intermedia*, Ehrh.

Provinces 1 2 3 - 5 - 7 - - 10 11. Partly errors? Arran?

Syn. 365. Cyb. iii. 348. Bot. Gaz. iii. 34. The line of separation between this segregate and *Aria* or *eu-Aria*, on the one side,—between this and *pinnatifida* or *fennica*, on the other side, is traced differently by botanists. Specimens from Arran have very usually been labelled as *pinnatifida* or *fennica*; but Dr. Boswell Syme informs me, while these pages are going through the press, that the Arran species is *scandica* not *fennica*.

*Pyrus (Aria) pinnatifida*, Sm. *P. fennica*, Bab. man.

Provinces 1 2 3 - 5 - - 8 - - - - 14 16. Partly alien.

Syn. 367. Cyb. iii. 347. Wild in Arran, subject to the recently formed opinion of Dr. Syme that it is *scandica*, not *fennica*, which occurs there. Mr. Borrer held it wild also in North Hants, between Farnham and Farnborough; where it was observed sparingly along with *Aria* and *Aucuparia*, both more plentifully. A specimen in my herbarium was picked by Mr. James Macnab in Darenth Wood, Kent; and this I cannot separate from Arran examples distributed by Professor Balfour and Mr. Bell through the Botanical Society of Edinburgh. For the present I must dissent from the changed opinion of Dr. Syme, by regarding the Arran *pinnatifida* (Sm.) as the same species with specimens sent me from Sweden labelled *hybrida* and *fennica*; not the same with others also sent me thence labelled as *scandica*. Both these apparent species differ evidently from *eu-Aria* and *rupicola* of Syme, by their venation and tomentum.

*Pyrus domestica*, Linn.

Provinces 1 2 3 - 5 - - 8. All erroneous, except 5.  
 Alien. Cyb. i. 369. One aged tree in Wyre Forest, Worcester or Stafford, makes the only certain locality; and it may have been planted there.

## 25. ONAGRACEÆ.

*Epilobium (angustifolium) brachycarpum*, Leighton.

Provinces - 2 - - 5 7 - - 10 - - - 14. Anywhere native?  
 Alien? Syn. 367. Cyb. i. 370. Possibly this variety, distinguished by its short capsules and other characters, is always of garden origin, though established in places by its creeping roots.

*Epilobium rosmarinifolium*, Haenke.

Province - 15. Glen Tilt, East Perth; Mr. Robertson only.  
 Error? See Annals of Natural History, second series, 17, 317.

*Epilobium (parviflorum) rivulare*, Wahl.*Epilobium (parviflorum) intermedium*, Merat.

Provinces . . . ? Distribution not ascertained for either.  
 Syn. 369. Two slight varieties mentioned in Eng. bot. iv. 12; the former being "sub-glabrous"; the latter having "most of the leaves alternate." Perhaps hardly requiring notice here.

*Epilobium (tetragonum) eu-tetragonum*, E. B. 3.

Provinces 1 2 3 4 5 - - 8. No certain locality in Scotland.  
 Syn. 373. See page 63 of the present volume.

*Epilobium (tetragonum) obscurum*, Schreber.

Provinces 1 2 3 4 5 - 7 8 9 10 11 12 13 14 15. Orkney?  
 Syn. 373. More frequent than *Ep. eu-tetragonum*.

*Epilobium virgatum*, "Fries." Bab. man. ed. 1, 2, 3.

Provinces - 2 3 4 - - - 8 10 11 - 13 - 15 16.  
 Ambiguity. Cyb. i. 373. iii. 350. Ill understood; apparently states of *eu-tetragonum* and *obscurum* confused together; but in editions 4, 5, 6 of the 'Manual' it is made simply synonymous with *E. obscurum*.

*Epilobium Lamyi*, "F. Schultz."

Provinces - 2 3 4 5. Kent; Mr. T. Moore. Hants, Hereford, etc.  
 Ambiguity. Cyb. iii. 350. Phytol. iv. 933. Apparently poor examples of *Ep. obscurum* thus named.

*Epilobium (alpinum) anagallidifolium*, Lam.

Provinces - 11 12 - - 15 16.  
 Syn. 374. A new name for the plant which has been usually (and, I believe, quite rightly) named *Epilobium alpinum* by the botanists of Britain. After separating this form from the Linnean *alpinum*, it is supposed that the remnant segregate would be held limited to three Highland provinces; all the *alpinum* of England being assigned to this present segregate.

*Cenothera biennis*, Linn.

Provinces 1 2 3 4 5 6 7 - 9 10 11 - 13 14 15.

Alien. Cyb. i. 375. Introduced from America. Now seen occasionally in abundance on waste spots where the ground is sandy, both on the coast and inland.

*Cenothera odorata*, Jacq.

Provinces 1 - 3. Devon. Somerset. Middlesex.

Casual. (*C. pumila*, Linn. is mentioned in Middlesex flo.)

*Circaea (alpina) intermedia*, Ehrh.

Provinces - - - - 5 - 7 8 9 10 ? 12 13 14 15 16. Partly errors?

Syn. 378. Cyb. i. 377. Eng. bot. iv. 29. This is made up from specimens which are more or less dubious between *alpina* and *lutetiana*. Several examples received from Continental botanists, labelled as the *intermedia* of Ehrhart, best unite with *alpina*. The same usually holds true with the specimens so labelled by English botanists; although some of the latter extend their ideas of *intermedia* to examples which would be assigned to *lutetiana* by myself. I am unable to trace any satisfactory line of severance between *alpina* and *intermedia*. In the garden, *alpina* and *lutetiana* remain conspicuously dissimilar through many years.

## 26. HALORAGIACEÆ.

*Myriophyllum (verticillatum) pectinatum*, DC.

Provinces - - 3 4 5, etc. Nearly through England?

Syn. 380. According to English Botany this and the type form ("genuinum" with longer, more leaflike, bracts) are "about equally common"; and the two varieties "pass insensibly into each other." Is there not something unsound or inconsistent implied in these two admissions? To take the two contrary extremes of a series,—to name one as the type, and the other as the aberrant variety,—and so virtually to ignore all the intermediate forms, which constitute the insensible gradation between them, while thus dividing the aggregate into its two extremes? The intermediate should rather be the true type of the species; unless in those cases where one extreme is the usual or prevalent form, and the other only an occasional departure from it, which cannot be declared the case when the two are "about equally common."

*Ceratophyllum (aquaticum) submersum*, Linn.

Provinces 1 2 3 4 5 - - 8 - [10 - - - 14]. Localities uncertain.

Syn. 387. Cyb. i. 382. iii. 430. Eng. bot. iv. 124. Connected with *demersum* by the intermediate *apiculatum*? But the latter has not been found certainly in England.

## 28. TAMARISCACEÆ.

*Tamarix anglica*, Webb. *T. gallica*, Sm.

Provinces 1 2 3 4 - 6. Planted near the coast for hedges, etc.  
Alien. Cyb. i. 385. An unfortunate specific name.

## 30. PORTULACACEÆ.

*Montia (fontana) rivularis*, Gmel.

Provinces . . . ? Not separately noted, by the seeds.

Syn. 394. Perhaps ought to be considered as a sub-species; E. B. iv. 136.

*Claytonia perfoliata*, Don.

Provinces - 2 3 4 5 - - - 9. May occur elsewhere.

Casual. Cultivated in gardens; easily becomes weed-like.

*Claytonia alsinoides*, Sims.

Provinces - 8 9 - 13 - 16. Derb. Ches. Lan. Renf. Bute.

Casual. Reported as likely to become naturalised "in woods."

## 31. ILLECEBRACEÆ.

*Herniaria (vulgaris) glabra*, Linn.

Provinces 1 2 3 4 - 6 - 8 9 - (14 15). Partly erroneous?

Syn. 397. Cyb. i. 388. A sub-variety "*subciliata*" in Cornwall.

*Herniaria (vulgaris) ciliata*, Bab.

Province 1. Lizard Point, Cornwall; Bab. man.

Syn. 397. Cyb. i. 388. A very dubious species.

*Herniaria hirsuta*, Linn.

Provinces [1] - 3 - 5 - [8]. Middlesex. Warwick.

Casual. Cyb. i. 389. I have seen a specimen of this which was found in Warwickshire; and according to the Flora of Middlesex it was found at Highgate by Dickson. The Botanical Society of Edinburgh distributed Cornish specimens of *vulgaris* labelled impartially both for *glabra* and for *hirsuta*.

## 33. GROSSULARIACEÆ.

*Ribes (rubrum) sylvestre*, Reich.

Provinces - 2, etc. Var. *Bromfieldianum*, E. B. 3.

Syn. 404. The name *sylvestre* was used by Dr. Bromfield in the Phytologist, ii. 519 for a variety of *R. rubrum*. His wordy paper includes several inaccuracies; to correct which would make this present notice inconveniently long also. The Editor of English Botany, edition third, unites the *sylvestre* and *petraum* along with *spicatum* into one "sub-species," to counterpoise *Ribes sativum* for



the other. This is an unfortunate division and naming; some of the best garden varieties of the Red Currant corresponding more closely with his character of *sylvestre*, than they do with the character given for his *sativum*; for instance, by their pubescent leaves and coloured calyx, with less pendulous racemes while in flower. I do not believe *Ribes rubrum* really native in the southern counties, although it often springs from seeds scattered by birds. By an unlucky mistake in Eng. Bot. pages 44—5, a remark of mine about the shape of the young fruit in the half-wild Gooseberry, has been misplaced to the Red Currant sub-species *sylvestre*.

*Ribes (rubrum) spicatum*, Robson.

Provinces - 10 - 16. Extinct in Yorkshire. Skye, 1868.  
Syn. 404. Said to have been found by Professor Lawson and Mr. Fox "in abundance, in Skye, in 1868." Apparently a form of *rubrum* with the rachis still less developed (or simply less pendulous) than in the *petraeum* of Smith. While the garden varieties are more or less divergent from typical *rubrum sylvestre* in one direction, the wild *petraeum* and *spicatum* of English botanists are divergences from it in the contrary direction.

#### 34. CRASSULACEÆ.

*Sedum (Telephium) Fabaria*, Koch.

Provinces - 5 - 7 - 12 13. Salop. Carn. Westm. Kirkc.  
Syn. 409. A specimen from Lydhole, Salop, collected by Mr. Hinds, has leaves still narrower and more cuneate downwards than are those of the Westmoreland plant represented in English Botany, third edition. But between the Salop specimen and the quite opposite extreme drawn for *purpurascens*, in the same work, come too many intermediate forms to allow of any certainty that the extremes have been well designated "sub-species." In Surrey, plants brought from dry sterile spots into garden ground, acquired considerably wider leaves than they produced in their wild or quasi-wild condition. The distribution set forth for *Telephium*, on page 178, may be held to represent that of the other segregate or "sub-species" *purpurascens*.

*Sedum dasyphyllum*, Linn.

Provinces 1 2 3 4 5 - 7 8 9 10 - 12 - 14.  
Alien. Cyb. i. 398. Only on walls?

*Sedum album*, Linn.

Provinces 1 to 15; with exception of 13.  
Alien. Cyb. i. 399. iii. 434. This has been held native at Penpole Rocks, below Bristol. Some years ago Mr. Flower shewed me the locality, a cavity from which stone might have been quarried formerly, and which was evidently then used as a receptacle for garden refuse from the adjacent grounds of a

gentleman's house. The *Sedum* had become well established there. I do not recollect now whether it was the sub-species *teretifolium* or otherwise.

*Sedum (album) teretifolium*, "Haworth"; Borrer.

Province - 5. Native on the Malvern Hills; Mr. Lees.

Denizen or Alien. Syn. 413. Cyb. i. 397. iii. 434. The opinion of Mr. Lees must be of some worth, in the question of seeming nativity; but that gentleman is the authority also for *Delphinium Consolida* being native on Swansea Bay (Cyb. iii. 377); for *Menziesia polifolia* being found on the Bromsgrove Lickey (Cyb. ii. 152); and for other very deniable notions in topographical botany.

*Sedum micranthum*, Bast.

Province - 2. "At Arundel and elsewhere in Sussex."

Ambiguity. Entirely unknown to me, unless as a garden plant; equally unknown to the Editor of English Botany, third edition. "*S. micranthum* represents *S. album* in the Linnean herbarium"; Eng. bot. iv. 53.

*Sedum sexangulare*, Linn.

Provinces 1 2 3 4 5 6 - 8 - 10 - 12. Several erroneously?

Alien. Cyb. i. 401. iii. 435. Bot. Gaz. ii. 94. Phytol. iii. 1060. *S. sexangulare* is represented in the Linnean Herbarium by the lax form of *S. acre*; Eng. bot. iv. 56. Perhaps the same may be true of some of the provinces indicated above.

*Sedum reflexum*, Linn. *S. eu-reflexum*, E. B. 3.

Provinces 1 to 16; more or less established.

Alien. Cyb. i. 401. iii. 435. Planted on banks, etc.

*Sedum glaucum*, Donn. *S. albescens*, Haworth.

Provinces 1 2 3 4 - - 7 8. As reported, but very uncertain.

Alien. Closely allied to *S. reflexum*. The "glaucous" equally as the "green" leaves are occasionally reflexed.

*Sedum anopetalum*, DC.

Province 1. Devon; but perhaps some error.

Ambiguity. Phytologist, v. 47. Eng. bot. iii. 63.

*Sedum stellatum*, Linn.

Province - 2. Sussex; an escape from Mr. Borrer's garden.

Casual. See particulars in Phytologist, v. 47.

*Sedum Cepæa*, Linn.

Province - 3. Hedgerley, Bucks; Mrs. W. James!

Casual. I have no particulars about this plant.

*Sempervivum tectorum*, Linn.

Provinces 1 to 15. Cornwall to Moray.

Alien. Cyb. i. 403. iii. 435. Almost exclusively on or about houses and walls. But in the Flora of Cornwall and Devon, Mr. Keys writes, "I do not think it is in all cases 'planted'";

having seen it in both counties in out-of-the-way nooks, which, if not always inaccessible, could offer no temptation to any one to take the trouble to plant it there."

*Cotyledon lutea*, Huds.

Provinces 1 10. Somerset; (Clement) Huds. York; Tofield.  
Error. Cyb. i. 404. The plant of it in Chelsea Garden, given by Hudson, was more likely brought from Mr. Clement's garden, not from Yorkshire.

## 35. SAXIFRAGACEÆ.

*Saxifraga Cotyledon*, Linn.

Province - 12. Westmoreland; Phytol. ii. 429.  
Error. Cyb. i. 405. Perhaps more truly an imposition.

*Saxifraga umbrosa*, Linn.

Provinces 1 - - - 5 - - 8 9 10 11 12 13 14 15.  
Alien? Cyb. i. 406. Planted in many places. Mr. Tatham deemed it native in Heseltine Gill, West Yorkshire. And Mr. Brand is quoted in Cyb. Brit. as follows: "On Craig-y-barns, a hill to the northward of the Park at Dunkeld, covering acres, and, in some places, to the exclusion of everything else, forming the entire turf. But for the occurrence also of *Hypericum calycinum*, and other introduced plants, it would have been considered native." But against this fairly-given testimony of Mr. Brand there is something more positive than the suggestive counter-evidence of *Hypericum calycinum* and its associates. In the 'Correspondence of Sir J. E. Smith' i. 516-7, we find a letter from Mr. Winch, expressly stating that the Saxifrage was introduced into the woods at Blair Athol, by the gardener. Whether his introductions extended as far as Craig-y-barns does not (from memory) appear in the letter.

*Saxifraga Geum*, Linn.

Provinces - 10 11 [12] 13 14 15 16. "Only where planted."  
Alien. Cyb. i. 405. [12 Westmoreland. Cumberland.]

*Saxifraga rotundifolia*, Linn.

Province - 12. Cumberland; Phytologist, ii. 376.  
Error. Cyb. i. 404. Recorded on hearsay report only.

*Saxifraga Sibthorpii*, Boiss. & Sprun.

Province - 16. Near the Crinan Canal, Argyle; Mr. W. Bennett.  
Casual. Eng. bot. iv. 87. "S. Cymbalaria."

*Saxifraga muscoides*, Wulf.

Province - 12 - - ? Westmoreland; Huds. "Highlands"; E. B. 3.  
Error. Cyb. i. 416. Eng. flo. ii. 272. Eng. bot. iv. 87.

*Saxifraga pygmaea*, Haw.

Province? "Highlands of Scotland; Mr. James Donn."

Ambiguity. Smith's English Flora, ii. 273.

*Saxifraga (hypnoides) platypetala*, Sm.

Provinces - 7 - - 10 - 12 - - 15. As recorded.

Syn. 431. Dr. Boswell Syme places this as the type form of *S. hypnoides*, including with it Smith's *elongella* as a synonym simply. His alternative or second form is named *gemmifera* in English Botany. This latter is far the more frequent, according to my own observations, and why it should be assigned to the subordinate place of variety, instead of being the leading variety or type form, is not made clear. Other names appear in books, but I am unprepared to say anything about the distribution of the special forms they are supposed to mean; such are *late-virens* and *denudata*, names bestowed upon varieties of *hypnoides* alleged to occur on the Highland mountains.

*Saxifraga hirta*, "Donn Cant."

Province - 7 - ? North Wales and Scotland; Eng. Flo.

Ambiguity. Quite unknown to me.

*Saxifraga pedatifida*, Ehrh.

Province - 15. Clova mountains, Forfar; G. Don in E. F.

Error. Cyb. i. 417. iii. 437. "Don does not pretend to have found it, but sends a garden specimen, saying he has heard it has been found in Scotland"; Dr. Boswell Syme, letter, 1864.

*Mitella diphylla*, Linn.

Province - 5. Stoke on Trent, Staffordshire.

Casual? "An American plant, originally escaped from a garden, on a bank near Stoke upon Trent"; Garner's Natural History of the county of Stafford.

### 38. UMBELLIFERÆ.

*Astrantia major*, Linn.

Province - 5. Hereford. Shropshire. [1 Devon.]

Alien. Cyb. i. 424. The *A. major* is recorded in Ravenshaw's Flora of Devon, on authority of the Rev. G. B. Warren; but Mr. Eyre Parker says that it is the *A. minor* which is found in Mr. Warren's locality.

*Echinophora spinosa*, Linn.

Provinces - 2 3 - [12]. Dorset. Kent. [Lake Lancashire.]

Extinct Casual? Cyb. i. 464. iii. 447. Dill. R. Syn. 220.

*Petroselinum sativum*, Hoffm.

Provinces 1 2, etc. Casual in 3 to 16.

Alien. Cyb. i. 429. Established on cliffs of the south coast.

*Trinia Kitaibelii*, Bieb.

Province 1. Uphill, Somerset; Joseph Woods.  
Error. English Botany, ed. 3, iv. 179.

*Helosciadium (nodiflorum) repens*, Koch.

Provinces - - 3 4 - 14. Suffolk; Paget! Hadd. Edin.  
Syn. 454. Cyb. i. 431. By name this plant is reported from the first 14 provinces, and from two-thirds of their included counties. The only specimens I have seen which truly accord with the book characters of "umbellis pedunculo brevioribus" are from Middlesex, Suffolk, and Edinburgh; all others seen so labelled being simply prostrate or creeping states of *nodiflorum*. The figure in English Botany, no. 1431, repeated in the third edition, is the *pseudo-repens* of the London Catalogue, the variety with short peduncles. The two varieties pass gradually into each other; two of my examples even having long and short peduncles on the same plant.

*Ammi majus*, Linn.

Provinces - - 3 - 5. Surrey. Middlesex. Gloucester.  
Casual. Journal of Botany, January, 1865; where it required thirty-two lines of close print,—say, near 400 words,—to record Dr. St. Brody's remarkable discovery of some chance examples of this foreign plant near Gloucester. How many volumes would be filled in doing the like with every chance locality of every foreign plant so found anywhere in England? In the Flora of Middlesex it took a line and half for the record of a similar locality for the same imported plant. Both this and *Ammi Visnaga* are enumerated in the list of foreign plants introduced into Surrey among corn imported for a Distillery.

*Carum Carui*, Linn.

Provinces - 8 - 10 - 12. As a Casual in several others.  
Alien or Denizen. It seems desirable to make a printed record here from a manuscript note about this plant which was communicated to me by letter from Mr. Thomas Kirk:—"I have picked the *Carui* on the banks of the L. & N. W. Railway at various spots between Hampton and Brandon, a length of 14 or 15 miles. Curiously enough, a policeman at Hampton informed me that he recollected a package of Caraway seeds being injured whilst on a truck, and he supposed the seeds would be scattered 'all the way up the line.' It is sufficiently plentiful at Hampton to be collected by the porters and others for culinary purposes." Compare this account with Teesdale's record quoted in 'Cybele Britannica' and 'The Botanist's Guide.'

*Bupleurum protractum*, Link.

Province - 3. Surrey; Trimen. Middlesex; T. D. flo. 126.  
Casual. "Probably introduced with foreign seed;" Midx. flo. The

same origin at Wandsworth and Mitcham, Surrey, as shewn in the Journal of Botany, iv. 150.

*Archangelica officinalis*, Hoffm.

Provinces - 2 3 4 5 - - 8 - 10 11 - - 14. Misnomers in some?  
Casual. Cyb. i. 451. iii. 444. Flora of Middlesex, 130.

*Peucedanum Ostruthium*, Koch.

Provinces - - - - 5 - - 8 to 16. Chiefly in provinces 10 11 12.  
Alien. Cyb. i. 453. Mr. Baker holds it originally planted about farm houses in York and Durham, for use as a cow medicine. See Botany of North Yorkshire, 238, and New Flora of Northumberland and Durham, 180.

*Tordylium officinale*, Linn.

Province - - 3. Middlesex and Oxford, through misnomers.  
Error. Cyb. i. 455. Essex; Rev. S. Palmer, in Mag. nat. hist. ii. 385; but Mr. Palmer was a sad mis-recorder.

*Daucus (Carota) maritimus*, With.

Provinces 1 2 3 - - 6 7 - 9 - 11 - - [14] - 16. *D. gummifer*, Lam. Syn. 489. Cyb. i. 456. iii. 444. Seeds sown in a Surrey garden, two different years, in each case produced *D. Carota* only; one set of the seeds brought by myself from the coast of Jersey; the others given to me by Dr. Boswell Syme. Besides this direct change, intermediate forms occur on the coast; while on inland examples of *Carota*, growing on dry exposed ground, the umbel occasionally remains perfectly convex in fruit.

"*Daucus Gingidium*, Linn." Bab. man. ed. 2, not 3.

Provinces 1 - 3. "Kent, Cornwall." "Probably distinct."  
Ambiguity. Unknown to me. The intermediates mentioned above?

*Caucalis latifolia*, Linn. *Turgenia latifolia*, Hoffm.

Provinces 1 2 3 4 - 6. [8. Dovedale; Dr. Johnson, in B. G.]  
Casual. Cyb. i. 457. iii. 445. Seldom found.

*Anthriscus Cerefolium*, Hoffm.

Provinces 1 to 15, interruptedly. Devon to Moray.  
Casual. Cyb. i. 462. iii. 446. An escape from gardens.

*Cherophyllum aureum*, Linn.

Provinces - 14 15. Edinburgh and Eorfar; G. Don only.  
Error or Casual. Cyb. i. 463. Flora of Forfarshire, 85.

*Cherophyllum aromaticum*, Linn.

Province - 15. Forfar; G. Don, sole authority?  
Error. Cyb. i. 463. Flora of Forfarshire, 86.

*Coriandrum sativum*, Linn.

Provinces - - 3 4 5 - - 8 9 - 11 - 13 - 15. Kent to Aberdeen.  
Casual. Cyb. i. 464. I have not seen specimens of this.

## 40. CAPRIFOLIACEÆ.

*Lonicera Caprifolium*, Linn.

Provinces 1 2 3 4 5 - 7 - 9 10 - 12 13 14.

Alien. Cyb. ii. 10. iii. 448. Frequently planted; and stated to have become well established in Cambridgeshire.

*Lonicera Xylostemum*, Linn.

Provinces 1 2 3 - 5 6 - 8 9 10 11 12 - 14 15. Wild in Sussex? Alien? Cyb. ii. 10. iii. 448. "In a coppice called the 'Hacketts,' to the east of Hough Bridge, four miles from Arundel, plentiful and certainly wild"; Mr. Borrer in B. G. 1805. At that date, Mr. Borrer was a young botanist; at a later age, experience had made him much less ready in declaring garden shrubs "certainly wild." Besides, "wild" is an ambiguous term. A plant may have become certainly wild, although originally introduced by human agency; *ex. gr.* the *Udora canadensis* and *Impatiens fulva*; which are now wild, although not natives aboriginally.

*Lonicera alpigena*, Linn.

Province - 14. Collinton woods, near Edinburgh.

Planted Alien. See English Botany, iv. 210.

*Diervilla canadensis*, Willd.

Province - 15. Planted in Forfarshire.

Alien. Explanations in Cyb. Brit. Supp. 34.

*Symphoricarpus racemosus*, Mich. Symphoria, Hort.

Provinces ...? Eng. bot. edit. 3, iv. 210.

Alien. I am not aware of any alleged locality; and thus include the shrub here only because enumerated in English Botany, as cited. It belongs to a small group of shrubs which are often planted for ornament, and which keep the ground by their creeping roots; such as the *Diervilla* above mentioned, the *Hypericum hircinum*, *Spiræa salicifolia*, etc.

## 41. RUBIACEÆ.

*Galium (verum) ochroleucum*, "Wolf."

Provinces 1 2 3. G. elato-verum, Eng. bot. iv. 214.

Hybrid? Cornwall and Devon; A. Briggs! Sussex. Kent.

*Galium cinereum*, Sm. G. diffusum, Don. Hook.

Provinces - 14 15. Edinburgh and Forfar; G. Don.

Ambiguity. See Eng. Bot. iv. 216. Eng. Flo. i. 203.

*Galium (palustre) Witheringii*, Sm.

Provinces all? "Rather rare;" Eng. bot. iv. 222.

Syn. 515. Cyb. ii. 14. It would seem that authors and collectors apply the name '*Witheringii*' differently. If it be understood simply to mean *G. palustre* with the stem hispid, not smooth, then it represents a plant not at all rare, I think.

*Galium (palustre) elongatum*, Presl.

Provinces 1 2 3 4 5 - - 8 9 10 11. Infrequent?

Syn. 515. Differing from ordinary *G. palustre* chiefly by its much larger flowers and fruit; otherwise, very similar. Made the first or type form in English Botany; while the name 'genuinum' is given to the more usual form, placed as a second variety.

*Galium debile*, Desv. *G. constrictum*, Chaub.

Province - 10. Exchange Club report for 1858.

Ambiguity. Probably "passed over as *G. uliginosum*."

*Galium (erectum?) aristatum*, Sm.

Province - 15. Forfarshire; G. Don.

Syn. 518. "It is evidently one of the intermediate forms which connect the two sub-species" of *Mollugo*, namely, *erectum* and *elatum*; Eng. bot. iv. 217.

*Galium (Mollugo) scabrum*, With.

Province - 5. Near Worcester; Stokes in With arr.

Syn. 519. A species, by Withering; a variety of *Mollugo*, by Smith; disregarded by subsequent describers.

*Galium (Mollugo) insubricum*, "Gaud. Koch."

Province - 12. Winandermere; Rev. C. A. Stevens.

Syn. 519. Bab. man. "A distinct species?" The "*G. insubricum*, Gaud." of the Botany of North Yorkshire, perhaps is the next variety, the *Bakeri* of English Botany, not this present one?

*Galium (Mollugo) Bakeri*, Syme.

Province - 10. Near Thirsk, Yorkshire; J. G. Baker.

Syn. 519. "One of three or four of the intermediate forms which connect *G. erectum* with *G. elatum*"; Eng. bot. iv. 218.

*Galium (sylvestre) montanum*, Vill.

Provinces - 8 - 10, etc. *G. pusillum* of Cyb. Brit.

Syn. 520. Made the type of *sylvestre* in E. B. iv. 220.

*Galium (sylvestre) nitidulum*, Thuil.

Provinces - 8 - 10. Botany of North Yorkshire, 242.

Syn. 520. See English Botany, iv. 221 and 232.

*Galium commutatum*, Jordan?

Province - 10. Cronkley Scars, North Yorkshire; Baker.

Ambiguity. "The Teesdale plant, supposed to be *G. commutatum* of Jordan, for specimens of which I am obliged to Mr. Baker, is certainly not the plant described by Grenier and Godron"; Eng. bot. iv. 221;—but see also page 232.

*Galium saccharatum*, All. "*G. verrucosum*, E. B."

Provinces - 10 - 15. [3 - 8, misnomers.]

Casual. Cyb. ii. 19 and iii. 449.

*Galium spurium*, Linn.

Provinces - - 3 4 5 - - 8 - 10 11 12 - - 15. Mostly erroneous.

Casual. Cyb. ii. 20. A synonym for *G. Vaillantii* in province 3.



Casual in 10 and possibly 15. Misnomers of *G. tricornis* in others.

*Asperula taurina*, Linn.

Provinces - 8 - 12 - 14 15. Leic. Westm. Hadd. Edin. Perth.  
Alien. Cyb. ii. 23. iii. 450. Eng. bot. iv. 229.

*Asperula arvensis*, Linn.

Provinces 1 - 3 - 10 - 13. Dev. Midx. Herts. York. Renf.  
Casual. Cyb. ii. 23. Eng. bot. iv. 230.

*Crucianella stylosa*, DC. E. B. 3.

Province - 10. Scarborough, Yorkshire; J. G. Baker.  
Casual. On a railway embankment.

## 42. VALERIANACEÆ.

*Centranthus ruber*, DC.

Provinces 1 to 11 - - 14. Escaped from gardens.  
Alien. Cyb. ii. 24. iii. 529. Well established in chalk-pits in the southern provinces.

*Centranthus Calcitrapa*, Dufr.

Province - - 3. Garden walls, Kent and Middlesex.  
Alien. Cyb. ii. 25. Phytologist, iii. 649.

*Valeriana (officinalis) sambucifolia*, Mikan.

Provinces all. Cornwall to Orkney. See page 205.  
Syn. 532. Cyb. ii. 26. "*Sambucifolia*" is simply a second name for the ordinary or usual form of Linnean *V. officinalis* in Britain and elsewhere; as explained on pages 448—51.

*Valeriana (officinalis) Mikanii*, Syme E. B. 3.

Provinces - 2 3 4. Likely in other provinces.  
Syn. 532. Cyb. ii. 26. Number of leaflets very variable.

*Valeriana pyrenaica*, Linn.

Provinces - - - - 5 - 7 - - - - 12 13 14 15 16. [4 Ipswich.]  
Alien. Cyb. ii. 27. Well established in Scotland.

*Valerianella carinata*, Lois.

Provinces 1 - 3 - 5 - 7 8 - 10.  
Casual. Cyb. ii. 27. iii. 334. An escape from culture.

*Valerianella (dentata) mixta*, Dufr.

Provinces 1 2 3 - - - - - 10. Common; Eng. bot. iv. 243.  
Syn. 537. Cyb. ii. 28. A slight variety, chiefly noticeable because several times mislabelled as *eriocarpa*.

*Valerianella eriocarpa*, Desv.

Province 5. [2 - 7 - 10 - 14, by misnomers only?]  
Casual. Cyb. ii. 28. iii. 356. In English Botany we are told that Dr. Boswell Syme has actually seen a specimen alleged to have been found in Worcestershire in 1845.

## 43. DIPSACEÆ.

*Dipsacus fullonum*, Mill.

Provinces 1 2 - - 5 6 - - 9 10 11 - 13 14 15. Partly misnomers?  
Casual. Cyb. ii. 29. An occasional waif from culture.

## 44. COMPOSITÆ.

*Tragopogon (pratensis) grandiflorus*, E. B. 3.

Province - - 3. Kent and Surrey; Eng. bot. v. 139.  
Syn. 544. This remains unknown to myself. Of the other two forms, treated together on page 207, the *minor* is much more frequent. In herbarium specimens, the relative length of florets and phyllaries depends partly on the age of the head when pressed, partly on the degree of pressure used; but the relative length differs even at first expansion of the head or compound flower, although becoming less after expansion. I am not prepared to state the distribution of an intermediate form, apart from the two extremes of *minor* and *grandiflorus*.

*Tragopogon porrifolius*, Linn.

Provinces 1 to 16; chiefly in 1 to 5. Casual in 7 to 16.  
Alien. Cyb. ii. 34; treated as a denizen. Two forms of this also are mentioned in Eng. Bot. v. 141, differing by the relative length of florets and phyllaries; perhaps in this case, too, varying with age and pressure.

*Picris (hieracioides) arvalis*, Jord.

Province - 8. "Groby Pool and Market Bosworth, Leicestershire."  
Syn. 547. Eng. bot. v. 136. Not known to me.

*Picris stricta*, Jord. *P. hieracioides*, var.

Province - 3. Herts; Rev. W. W. Newbould.  
Casual. Eng. bot. v. 217. Equally unknown to me.

*Leontodon (autumnalis) pratensis*, "Koch," E. B. 3.

Provinces - 15 16. Dalwhinnie! Skye; Balf. & Bab.  
Syn. 550. A synonym of *Taraxaci*, fide E. B. v. 135. My Dalwhinnie plant, from a corn-field there, differs from the ordinary state of *autumnalis* only by the copious green pubescence. *Taraxaci* is single or few-flowered, with black woolly pubescence. Either one is but a slight variety.

*Leontodon (autumnalis) Taraxaci*, Willd.

Provinces - - - [4] - - 7 - - - - - 15 16 17 18.  
Syn. 550. Cyb. ii. 39. See preceding segregate.

*Hypochoeris (glabra) Balbisii*, Lois.

Provinces - - 3 - 5. Kent and Salop; Bab. man.  
Syn. 551. Eng. bot. v. 128—9.

*Prenanthus purpurea*, Lam.

Provinces - 14 - 16. Skye; Balf. Bab. Acc. Hebr. 5.  
Alien. Cyb. ii. 44. On Salisbury Craigs, Edinburgh, about 1839.

*Crepis barbata*, Linn.

Province 1. On the Downs near Sidmouth, in 1833; W. R. Crotch.  
Casual? Reference lost; where was this published?

*Crepis pulchra*, Linn.

Province - 15. Forfarshire; G. Don, sole authority.  
Error. Cyb. ii. 49. Flora of Forfarshire, 99.

*Hieracium (Pilosella) pilosissimum*, Fries.

Provinces - 2 - - - 7 8. Wight. Montgomery. Derby.  
Syn. 568. *H. Pilosella* var. *peleterianum*, Bab. man.

*Hieracium stoloniferum*, W. K.

Province - 14. "Granton Railway banks, Oct. 1869."  
Ambiguity or Alien? Eng. bot. v. 218. See *H. dubium* below.  
Recorded as Scottish, in the Journal of Botany for November, 1869, on authority of "Professor Balfour and Mr. J. Saddler."  
The names of these two botanists stand on the title-page of a recent "Flora of Ediburgh,"—a work which includes unquestioned so much that is most questionable. A variety of *Pilosella*?

*Hieracium dubium*, Sm. in Eng. Flora.

Provinces - ? - - - 12 - ? Derby? Westmoreland. Scotland?  
Ambiguity. Mr. Backhouse states that the figure of *dubium* in English Botany, 2332, was taken from garden specimens of *H. stoloniferum* of Fries, whilst Smith's description in the English Flora was made from *H. Auricula*, Linn.

*Hieracium Auricula*, Sm. in Eng. Flora.

Province - 12. On Dale-head, Westmoreland.  
Ambiguity. Cyb. ii. 52. Phytol. ii. 434. Smith's description and figure in English Botany, 2368, are alleged by Mr. Backhouse to have been "taken from a Swiss specimen of *H. glaciale* of Fries and Lachen."

*Hieracium collinum*, Fries.

Province - 14. Banks of the Ettrick, Selkirkshire.  
Ambiguity? Particulars in Journal of Botany, for December, 1868. I am not aware whether the name has been confirmed by Dr. Boswell Syme or Professor Babington; nor whether the locality can be relied upon, as a native one, if assuming the name to have been correctly applied.

*Hieracium aurantiacum*, Linn.

Provinces 1 - 3 - - 6 - - 9 10 11 12 ? 14 15 16.  
Alien. Cyb. ii. 52. An escape from gardens.

*Hieracium (alpinum) Halleri*, Hook. Scot.

Province - 15. Perth. Forfar.

Syn. 570. Hooker cited the figure of so-called *villosum*, in English Botany, 2379, for his *Halleri*; Mr. Backhouse cites it for his *eximium*.*Hieracium divaricatum*, G. Don.

Province - 15. Clova Mountains; G. Don.

Ambiguity. Cyb. ii. 61. "H. lingulatum?" Backh. mon. 30.

*Hieracium rupestre*, Bab. man. ed. 3.

Province - 15. Aberdeenshire; Bab. man.

Ambiguity. Cyb. iii. 360. Backhouse in Bot. Gaz. iii. 46.

*Hieracium nudicaule*, Edmondstone.

Province - 15. Perth. Moray. 12 Westmoreland?

Ambiguity. Cyb. ii. 54. Phytologist iv. 843-4.

*Hieracium incisum*, Tausch. Hoppe?

Provinces - 15 - 17. Forfar; Gard. flo. Ross; Bab. man.

Ambiguity. As a variety of *H. murorum*, in Man. ed. 3.*Hieracium maculatum*, Sm.

Provinces 1 2 3 4 5. And elsewhere?

Alien. This name has been used for maculate varieties of several modern species. It is now specially applied to a plant known only on walls and about gardens, as an escape from cultivation, in Devon, Somerset, Sussex, Surrey, Middlesex, Norfolk, Warwick, and perhaps other counties. See especially English Botany, edition third, v. 106.

*Hieracium præcox*, Schultz.

Province - 7. "Denbigh; J. E. Bowman."

Ambiguity. In the Journal of Botany for 1866, page 223, it is stated by Dr. Schultz that his *H. præcox* occurs at Castle Dinas Bran, Denbighshire, and on the great Ormeshead, collected by Mr. Bowman, and deposited in the British Museum. According to my herbarium, Mr. Bowman's specimens from Dinas Bran are more like *pallidum* or *Gibsoni*, while the *præcox* of Schultz is very like *maculatum* of Smith.*Hieracium pictum*, Auct.

Provinces - - - 5 - 7 - - - 11 12 13 - 15 16 17. By reports.

Ambiguity. Maculate varieties of *sylvaticum*, *tridentatum*, *rigidum*, *gothicum*, and perhaps some others, have passed under this name.*Hieracium plumbeum*, Fries.

Provinces - 11 - 15. Durham; Baker in Phytol. iv. 64. Scotland?

Ambiguity. Cyb. iii. 363. Bot. Gaz. iii. 134. This "is regarded by Fries as British, but as no native locality is known to British botanists I am best satisfied to omit it"; Backhouse mon. 64.

*Hieracium Schmidtii*, "Tausch." Bab. man. ed. 2.

Provinces - - - - 7 8 - 10 - 12 - - 15.

Ambiguity. Cyb. ii. 56. iii. 358. Caernarvon, Leicester, York, Perth; C. C. Babington, in C. B. ii. 56. Westmoreland; Borrer, in Phytol. ii. 434. Forfar; J. Backhouse, in Phytol. iii. 768.

*Hieracium Oreades*, Fries.

Province - 10. "Yorkshire; Dill." See Bab. man. ed. 3.  
Ambiguity. Cyb. iii. 361. Backhouse mon. 53.

*Hieracium saxifragum*, Fries.

Provinces - 10 or 11 - - 14 15. Bab. man. ed. 3. Eng. bot. v. 218  
Ambiguity. Cyb. iii. 361. Backhouse, in Bot. Gaz. iii. 47.

*Hieracium cerinthoides*, Linn.

Provinces - 10 - 13 14 15. True plant not British.  
Error. Cyb. ii. 59. iii. 453. Misnomer of *H. anglicum*.

*Hieracium villosum*, Linn.

Provinces - 10 - 15 16. Aberdeenshire; Drummond?  
Error? Cyb. ii. 60. Journal of Botany, iii. 91. Extremely doubtful whether this ever has been found in Britain; most of the supposed examples were certainly other species misnamed. Possibly Drummond's specimens came from the garden of his predecessor George Don.

*Hieracium amplexicaule*, Linn.

Provinces - 3 - 15. Oxford. Kinross. On walls there.  
Alien. Cyb. ii. 61. [Forfar; G. Don, probably false.]

*Hieracium Borreri*, Syme, E. B. 3.

Province - 14. Harehead wood, near Selkirk; Dickson.  
Ambiguity. At present, known in gardens only. My own examples came originally from the garden of Mr. Borrer. No botanist would mistake this for *prenanthoides* after culture of both in the garden. The name of *denticulatum*, apparently intended for this species, has been confusedly applied to several others.

*Hieracium denticulatum*, Sm.

Provinces - - - - 6 - - - 10 - - 13 14 15 16 17 18. All uncertain.  
Ambiguity. Cyb. ii. 62. iii. 359. See the preceding.

*Hieracium dovreense*, "Fries," Bab. man. ed. 3.

Province - 15. "Scotland; Fries." Aberdeenshire?  
Ambiguity. Backhouse mon. 66. Bot. Gaz. iii. 134.

*Hieracium virescens*, Sonder.

Province - 3. Surrey; Fries, *vide* Mr. Woods.  
Ambiguity. See Backhouse mon. p. 80. Eng. bot. v. 205.

*Hieracium pallescens*?

Province - 15. Forfarshire; James Backhouse.  
Ambiguity. Bot. Gaz. iii. 135. Not in Back. mon.

*Hieracia Backhousiana*.

In the preceding enumeration of Hawkweeds the usual course has been adhered to, that of noticing the introduced and the nominal

species which had not been treated in the Synopsis. There still remain the thirty odd species of Mr. Backhouse's elaborate Monograph; the majority of which were not noticed segregately in the Synopsis, or were absolutely unnoticed there. But it is impossible to disregard a treatise so sedulously worked out, and from the pen of a botanist much more familiar with the genus in question, than is any other English describer of plants. The great difficulty in using that Monograph, is, that nobody could possibly name his specimens by it; there must be the further aid also of examples already labelled by Mr. Backhouse himself, or through direct comparison with other individual specimens so labelled. I cannot doubt that several of the so-called "species" are optional and arbitrary; that the forms are associated ("fagotted") into species, or separated into species, and named accordingly, by the will of a Backhouse or a Fries, and not by anything more real in nature. For example, Mr. Backhouse arbitrarily restricts the old Linnean name "alpinum" to a segregate which is comparatively of rare occurrence in this country, and is not specially or exclusively the *alpinum* of any preceding author. Dr. Boswell Syme, endowed with a better appreciation of Science, its ends and means, writes thus in English Botany;—"I have adopted the name *H. melanocephalum* (Tausch.), which doubtless belongs to this form, instead of restricting the name of *H. alpinum* to this aberrant member of the group. There is no custom which has introduced greater confusion than that of applying the name properly belonging to a whole series of forms to one of its parts only;—where this has been done, and generally received by botanists, of course such names ought to be retained, as they do not lead to confusion; but, in the present case, it is only two or three British authors who use *H. alpinum* in the sense intended by Mr. Backhouse; so that their *H. alpinum* does not represent the *H. alpinum* of continental authors"; E. B. v. 172. This is sound and clear; but why not acted on in the case of *Ranunculus heterophyllus*? (See page 429 of the present volume). In the subjoined list of names from the work of Mr. Backhouse, his own recorded localities, those of English Botany, those on labels in my herbarium, with some very few other additions, are condensed into their corresponding provincial nos.

*Hieracium.*

3	alpinum		15	16
4	holosericeum	12	15	16
5	eximium		15	16
	b. tenellum	- -	15	16
6	calenduliflorum	- -	15	
7	gracilentum		-	15
8	globosum	-	15	
9	nigrescens	-	15	16

10	lingulatum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	16
11	senescens	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	16
12	chrysanthum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	16 17
	b. microcephalum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	
13	cerinthoides (b)	-	-	-	-	-	-	-	-	11	12	-	-	-	-	-	-	-	15	
	b. anglicum	-	-	-	-	-	-	-	-	10	11	12	-	-	-	-	-	-	15	18
	c. acutifolium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	
14	iricum	-	-	-	-	-	-	-	-	10	11	-	-	13	-	-	-	-	15	17
15	pallidum	?	-	-	-	-	-	-	-	7	-	10	11	12	13	14	15	16	17	18
16	lasiophyllum	-	-	-	-	-	-	-	-	-	-	-	11	-	-	-	-	-	15	?
17	Gibsoni	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	argenteum	-	-	-	-	-	-	-	-	7	-	-	11	12	-	-	-	-	15	18
19	nitidum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	
20	aggregatum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	
21	murorum	1	2	3	4	5	6	-	8	-	10	11	12	-	-	-	-	-	15	
	b. rotundatum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	
22	cæsius	-	-	-	-	-	-	-	-	?	-	10	11	-	-	-	-	-	15	17 18
...	obtusifolium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	
23	stelligerum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	
24	vulgatum	1	2	3	4	-	6	-	8	9	10	11	12	-	-	-	-	-	15	16
	b. cinereum	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-
	c. rubescens	-	-	-	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	-
25	gothicum	-	-	-	-	-	-	-	-	7	-	10	11	-	-	-	-	-	15	
	b. latifolium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	
26	tridentatum	1	2	3	-	5	-	-	8	9	10	11	-	-	-	-	-	-	-	-
27	prenanthoides	-	-	-	-	-	-	-	-	-	10	11	-	-	-	-	-	-	14	15
28	strictum	-	-	-	-	-	-	-	-	-	10	12	-	-	-	-	-	-	15	16 17
29	umbellatum	1	2	3	4	5	6	7	8	9	10	11	12	13	?	?	?	-	-	-
30	crocatum	-	-	-	-	-	-	-	-	-	10	11	-	-	-	-	-	-	15	
31	rigidum	-	-	-	-	-	-	-	-	-	10	11	-	-	13	14	15	16	17	
32	corymbosum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	

*Barkhausia setosa*, DC.

Provinces - 2 3 - 5 - - 9 10 11 - - - 15.

Casual. Cyb. ii. 68. Sown with imported clover seed; thus uncertain and temporary, though not very rare.

*Taraxacum (officinale) erythrospermum*, Andr.

Provinces - 2 3. "Chalk downs and sandy places."

Syn. 588. Eng. bot. v. 143. Perhaps frequent.

*Taraxacum (officinale) lævigatum*, DC.

Provinces - 2 ? 4 5 - 7. "Sandy places"; E. B. v. 143.

Syn. 588. Localities confused with those of *palustre*.*Calendula arvensis*, Linn.

Provinces - 2 - 11. 2 Sussex coast, extinct. 11 Ballast-hills.

Casual. Cyb. ii. 92. iii. 457. (*C. officinalis*, so much cultivated, is occasionally seen by waysides. Bot. N. Yorkshire, etc.)

*Arctium Lappa*, Linn. With varieties.

Provinces all. *A. Bardana* in all, unless 12 and 17 excepted.

Cyb. ii. 72. In the *Flora Anglica* and *Flora Britannica* only a single aggregate species was treated under name of *Lappa*, with subordinate varieties. In the *English Flora* it was divided into two species, *Lappa* and *Bardana*. In the *British Flora* these two were re-united into one. In *English Botany*, edition third, that dual division is discarded in favour of another, into the two species *majus* and *minus*; the latter subdivided into three sub-species. I can recognize the two species as probably real, and have so treated them on page 219. Other names need a notice here.

*Arctium intermedium*, Man. ed. 4, 5. *A. nemorosum*, Bab. 6.

*Arctium intermedium*, Man. ed. 6. *A. pubens*, Bab. ed. 4, 5.

Provinces 1 2 3 4 5 6 7 8 - 10 - - - 14.

Ambiguities. Professor Babington having applied the name *intermedium* differently in successive editions, it will become usually impossible now to say which of the two segregates is intended by recorders of localities who use that name. In the sixth edition it means *pubens*, but in former editions it means something which is *not pubens*, but whether the *nemorosum* of edition sixth is not made apparent there. Probably both are slight varieties of *A. minus*. In *English Botany* they are made sub-species under this latter; but the Editor intimates non-acquaintance with *A. nemorosum*.

*Arctium tomentosum*, "Pers." Bab. man. ed. 4, 5.

Provinces - 2 3 ? Sussex. Oxford. East England.

Ambiguity. "Apparently not a native of England, but may have been found in E. Anglia"; Bab. man. ed. 5. Oxford Botanic Garden in 1867; to which Mr. Baxter says he brought it from Bagley Wood, many years before; Rev. W. W. Newbould. Sussex; Mr. Hemsley, in *Journal of Botany*, no. 69. I must leave to others the reconciliation between these contradictory records, finding myself only mystified thereby.

*Serratula (tinctoria) monticola*, Bor.

Province 1. In the Lizard, Cornwall!

Syn. 594. "Scarcely deserves the name of a variety, though made a species by Boreau; ... it is represented in E. B. No. 38"; Eng. Bot. ed. 3.

*Carduus (crispus) genuinus*, Gren. & Godr.

Provinces . . . ? Probably as they are shown on page 220.

Syn. 596. Cyb. ii. 75. iii. 454. This and the other two segregates made up the "*acanthoides*" of most English botanists until very recent dates. I am unable to apportion my own herbarium specimens among them with the needful confidence; and thus am compelled to leave the provinces in blank, not finding special localities on record.



*Carduus (crispus) polyanthemos*, Godr. "Koch Syn."

Provinces . . . ? Not ascertained for this apart.

Syn. 593. Indirectly said to be "common", in E. B. 3.

*Carduus (crispus) litigiosus*, Gren. & Godr.

Provinces . . . ? Less abundant than the other forms; E. B. 3.

Syn. 596. "C. acanthoides, Koch Syn." "C. polyacanthos, Schreb."

*Carduus Marianus*, Linn. *Silybum Marianum*, Gaertn.

Provinces 1 to 17. Cornwall to Ross. Garden escape.

Casual or Alien. Seldom permanent. Cyb. ii. 77. iii. 454.

*Carduus oleraceus*, Pers.

Province - 8. Lincoln; Mr. Cole, *vide* E. Edwards.

Alien. Particulars in Phytologist ii. 53 and 115.

*Carduus setosus*, E. B. 3.

Provinces 1 - 3 - 11 - 15. Surrey; Irvine! Fife; Dewar! Orkney?

Casual or Alien. Cyb. ii. 80. The Surrey plant came to my herbarium, thus labelled, through the Botanical Exchange Club, with the date of 1860. The Fife plant came through the extinct Botanical Society of London. The two examples are widely dissimilar in their stem-leaves and bracts. It has also been reported in South Devon and Durham.

*Carduus tuberosus*, Linn.

Province - 2. Formerly found in Wilts.

Extinct? Cyb. ii. 83. iii. 455. [6 Glamorgan, erroneously.]

*Carduus Woodwardii*, Cyb. brit. *C. acauli-pratensis*, E. B. 3.

Provinces - 2 - - 6. Wilts. Glamorgan.

Hybrid? Cyb. ii. 83. iii. 455. A series of examples, wild and garden-grown, shew a range of form sliding almost into *pratensis* at one extremity, and into caulescent *acaulis* at the other extremity.

*Carduus Forsteri*, Bab. *C. pratensi-palustris*, E. B. 3.

Provinces - 2 3 - [5]. Sussex; Coleman! Surrey!

Hybrid? Cyb. ii. 80. iii. 455. The true plant has seldom been found. Forms of *C. pratensis* have been reported occasionally under name of *Forsteri*, as from the Isle of Wight and Stafford, and probably from Gloucester.

*Carduus Gibsoni*, Lond. Cat. *C. arvensi-acaulis*, E. B. 3.

Province - 3. Essex; Mr. G. S. Gibson. "C. dubius, Willd."

Hybrid? Cyb. ii. 84. Eng. Bot. ed. 3. Phytol. iii. 902.

*Carduus Newbouldi*, L. C. *C. nutanti-crispus*, E. B. 3.

Provinces - 3 - 11. "C. acanthoides, Flore de France."

Hybrid? North Essex; Rev. W. W. Newbould, in E. B. 3. A similar intermediate has been found near Wooler, in the Tyne province, by Mr. J. G. Baker. See E. C. report for 1866; also New Flora of N. D. page 196.

*Centaurea montana*, Linn.

Provinces - 5 10. Stafford; Garner. York; Mr. James Ward!  
Alien. Cyb. ii. 287. A waif from gardens.

*Centaurea Jacea*, Linn.

Provinces - 2 3. Sussex; Borrer. Middlesex; Dyer! Syme!  
Alien. Cyb. ii. 88. iii. 456. Eng. Bot. v. 31. Flora of Middlesex,  
164. The so-called "Jacea" of Forfarshire, and of various other  
counties, was the *C. nigrescens* or radiate states of *C. nigra*.

*Centaurea (nigra) nigrescens*, "Willd."

Provinces 1 to 15; but authority wanting for 7 9 12.  
Syn. 611. Cyb. ii. 88. iii. 456. The name "nigrescens" included  
almost any radiate form of *C. nigra* or *C. nigra decipiens*.

*Centaurea (nigra) dccipiens*, E. B. 3.

Provinces 1 2 3 4 5 - 15. Cornwall to Cambridge. Fife.  
Syn. 611. Scarcely distinguishable from *C. nigra*.

*Centaurea melitensis*, Linn.*Centaurea centaurioides*, Linn.

Province 5. Gloucestershire; Dr. St. Brody.  
Casuals. Exchange Club reports, 1867 and 1868.

*Centaurea solstitialis*, Linn.

Provinces - 2 3 4 5 - 7 8 9 10 11 - - 14. Chiefly in S.E. England.  
Casual. Cyb. ii. 92. Among lucerne, clover, etc.

*Centaurea Intybacea*, Linn.

Province - 15. Forfarshire; G. Don, sole authority.  
Error. Cyb. ii. 91.

*Artemisia (maritima) gallica*, Willd.

Provinces 1 2 3 - 5 - - - 10 - - - 14 15. And elsewhere?  
Syn. 624. I have not kept notes of this segregate apart from  
"maritima." In English Botany it is said to be "about equally  
common" with the more typical form, from which indeed it differs  
very slightly.

*Artemisia cœrulescens*, Linn.

Provinces - 2 - 8. Wight. Hants. Sussex. Lincoln.  
Error. Cyb. ii. 99. Phytologist iii. 491. Eng. bot. v. 216.

*Artemisia scoparia*, Wald. & Kit.

Province - 3. South Kensington, Middlesex, 1865-7.  
Casual. Site of the Exhibition of 1862; Midx. flo.

*Artemisia compacta*, Fischer.

Province - 14. "Tweedside, Melrose"; Mr. G. C. Stuart.  
Casual. Proceedings of the Berwickshire N. H. Club, 1869.

*Gnaphalium (dioicum) hyperboreum*, "Don." "Winch."

Province - 16. Stated to have occurred in the Isle of Skye.  
Syn. 627. I have not seen an example of this variety.

*Gnaphalium margaritaceum*, Linn.

Provinces - - 3 4 5 6 7 - - 10 - 12 - 14 15 16.

Alien. Cyb. ii. 101. iii. 458. From America. See De Candolle Geog. Bot. Rais. 669 and 728.

*Gnaphalium luteo-album*, Linn.

Provinces - 2 - 4 - 9. Sussex. Norfolk. Cambridge. Lancaster. Casual. Cyb. ii. 101. Noticed very seldom.

*Gnaphalium (uliginosum) pilulare*, Wahl.

Province - - - 4. Toft, Cambridge; Eng. bot. v.

Syn. 632. "May be common"; Eng. bot. Not yet known to me.

*Filago gallica*, Linn.

Provinces - - 3 4 5 - - 8 - - - 12 - - 15. In corn-fields.

Casual. Cyb. ii. 104. iii. 458. Has occurred in Kent, Surrey, Herts, Essex, Bucks. Errors elsewhere?

*Tussilago alpina*, Linn. Homogyne alpina, Cass.

Province - 15. Forfarshire; G. Don, sole authority.

Cyb. ii. 110. iii. 459. Absent from Scandinavia.

*Tussilago fragrans*, Vill. Nardosmia fragrans, Reich.

Provinces 1 2 3 - - 6 7. Escape from gardens.

Alien. Cyb. ii. 108. Too impatient of severe frost to become truly naturalised, although its roots will endure long in sheltered spots or near the coast.

*Tussilago alba*, Linn. Petasites albus, Gaertn.

Provinces - 5 - 10 - 15. Warwick. York. East Highlands.

Alien. Cyb. ii. 108. iii. 459. E. C. rep. 1868. Eng. bot. v. 118.

*Erigeron uniflorus*, Linn.

Province - 15. Perthshire; G. Don in Eng. Flora, etc.

Error. A misnomer of *E. alpinus* single-headed.

*Erigeron canadensis*, Linn.

Provinces 1 - 3 - 5 6 - - 9 - 11. Chiefly about the Thames.

Alien or Casual. Cyb. ii. 111. A weed in several places.

*Aster salicifolius*, Scholl.

Province - 11 - 15. By the river Tay, below Perth; Syme!

Alien. Comp. 641\*, *Aster salignus* in part. Perhaps more than one species pass under the name *salignus*. The examples sent to me from Perth, by Dr. Boswell Syme, well correspond with a specimen from [name not legible] labelled by Hornung as "A. salicifolius Scholl." I am not certain that the Cumberland plant belongs to the same species; and have not seen that of Cambridge. The Perth specimens ill accord with one from Strabourg, sent as *salignus*. 11, N. H. of Eastern Borders.

*Aster Novi-Belgii*, Linn. *A. brumalis*?

Provinces - 3 - 10 - 15. Surrey. Essex. York. Perth.

Alien. One or both of these occur occasionally as garden escapes.

And some other American species of this large genus have been found in isolated localities in Britain. *Aster leucanthemos* (Desf.) grew increasingly for several years, near to 'Three Thimble Bridge,' in the parish of Thames Ditton, Surrey. But in 1869 a new bridge was built, the channel of the stream altered, houses erected on one side of it, a garden made on the other side,—and the *Aster* became utterly destroyed. Some other species have been picked in that much be-planted locality, the Tay-side below Perth.

*Solidago (Virgaurea) cambrica*, Huds.

Provinces - - - - 6 7 - - 10 - 12 - - 15 - - 18. And others?

Syn. 642. An opposite variety to this is noticed in English Botany, by name of *angustifolia*.

*Solidago lanceolata*, Linn.

Provinces . . . ? Where are the localities?

Alien. "Sometimes found naturalised"; Brit. Flora.

*Senecio squalidus*, Linn.

Provinces 1 - 3 4 5. Devon! Oxford! Worcester! Warwick!

Alien. Cyb. ii. 115. Midx. flo. Suff. flo. Norf. flo.

*Senecio erraticus*, Bert.

Provinces - 5 6 14. Flora of Shropshire, but a misnomer.

Error. Cyb. ii. 117. iii. 461. Bot. Gaz. ii. 9. Mag. N. H. iii. 563.

*Senecio (aquaticus) pinnatifidus*, Gren. et Godr.

Provinces . . . ? Probably general; localities not noted.

Syn. 649. Eng. bot. v. 86. A slight variation or state.

*Senecio saracenicus*, Linn. *S. salicetorum*, Godr.

Provinces 1 2 3 - 5 - 7 8 9 10 11 12 13 14 15 16.

Alien. Cyb. ii. 118. Occasionally misrecorded as *S. paludosus*.

*Cineraria (campestris) maritima*, Davies.

Province - 7. On sea cliffs, near Holyhead, Anglesea.

Syn. 652. The severance of this variety would take province 7 from the area of *C. campestris*; but Professor Babington states that the latter becomes converted into the variety *maritima* during wet seasons. See Mag. Nat. Hist. v. 88; and Bot. Gaz. iii. 69.

*Doronicum Pardalianches*, Linn.

Provinces 1 2 3 4 5 - - 8 9 10 11 - 13 14 15. Partly errors?

Alien. Cyb. ii. 121. Some of the localities which have been recorded for this species, may belong perhaps to the other. My herbarium specimens of the present one are from Somerset, Norfolk, Northumberland, Perth, and Forfar.

*Doronicum plantagineum*, Linn.

Provinces 1 2 3 - - - 8 9 10 - - - 14 15. And others?

Alien. Cyb. ii. 121. See note to the preceding species.

*Anthemis (arvensis) anglica*, Spreng. *A. maritima*, Sm.

Province - 11. Durham; Robson, Backhouse.

Syn. 668. Cyb. ii. 129. [By misnomers, in 2 - 6 - 11 - 13 - 15.]

*Anthemis tinctoria*, Linn.

Provinces - 3 - 11 15. Sur. Ess. Dur. North. Fife. Forf.

Casual. Cyb. ii. 131. iii. 463. Journal of Botany, iv. 150.

(Winch enumerates also the *Anthemis Valentina*, *tomentosa*, and *mixta* among "Exotics found on the ballast-hills of Tyne and Wear;" Geog. dist. 38. It would needlessly extend this List if all the plants ever seen on the ballast in Tyne province should be included in it.)

*Achillea decolorans*, Schrad. *A. serrata*, Sm.

Provinces 1 - 8 - 10. Somerset. Derby. York.

Extinct Casual? Cyb. ii. 132. Garden examples only?

*Achillea tomentosa*, Linn.

Provinces - 10 - - 13 - 15 16. York. Renf. Banff. Dumb.

Casual. Cyb. ii. 133. iii. 463. Brit. flo. ed. 6, p. 245.

*Achillea nobilis*, Linn.

Province - 5. Gloucester; Dr. St. Brody.

Casual. Exchange Club report for 1868.

"*Achillea asplenifolia*, of gardeners."

Province - - 3. Twickenham, Middlesex; Boswell Syme!

Alien. In the same field with *Centaurea Jacea* and *Hieracium aurantiacum*; a triplet tending much to shew each other simply Aliens, relicts of some garden. It is apparently the *Millefolium* with purple or deep pink flowers.

*Achillea tanacetifolia*, All.

Provinces - 8 - 10. Derby; C. C. Babington. York; J. Hardy.

Extinct casual. Cyb. ii. 134. iii. 464. Bot. Gaz. ii. 96.

*Cotula coronopifolia*, Linn.

Province - - 3. Highbury, Middlesex; Mr. Peter Gray!

Casual. In 1869 a rather dense patch of it "was growing in a building lot nearly opposite the new church of St. Augustine in Highbury New Park Road"; Peter Gray. It would be of some interest to know how this plant had got to the place named. Perhaps originally from the Southern Hemisphere, it had become established in Holland in the time of Linneus. It has spread into north-west Germany and Denmark; and it has also settled itself on the coasts of Spain and Portugal. ("*Cotula aurea*, a native of South Europe and the East, occurred a year or two ago in corn-fields at Mitcham, where it was associated with many other exotics obviously introduced with foreign grain"; Journal of Botany, Feb. 1870.)

*Galinsoga parviflora*, Cav.

Province - - 3. Surrey; Dr. Gray, 1860. Middlesex; Mr. Britten.  
Alien. Journal of Botany, i. 104 and 375. Midx. flo. 151.

*Xanthium Strumarium*, Linn.

Provinces - 2 3 - 11. Dor. Ham. Sur. Midd. Dur. North.  
Casual. Cyb. ii. 135. Journal of Botany, i. 375.

*Xanthium spinosum*, Linn.

Provinces - 5 6 - 10 - 13 14. Hereford; Dr. Bull!  
Casual. Wakefield flo. 50. E. C. rep. 1867. Berw. proc. 1869.

## 45. CAMPANULACEÆ.

*Campanula persicifolia*, Linn.

Provinces - 10 - 14 15. York. Edinburgh. Banff.  
Casual or Alien. Cyb. ii. 141. Bot. N. Y. 255.

*Phyteuma spicatum*, Linn.

Provinces - 2 - - 5. East Sussex; W. Christy!  
Alien. One plant of it found in Warwickshire, in 1865.

## 46. ERICACEÆ.

*Erica (Tetralix) Watsoni*, Benth. in DC. prodr.

Province 1. West Cornwall!  
Syn. 691 or 692. Cyb. ii. 147. A series of intermediate forms,  
to all appearance hybrids, between *Tetralix* and *ciliaris*; hence  
re-named "*Tetralix-ciliaris*" in English Botany edition third.  
One of the forms, a living plant of which was kindly given to me  
by the Rev. C. A. Johns, has been distributed numerously through  
the Botanical Exchange Club; though not the special form  
described by Mr. Bentham.

*Erica multiflora*, Linn.

Province - 8. Derbyshire; Pilkington, quoted in B. G.  
Error. What could this name have intended in Derbyshire?

*Erica mediterranea*, Linn.

Province - 6. Pontardulais, Glamorgan; Dr. Turton.  
Error. Cyb. ii. 349. Phytologist i. 142. Dillw. mat. 31.

*Erica carnea*, Linn.

Province 1. Newton Abbot, South Devon; Dr. Hance.  
Alien or Error? Journal of Botany, v. 136.

*Calluna (vulgaris) atlantica*, Seem.

Provinces . . . ? Probably any or all.  
Syn. 695. See Journal of Botany, iv. 306 and v. 84, for an  
account of the characters by which Dr. Seeman proposed to dis-  
tinguish his *atlantica* from the ordinary *vulgaris*. Since attention  
was called to their differences, in the Journal referred to, I have

particularly examined some hundreds of the living shrubs on the heaths in Surrey and neighbouring counties, besides a number of herbarium examples from other countries than England. The result is, that the distinctive characters indicated for *atlantica* entirely fail when a sufficient series of specimens is under examination; those of ordinary *vulgaris* so shading off towards *atlantica*, as to leave little or nothing to keep them apart. In English Botany, a different dual division is adhered to; namely, into *glabrata* and *incana*, dissimilar in their extreme states, but quite connected by a series of intermediate states.

*Menziesia polifolia*, Juss.

Provinces - 5 - 8. Worcester; E. Lees. Notts; N. B. G. Error. Cyb. ii. 152. Hast. Illus. Worc.

*Andromeda (polifolia) curta*, Tate.

Province - 8. Derby; Rev. A. Ley! Ireland; Dr. Tate. Syn. 699. Journal of Botany, iv. 377. E. C. rep. 1868.

*Pyrola (rotundifolia) arenaria*, Koch.

Province - 9. Coast of Lancaster. P. maritima, Kenyon. Syn. 707. Phytol. ii. 727. Liverpool Nat. Jour. no. 17.

*Vaccinium macrocarpum*, Ait.

Province - 7. Flintshire, doubtless planted there. Alien. Extinct. Cyb. ii. 158. An American species.

#### 49. APOCYNACEÆ.

*Vinca major*, Linn.

Provinces 1 to 15. Cornwall to Forfar. Alien. Cyb. ii. 167. An escape or relict of gardens.

#### 50. GENTIANACEÆ.

*Gentiana acaulis*, Linn.

Provinces - 6 - 9. Pembroke; B. G. Lancashire; "Mr. Townley." Error. Cyb. ii. 168. Misnomers or mis-reports.

*Gentiana (Amarella) germanica*, Willd.

Provinces - 2 3 - [5] 6 - - - 10. Hants to York, by report. Syn. 721. Cyb. ii. 173. Hants; Mrs. Russell! It has been found also in Bucks and Herts. Among five specimens sent to me from as many different counties, labelled "*germanica*," two are simply *Amarella*; these latter being from Monmouth and Hereford. Not admitted into the 'Botany of North Yorkshire.'

*Swertia perennis*, Linn.

Province - 6 or 7. Wales; Richardson, in Huds. flo. ang. Error. Cyb. ii. 177. Never verified; but what was the plant?

## 50\*. POLEMONIACEÆ.

*Collomia grandiflora*, Douglas.

Provinces 1 - 10. Shingle, Exmouth. Fields, Thirsk.  
Casual. Eng. bot. vi. 83. A very hardy annual or biennial from America, readily becoming weed-like in gardens.—(*Gilia tricolor*, another garden flower in the same order, is also mentioned in English Botany, vi. 83.)

## 51. CONVULVULACEÆ.

*Cuscuta epilinum*, Weihe.

Provinces 1 to 17, interruptedly. Sown with flax seeds.  
Casual. Cyb. ii. 182. iii. 470.—(*C. approximata*, Bab. in Cyb. ii. 183. Found on a cultivated Melilot.)

*Cuscuta hassiaca*, Pfeif.

Provinces - - 3 4. Essex, Varenne! Herts? Cambridge.  
Casual. Cyb. iii. 364. E. C. rep. 1867. E. B. vi. 93.

## 52. SOLANACEÆ.

*Hyoscyamus albus*, Linn.

Provinces - 3 - 11. Middlesex; Dyer. Durham; Robson.  
Casual. Cyb. ii. 184. Jour. Bot. iv. 151. Surrey flo. app. 317.— (*H. aureus* has occurred on the ballast-hills of Tyne.— And *H. pallidus*, a variation of *niger* without coloured veins in the corolla, has been seen in Surrey, Norfolk, and Edinburgh.)

*Solanum (Dulcamara) marinum*, E. B. 3.

Provinces - 2 3 - - 7. Likely in others also.  
Syn. 738. Unless I misunderstand the plant intended under the name, it seems only a trifling variation, arising from its sea-side localities. The words of Ray express a different view: "Hanc plantam toto habitu suo et omnino specie a priore (*Dulcamara*) diversam." The description of it in English Botany, edition third, is more accurate than that in the Manual of British Botany.

*Lycium barbarum*, Linn.

Provinces - 2 3 - - - 10. Only where planted?  
Alien. Cyb. ii. 187. "Not a native, but quite naturalised on the south and south-east coasts"; Eng. Bot. vi. Doubtless it lives where planted; but is it renewed by seed?

*Datura Stramonium*, Linn.

Provinces 1 to 11 - - 15. Cornwall to Moray.  
Casual. Cyb. ii. 186. An escape from garden culture.



*Datura Tatula*, Linn.

Province - 3. East Kent; Eng. bot. vi. 103. Midx. flo. 196.  
Casual. Now usually held a variety of Stramonium.

*Physalis Alkekengi*, Linn.

Provinces - - 3 - 5. Middlesex; Dyer. Warwick; Kirk.  
Casual. Cyb. ii. 187. Phytol. ii. 971. Jour. Bot. iv. 151.

*Nicandra physaloides*, Gaertn.

Provinces - 2 3. Wight. Sussex. Kent. Middlesex.  
Casual. Declared to have become "partially naturalised in waste and cultivated ground" in the Isle of Wight. A plant so certainly destroyed by slight frost, can never become truly naturalised in England, although it seeds freely in gardens about London during hot summers.

*Nicotiana rustica*, Linn.

Province - - 3. Occasionally about London; Midx. flo.  
Casual. Jour. Bot. iv. 151. One year a plant of it appeared casually in my own garden, in Surrey; and I cannot at all guess through what agency it got thither; there was not then a seeding example of it in my herbarium, to suggest an explanation.

## 53. SCROPHULARIACEÆ.

*Verbascum thapsiforme*, Schrader.

Province - - 3. Kent. "A mistake of Dr. Lindley."  
Error. Cyb. ii. 88. English Botany, vi. 187.

*Verbascum phlomoides*, Linn.

Provinces - 2 3. Sussex, accidentally; Borrer. Surrey, sown?  
Casual. Cyb. ii. 192. iii. 470. Bot. Gaz. ii. 9. Eng. bot. vi. 187.

*Verbascum phæniceum*, Linn. "V. ferrugineum, Andr."

Provinces 1 - 7. Anglesea, 1803-4. Somerset, 1 plant, 1830.  
Casual. Cyb. ii. 192. iii. 470. "In a scattered old fence, on the right hand from Beaumares to the Almshouse, in 1803. In the following year, it nearly covered acres of ground in the adjoining field. I have never seen it in a garden in the neighbourhood"; Davies, in Welsh Botany.

*Verbascum Thapso-Lychnitis*, E. B. 3. Thapsoides, Huds.

Province - - 3 - - (6 7). Kent; Dr. Boswell-Syme!  
"Hybrid." Cyb. ii. 188. (Wales, in gardens; Motley, Griffiths.)

*Verbascum Thapso-nigrum*, "Schiede," E. B. 3.

Provinces - - 3 4. Kent and Surrey; Syme. Norfolk.  
"Hybrid." English Botany, vi. 118. "V. collinum, Schrad."

*Verbascum nigro-pulverulentum*, "Sm." E. B. 3.

Province - - - 4. Norfolk; Eng. flo. ii. 310.  
"Hybrid." Re-found by the Rev. K. Trimmer, in 1863; E. B.

- Verbascum nigro-Lychnitis*, "Schiede," E. B. 3.  
Provinces - 2 3 4. Kent; Syme! Sussex. Norfolk.  
"Hybrid." *Phytologist*, iv. 861. *Eng. Bot.* vi. 119.
- Veronica (spicata) genuina*, E. B. 3.  
Provinces [- - 3] 4. [18]. Suffolk! Cambridge; Bab. flo.  
Syn. 193. *Cyb.* ii. 193. East of England.
- Veronica (spicata) hybrida*, Linn.  
Provinces [1] - - - 5 6 7 - - - 12. Glouc. Wales. Westm.  
Syn. 746. *Cyb.* ii. 193. West of England.
- Veronica fruticulosa*, Linn.  
Provinces - 15 16. (14. Wall near Edinburgh.)  
Error. (Alien in 14.) *Cyb.* ii. 198.
- Veronica (scutellata) pubescens*, E. B. 3.  
Provinces - - 3 - 5 - - - 9 - - - 13 - 15. Probably in others.  
Syn. 753. Simply a pubescent state of the type form.
- Veronica (officinalis) hirsuta*, Hopkirk.  
Provinces - 13. Ayrshire only, and now extinct?  
Syn. 756. *Cyb.* ii. 200. A specimen from Perthshire is in my herbarium, given to me labelled as *hirsuta* by Mr. Maughan; but this is not quite like the garden plant from Ayrshire.
- Veronica Allionii*, Villars.  
Provinces - 15 - - 18. Forfar; Don. Shetland; Edmondston.  
Error. Hook. Scot. 10. Shetland flo. 16. Forfar flo. 136.
- Veronica peregrina*, Linn.  
Provinces - 3 - 15. Middlesex, sown. Perth, in gardens.  
Casual. Ireland, in cultivated land; *Cyb.* Hib.
- Veronica (polita) grandiflora*, Bab. man.  
Provinces - 2 - 4 - 14 15. Wight. Camb. Berwick? Fife.  
Syn. 761. *Eng. bot.* vi. 150. Omitted from the latter editions of the Manual. In the 'Eastern Borders' the Berwick plant is named "Buxbaumii," but the figure of "*V. filiformis*" in the Flora of Berwick has the capsule of *polita*, not that of *Buxbaumii*.
- Bartsia (Odontites) vulgaris*, E. B. 3. "O. verna, Reich."  
Provinces all? "Rather common, especially in the South"; E. B.  
Syn. 765. Naming the specimens in my own herbarium, by the printed characters in *English Botany*, this segregate seems to be the more frequent form.
- Bartsia (Odontites) serotina*, E. B. 3. "O. rubra, Gr. & Godr."  
Provinces all? "Very common"; *Eng. Bot.* vi. 175.  
Syn. 765. "Seems to have little claim to be considered a distinct species, as most continental botanists regard it"; E. B.
- Bartsia (Odontites) rotundata*, "Ball, in Ann. N. H."  
Provinces - 2 - 4. Sussex. Cambridge.  
Syn. 765. *Eng. Bot.* vi. 174. Not known to me.

*Euphrasia (officinalis) gracilis*, Fries.

Provinces all? A slender state, frequent on heaths.

Syn. 766. The *E. officinalis* is so very variable with situation that it appears scarcely possible to select a fixed type for the species.

*Rhinanthus (Crista-galli) major*, Ehrh.

Provinces ? 2 - - 5 - - 8 - 10 11 12 - 14 15 - - 18. Sussex to Shetl.  
Syn. 767. Cyb. ii. 207. iii. 472. Not readily distinguished from the type, though held a true species by many good botanists. The recorded localities are not always reliable.

*Melampyrum (pratense) latifolium*, E. B. 3.

Provinces - 2 3 - 5. Wight. Oxford. Monmouth.

Syn. 770. In English Botany, this segregate is made the primary "variety" of the species, although it is stated to be "rare"; the "common, and generally distributed" form being placed as the second "variety." This runs counter to established usage in botanical books, where the prevailing or usual form of a species stands for the type, and the less usual forms of it for the varieties. Why should a "rare" exception be accounted the primary form?

*Melampyrum (pratense) montanum*, Johnston.

Provinces - - - 5 7 - - 10 11 - - 14 15 - - 18. And elsewhere?  
Syn. 770. Cyb. ii. 209. A boreal or montane form.

*Scrophularia vernalis*, Linn.

Provinces 1 - 3 4 5 7 - - 10 11 12 13 14 15.

Alien. Cyb. ii. 214. iii. 472. An introduced plant; Alph. De Cand. Geog. bot. rais. 675. Said to have become well established in some places.

*Antirrhinum majus*, Linn.

Provinces 1 to 16. Cornwall to Argyle.

Alien. Cyb. ii. 216. iii. 473. On walls, chalk rocks, etc.

*Linaria Cymbalaria*, Linn.

Provinces 1 to 15. Cornwall to Moray, on walls.

Alien. Cyb. ii. 217. Well established in many places.

*Linaria purpurea*, Linn.

Provinces 1 2 3 - - 6 - - - 11 - - 14 15. On walls, etc.

Alien. Cyb. ii. 219. Cornwall to Edinburgh or Aberdeen.

*Linaria vulgari-repens*, E. B. 3.

Provinces 1 2 - 12. Cornwall. Wight. Hants. Sussex. Lake Lanc.

"Hybrid." Cyb. ii. 219. iii. 473. Eng. bot. vi. 143. A series of forms, apparently hybrid, some of which were referred to *L. italica* formerly, but erroneously.

*Linaria (vulgaris) speciosa*, Bromf.

Provinces - 2 3. Isle of Wight; Bromfield!

Syn. 785. Cyb. iii. 473. Phytol. iii. 627. Eng. bot. vi. 141.

This reverts to the typical form under culture; and in the wild state they are connected by intermediate forms.

*Linaria supina*, Desf.

Provinces 1 2 - 11. Cornwall. Devon. Dorset. Durham.  
Alien. Cyb. ii. 221. Probably not native; DC. geogr. bot. rais.

*Linaria spartea*, Hoffmensegg?

Province - - 3. Recent inclosures by Walton Station, Surrey.  
Casual. Cyb. ii. 221. Seen in quantity in 1843—5; less plentiful afterwards; extinct before 1860.—(The African *Linaria bipartita* is occasionally found in Surrey, in places where game has been fed on imported seeds.—And *L. triphylla* has occurred in a newly made road near Birkenhead, Cheshire.)

*Mimulus luteus*, Linn.

Provinces 1 2 3 - 5 6 - - 9 10 11 12 13 14 15 16.  
Alien. Cyb. ii. 224. iii. 474. Established in Scotland.—(The *M. guttatus* has been reported in Scotland also, by Dr. Arnott in the British Flora.)

*Mimulus moschatus*, Douglas.

Provinces - 3 7. Surrey; Dr. Trimen. N. Wales; Mr. Pamplin.  
Alien. Journal of Botany, iv. 151. Increases rapidly in damp loose ground, and likely may become established as a naturalised plant in Britain.

*Erinus alpinus*, Linn.

Province - 10. Near Tanfield, York; Bab. man. ed. 6.  
Alien. "In abundance on the old bed of the river."

54. OROBANCHACEÆ.

*Orobanche lucorum*, Koch. *O. elatior*, *fide* Borrer.

Province - - 3. Corn-field near Epsom, Surrey, in 1846.  
Error of name. Cyb. ii. 226. iii. 475. Eng. bot. vi. 197.

*Orobanche (minor) amethystea*, Thuil.

Provinces 1 ? 3. East Cornwall. South Devon. Kent.  
Syn. 793. Cyb. ii. 228. iii. 475. Sussex? "I much doubt the correctness of the name"; Mr. Borrer, 1859. But the name is adhered to in Bab. Man. ed. 6, and in Eng. Bot. ed. 3.

*Orobanche ramosa*, Linn.

Provinces 1 2 3 4. On Hemp, and thus very uncertain.  
Casual. Cyb. ii. 231.—(*O. speciosa*, DC., was found in 1860 by the late Thomas Clarke in a garden at Bridgewater, parasitical in a row of pease.)

## 54\*. ACANTHACEÆ.

*Acanthus mollis*, Linn.

Province 1. Near Penzance; Jones Tour, 31. "Scilly Isles."  
 Alien. Cyb. ii. 232. iii. 475. Phytol. iv. 408. "A.N.H. viii. 505."

## 55. LAMIACEÆ.

*Salvia clandestina*, Linn.

Province 1. Lizard Point, West Cornwall; Bab. man.  
 Ambiguity. Cyb. ii. 234. The corolla of *Verbenaca* elongates after first expansion, and thus perhaps gave occasion to make out a second species in England. The figure in Eng. Bot. 154 represents the corolla with the short tube of its earliest expansion, not as seen when elongated beyond the calyx.

*Elsholtzia cristata*, Willd.

Province - - 3. Middlesex, 1856, lost in 1857. Scarcely admissible.  
 Casual. T. D. flora, with reference to Irvine's Handbook.

*Mentha Bakeriana*.

In the Journal of Botany for August, 1865, Mr. J. G. Baker published an article "On the English Mints." He groups these proteiform plants into thirteen species, exclusive of *Pulegium*. In English Botany, third edition, Dr. Boswell Syme has, "for the most part, adopted the views of Mr. Baker," as expressed in the paper referred to. In the Manual of British Botany, sixth edition, Professor Babington keeps some of the Bakerian species in combination; thus reducing the number into nine. In the Synopsis, pages 267-9, only six aggregates are treated. These half-dozen correspond with the Babingtonian species, except that *viridis* was omitted, as not being a real native; and no account was taken of *alopecuroides* and *pratensis*, known to me imperfectly by garden examples only. Among plants so readily multiplied through division of roots, all the garden examples of any one variety may have been only a single plant originally.

To me now it would be an useless and most uninteresting trouble to re-learn Mints by the species and varieties of Mr. Baker's selection. I regard them, especially the varieties, simply as optional and arbitrary, as artificial arrangements of dried specimens and of portraits of individual plants; any other botanist having equal right to make either more or fewer species and varieties out of the same materials; and being just as likely to be correct by doing so. My indifference to them is not lessened by the circumstance that Mr. Baker enters very slightly into topographical details; his scanty citation of localities warrantably suggesting that his arrangement rests really on a narrow experience altogether, as well in himself as in those from whom he adopts or

adapts. Still, this may not be at all the feeling of other botanists who will use the present Compendium; and thus it seems proper to imitate for *Mentha* the examples heretofore set in treating segregately the Roses, Brambles, and Hawkweeds. Accordingly a list of Mr. Baker's named Mints is given here, along with such provincial nos. as his own scant enumeration of localities will warrant; assisted further by a few added in English Botany. As in *Rosa*, the prefixed numbers here also distinguish the Bakerian species, the non-numbered names which follow being those used for their varieties;—

<i>Mentha.</i>					
1.	rotundifolia	1 2	-	-	14.
2.	sylvestris				
	a. sylvestris				
	b. nemorosa				
	c. mollissima	- 4	-	-	14 15.
	d. alopecuroides	3 4	-	-	15 16.
3.	viridis				
4.	crispa	3	- -	11.	
5.	piperita				15.
	a. officinalis				
	b. vulgaris	1 3	-	10	
6.	pubescens				
	a. palustris	1 - 3 4	- - 7		
	b. hircina	1 - 3			
7.	hirsuta, 18	2 3	-	10	15.
8.	citrata	-	4 5 - 7	9	
9.	cardiaca	2			
	b. gracilis	3 4	-	8 - 11	
10.	sativa	- - -			15 16.
	b. paludosa				
	c. subglabra	3 - 5		9 11	15.
11.	rubra		5 - 9		14.
12.	gentilis	1 2 - 4 5	7 9 10 11 12 13.		
	a. gentilis				
	b. Wirtgeniana				
	c. Pauliana		?	-	13 14.
	d. pratensis	2			
13.	arvensis				
	a. arvensis				
	b. nummularia				
	c. præcox	1			
	d. agrestis	1 2	-	11.	
	e. Allionii				
	f. parietariæfolia	- 3	-	10.	

*Thymus (Serpyllum) eu-Serpyllum*, E. B. 3.

Provinces 1 2 3 4 5 - - - 10. And elsewhere?

Syn. 810. Cyb. iii. 478. Both are widely distributed in Britain; Borrer msc. Especially in mountainous districts; Eng. bot. Dry heaths; Bab. man.

*Thymus (Serpyllum) Chamædrys*, Fries.

Provinces - 2 3 4 5 - - - 10 11. And elsewhere?

Syn. 810. Cyb. iii. 478. Dr. Boswell Syme writes, "This is the only Thyme I have been able to meet with in the vicinity of London"; and most of the specimens in my own herbarium, brought together there from various parts of Britain, apparently belong to this segregate. But I find that the book-characters, taken as distinctive between the two, are occasionally cross-combined in nature. For instance, the stems or branches of *Chamædrys* may be seen variously "procumbent, rooting, much-branched," instead of "ascending, not rooting, slightly branched";—the printed words being very satisfactory distinctions between the two Thymes, if Nature would only act up to the rules of a Fries, a Babington, or a Boswell-Syme, instead of perversely going contrary to their printed text.

*Origanum virens*, Link. & Hoffmg.

Province - 2. Isle of Wight; Dr. J. E. Gray.

Ambiguity. A pale variety of *O. vulgare*, and perhaps not quite the true *O. virens* of Link, although near to it.

*Origanum megastachyum*, Link.

Provinces - 5 - 14. Herefordshire and Edinburgh; E. B. 3.

Alien? As a variety of *O. vulgare*, in Eng. bot. vii. 29.

*Origanum Onites*, Linn.

Province - - 3. Essex; Dale, in Huds. flo. ang.

Error. Cyb. ii. 243. A misnomer of *O. vulgare*?

*Calamintha (officinalis) menthifolia*, Host.

Provinces 1 to 12, probably. The usual form in England.

Syn. 814. The distribution of *C. officinalis*, page 270, represents that of the present segregate.

*Calamintha (menthifolia) Briggsii*, Syme E. B. 3.

Provinces 1 2. South Devon; Briggs! Wight; Stratton.

Syn. 814. A slight variety; E. C. report, 1867.

*Calamintha (officinalis) sylvatica*, Bromf.

Province - 2. Isle of Wight; Dr. Bromfield!

Syn. 814. Cyb. ii. 245. This is the *C. officinalis* of some continental botanists; our more usual form being the *C. ascendens* of Jordan, which may be taken as the same thing with the var. *menthifolia* treated above.

*Melissa officinalis*, Linn.

Provinces 1 2 3 - 5 6 - 8. Likely in others also.

Alien. Cyb. ii. 246. A waif from gardens, by railways, etc.

*Hyssopus officinalis*, Linn.

Province - 2. Ruins of Beaulieu Abbey, Hants; Bromfield.

Planted Alien? Cyb. iii. 364. Phytologist, iii. 688.

*Teucrium (Scordium) scordioides*, Bab. Man.

Provinces 1 - - 4. Devon. Cambridge. By misnomer?

Error. The English plant is a broad-leaved variety of *Scordium*.

The *T. scordioides* of Schreber looks specifically distinct. See Phytologist ii. 129.

*Teucrium Botrys*, Linn.

Province - - 3. Surrey, in 1844—1866; found several years.

Alien. Cyb. ii. 248. iii. 364. Phytol. iii. 308 & 737.

*Teucrium Chamædryis*, Linn.

Provinces 1 2 3 4 5 6 7 8 - 10 11 - - - 15. Cornwall to Forfar.

Alien. Cyb. ii. 248. iii. 480. I have never chanced to find this.

*Teucrium regium*, Schreber.

Province - 5. "Near Abergavenny; Mr. E. Y. Steele."

Error. Cyb. ii. 249. Phytol. i. 310. A. N. H. v. 377.

*Ajuga (reptans) alpina*, Anglor.

Provinces - 7 8 - - 11 12 - - 15. A. genevensis in part?

Syn. 822. Cyb. ii. 249. Eng. bot. vii. 87. Scarcely a var.

*Ajuga genevensis*, Linn.

Provinces - 7 - 11 - 13. Wales. Durham. Lanark.

Casual or Alien. From gardens? Eng. bot. vii. 87.

*Ballota (nigra) ruderalis*, Fries.

Provinces - 3 - 11. Casual in 5. Misnomers in 2 3 4 5.

Syn. 825. Cyb. ii. 251. Midx. flo. 221. A solitary plant of it picked in Oxfordshire; Newbould and Syme! Near Newcastle; John Storey! A white flowered variety of the commoner segregate, *B. (nigra) fetida*, has occasionally been mistaken for this one.

*Leonurus Cardiaca*, Linn.

Provinces 1 to 15. I have seen it in North Devon only.

Alien. Cyb. ii. 252. iii. 481. Originally brought from Asia, according to Dr. Godron, in Cons. p. 21.

*Lamium maculatum*, Linn.

Provinces 1 - 3 4 5 7 8 9 10 - - 13 14 15 - 17.

Alien. Cyb. ii. 254. A waif from gardens, often casual.

"*Lamium lævigatum*, Linn." "*L. rugosum*, Ait."

Provinces 1 - - - 5 - - - - - 13 14 15.

Alien. Cyb. ii. 254. iii. 481. Scottish examples of *L. maculatum* have been distributed through the Botanical Society of Edinburgh



under both the names cited; perhaps they ought properly to be held synonyms of *maculatum*, not as representing anything clearly distinguishable.

*Lamium (purpureum) decipiens*, Sonder.

Provinces all? Localities not noted for this apart.

Syn. 831. An intermediate form, sometimes enough so to puzzle more than young botanists, whether they should label it *purpureum* or *incisum*; and on this account it may demand a notice here. See Eng. bot. vii. 73.

*Galeopsis (Ladanum) intermedia*, Vill.

Province - 15. Elgin; Wilson! Gordon!

Syn. 832. In English Botany we find the *Ladanum* first divided into two "sub-species," this one and the more usual form; the latter named *angustifolia*, and again subdivided into two "varieties," *genuina* and *canescens*. I can myself barely keep apart the two sub-species, and that by general physiognomy only, not by the technical character of leaves "rounded and abruptly contracted into the petiole at the base." The leaf in my herbarium which best of all meets this description, is on a specimen from Dalhousie, and perhaps the next best is on one from Dunfermline; neither of these places being in Moray, and the specimens less like those from Moray, than others from England. "Known to occur only in Moray"; Eng. bot. vii. 64. But the quoted words may perhaps have truly intended, 'Only known to occur in Moray', —a very different statement.

*Galeopsis (Tetrahit) bifida*, Boenn.

Provinces - 3 - 10 - 15. And doubtless most others.

Syn. 834. Slender claims to be considered distinct; E. B. vii. 67.

*Stachys annua*, Linn.

Province - - 3. Kent, in 1830 and 1855.

Casual. Cyb. ii. 264. [5 Stafford. 12 Cumberland.]

*Scutellaria hastifolia*, Linn.

Provinces 1 3. Cornwall! Bree? Herts; S. Warner.

Error. Cyb. ii. 268. Botanical Gazette, ii. 97.

## 56. BORAGINACEÆ.

*Myosotis (palustris) strigulosa*, Reich.

Provinces - - 3 - - - - - 12 13 14 15. Likely in others.

Syn. 847. Phytol. iv. 647 & 693. Eng. bot. vii. 99.

*Myosotis multiflora*, DC.?

Province - 6. Glamorgan; Joseph Woods, in Phytol. iii. 1059.

Ambiguity. In a moist hollow, in Kenfig Pool, near Pyle.

*Myosotis stricta*, Link.

Provinces 1 2. Devon; Torquay flo. Sussex; Mr. Mitten. Ambiguity. A note by Mr. W. Mitten, in Phytol. ii. 220.

*Echinosperrum Lappula*, Lehm.

Provinces - - 3 4 5 13. Kent. Herts. Suff. Glouc. Renf. Casual. Cyb. ii. 283.—(*E. deflexum* also; Cyb. iii. 365.)

*Symphytum (officinale) patens*, Sibth.

Provinces 1 - 3 - 5 - 14 15. And probably elsewhere. Syn. 859. A variety in colour only? In examining the plants by the Thames side I have not found any other constant difference between the pale and purple varieties, besides that of colour.

*Symphytum asperrimum*, Bieb.

Provinces 1 - 3 - 9. Somerset. Essex. Cheshire? Casual. Cyb. ii. 279. iii. 486. "An evident escape, having formerly been cultivated at the Rocks Estate, near Bath"; R. Withers msc. notes on Flora Bathoniensis.

*Symphytum tauricum*, Willd.

Provinces - - - 4 5. Flora of Cambridge. Warwick; Kirk. Casual or Alien. "Permanently established" at Allesley; Kirk.

*Symphytum orientale*, Linn.

Provinces . . . ? Has "been noticed in England," but is "not native"; Bab. man. Distinct from the preceding?

*Borago officinalis*, Linn.

Provinces 1 to 15. Chiefly through culture in gardens. Casual. Cyb. ii. 280. iii. 486.

*Anchusa officinalis*, Linn.

Provinces 1 - 3 - 5 - - 8 - - 11 - 13 - 15 16. Several erroneous? Alien. Cyb. ii. 280. Northumberland, very local, but during many years. Penzance, very sparingly in 1867; C. Bailey msc. Mitcham, Surrey; Trimen in J. B. iv. 150. Bute; Clydesdale Flora. Uddingston, 8 miles from Glasgow; British Flora, ed. 8.

*Cynoglossum Omphalodes*, Linn.

Provinces [1] - 6 - 15. [Devon.] Glamorgan. Fife; Syme. Alien. Cyb. ii. 284. Dillwyn's Swansea Materials, page 37.

*Pulmonaria officinalis*, Linn.

Provinces 1 to 16. Authority wanting for 7 North Wales. Alien. Cyb. ii. 285. iii. 366 & 487. Phytol. iii. 577. Bot. Gaz. ii. 97.

*Pulmonaria virginica*, Linn. *Mertensia*, Don.

Province - 2. Ruins of Netley Abbey, South Hants. Alien. Cyb. ii. 285. iii. 365. Phytologist iii. 576.

*Echium italicum*, Mill.

Provinces - 6 - 11. Glamorgan, erroneously. Durham, extinct. Casual. Cyb. ii. 286. On ballast hills, in Durham, formerly.—

(*Echium violaceum* has occurred in Surrey, introduced among corn for a Distillery; see Journal of Botany, iv. 150.)

## 57. PINGUICULACEÆ.

*Pinguicula longicornis*, Edinb. cat. 1841.

Province - 12. Phytologist i. 310. Botanical Gazette ii. 9.

Error. Cyb. ii. 287. iii. 488. A form of *P. vulgaris*.

*Utricularia (vulgaris) neglecta*, Lehm.

Provinces - 2 3 ? 5 - - 8. Dorset to Notts. Elsewhere ?

Syn. 875. Journal of Botany, 1867. Naming by the elongate and nearly erect pedicels, examples are preserved in my herbarium from Sussex, Surrey, Notts; perhaps also (judging by the smaller bladders) from Hants, Suffolk, Norfolk; all of them formerly labelled as *vulgaris*.

## 58. PRIMULACEÆ.

*Primula (vulgaris) intermedia*, L. C. *P. elatior*, With.

Provinces 1 2 3 4 5 - 7 8 - 10 11 12 13 14 15. [18 Orkney.]

Hybrid? Cyb. ii. 292. iii. 489. A series of intermediate forms, very probably hybrids; some of them closely approximating to *veris*, others to *vulgaris*. Usually labelled *Primula elatior*, after Withering, until recently, and thus confused with the true *P. elatior* of Jacquin. In English Botany it is named "*officinalis-vulgaris*" by Dr. Boswell Syme.

*Primula (scotica) acaulis*, L. C. ed. 6.

Province - 17. North-west Sutherland!

Syn. 882. This is a variety of *P. scotica*, differing from the usual form by having the umbel sessile, so that the elongated pedicels appear to be one-flowered peduncles, as in the common Primrose. Thus far, the two forms are in analogy with *veris* and *vulgaris*; but there is no corresponding change of character in calyx or corolla.

*Cyclamen hederifolium*, Willd. *C. europæum*, Sm.

Provinces 1 2 3 4 - 6 - 8. Var. *ficariifolium* formerly in 4.

Alien. Cyb. ii. 295. iii. 490. A considerable wish would seem to have been felt by various botanists to enrol this plant among our true natives; even single stray roots of it have been so reported, and deceptively swell the number of localities on record in books. Sir James Smith gradually changed the original memorandum of the Bramfield locality, and for what other purpose it might be difficult to find out. I am informed by the Rev. W. W. Newbould that the msc. note on the original drawing, made for Eng. Bot. 548, is in these words:—"D. E. Davy, Esq. from a bank in the parish of Bramfield in a situation that gives no reason to suppose it has crept (at least lately) in there from any garden, it being 200 or 300 yards from any house." Surely, it is no uncommon thing for

*garden* plants to be 250 yards from a *house*! But in the text of English Botany, the words "200 or 300 yards from any house" are changed into "far from any house." And in English Flora, the situation becomes simply "on a wet clay soil," without mention of house or garden. Prof. Alphonse De Candolle deems the plant introduced to Britain; and, thus countenanced, I now act up to my own inclination by placing the *Cyclamen* among the Aliens, though before assigned to the doubtfully intermediate rank of Denizen in the *Cybele Britannica*, as a compromise with the ideas of some other English botanists.

*Lysimachia punctata*, Linn. *L. quadrifolium*, E. B. 3. Provinces 1 - 11 - 15. Devon. Northumberland. Forfar. Alien. *Cyb.* ii. 299. iii. 492. *Eng. bot.* vii. 147. Naturalised and abundant in Mr. Sewell's grounds at Heaton Dene, near Newcastle; John Storey! Glen Clova, Forfar; George Lawson! In English Botany, Dr. Boswell Syme reports that he has the American *L. quadrifolia* "under the name of *L. punctata*," collected by Mr. Storey in the locality here quoted. But the examples in my own herbarium, sent by Mr. Storey himself, are certainly *punctata*; they are widely dissimilar from the *quadrifolia* of America, as described by Gray, and as shown by an example in the herbarium of the late Dr. Boott. Again, in his Manual, 1867, Professor Babington tells us that "Dulverton, Devon, is the only station" for *punctata*; but without explaining what name *he* would give to the plants of Heaton Dene or Clova. Not having seen any specimen from Dulverton, I cannot confidently say that we mean the same plant by the same name of *punctata*? If not, what is the Devon plant?

*Lysimachia ciliata*, Linn. Provinces - - - - - 8 9 - - 12 - - 15 16. Alien. *Cyb.* ii. 298. iii. 491. "East bank of Leven Water about a mile from Dumbarton, growing rather plentifully amongst *Carices* and *Junci* with *Carum verticillatum*. This species, probably introduced by aquatic birds, deserves a place in our Floras"; John Ball, in *Bot. Gaz.* iii. 68. Mr. Ball's locality is not the same place, I suppose, but must be in the same neighbourhood as that explained in the following more guarded report by Mr. Galt;—"Wood in which the *Aconitum* grows at Balmaha, about half a mile from the Quay, left hand side going towards Buchanan House. Although now a wood, there was a small cottage here some thirty or forty years ago; the plants doubtless the remains of its garden"; W. Galt in 1869. The two records will help on the history of *L. ciliata*, as before partly given in *Cybele Britannica*, vol. ii. pages 298-9.

*Anagallis (arvensis) cœrulea*, All. Provinces 1 to 15. Authority wanting for uo. 7. *Syn.* 890. *Cyb.* ii. 301. iii. 493. Two different plants seem to

be included under this name in England; one being the "true blue" species; the other being a variety of *arvensis*, the flowers of which are purplish-blue in colour, but otherwise not differing from those of the red-flowered *phænicea*; this latter varying also into pinky white and pale lilac varieties.

## 59. PLUMBAGINACEÆ.

*Armeria (maritima) planifolia*, E. B. 3.

Province - 15. Highlands; H. C. Watson, cited in E. B. vii. 157. Ambiguity. I should prefer this held uncertain as a British plant, for the present. In 1841, I brought an *Armeria* from the Highlands, probably from some hill near Dalwhinnie or Dalnacardoch, as something apparently distinct from *A. maritima*; after which it was left several years almost unnoticed in my garden. I cannot feel sufficiently assured that no transfer of peg-label had been made during those years by the gardener; this being a source of error which I have experienced much difficulty in guarding against. The hoe or rake catches a peg and draws it out of the ground; the gardener sees it loose among weeds or leaves, sticks it in again somewhere, and too often does so by sheer guess at best.

*Armeria maritima, pubescens, scotica, duriuscula*.

Provinces . . ? Bab. Man. editions 3 to 6. Ambiguities. These segregates of *Armeria maritima* are unknown to myself, and were left unnoticed by Dr. Boswell Syme, in the third edition of English Botany.

*Statice tatarica*, Linn.

Province - 2. By a misnomer of *S. bahusiensis*. Error. Cyb. ii. 305. Where originally reported?

*Statice (Limonium) pyramidalis*, Syme, in E. B. 3.

Provinces 1 2 3 4 - - - 9 10. "S. serotina, Gr. & Godr." Syn. 897. Dr. Boswell Syme gives only Kent, Sussex, and Dorset for this segregate. I do not see how to separate his Kent specimens from others in my herbarium received from Somerset, Norfolk, Chester, and York.

*Statice (binervosa) intermedia*, Syme, in E. B. 3.

Provinces - - - 4 - 6 7. Norfolk. Glamorgan. Carnarvon. Syn. 899. Dr. Boswell Syme remarks that this passes insensibly into our type form of *binervosa*, which is the *occidentalis* of Lloyd.

*Statice (binervosa) Dodartii*, Gir.

Provinces - 2 - 4. Dorset? Norfolk? Syn. 899. Ambiguity. This and the preceding one bear about the same relation to *occidentalis*, as it is usually seen in England, that *Limonium* var. *genuina* bears to its segregate var. *pyramidalis*. But some uncertainty about the habitats remains to be cleared up.

## 60. PLANTAGINACEÆ.

*Plantago (lanceolata) Timbali*, Jordan.

Provinces - - 3 - 10. Sown with imported seeds of clover.

Casual. Surrey! Midx. flo. Essex; Syme! York; Baker!

*Plantago (maritima) hirsuta*, E. B. 3.

Province - 18. Mainland of Orkney; Eng. bot. vii. 173.

Syn. 904. "Singular from being densely hairy."

*Plantago arenaria*, Linn.

Provinces 1 - 3. Somerset; Clark! Flower! Essex; Syme!

Casual. English Botany, third edition, vii. 175.

*Plantago Psyllium*, Linn.

Provinces - 2 3. Isle of Wight? Middlesex, extinct.

Casual. Cyb. iii. 495. Phytol. iii. 745. Midx. flo. 230.—(Also *Plantago Lagopus*, casual in Surrey; see J. B. iv. 150.)

## 61. AMARANTHACEÆ.

*Amaranthus Blitum*, Linn.

Provinces - 2 3 4 - 11 - 14. Dorset to Northumb. & E. Lowlands.

Casual. Cyb. ii. 313. Very seldom met with.

*Amaranthus retroflexus*, Linn.

Provinces - - 3 - 5 - 10. Sur. Hert. Midx. Glouc. York.

Casual. Cyb. ii. 313. Webb flo. Jour. Bot. iv. 150.

## 62. CHENOPODIACEÆ.

*Blitum virgatum*, Linn.

Province - 14. Fisher-row, Edinburgh; Boswell Syme.

Casual. Cyb. iii. 367. Eng. bot. viii. 38.

*Chenopodium (polyspermum) cymosum*, or *obtusifolium*.

*Chenopodium (polyspermum) spicatum*, or *acutifolium*.

Provinces, as given in the Synopsis; same for both?

Syn. 909. These two segregates, differing by their inflorescence and by the forms of their leaves, may be said to correspond with the *candicans* and *viride*, segregates of *C. album*.

*Chenopodium (urbicum) intermedium*, M. & K.

Provinces 1 2 3 4 5. Doubtful in 1 and 5.

Syn. 910. Cyb. ii. 315. The distribution to be assigned to this segregate will vary with the application of the name. If it be restricted to the plants with the leaves more rhomboid than triangular, and with the inflorescence less spicate and less erect, and quite independently of the marginal divisions of the leaves,—then the present segregate reverts gradually to our type form under culture. The continental form of *C. urbicum*, that with the

sub-entire leaves and much elongated spikes, is found in Britain only as a Casual, on ballast, etc.

*Chenopodium (rubrum) pseudo-botryoides*, Lond. Cat.

Provinces 1 2 3 4 - - 7 - - - 11 - - - [15].

Syn. 911. Eng. bot. viii. 23. Since the second volume of the *Cybele Britannica* was printed, it has become quite clear that a form of *C. rubrum* had been mistakenly reported for true *botryoides* of Smith, in several counties. Hence the name of *pseudo-botryoides*, given to it in the London Catalogue, to facilitate the acquisition of specimens of both by those who mark their *Desiderata* in that Catalogue. In its extreme state, the present segregate is a dwarf depressed form, with leaves entire or very slightly toothed, thick in substance and usually much reddened; its place of growth being about ponds in a gravelly soil, especially where much trodden by geese. Having been distributed numerous through the Exchange Club, it thus ought no longer to be mis-reported for Smith's *C. botryoides*, which is a sea-side plant. Unnoticed in Bab. Man. ed. 6. Mistaken for *botryoides* in the former editions.

*Chenopodium (album) candicans*, Lam.

Provinces, probably all. "C. album, Linn. herb."

Syn. 914. Eng. bot. viii. 15. Varenne, in *Phytologist* iv. 1111. A less expanded form, often found in some relation to cold, drought, or sterility of soil.

*Chenopodium (album) paganum*, Reich.

Provinces, possibly all. C. (a.) *virens*, Lond. cat. ed. 6.

Syn. 914. *Journal of Botany* vi. 289. Contrasted only in their extreme forms, these three segregates of *Ch. album* do indeed appear widely dissimilar. But the other two are so completely connected with this one by intermediate or transition forms, that specific separation of them is rendered ridiculous or impossible. Probably this ought to be regarded as the typical form of the species, not *candicans*, although it is the one which has been repeatedly labelled *C. ficifolium* by English collectors. It is the plant of rich and loose ground, and perhaps of a warmer season. The most frequent form in Surrey; but apparently less common in the northern counties, and possibly quite absent from some of the most northern provinces of Britain.

*Chenopodium (album) viride*, Linn.

Provinces 1 - 3 - 15, etc. Not ascertained apart. Fife; Syme.

Syn. 914. *Cyb.* ii. 318. Especially the form of loose rubbish-heaps, and of the autumn season. In Surrey, it is the least frequent of the three segregates.

*Chenopodium opulifolium*, Schrader.

Provinces - - 3 - 10. Surrey. Middlesex. York?

Casual. Eng. bot. viii. 38. *Midx. flo.* 233. *J. B.* iv. 150.

*Chenopodium Botrys*, Linn.

Provinces - - 3 - 9 10. Berks. Liverpool. North York.

Casual.—(The *C. multifidum* and *C. ambrosioides* also have been recorded, in E. C. report for 1866, as found casually near Gloucester).

*Atriplex nitens*, Reb.

Province - 2. Isle of Wight; Dr. Bromfield.

Casual. Cyb. ii. 322. iii. 498. Phytologist iii. 755.

*Atriplex hortensis*, Linn.

Provinces - 2 3 etc. A waif from culture.

Casual. Cyb. ii. 322. Occasionally also on ballast-heaps.

*Atriplex laciniata*, Linn.

Provinces all, or nearly all, by name.

Ambiguity. This name formerly intended the plant now called *arenaria*, along with which the very distinct *A. Babingtonii* was also confused. What was intended by the name of *laciniata* in Neill's Tour in Orkney?—(The true *A. rosea*, Linn., is recorded in the list of plants imported into Surrey among corn for a Distillery; Jour. Bot. iv. 150).

*Atriplex (Babingtonii) glabriuscula*, Edmondston.

Province - 18. Shetland; Edmond. flo. 39.

Syn. 921. Not known to other botanists.

*Atriplex (hastata) patula*, Sm. E. B. ed. 1.

Provinces all? A. Smithii of Syme, in Eng. bot. ed. 3.

Syn. 922. Cyb. ii. 324. iii. 499. A. hastata, Bab. man.

*Atriplex (hastata) deltoidea*, Bab.

Provinces 1 2 3 4 5 6 7 8 9 10 - - 13 14 16 - 18.

Syn. 922. Cyb. ii. 325. iii. 499. Including *A. prostrata*, Bab.

*Atriplex microsperma*, Bab.

Provinces 1 - 3. Near Bath. Wouldham, in Kent.

Ambiguity. A name representing three leaves and one calyx valve, as figured in the Transactions of the Botanical Society of Edinburgh; not otherwise known to me, but seemingly a form or state of *hastata*.

*Atriplex (erecta) Symei*. "A. erecta, Huds."

Provinces - 2 3. North Hants. Surrey. Middlesex.

Syn. 923\*. Cyb. iii. 499. Flora of Middlesex, 237. In English Botany Dr. Boswell Syme unites the *angustifolia* of Smith and the *erecta* of English botanists generally, as two varieties under the specific name of *Atriplex patula*, Linn. He there distinguishes a third variety, one of very vigorous growth, to which he would specially restrict the name of *erecta*, Huds. This was found at Twickenham in 1867, and "at the entrance of Battersea Fields from Nine Elms" many years back. In 1869 I found the same variety in a potato field between Fleet and Farnborough Stations,



North Hants, but not quite so luxuriant as the Twickenham plants, or as some of those plants. In turn, the Hants examples were more luxuriant in growth than specimens of so-labelled *erecta*, received from other counties; and hardly separable from these last by any character other than that of size or vigour in growth. Dr. Syme would distinguish Hudson's *erecta* from Babington's *deltoidæa* by the leaves "wedge-shaped at the base, with the cusps ascending". But Professor Babington's figure of his *prostrata* (placed under *deltoidæa* by Dr. Syme) shews us nearly such a leaf as described in the words quoted. Further observation of the living plants would thus seem to be needed.

*Atriplex (littoralis) marina*, Linn.

Provinces - 2 3 - - - 8 - 10 11. Wight to Northumberland.

Syn. 924. Cyb. ii. 327. English Botany, viii. 28.

*Salicornia (herbacea) procumbens*, Sm.

Provinces 1 2 3 4 - 6 - 8 - 10 - 12 - - 15 16.

Syn. 924. A very slight variety of *S. herbacea*.

## 63. POLYGONACEÆ.

*Polygonum (amphibium) terrestre*, Auct.

Provinces all? More frequent than the aquatic form.

Syn. 933. A state, rather than a variety; and yet so unlike the typical or floating form of the plant, that it would assuredly have been considered quite a distinct species, if it had been brought into herbaria from distant countries only. In this instance, the more frequent state cannot well be held the typical one; and perhaps it becomes the more frequent only because the surface of our lands so much exceeds the surface of our waters. The terrestrial stems are often flowerless.

*Polygonum (lapathifolium) laxum*, "Reich." E. B. S.

Provinces 1 2 3 4 5 - - 8 - 10. "P. nodosum, Auct. plur."

Syn. 934. Cyb. ii. 335. "I do not see how it can be separated" from the type form "even as a sub-species"; Eng. bot. viii. 77.

*Polygonum (Persicaria) elatum*, Gren. & Godr.

Province - - 3. "P. biforme, Wahl." "P. nodosum, Pers."

Syn. 935. I have only seen it from Battersea Fields, and elsewhere about the neighbourhood of London; Dr. Boswell Syme, in Eng. bot. viii. 75. Not known to me.

*Polygonum (aviculare) agrestinum*, Jord.

Provinces - - 3 - 5 - - - - 10 - - - - 15 16. And most others?

Syn. 939. "Common and generally distributed"; E. B. 3.

*Polygonum (aviculare) vulgatum*, E. B. 3.

Provinces - - 3 - - - - 8 - 10. And all others?

Syn. 939. "Very common, and generally distributed". The

segregates of *P. aviculare* are unnoticed even in very recent Floras, as those of Cambridge, North Yorkshire (except *agrestinum*) and Northumberland and Durham.

*Polygonum (aviculare) arenastrum*, Bor.

Provinces - - 3 4 - - - - - 11 - 14 15. And others?

Syn. 939. Common near London, but apparently less abundant in the north; Eng. bot. viii. 65.

*Polygonum (aviculare) microspermum*, Jord.

Provinces - 2 3 - - - - - 11. Surrey. Durham. Northumb.

Syn. 939. Apparently rare; Eng. bot. viii. 66.

*Polygonum (aviculare) rurivagum*, Jord.

Provinces 1 - 3 4 5 - - 8 - - 11. And others probably.

Syn. 939. "Common in sandy and chalky districts in Kent, Surrey, Essex, and Norfolk. I have it also from Warwickshire and Durham;" Eng. bot. viii. 67.

*Polygonum (aviculare) littorale*, Link.

Provinces ? 2 3 - - - - - 10. Wight. Kent. Essex. York.

Syn. 939. Probably not uncommon; Eng. bot. viii. 67.

*Polygonum (Convolvulus) pseudo-dumetorum*, L. C.

Provinces - 2 3. Probably in many others also.

Syn. 941. Flora Vectensis, p. 435. Simply *P. Convolvulus* growing luxuriantly, and with the angles of the fruit perianth conspicuously winged; in so far somewhat resembling *P. dumetorum*, for which it has been mistaken in some places.

*Polygonum Fagopyrum*, Linn.

Provinces 1 to 15. Devon flo. to Forfar flo.

Casual. Cyb. ii. 341. Sown for feeding game; not permanent.

*Rumex maximus*, Schreber.

Province - 2. Sussex; Bab. man. edit. 1 only.

Error. Cyb. ii. 342. iii. 502. A misnomer?

*Rumex conspersus*, Hartm.

Province - 15. Kinross; Dr. Arnott!

Native? For particulars, see Eng. bot. viii. 48—49.

*Rumex alpinus*, Linn.

Provinces - - - [4] - - - 8 - 10 11 12 13 14 15 16.

Alien. Cyb. ii. 344. [4 Norfolk; Rev. Mr. Small.]

*Rumex (nemorosus) sanguineus*, Linn.

Provinces - - (3) - - - 8 - - (11) - - 14, etc.

Syn. 948. Cyb. ii. 345. Midx. flo. 240. The name *sanguineus* is usually given by English collectors for the type form of the species. Assuming it to have intended the plant only when it has a network of purplish veins in the leaves, it ought surely to be held the variety, not the typical form, both as being less usual and as being a less natural condition of the species. There are two states

of it with coloured veins; a wild state, with the colour nearly confined to the midrib and veins themselves; a garden form, in which the colour extends to the substance of the leaf alongside the veins, and thus giving the appearance of widened (varicose) purple veins. This latter state perhaps is seen only as a casual escape from gardens. By book records the localities for "*sanguineus*" are numerous; but usually it is not clear whether *viridis* or one of the other two states is intended by the name.

*Rumex limosus*, Thuill.

Province - 8. Lincoln. Derby.

Ambiguity. Cyb. iii. 503. Bot. Gaz. i. 296. Given as a third species, between *maritimus* and *palustris*, by Professor Babington, in the Gazette referred to. The name is cited simply as a synonym of *R. palustris*, in Eng. bot. viii. 43.

*Rumex scutatus*, Linn.

Provinces - 6 - 9 or 10 - 12 - 14. Glamorgan to Edinburgh.

Alien. Cyb. ii. 348. Naturalised near Settle (Mr. J. Backhouse); Moore's msc. Flora of Yorkshire. Is this Mr. Tatnam's locality of Silverdale? If so, it is the Silverdale in Lancashire, according to Mr. J. G. Baker; which I suppose to be situate in the extreme north of province 9, being "8 miles north of Lancaster," according to Sharp's Gazetteer. But in English Botany Dr. Syme writes the locality "at the head of Silverdale in Yorkshire". Hence the uncertainty between provinces 9 and 10.

#### 65. THYMELÆACEÆ.

*Daphne Cneorum*, Linn.

Province - 7. Beddegelart, Carnarvon; Mr. Meyrick.

Error. Cyb. ii. 353. Botanist's Guide, 83.

#### 66. SANTALACEÆ.

*Thesium humile*, Vahl.

Province 1. Dawlish, Devon, 1829; C. C. Babington.

Error? Cyb. ii. 353. Not verified.

*Thesium intermedium*, Schrader.

Province 0. "Said to be a native of Britain"; Bab. man. ed. 2.

Error. Cyb. ii. 353. Where and by whom so said?

#### 67. ASARACEÆ.

*Aristolochia Clematidis*, Linn.

Provinces 1 2 3 4 5 - - 8 - 10. S. Devon to N. E. York.

Alien. Cyb. ii. 355. Ruins, and near gardens.

## 69. EUPHORBIACEÆ.

*Euphorbia dulcis*, Linn. "var. *purpurata*."

Provinces - 7 - 15. Denbigh. Ochills. Moray.

Alien. Cyb. ii. 366. Coll. Mor. E. B. viii. 117. E. C. rep. 1868.

*Euphorbia coralloides*, Linn.

Province - 2. Slinfold, Sussex. Now extinct?

Alien. Cyb. ii. 360. iii. 505. Bot. Gaz. ii. 98.

*Euphorbia Esula*, Linn.

Provinces [1] 2 - - 5 - - - - 11 - - 14 15. Chiefly in 14.

Alien. Cyb. ii. 360. iii. 505. Bot. Gaz. ii. 98. One of the recorded localities for this plant may afford us an illustration of the difficulty in distinguishing between artificial and natural stations. In the Supplement to the Flora Bathoniensis a station is recorded for it as a true native, with the name of Mr. T. B. Flower as the authority. Several years afterwards that gentleman "ascertained this species was planted in the locality. The root had been taken from the Prior Park Botanic Garden by one of the students." In English Botany this is distinguished into two varieties, *genuina* and *Pseudo-Cyparissias*; the latter known by its narrower leaves.

*Euphorbia salicifolia*, Host.

Province - 15. Forfarshire; George Lawson, in Phytol. iii. 345.

Alien. Cyb. ii. 366. "Sub-species of *E. Esula*"; Eng. bot. viii. 117.

*Euphorbia Cyparissias*, Linn.

Provinces 1 2 - 4 5 6 - - 10 11 12 - 14 15.

Alien. Cyb. ii. 361. iii. 505. Cornwall to Fife.

*Euphorbia Lathyris*, Linn.

Provinces 1 2 3 4 5 - - 9 10 11 - 13 - 15.

Alien. Cyb. ii. 364. iii. 505. Introduced; DC. geog. bot. rais. Becomes a sort of weed, a self-sown biennial, in shrubberies; but is killed by severe winters. There is weighty authority for holding it a native in some counties, notably, Professor C. C. Babington for Somerset, Mr. Borrer for Sussex, Mess. Webb and Coleman for Herts. It readily renews itself "on sufferance" in shrubberies and gardens; and it is thus likely to do so in coppices afterwards, if a single seed should once be introduced and grow to plant-hood there.

*Euphorbia Characias*, Linn.

Province - 5. Malvern, Worcester. Needwood, Stafford.

Error. Cyb. ii. 365. A misnomer, probably of *amygdaloides*.

*Buxus sempervirens*, Linn.

Provinces 1 2 3 4 5 - - 8 - 10. Always planted?

Alien? Cyb. ii. 366. Surrey, locally established. Perhaps introduced; A. DC. in Geog. bot. rais. 686.

*Mercurialis (perennis) ovata*, E. B. 3.

Province - 2. Hurstpierpoint, Sussex; Mr. Mitten.  
Syn. 976. Cyb. ii. 367. Not known to me.

*Mercurialis (annua) ambigua*, Linn. fil.

Provinces - 2 3. Kent; E. C. rep. 1866. Middlesex; T. D. flo.  
Syn. 977. Chiefly along the south coast; E. B. 3.

## 70. URTICACEÆ.

*Urtica pilulifera*, Linn.

Provinces 1 2 3 4 5 6 7 - 9 10 11. Casual in most of them.  
Alien. Cyb. ii. 369. Permanent in province 4; E. B. 3.

*Urtica Dodartii*, Linn.

Provinces - 2 3 4. Isle of Wight, sown; Phytol. i. 806.  
Alien. Cyb. ii. 370. A variation of *U. pilulifera*.

*Parietaria (officinalis) fallax*, Gren. & Godr.

Provinces - - 3 4 - 6 - 14 15. *P. erecta*, Bab. man. (misnomer).  
Syn. 982. Cyb. ii. 371. Eng. bot. viii. 126.

*Cannabis sativa*, Linn.

Provinces 1 etc. A waif from bird cages, on rubbish, etc.  
Casual. Cyb. ii. 372. iii. 506. Pity is it to see a plate of this  
formally given in English Botany, the plant not having any real or  
proper claim to be held British, even by an imperfect state of  
naturalisation;—why not equally give plates of the bean and pea,  
much more frequently seen as relicts of culture, or as casuals from  
scattered seeds?

*Ulmus major*, Sm.

Provinces 1 2 3 4. Corn. Dor. Sus. Essex. Northampton.  
Alien? Cyb. ii. 374. Unknown to me. Dr. Boswell Syme places  
it as a variety of *U. montana*, and likely enough I may have noted  
it myself by that specific name.

*Ulmus glabra*, Sm.

Provinces 1 2 3 4 5 6 7 8 - 10. As reported by name.  
Ambiguity. Perhaps this is usually a planted tree; and the name  
may represent glabrous states of *suberosa* and *montana* indifferently.  
Dr. Boswell Syme unites with it the *carpinifolia* and *stricta* of  
Lindley's Synopsis, to make up his variety *glabra*, placed under  
*suberosa*.

## 71. AMENTIFERÆ.

*Quercus intermedia*, D. Don.

Provinces . . . ? According to the varying use of the name.  
Ambiguity. This is usually placed under *sessiliflora* in books;  
but judging by labelled specimens the short-stalked forms of

*pedunculata* are also thus named by collectors. It seems that Don's name is applied to any intermediate-looking form, which cannot confidently be called either *pedunculata* or *sessiliflora* specially.

*Castanea vulgaris*, Lam.

Provinces 1 to 16; but always planted.

Alien. Cyb. ii. 377. Often damaged by frost in spring.

*Betula (alba) glutinosa*, Fries.

*Betula (alba) pubescens*, Wallr.

Provinces all? Devon! Hants!—to Highlands!

Syn. 993. Cyb. ii. 381. The lateral lobes of the catkin scales are very variable in form and direction; though made much of in specific diagnosis as if uniform.

*Betula (alba) verrucosa*, Ehrh.

*Betula (alba) pendula*, Roth.

Provinces all? Less frequent than the preceding segregate?

Syn. 993. Seedlings which spring under old pendulous trees, with rhomboid glabrous or sub-glabrous leaves, have their own leaves cordate-ovate and pubescent; a circumstance which tells something against the supposed distinctness of the extreme forms. Possibly each of them, *glutinosa* (with *pubescens*) and *verrucosa*, may have a variety *pendula*?

*Betula intermedia*, Thomas.

Province - 15. Clova; "Prof. Balfour, Colonel Brown."

Error. Cyb. ii. 382. Flora of Forfarshire, 163.—(In the two earlier editions of the Manual there was an attempt to divide *Betula nana* into two species "probably." But as this was not repeated in after editions, it is little worth while here to introduce separate paragraphs for those abandoned segregates).

*Populus nigra*, Linn.

Provinces 1 to 16. [18. Shetland; Edm. flo. p. 37.]

Alien? Cyb. ii. 385. This was treated as a native tree in Cybele Britannica, because so deemed by several of our provincial botanists. I have myself never yet seen a locality for it which could be declared a satisfactorily natural or unplanted one.

*Populus (tremula) glabra*, E. B.

Provinces - 15 - 17 18. Aberdeen. Sutherland. Orkney.

Syn. 997. Eng. bot. viii. 196. Probably in other provinces and counties besides those quoted. Very few of my herbarium specimens of *tremula* are in young leaf, and my attention in years past had not been directed to this variety in its living state. I think that it occurs in England; though the typical "*villosa*", with the young leaves densely silky, may be the form more frequent.

*Salix aurita*, Linn.

Provinces all. Native.

Lat. 50—61. Cornwall, Wight, Kent.—Orkney, Shetland.

Zones 1 2 3 4. Highlands to 700 yards. Humber to 550 yards.

Census 18 37 72. Ireland 9. British type of distribution.

Europe all, except Finmark.

Russia 6 - 4 3 2 1. West-asia? Siberia.

— N.B. This Willow was accidentally left out at its proper place in the series of native species, at the foot of page 315.

*Salices segregatæ*, etc.

*Salix* is another genus much like *Rubus* and *Rosa*, in being inconveniently numerous in uncertain species and little-known varieties, in individualities about which most botanists must "agree to differ." David Don enjoyed telling an anecdote of somebody having offended the estimable William Borrer, by a remark that "all sensible botanists eschewed Willows, while the *crazy ones* had each their own ideas about the species." And perhaps the most sensible among us are those who rest content to look at Willows in the wilds, and take least heed of their names and arrangements in books. Unfortunately, this prudent course is not the one open to those who profess to describe or to topograph all plants british or seemingly british. Twenty-three *Salices* (reckoning in the omitted *aurita*) have been treated in the Synopsis, as quasi-specific groups or aggregate species; their indicated distribution taking in the subordinate segregates, at least to some extent, and thus not always strictly representing that of the assumed type form apart. Except in those cases where the supposed typical segregate has itself acquired a distinctive name, one currently in use, it is too often impossible to decide positively that the type-form was the one really intended by a familiar name; say, by the names *alba*, *purpurea*, *triandra*, *fragilis*, *cinerea*, *repens*, *nigricans*, or *phylicifolia*. In finding these names connected with general habitats, or even with special localities, recorded in books, the question arises and too often must remain unanswered, 'whether (say) *vitellina*, *ramulosa*, *amygdalina*, *Russelliana*, *aquatica*, *argentea*, *Forsteriana*, *Davalliana*, or various other secondary segregates were intended, either along with the primary segregate or even solely and exclusively of the latter?'

In here looking to the segregates, apart from each other, not united into groups, it becomes necessary to fall back on the English Flora of Smith, with its predecessor the Flora Britannica, as the real starting ground from which subsequent English writers have proceeded, aided of course by the plates and descriptions in the original series of English Botany. (Of that earlier edition no copy is before me to refer to while writing.) I cannot make out that Hooker, Babington, Bentham, or even Boswell-Syme have subsequently written under the advantage of very complete or

very clear knowledge of these difficult plants in their living reality and wild condition. At any rate, they have more usually re-said than added to previous knowledge. And I assume that they have taken their descriptions mainly from Smith or Borrer, more or less assisted by dried specimens; that is, by a limited supply of fragments in the herbarium.

Unisexual trees and shrubs, numerous in species and very numerous in varieties, whose flowers precede the leaves, and which perhaps often hybridize, and certainly sport much into subordinate variations of form and pubescence, would require to be illustrated by an extensive series of good specimens in the herbarium, in order to yield a sufficiency of materials for their technical arrangement and description in books. The difficulty of this is increased by their great liability to the attacks of insects, if left undisturbed in the herbarium for any considerable time. Few botanists are in a position to devote sufficient space to a living collection. Take our own insular Willows at 80 to 100 named segregates. Double that number for the sexes. Allow the inadequate average of half-a-dozen examples to each sex of each segregate, to illustrate its sub-variations in form or pubescence; and then a thousand living trees or bushes would not be found unnecessarily numerous, as a fairly good living collection. To examine them in their native localities (and in Osier grounds) from the South of England to the Arctic zones of the Highland hills, at several different times in the year, and for several years in succession, returning even to the very same individual bushes at different seasons, is obviously a requisite which can be achieved only in very limited degree by any one botanist.

The first of the four describing botanists above mentioned has very candidly put on record his own kind of preparedness or qualification for the task of describing Willows. But for the difficulties specially appertaining to this genus, it might reasonably have been expected that his *Flora Scotica* would have been a descriptive account of plants actually found in Scotland, and made on living examples or herbarium specimens really of Scottish growth. And yet he introduces his account of the Willows of *Scotland* by the frank admission conveyed in these words:—"The following specific characters of this most intricate genus are taken in every instance, where not otherwise mentioned, from specimens that are the best authority for the *E. Bot.* species; that is, from individuals gathered in the late Mr. Crowe's garden near Norwich, in company with Mr. Crowe himself, or with Sir James Smith. If my characters differ in some measure from those published by Smith, it will show how variable these plants are, and how careful we ought to be in not multiplying the species unnecessarily."

Sir James Smith himself had seen little of British botany in the wilds. For willows he too trusted much to Mr. Crowe's garden,



constantly visited; the same bushes seen there doubtless month after month and year after year. He was not too modest to explain his own better opportunities in Crowe's garden, or to contrast them against the inferior opportunities of Sir William Hooker, as these extracts will make apparent:—"Full 30 years have I laboured at this task, 10 of them under the instructive auspices of my late friend Mr. Crowe, in whose garden every Willow that could be got was cultivated; more especially all that could be obtained from any part of Britain, by that unrivalled collector Mr. Dickson. The plants were almost daily visited and watched by their possessor, whom no character or variation escaped; seedlings innumerable, springing up all over the ground, were never destroyed till their species were determined, and the immutability of each verified by our joint inspection." . . . "No botanist can be competent to form an opinion about them, unless he resides among the wild ones, for several seasons, or continually observes them in a garden. No hasty traveller over a country, no collector of dried specimens, or compiler of descriptions, can judge of their characters, or essential differences." . . . "I should have hoped that my excellent friend Dr. Hooker would have given Mr. Crowe and myself credit for some accuracy of observation, and not have set almost all our labours at nought, without some practical knowledge, at least, of his own." (Eng. Flo. iv. 164, 165.)

Since the decease of Smith and Crowe, probably no English botanist has acquired a technical familiarity with the Willows of this country at all equal to that of Mr. Borrer, himself one of the Smithian-Linnean school. Following Borrer, although in a much more local and limited range of exploration and observation, come the Rev. J. E. Leefe and Mr. James Ward, as Salicetists with "some practical knowledge" of their own. But none of these three botanists, Borrer included, has given us a general revision or re-arrangement of the genus *Salix*, at once descriptive and topographical, which can be placed on a par with those of the genus *Rubus*, *Rosa*, or *Hieracium*, by three other "Industrious Bees" among our botanists still in living usefulness.

For the purpose here immediately in view, my own notes on the localities of the Willows are sadly deficient. They were made mostly in years long past, and in relation to the aggregate species before treated on pages 313—318; sparingly extended to any reliable acquaintance with the special segregates now to come under notice. Nor will the specimens and labels placed in my own herbarium sufficiently supply what is wanting. On turning to the Local Floras and other records of localities, in the endeavour to trace out the areas or other topographical details of the segregates, I am still much at fault; quite convinced that many false localities are on record, through misapplied names or aggregate

names used in an uncertain manner, and yet not feeling safely prepared to sift out properly the true from the false, the reliable from the unreliable records.

The widest contradictions (and therefore errors on one side or other) are to be seen between the names given to the same Willow by different botanists, not simply among the inexperienced young, but even among the most experienced and the special experts. Thus, by the list of names taken into the 'London Catalogue of British Plants,' the *nigricans* and *phylicifolia* are two aggregates, each including eight or ten subordinate species or segregates. Surely, the two aggregates ought to be sufficiently distinguishable from each other, if their subordinate segregates can be also accepted as species! And yet my own herbarium distinctly answers 'no' to the exclamatory query. Yorkshire specimens, female catkins and grown leaves, labelled "*Davalliana*" by Mr. James Ward, are there corrected to "*nigricans*" by Dr. N. J. Andersson; though the botanists of to-day pretty generally place Smith's *Davalliana* as a segregate of *phylicifolia*, not of *nigricans*. Again, a young botanist (whom I suppose to have been guided in his nomenclature by Professor Balfour) sent me Highland Willows labelled "*Myrsinites var. arbutifolia?*" Some time afterwards he wrote, "A *Salix*, which I sent you formerly, labelled '*S. Myrsinites var. arbutifolia*', is stated by Mr. Babington to be '*S. phylicifolia, var.*'" Here again the name is re-corrected by Dr. Andersson into '*nigricans*'. And so far as I may venture to express an opinion, I hold the corrections by Dr. Andersson to be right in each instance. It would be easy to cite other such cases; even some instances where Mr. Borrer and Dr. Andersson are equally in contradiction with each other. But two are as good as two score, for the purpose immediately in view; namely, to illustrate the uncertainty of names and localities for the species in this troublesome genus; an uncertainty greatly increased when the segregates come to be named and specially localized apart from each other.

In the following account of them it is proposed, first, to take the segregates which have been usually assigned with some confidence to the aggregates already treated; and afterwards to notice a series of other names which represent something additional, actual or supposed, along with errors and ambiguities of various kinds. The typical forms of the formerly treated aggregates, which bear only the same names, are unavoidably passed over here, left as represented by the distribution indicated for the aggregate species; their localities having usually been recorded under the name of double signification, and therefore as usually of doubtful signification. "*Salix fragilis*" may or may not mean *Salix fragilis genuina*; "*Salix alba*" may or may not mean *Salix alba genuina*; "*Salix triandra*" may or may not mean *Salix triandra genuina*; and so on, after the manner of distinction used in the nomenclature of

English Botany, edition third;—not unusefully so used, although with the considerable objection against it, that while the other segregates can be exactly expressed by their single distinctive names, *decipiens*, *vitellina*, *amygdalina*, etc., the *Salix genuina* would be a name by itself non-distinctive. And it would be found exceedingly inconvenient in lists of plants or indices of names, always to introduce the aggregate name, in order to make *genuina* intelligible, or to add this latter word, in order to give precision of meaning to the aggregate name when intended to be used in the limited signification.

In giving the provincial nos. it must be understood that they are here accepted in accordance with the records of localities in the principal Floras, general and local, in 'Leefe's Salictum,' or in other publications of some authority; but without any guaranty on my part for their accuracy, except to the extent of omitting several of the less reliable records.

*Salix (fragilis) decipiens*, Hoffm.

Provinces 1 2 3 4 5 - - 8 - 10 11 - - 14.

Syn. 1001. By records in books, it extends from Cornwall (Jones Tour, page 21) to Edinburgh (Hook. Scot. etc.) But the numerous records, many of them not specially for the male plant, are ill reconcilable with the following extract:—"Only the male plant of it is known in this country, although Smith describes the female. It is not improbable that it only appears when *S. fragilis* has its shoots cut annually for osiers"; Eng. bot. viii. 207.

*Salix (fragilis) Russelliana*, Sm.

Provinces 1 2 3 4 5 - - - - 10 11 13 14 15 - - (18).

Syn. 1001. Devon (Flo. Dev.) to Hebrides (Balf. & Bab. cat.). Nearly all the examples sent to me labelled as *Russelliana*, I think, belong truly to *fragilis*; but see *viridis*, mentioned some pages onward.

*Salix (alba) cœrulea*, Sm.

Province 1 - - - 5 - - - - 10 11 - 13. And elsewhere?

Syn. 1002. A sub-glabrous state of *alba*; limit optional?

*Salix (alba) vitellina*, Sm.

Province 1 - 3 4 5 6 - - - 10 11 13 - 15 16 17.

Syn. 1002. Devon (Jones Tour) to Dumbarton (Hook. Scot.) and perhaps Sutherland.

*Salix (triandra) Hoffmaniana*, Sm.

Provinces - 2 3 4 5 - - 8. Not known to me.

Syn. 1004. Sussex (Borrer) to Leicester (Coleman).

*Salix (triandra) amygdalina*, Sm.

Provinces 1 2 3 4 5 - - - - 10 11. Scotland?

Syn. 1004. Devon (Flora D.) to Durham (James Backhouse, in Phytologist, 1069) and Forfar (Gard. Flora). *S. triandra* of Leefe's

Salictum, nos. 7, 8, *vide* Andersson. *S. amygdalina* of Winch, in Flora of Northumberland and Durham, is *pentandra* according to the New Flora of those counties.

*Salix (purpurea) Woolgariana*, Borrer.

Provinces - 2 3. Lewes, Sussex. Kingston, Surrey.

Syn. 1005. About Lewes, where Mr. Woolgar found it, it is probably a mere stray from the osier grounds; but it has the appearance of being wild on the sides of the Thames near Kingston; Borrer, in Eng. bot. supp. 2651.

*Salix (purpurea) ramulosa*, Borrer.

Provinces - - 3 - - - - 10. Leefe Sal. nos. 11, 12, 13.

Mr. Leefe cites *Helix* (Anderson) as a synonym under his no. 11; and *Helix* (Auct.) is accepted as synonymous with this in the Flora of Middlesex. See the willow named, some pages onward.

*Salix (purpurea) Lambertiana*, Sm.

Provinces - 2 3 4 5 - - 8 - 10 - - - 14? Forfar; G. Don.

Syn. 1005. Wilts to Edinburgh; Brit. flo. ed. 5.

*Salix (rubra) Forbyana*, Sm.

Provinces - - 3 4 5 - - - - 10 11 or 14. (15, Forfar, planted.)

Syn. 1006. Thames to Tweed, by records. "Chiefly in the east of England"; Eng. bot. viii. 221.

*Salix (viminalis) intricata*, Leefe, nos. 21 and 24.

„ (*viminalis*) *leptostachya*, Leefe, no. 23.

Province - - 3. Audley End, Essex; Leefe Salictum.

Syn. 1007. I do not see how these differ from the ordinary *viminalis*. To no. 21 of the Salictum Dr. Andersson wrote "Mihi *S. stipularis* Sm. videtur." And Dr. Boswell Syme writes, "Judging from the Rev. Mr. Leefe's specimens, I am unable to separate his varieties *intricata* and *stipularis*"; Eng. bot. viii. 224.

*Salix (Smithiana) rugosa*, Sm.

Provinces - 2 3 - 5 6 - 8 - 10. Sussex to York.

Syn. 1008. In English Botany, third edition, this is separated from *Smithiana* and *acuminata*, and is placed as a second variety under *ferruginea*, "Anders." The leaves are there described as "silky below", and those of *Smithiana* as "somewhat satiny"; both terms ill applying to a willow in my garden, to which Mr. Leefe gave the name of *rugosa* (correcting my own doubtfully given name of *acuminata*). It is the *holosericea* of most (or all) English writers on the willows.

*Salix (Smithiana) ferruginea*, Anderson.

Provinces - 2 3 - 5 - - - - 10 11 12 - - 15.

Syn. 1008. From Sussex to Fife, *vide* Borrer. Not unfrequent in England; Fifeshire, Scotland; Eng. bot. viii. 228.

*Salix (cinerea) glabrescens*, Andersson.

Provinces 1 - 3, etc. N. Devon. Surrey. Midx. Westmoreland? Syn. 1010. This is a state of *cinerea* with the leaves almost glabrous, and somewhat lucid or shining on the upper surface, which I have collected in the counties named above; that from Westmoreland shading off towards *aquatica*. A Surrey example was named as above by Dr. Andersson, and I understood him to regard it as specially the *acuminata* of Hoffman,—of course, not that of Smith.

*Salix (cinerea) aquatica* Sm.

Provinces all? Authorities wanting for 16 and 17. Syn. 1010. By the use of the name, this is distributed from Cornwall to Hebrides (Balf. & Bab.), to Orkney (Neill's Tour), and to Shetland (Edm. Flora). But a change in the application of the name appears to have gradually come about among English botanists and in our botanical books. Formerly, the name *aquatica* seems to have had the wider or more general use; that of *cinerea* being applied more specially. Of late years, this has been conversed; *cinerea* coming into use as the general name, and *aquatica* becoming the more limited or specially applied one. The form which we now call *cinerea*, as distinguished from *aquatica*, is that which botanists labelled by the latter name earlier in the present century. Of course, there is thus inextricable confusion in the recorded habitats. Moreover, as Dr. Boswell Syme correctly states, "The varieties run so into each other, that it is often impossible to say to which of the three a form ought to be referred"; Eng. bot. viii. 232.

*Salix (cinerea) oleifolia*, Sm.

Provinces 1 2 3 4 5 6 7 8 - 10 11 - - - 15.

Syn. 1010. By name the *oleifolia* is recorded from Devon (Chudleigh Flora) to Perth and Forfar (Gard. Flora). David Don gave me the name *oleifolia* for a hedge-row willow in Surrey, to which Dr. Andersson wrote the name "*cinerea* var. *rufinervis*."

*Salix (caprea) sphacelata*, Sm.

Provinces - 2 3 - 5 - - - 10 11 - - - 15.

Syn. 1012. Sussex; Borrer. Oxford; Besley cat. Salop; Leighton flo. Notts; Jowett in Howitt flo. York; Ward, Leefe Sal. no. 66. Tyne; New flo. Perth; "Lightf. Herb." If we take the more pointed leaves and their sub-entire margins, as the character for *sphacelata*, and not specially their discoloration at the point, this is a frequent willow, perhaps more especially in Scotland, where its habitats include the Lowlands and all three Highland provinces, and it grows to a tree. "Specimens of *S. sphacelata* show it to be only a small state of *S. caprea*"; Eng. bot. viii. 234.

*Salix (nigricans) genuina*, E. B. 3. "S. nigricans, Sm."  
 Provinces - - 3 4 5, etc. Norfolk? Hereford? Elsewhere?  
 Syn. 1013. Wrongay Fen, Norfolk, and Shobden Court, Hereford, with osier beds in other places, are still repeated in books as localities for this willow. I am not acquainted either with this or with *cotonifolia*, although something has been recorded from Surrey and Oxford, under name of "nigricans." Dr. Boswell Syme writes of the present, "this is the only form I know of occurring so far south." In 1849, Mr. Borrer wrote that he was "quite persuaded" that no form of *phylicifolia* or *nigricans* is either native or denizen in the first 6 (or 9) provinces of England.

*Salix (nigricans) cotonifolia*, Sm.  
 Provinces - - - 4 - - - 8 - 10 - - 13 - 15.  
 Syn. 1013. 4 Crowe? 8 Nott. Flora. 10 Settle cat. 13, 15  
 Hook. Scot. etc.

*Salix (nigricans) Forsteriana*, Sm.  
 Provinces - 11 12 - - 15. "Frequent in Scotland."  
 Syn. 1013. Dur. North. Chev. Cumb. Perth. Forfar.

*Salix (nigricans) rupestris*, Donn.  
 Provinces - 10 11 - - - 15. York? Dur. North. Perth. Forfar.  
 Syn. 1013. Dr. Andersson refers the "*rupestris*" of Leefe's Salictum (nos. 68, 69, 70, 71) to *phylicifolia*, not to *nigricans*.

*Salix (nigricans) Andersoniana*, Sm.  
 Provinces - 10 11 12 - 14 15.  
 Syn. 1013. York. North. Cumb. Edinb. Perth. Forfar.

*Salix (nigricans) damascena*, Forbes.  
 Provinces - 10, etc. Rievaulx, North-east York; Baker.  
 Syn. 1013. "South of Scotland and the Borders."

*Salix (nigricans) petræa*, Anderson.  
 Provinces - 10 - - - - 15. York? Perth. Forfar.  
 Syn. 1013. Dr. Andersson refers Mr. Ward's "*petræa*" from the neighbourhood of Richmond, Yorkshire, in 1841, to *phylicifolia*.

*Salix (nigricans) hirta*, Sm.  
 Provinces - 10 11 - - - 15. [4 Norfolk; Crowe.]  
 Syn. 1013. York. Durham. Perth. Forfar. Aberdeen?

*Salix (nigricans) floribunda*, Forbes.  
 Provinces . . . ?  
 Syn. 1013. "S. tenuifolia, Sm. Eng. Bot. ed. i. no. 2186 (non Brit. Flo.). S. bicolor, Hook. Brit. Flo. (non Ehrh. nec Sm.)." Referred to *phylicifolia* suggestively by Dr. Walker-Arnott in British Flora.

*Salix (laurina) bicolor*, Sm. E. B. ed. 1, no. 1806.  
 Provinces - 2 3 4 - 6 - - - 10 11. Records unreliable.  
 Syn. 1014. The *laurina* and *bicolor* were made synonymous

in the English Flora. The two names are so treated in the third edition of English Botany; rejecting the three other segregates assigned to *laurina* in the London Catalogue of British Plants, following Babington's Manual. After stating localities in Dorset (Mansel), Isle of Wight (Bromfield), and York (Ward, in Leefe sal. no. 43), the Editor of E. B. adds that "it has been so much confounded with forms of *phylicifolia* that I cannot give its correct distribution in England, and I have no reliable record of it from Scotland." Mess. Baker and Tate indicate "*laurina*, Sm." as found in Durham, Northumberland, and Cheviotland; but perhaps they and Dr. Boswell Syme may intend different things under the same name of *laurina*. In Norfolk, *fide* Crowe in Eng. Flo. See some pages onward for mention of the three other segregates—*propinqua*, *tenuior*, *tenuifolia*—placed under *laurina* in the L. C.

*Salix (phylicifolia) radicans*, Sm.

Provinces - 11 12 13 - 15. Dur. North. Cumb. Dumf. Perth.  
Syn. 1015. "S. *phylicifolia*, Sm. Eng. Bot. ed. i. no. 958."

*Salix (phylicifolia) Davalliana*, Sm.

Provinces - 10 - - - 15. York; Leefe, Ward. Highlands; E. F.  
Syn. 1015. Gardiner gives two localities in his Flora of Forfar.

*Salix (phylicifolia) Weigeliana*, Willd. Borrer.

Provinces - 10 11 12 - - 15. "S. *Wulfeniana*, Sm. non Willd."  
Syn. 1015. York. Tyne. Westmoreland. Perth. Forfar.

*Salix (phylicifolia) nitens*, Anderson, Borrer.

Provinces - 10 11 - - - 15. York; Leefe, Ward. Tyne; New Flora.  
Syn. 1015. "Brought from Scotland by the late Mr. G. Anderson."

*Salix (phylicifolia?) Croweana*, Sm.

Provinces - - - 4 - - - - [9] 10 11 - - - - 16. Habitats not reliable.  
Syn. 1015. It is difficult to understand how any form of *phylicifolia* could have been originally intended under the name of *Croweana*, which represented a species placed by Smith between *rubra* and *triandra* in the Flora Britannica, and there localized only in Norfolk. I have received *cinerea* from Lancashire labelled *Croweana*.

*Salix (phylicifolia) Dicksoniana*, Sm.

Province - 15. Highlands of Scotland; Dickson, in E. F.  
Syn. 1015. "S. *myrtilloides*, Sm. Flo. Brit., not of Linn."

*Salix (phylicifolia) laxiflora*, Anderson, Borrer.

Provinces - 10 - - - 15. York. Perth.  
Syn. 1015. North Yorkshire; Leefe, Ward. Killin; Borrer.

*Salix (phylicifolia) tetrapla*, Walker.

Provinces - 10 - - - 15. York; Ward. Perth; Borrer.  
Syn. 1015. See under *propinqua*, some pages onward.

*Salix (phylicifolia) Borreriana*, Sm.

Provinces - 15 16. Perth. Forfar; Gard. flo. Inverness.  
Syn. 1015. In Breadalbane and Glen Nevis; Borrer, in E. F.

*Salix (phylicifolia) phillyreifolia*, Borrer.

Province - 15. Perth. East-Inverness.  
Syn. 1015. Glen Farfe, near Fort Augustus, Borrer.

*Salix (ambigua) major*, Bab.

„ (*ambigua*) *spatulata*, Willd.

„ (*ambigua*) *undulata*, E. B. 3.

Provinces - 3 - 15. “Hopton, Suffolk”; for all three.  
Syn. 1016. The first of the three is said to have formerly grown in Forfarshire, and to have become lost there subsequently through drainage. The second was reported from Perthshire. All three are unknown to myself.

*Salix (repens) depressa*, Sibth. “*genuina*,” E. B. 3.

Provinces all? Cornwall to Shetland, as *repens*.  
Syn. 1017. But the name “*repens*” was used promiscuously.

*Salix (repens) fusca*, Sm.

Provinces 1 2 3 4 5 6 - - 9 - 11 - 13 14 15 16 - 18. Uncertain.  
Syn. 1017. Both *fusca* and *repens* have been in use uncertainly or promiscuously as the aggregate names for this common willow; and thus they can now really express a limited or segregate application only through some special explanation.

*Salix (repens) prostrata*, Sm.

Provinces 1 2 3 4 - - - - 10 11 - - 15.  
Syn. 1017. Cornwall; Jones Tour. Scotland; Dickson, in E. F.

*Salix (repens) adscendens*, Sm. E. B. 1962.

Provinces 1 2 3 4 5 6 - - - 10 11. Scotland; G. Don.  
Syn. 1017. *S. foetida*, English Flora, iv. 208.

*Salix (repens) parvifolia*, Sm. E. B. 1961.

Provinces 1 - 3 4 - - - - - 11 - - - 15. Cornwall to Forfar.  
Syn. 1017. Variety of *S. foetida*, English Flora, iv. 208.

*Salix (repens) incubacea*, “Linn.” Forster, in E. F.

Provinces - 2 3 4 - 15 - 18. Dor. Ex. Midx. Suff. Forf. Shetl.  
Syn. 1017. “Whatever this may be, . . . it has nothing to do with my *foetida*, *prostrata*, *fusca*, or *argentea*”; Eng. flo. iv. 213.

*Salix (repens) argentea*, Sm. “*S. arenaria*, Lightf.”

Provinces 1 2 3 4 5 6 7 - 9 10 11 - - 14 15 16 - 18.  
Syn. 1017. Perhaps this name often intends Syme’s “*genuina*.”

*Salix (arbuscula) carinata*, Sm.

Province - 15. Breadalbane mountains, Perthshire.  
Syn. 1021. What is *Arbuscula* of Neill’s Tour in Orkney?



*Salix (arbuscula) prunifolia*, Sm.

Provinces - 15 16. Perth. Forfar. Argyle. Orkney; Neill?  
Syn. 1021. *Salix Myrsinites* of Lightfoot's Flora Scotica.

*Salix (arbuscula) venulosa*, Sm.

Province - 15. Breadalbane mountains, Perthshire.  
Syn. 1021. A variety of *prunifolia*, *vide* Forster in E. F.

*Salix (arbuscula) vacciniifolia*, "Walker," Sm.

Provinces - 13 - 15. Dumfries. Perth. "Plentifully" in S. Scotl.  
Syn. 1021. Highland mountains, not unfrequent; Eng. flo.

*Salix (Lapponum) arenaria*, Sm.

Provinces - [6 - 8 - - 11] - 14 15 16 17. [18 Orkney?]  
Syn. 1022. [11 Teesdale moors, *vide* Winch. Flora.]

*Salix (Lapponum) Stuartiana*, Sm.

Province - 15. Breadalbane, Perthshire.  
Syn. 1022. Smith states that "its distinctive characters remained, with very little variation," in the garden of Mr. Forster; but the difficulty is to know what its distinctive characters really are.

*Salix (Lapponum) glauca*, Sm. not of Linn.

Province - 15. Clova mountains; on authorities in next line.  
Syn. 1022. "Don, Drummond, Hooker, Greville, Burchell"; Flo. Forf.

*Salix (Myrsinites) serrata*, E. B. 3.

Provinces - 15 16. Perth. Forfar. Argyle.  
Syn. 1025. "S. retusa, Dicks. Trans. of Linn. Soc."

*Salix (Myrsinites) arbutifolia*, Sm.

Province - 15. Perth. Aberdeen; Dickie Bot. Guide.  
Syn. 1025. Habitats of this are perhaps confused with those of the next preceding and next succeeding segregates.

*Salix (Myrsinites) procumbens*, Forbes.

Provinces - 15 16. Perth. Forfar. Easternness. Argyle.  
Syn. 1025 (1024). "I am unable to see any grounds for supposing that *S. procumbens* is a species distinct from *S. Myrsinites*. The length of the catkin, given as one of its characters, is unsatisfactory; even on the same plant I have seen some catkins twice as long as others in the same stage of growth, and the length of the style is also inconstant"; Eng. bot. viii. 252. Under *Myrsinites*, in British Flora, eighth edition, Dr. Walker Arnott remarks, "The figure in *E. B.* is from cultivated specimens; Dr. Stuart's plant from Glencoe, referred to there, belongs to *procumbens*; whilst Mr. Dickson's was probably the same as our own, and from the Breadalbane mountains."

*Salix cuspidata*, Schultz.

Province - 5. Shropshire, in two localities. [12 Westm.]  
Alien, planted. Cyb. ii. 388. iii. 508. "I believe *S. cuspidata*

has not been found in Westmoreland. I originally mistook for it some male specimens of *pentandra*. I never saw female specimens of *cuspidata* of British growth, besides those communicated by Mr. Leighton. I have long known the male tree in cultivation"; W. Borrer, letter, 1849.

*Salix viridis*, Fries.

Provinces - - 3 4. Surrey. Essex. Norfolk. Moray?  
Ambiguity. Dr. Andersson so named examples in my herbarium, which had been considered to represent *Russelliana*; but one of which is more probably *alba*, misplaced among the *fragiles*. It will be well for botanists to examine carefully any willows resembling *fragilis*, but distinguished by smaller and more finely serrate leaves. Possibly the explanation of Dr. Andersson applying both names to the nos. 52 and 54 of Leeke's *Salicetum*, may be found in some intermingling of the specimens, the leaf-specimens being crossed to the wrong nos. See *Botanical Gazette*, iii. 60.

*Salix undulata*, Ehrh. *S. lanceolata*, E. B. 1436.

Provinces 1 2 3 4 5 - - - 10. [15 Forfar; G. Don.]  
Denizen. *Cyb.* ii. 390. South Hants; Notcutt's Fareham cat. Northwards to York or Forfar, by records. This has been considered an introduced species; perhaps because Mr. Borrer reported it as a willow of cultivation in Sussex. But the narrow-leaved plant of the Thames side, to which Mr. Baker and others have applied the name of *undulata* or *lanceolata* (not *lanceolata* of Fries, which Dr. Andersson holds synonymous with *acuminata* of Smith) appears quite as natural there as does the *viminialis* or the *purpurea* along with which it occurs. A willow from Claygate, Surrey, distributed as "*undulata*, *fide* Andersson," is different from that of the Thames side, at any rate by its much wider leaves, and may belong to *triandra* or *amygdalina*; possibly "*undulata*" may have been written to it inadvertently, instead of *amygdalina*.

*Salix contorta*, Crowe.

Provinces - 2 3. Cultivated in Sussex. Essex; *Sal.* no. 6.  
Alien? Appears not to be wild in Britain; E. B. viii. 216.

*Salix acutifolia*, Willd. *S. daphnoides*, Vill.

Province - 10. North-west York; Ward. North-east York; Mudd.  
Alien? Denizen; Baker N. Y. p. 280. Originally reported as *daphnoides*; why the name *acutifolia* was soon substituted, I know not. Andersson places *acutifolia* as a variety of *daphnoides*, in the *Prodromus*, xvi. 261.

*Salix Helix*, Linn.

Provinces - 2 3 4 5 - 7 8 9 10 11 - 13 14 15 16. Uncertain.  
Ambiguity. *Syn.* 1005 e. "A very puzzling plant." E. B. viii. 222. Judging by the specimens thus labelled in my own herbarium,

this associates with *purpurea* better than with *rubra*; see those species on preceding pages 315 and 316. I have received leaves of *alba* (rose-willow state) under this name, from a good botanist in Norfolk; and from a well-known Yorkshire botanist, a combination (as it seems to my eyes) of the catkins of *purpurea* with the adult leaves of *triandra*. And if a like confusion of two kinds, *purpurea* and *rubra*, has occurred on the plate of English Botany, 1843, we may partly account for the uncertainty which apparently belongs to the recorded localities for *Helix* even more than for those of most other willows.

*Salix Doniana*, Sm. "S. *purpurea* var. *sericea*, R."

Province . . . ? Scotland; G. Don, in E. F. Baldovan woods; Flo. F. Ambiguity. Resembling *S. purpurea*; Brit. flo. ed. 8.

*Salix petiolaris*, Smith.

Provinces - 8 - 13 - 15. Notts; Jowett. Lanark. Forfar.

Ambiguity. Alien? In the low parts of Angus-shire, forming a fine tree; Don Acc. Sent from Scotland by the late Mr. Dickson; Eng. Flora, iv. 181. Possil marsh, north side of the canal; D. Don, in Hook. Scot. "It is not now (even in cultivation) in Possil marsh, where it was said to have been found by G. Don"; Brit. flo. ed. 8. "A native of North America."

*Salix acuminata*, Sm.

Provinces 1 2 3 4 5 - 7 8 - 10 11 12 13 14 - 16 - 18. Uncertain. Ambiguity. The name *acuminata* (Anglorum) was added to that of *Smithiana* in the Synopsis, no. 1008, under a belief that the willow which is held to be *rugosa*, by the Rev. J. E. Leefe, has been repeatedly labelled by collectors as the *acuminata* of Smith; their localities thus becoming much confused together. Certainly, some years ago, I also thus labelled the *Smithiana rugosa*, more or less doubtfully. By name (thus uncertain) the records would distribute "*acuminata*" from Devon to Edinburgh (Hook. Scot.), to Islay (Balf. cat.), and even to Orkney (Neill's Tour). But the non-reliability of records under this name goes beyond *Smithiana*, for the Authors of the New Flora of Northumberland and Durham remark, "Judging from his herbarium, Winch's *acuminata* is a form of *caprea*." Mr. Borrer wrote, in letter of 1849, "I am not sure that I ever saw this except in cultivation".

*Salix dasyclados*, Wimmer?

Province - - 3. Audley End, Essex; Leefe Sal. no. 37.

Ambiguity. Cyb. iii. 509. Bot. Gaz. iii. 59. This is named "*acuminata* Sm." on Mr. Leefe's label. Dr. Andersson noted it as "certainly *dasyclados* of Wimmer", and quite distinct from *acuminata* of Smith, which is *lanceolata* of Fries. Dr. Boswell Syme meets this by an indirect contradiction, thus; "The specimen in my set is rightly named *S. acuminata*, Sm., a plant which Dr. Andersson at that time evidently misunderstood"; Eng. bot.

viii. 262. But the question here properly is, whether Dr. Andersson knew the *dasyclados* of Wimmer, for he had the *acuminata* of Smith then before him. In the Prodrômus, dated 1868, Andersson still places the *dasyclados* under *acuminata*, as "huic sine dubio affinis si non cum ea identica".

*Salix stipularis*, Sm.

Provinces 1 2 3 4 5 - 7 - - 10 - - - 14 15 16. Very uncertain.

Ambiguity. Crowe, in E. F. Leefe Sal. no. 21, *vide* Andersson. "This plant I have never seen alive, and possess no specimen of it"; Eng. bot. viii. 226. By the records, many of doubtful reliability, its area extends from Devon to Islay (Balf. cat.) and Forfar (G. Don, Gard. flo.). Marked as common about the Forth counties (which are botanically familiar to Dr. Syme) in the Catalogue of Edinburgh Plants. And in the Flora Scotica, on authority of D. Don, it is stated to be common in Scotland.

*Salix Pontederana*, "Willd." E. B. 3.

Province - 5. Shropshire.

Ambiguity. "No. 36 of Leefe's Sal. Brit., which is from Shrewsbury, collected by the Rev. W. A. Leighton, is said by Andersson to have much in common with *S. Pontederana*." . . . "The specimen in my set is rightly named *S. ferruginea*"; Eng. bot. viii. 262. Andersson's words are "Valde dubia forma. Multa cum Salice Pontederana habet communia; foliarum forma iis Salicis holosericeæ W. similis. Nil certe de hac enuntiare audeo"; Bot. Gaz. iii. 59. In conformity (Prodrômus, 1868) we find him place *S. holosericea* (of Koch's Synopsis as a synonym of his *Smithiana* var. *velutina*, and *ferruginea* (of Anderson and Smith) as a sub-variety of his own *velutina*. "Pontederana" is a name of various application by Andersson, to include presumed hybrids between *purpurea*, on one side, with *caprea*, *cinerea*, and *aurita*.

*Salix grandifolia*, Ser.

Provinces - 14 15 16. All of them very doubtful.

Ambiguity. Dr. Andersson wrote this name at the corner of a sheet of five specimens, brought from the counties of Perth and West Inverness; but I cannot certainly say that he intended the name to apply to all of them. More doubtfully, the same name was suggested for a willow picked near Queensferry, Linlithgowshire, in 1831; which Mr. Macnab, senior, then named for me (a student) *aquatica*. I now refer all six specimens to *caprea*, but to that form of it with pointed and nearly entire leaves, which was alluded to under *sphacelata*, on page 567. I have not seen the catkins; the leaves differ considerably from those of *caprea*, as usually seen in England.

*Salix propinqua*, Borrer in E. B. S. 2729.

Provinces - 10 - - - 15.

Ambiguity. So placed here because we have three aggregate

species to choose among for a name to this segregate. A form or variety of *laurina*, according to Babington's Manual. A variety of *nigricans*, according to Hooker and Arnott's British Flora. A variety of *phylicifolia*, according to Boswell Syme's edition of English Botany. It is placed under the last of these three, rather as synonym than variety, by Andersson in DC. prodromus xvi. 242. The same position is there assigned to *tenuior* and *tenuifolia*; the latter interrogatively, through E. B. 2186.

*Salix tenuior*, Borrer.

Province - 10 - - - - 15. York. Perth.

Ambiguity. A variety of *laurina*, according to Hooker & Arnott, and to Babington. A variety of *phylicifolia*, according to Andersson, and to Boswell Syme.

*Salix tenuifolia*, Sm. in F. B. & E. F.

Provinces - - [3] - - - - - 10 11 12 - 14 15. Two willows confused.

Ambiguity. A variety of *laurina*, according to Hooker & Arnott, and to Babington. A variety of *phylicifolia*, according to Dr. Boswell Syme. "It is now sufficiently understood that *S. tenuifolia* of Eng. bot. 2186 is not the plant bearing that name in Flora Britannica, but *S. bicolor* of Hooker's British Flora"; W. B. in Eng. bot. supp. 2795.

*Salix plicata*, Fries, *vide* Andersson.

Province - 15. Perth or Easterness.

Ambiguity. This name was given by Dr. Andersson to dried specimens in my herbarium, taken from a small shrub in the garden, which had been brought either from Drumochter Forest or from Athole Forest in 1841.

*Salix angustifolia*, Wulf.

Provinces - 13 - 15. Dumfries? Forfar? Aberdeen?

Ambiguity. *S. Arbuscula*, Sm. E. B. 1366, not of continental authors; Brit. flo. Of course there is something to answer to this specific name, although that something is quite unknown to myself. A recent record for it is "Shores of Loch Muick, Mr. Croall"; in Dickie's Botanist's Guide, page 151.

*Salix rosmarinifolia*, Linn.

Provinces - 2 - 4 5 - - - - 10 11. "Highlands of Scotland."

Ambiguity. Sus. Suff. Monm. York. Tyne. Islay; Balf. cat.

*Salix livida*, Wahl.

Province - 13. At the foot of Hertfell; Maughan.

Error. This is now understood to mean Smith's *vacciniifolia*.

*Salix hastata*, L. *S. malifolia*, E. B. ed. 1, no. 1617.

Provinces - - 3 4 - 15. Middlesex. Norfolk. Forfar.

Ambiguity. Error? Cyb. ii. 397. iii. 509. "Mr. Crowe was always persuaded that he found this willow wild in some parts of Norfolk, from whence he took cuttings for his garden. It has

since been gathered in Scotland, and was perhaps originally sent thence by Mr. Dickson, who supplied Mr. Crowe with several new Scottish species"; Eng. flo. iv. 180. "It is most improbable that this plant, which is truly alpine on the Continent, growing in Switzerland only at great elevations, should be even naturalised on the sands of Barrie, where Drummond met with it. The Norfolk station is entirely hypothetical, and equally unlikely"; Brit. flo. ed. 8, p. 413. "This is an alpine species, which cannot have been native, if indeed it were ever found in any of the localities mentioned"; Eng. bot. viii. 263. As to Middlesex, see page 260 of the recent Flora of that county, by Trimen & Dyer.

*Salix retusa*, Linn.

Province - 15. Ben Lawers; Dickson, in Linn. Trans.

Error. Misnomer. *S. procumbens* "was originally communicated to Withering 'by Mr. Griffith, to whom Townson sent roots from Scotland under the name of *retusa*', and first noticed in one of the earlier editions of his work; it is also inserted in Hull's British Flora in 1799"; Brit. flo. ed. 8. In the English Flora, the *Salix retusa* of Dickson (Trans. Linn. Soc. ii. 228) was made synonymous with the typical *Myrsinites*.

*Salix serpyllifolia*, Scop. Var. of *S. retusa*, Linn.

Province - 15. Perthshire, *vide* Fries.

Ambiguity. "Fries states that beautiful specimens of the var. *serpyllifolia*, collected by Mr. Winch in Breadalbane, are preserved in Horneman's herbarium. This must be a mistake; Mr. Winch's *retusa* is that of Withering, or *procumbens* of Forbes, and is widely different from the true one"; Brit. flo. ed. 8, p. 412.

*Salix Grahami*, Baker in Jour. Bot. June, 1867.

Province - 17. North-west Sutherland; Macnab, Graham.

Ambiguity. Edinburgh Botanic Garden; Macnab! Professor Graham pointed out this willow to me in the Edinburgh Garden, in presence of Mr. Macnab, assuring me that it was *herbacea* when brought from Sutherland. At the time I was a very young botanist, and the Professor's assurance, uncontradicted by Macnab, impressed me decidedly in distrust of the segregate species of willow, then accepted with little hesitation by most of our botanists. Now, we find Dr. Hooker placing this willow of Graham under *Myrsinites*, in the Student's Flora. I have it in leaf only.

## 72. CONIFERÆ.

*Pinus pinaster*, Ait.

Province - 2. Bournemouth, South Hants.

Alien, planted. "I am indebted to Dr. Falls of Bournemouth, for fresh specimens of the plant, which is completely naturalized in that neighbourhood"; Eng. bot. viii. 271. It would have been

well for Dr. Boswell Syme to let his readers know the sense in which he wished them to understand his own use of the term 'naturalised' in his edition of English Botany. (See page 60 of this volume, lower half.) I have much regretted to see so many plants formally described and figured in that edition, which at best required only passing mention in the category of "excluded species," if even there. — [June, 1870. Opportunely, "The Student's Flora of the British Islands," quite a model Flora in its completeness and condensation, has been published since the preceding remark was penned. In it I find no mention at all of the "naturalised" Pinaster. But Dr. Hooker has judiciously sought to expunge improprieties from our descriptive books, not to increase their numbers needlessly. If the Pinaster, why not also the Laburnum, Pseud-acacia, Hippocastanum, and many others which spring freely from self-sown seeds, and are more familiar to us?]

## 73. ORCHIDACEÆ.

*Epipactis (media) purpurata*, Sm.

Province - 5. Worcestershire; Rev. Dr. Abbott, in 1805. Syn. 1039\*. Cyb. ii. 417. A monstrosity, only once found. The *Ep. purpurata* of Smith was founded upon a single plant, with unexpanded flowers, apparently an epiphyte ("parasitical") monstrosity. What the variety may be, to which the name has been transferred in Babington's Manual, I do not know. Many dried examples from "Reigate" have passed through my hands, none of them the same with Smith's specimen plant. Dr. Boswell Syme is under some error in recording that the Claygate plants of *Ep. media* "are not at all tinged with purple." On a label with a specimen dried in 1849, I wrote "whole plant with a lilac-purple bloom over the green"; and, indeed, it was the purple tint which first drew my attention to the plant of the Telegraph Wood, Claygate, as something different from ordinary *Ep. latifolia*.

*Orchis (latifolia) maialis*, Reich. *O. latifolia*, E. B. 3.

Provinces all? "Rather common, and generally distributed." Syn. 1052. Cyb. ii. 427. Dr. Boswell Syme uses the name *palmata* to include the *latifolia* and *incarnata* of English botanists. Until recently the former name intended either or both, by its use in England; and if by change of meaning it is henceforward to be limited to the more frequent segregate, left after separation of the *O. incarnata* therefrom, some joint name for the two may be held desirable. I keep to *latifolia* here because it is the aggregate name used for both together in the Cybele and in English books generally. *O. maialis*, Reich. is quoted in English Botany as a synonym for our usual segregate, and is taken up distinctively on faith here.

*Orchis (latifolia) incarnata*, Linn.

Provinces - 2 3 4 5 6. 12 Cumberland; J. B. Davies.  
Syn. 1052. Dors. Kent. Sur. Camb. Shrop. S. Wales.

*Orchis (incarnata) densiflora*, Wahl.

Province - - 3. Barkway Moor, Herts; Newbould in E. B.  
Syn. 1052. English Botany, ix. 103.

*Orchis odoratissima*, Linn. *Gymnadenia odoratissima*, R.

Province . . . ? Has been reported as English,—where?  
Ambiguity. Cyb. ii. 429. See Phytol. iii. 262.

*Habenaria (bifolia) eu-bifolia*, E. B. 3.

Provinces 1 to 16. Cornwall; Briggs.—Banff; Dickie's Guide.  
Syn. 1055. Cyb. ii. 429. iii. 512. The more frequent segregate.

*Habenaria (bifolia) chlorantha*, Bab.

Provinces 1 to 16. Cornwall; Briggs.—Skye; Lawson.  
Syn. 1055. Cyb. ii. 429. iii. 512. Dr. Boswell Syme reports that intermediate forms are seen on the Reigate hills, between *chlorantha* and *eu-bifolia*. Mr. Bentham, after observing that "the extreme forms have been distinguished as species" goes on to declare that "every intermediate may be observed between the broad and the narrow forms." Since my own attention was particularly called thereto, I have not enjoyed an opportunity to examine the *chlorantha* in its wild localities. Mr. Darwin contends that the two are quite distinct from each other; being fertilised by different insects in a different way. Dr. Hooker, one of the most able and most earnest among the supporters of the Darwinian theories, nevertheless only ventures so far as to give them the dubious grade of "sub-species." Assuming intermediate forms in the plants, how are they produced? It does not appear that Mr. Darwin can shew intermediate insects to correspond; he has them for the extremes only. If the intermediates are half-breeds, cross-bred between the two extreme forms or "species," the same insect should be on visiting terms with each parent, and the pollen of one be capable of fertilising the other parent. If not half-breeds, the machinery of different insects for the two ends of the series only, seems an elaborate non-necessity, until insects are found specially for "every intermediate."

*Ophrys (aranifera) fucifera*, Sm.

Provinces - 2 3. Dorset. Wight. Hants? Sussex. Kent.  
Syn. 1061. Cyb. ii. 434. iii. 513. *O. aranifera* (limited) in provinces - 3 4; counties of Kent, Oxford, Suffolk, Cambridge and Northampton; very doubtfully in Somerset, Salop, York. But it is remarked in English Botany that the two segregates "can scarcely be separated."



## 74. IRIDACEÆ.

*Iris (fetidissima) citrina*, E. B. 3.

Province - 2. Dorset; Woods. Wight; Bromfield.  
Syn. 1066. Particulars in Phytol. iii. 264 & 952.

*Iris (pseudacorus) genuinus*, E. B. 3.

Provinces - - 3 - 15 etc. East Kent; E. B. Fife; Boswell Syme.  
Syn. 1067. This and the two succeeding segregates of our old familiar yellow Flag-Iris are not yet clearly known to me apart from each other. Dr. Boswell Syme, the only English author who hitherto has distinguished them, writes that he is "unable to give the distribution of the varieties in Britain." See Eng. bot. ix. 145-6.

*Iris (pseudacorus) acoriformis*, "Boreau" E. B. 3.

Provinces - - 3 - 14 - 18. Probably general. Surrey!  
Syn. 1067. "The only form I have seen by the Thames and its tributaries, and I have specimens of it also from Swanbister, Orkney, and Seton, Haddingtonshire"; Eng. bot. ix. 146.

*Iris (pseudacorus) Bastardi*, "Boreau" E. B. 3.

Provinces - - 3 4 - 13. Middlesex. Cambridge. Ayr.  
Syn. 1067. Appears to be rare; Eng. bot. ix. 146.

*Iris tuberosa*, Linn.

Province 1. Cornwall; Mr. Pascoe, etc. S. Devon; Mr. Flower.  
Alien. Cyb. ii. 440. Mag. nat. hist. ix. 205. Phytol. ii. 679. iii. 104.

*Iris Xiphoides*, Ehrh.

Provinces - 6 - 15. Glamorgan; Dill. mat. Forfar; G. Don.  
Alien. Cyb. ii. 440. Reported habitats for some other species are mentioned in the Cybele Britannica; namely, for *Xiphium*, in Worcestershire, but an error; for *pumila*, in Leicestershire; for *germanica*, in Staffordshire. *Iris susiana* is mentioned in English Botany, ix. 155.

*Gladiolus communis*, Linn. G. eu-communis, E. B. 3.

Province - - 3. Harlow, Essex. "D. F." in Gibson's Flora.  
Alien. Likely enough a stray garden plant, but of course it is reported a "naturalized" one.

*Crocus sativus*, Linn.

Provinces - - 3 4 - - 7 8. Essex. Cambridge. Anglesea? Derby?  
Alien, extinct. Cyb. ii. 443. Essex formerly, by cultivation.

*Crocus vernus*, Willd.

Provinces 1 2 3 4 5 - 7 8 9 10 - 12.  
Alien. Cyb. ii. 442. Said to have become well established in Middlesex, Suffolk or Norfolk, and Nottingham.

*Crocus biflorus*, Mill. C. reticulatus, Sm.

Province - 4. Suffolk. C. minimus, Cyb. ii. 443.  
Alien. "Naturalised on the site of an old garden in Barton Park,

Bury St. Edmunds, Suffolk. In this station it has maintained its ground more than half a century"; Eng. bot. ix. 150.

*Crocus aureus*, Sibth.

Province - 4. Suffolk. Casually seen elsewhere.

Alien. Cyb. ii. 443. "Naturalised in Barton Park, Bury St. Edmunds, Suffolk; where it grows in company with *Crocus biflorus*, *Ornithogalum nutans*, and *Muscari racemosum*"; Eng. bot. ix. 151.

#### 75. AMARYLLIDACEÆ.

*Narcissus poeticus*, Linn.

Provinces 1 - 3 4 5 - - 9 10 - 12 - 14 15. Usually planted.

Alien. Cyb. ii. 444. "Very abundant in a field at Blaber's Hall, Warwickshire, from whence I received a large supply of living specimens from the late Rev. W. S. Bree"; Eng. bot. ix. 162.

*Narcissus biflorus*, Curtis.

Provinces 1 2 3 4 5 6 7 8 9 10 11 - - 14.

Alien. Cyb. ii. 444. Native; *vide* Lees, Bowman.

*Narcissus incomparabilis*, Miller.

Provinces - - 3 - 5 6 - - - 10. Mid. Worc. Glam. York.

Alien. Cyb. ii. 446. iii. 513. See Eng. Bot. ix. 160.

*Narcissus (p. n.) concolor*, Bromf. *Ajax lobularis*, Hawarth?

Provinces - 2 - - - 6. Isle of Wight. Pembroke.

Alien. Cyb. ii. 446. See English Botany, ix. 158.

*Narcissus major*, Curt.

Provinces . . . ? No special notes kept for the provinces.

Alien. This is the 'Daffodil' so frequent in gardens, and escaping thence to hedgerows and brook-sides; situations which lead to its being mistaken and mis-reported as the true *Pseudo-Narcissus*. Some other alien species are mentioned in the *Cybele Britannica*, volume second, page 446; namely, *minor*, in South Wales; *conspicuus*, in Surrey; and *moschatus*, in Warwickshire, perhaps through an error. *Narcissus aurantiacus* is reported for Somerset, by Mr. Thomas Clark in the *Phytologist*, iv. 646. And *N. serratus* and others are mentioned in the *Flora of Middlesex*, p. 276.

*Galanthus nivalis*, Linn.

Provinces 1 to 15. Cornwall to Moray.

Alien? Cyb. ii. 447; where opinions are cited in favour of regarding the Snowdrop as a true native.

#### 76. LILIACEÆ. .

*Lilium Martagon*, Linn.

Provinces - 2 3 - 5 - - 8 - 10 - - - 14 15. Hants to Fife.

Alien. Cyb. ii. 449. Long established in one spot in Surrey

and in Herts. Very plentiful in Bourton wood, Gloucestershire ;  
Rev. H. Roberts msc.

*Lilium pyrenaicum*, Gouan.

Province - 2. North Devon ; Mr. George Maw.

Alien. Cyb. iii. 370. Phytol. iv. 717. Bot. Gaz. ii. 305.

*Tulipa sylvestris*, Linn.

Provinces 1 2 3 4 5 - - 8 - 10 11 - 13 14 15.

Alien? Cyb. ii. 449. Usually originating from gardens.

*Allium Ampeloprasum*, Linn.

Provinces 1 2. Som. Dor. [In 4 - 12 - 15, by misnomers?]

Alien. Cyb. ii. 451. Relict from culture in province 1.

*Allium Babingtonii*, Borrer.

Provinces 1 2. Cornwall ; Mr. Borrer. Dorset ; Mr. Mansel.

Alien. Cyb. ii. 451. Eng. bot. ix. 205.

*Allium carinatum*, Linn.

Provinces - 8 - 15. Notts ; Eng. bot. ix. 227. Perth ; Syme!

Alien? The account of the locality in Nottinghamshire, as given in English Botany, suggests an inference that the plant is simply an introduction there. The Perthshire locality is by the side of the Tay river, below Perth ; a locality to which several foreign plants have been introduced, and in which they have become established.

*Allium (oleraceum) complanatum*, "Fries. Boreau."

Provinces - [3 4 5] - 10 - [12 - 14] 15. York. Forfar. (Kinc.)

Syn. 1182. Cyb. ii. 453. *A. carinatum*, Smith, by error.

*Allium (Schœnoprasum) sibiricum*, Linn.

Province 1. The Lizard Point, West Cornwall.

Syn. 1085. The formula for *Schœnoprasum*, page 333, will need to be altered by omission of the province and county above named, when taken to represent the distribution of the type species apart from *A. sibiricum*.

*Allium nigrum*, Linn.

Province - - - 4. Norfolk ; Trimmer flo. & E. B. ix. 227.

Alien. Misnamed *Ampeloprasum*, in the Flora quoted.

*Allium paradoxum*, Don.

Province - - - 4. Linlithgow, planted? Edinburgh, unreliable.

Casual or planted. See Eng. bot. ix. 227.

*Allium roseum*, Linn. *A. ambiguum*, Sm.

Provinces - - 3 4. Kent ; E. B. S. 2803. Suffolk ; Bab. man.

Casual. Cyb. ii. 455. Kent 1837—1853 ; extinct in 1866.

*Allium triquetrum*, Linn.

Province - - 3. Isle of Dogs, Midx. 1852 ; J. Banker!

Ambiguity. Not found by any other botanist ; and as the specimens

came labelled "*Leucojum æstivum*," some error of locality may have occurred, equally as of name.

*Ornithogalum nutans*, Linn.

Provinces 1 - 3 4 5 - 7 8 - 10 11. Surrey to Durham.  
Alien. Cyb. ii. 458.

*Ornithogalum umbellatum*, Linn.

Provinces 1 to 16; excepting 11 12. Cornwall to Fife.  
Alien. Cyb. ii. 458. A var. '*angustifolium*' in Isle of Wight.

*Scilla bifolia*, Linn.

Province 1. "West of England." (Devon, from a garden.)  
Error. Cyb. ii. 460. Eng. bot. ix. 226.

*Asphodelus fistulosus*, Linn.

Province - 9. Cheshire; F. M. Webb.  
Casual. In a new made road; E. C. report, 1861.

*Asparagus (officinalis) maritimus*, E. B. 3.

Provinces 1 2. West Cornwall! Dorset, 1869; Flower msc.  
Syn. 1096. More or less doubtful in provinces 3 4 - 6 7 8. This is the wild form, as distinct from the garden escapes. Suggested to be the *A. prostratus* of Du Mortier Flo. Belg.

*Polygonatum (officinale) intermedium*, Bor.

Province - 2. Colerne, Wilts; Eng. bot. ix. 179.  
Syn. 1102. A variety not noticed in Bab. Man.

#### 79. HYDROCHARIDACEÆ.

*Elodea canadensis*, Rich. Anacharis, Bab.

Provinces 1 2 3 4 5 6 - 8 9 10 11 - 13 14 15. Devon to Perth.  
Alien. Cyb. ii. 474. iii. 515. Thoroughly established, and injuriously abundant. Only the female plant said to be found in England.

#### 80. ALISMACEÆ.

*Alisma (Plantago) lanceolatum*, E. B. 3. (not of With.)

Provinces . . . ? Probably 1 to 17, as given for the aggregate.  
Syn. 1109. A slight variety graduating into the type. The "lanceolata" of Withering is described as being "Not more than an inch or two in height. Leaves nearly strap-shaped, without any distinct leaf-stalk." The plant of Kew Gardens, distributed as "lanceolatum" through the Exchange Club, has a petiole of six inches or upwards, and flower-stems (lower portions cut away) more than a foot high; it is thus a less limited form than the "species" of Withering. Leaves "cordate at the base" is the exception, rather than the rule; being the character of luxuriant plants. In herbarium examples, generally the leaves are lanceolate-ovate or

ovate-lanceolate; though this may in some measure be attributed to a selection of small or weakly examples to fit the paper of an herbarium.

*Alisma (ranunculoides) repens*, Davies.

Provinces - 7 - 9, etc. Wales and Scotland; Bab. Man.

Syn. 1110. I have not kept distinct notes for *A. repens*; the two extremes of scapes "erect" and "rooting" are connected by various intermediate states, not distinctly meeting either character.

## 81. POTAMACEÆ.

*Potamogeton (pectinatus) flabellatus*, Bab. man.

Provinces 1 2 3 4 5 - - 8 9 10 11. "England. Ireland."

Syn. 1119. Cyb. iii. 10. "Not uncommon in England."

*Potamogeton (eu-pectinatus) genuinus*, E. B. 3.

Provinces - - 3 4 5 - - - - - 13 14 15 - - 18. And others.

Syn. 1119. "Frequent in England. Rare in Scotland."

*Potamogeton (eu-pectinatus) scoparius*, "Wallr." E. B. 3.

Provinces - 2 3 - - 7 - - 10. "P. marinus, Huds."

Syn. 1119. Plentiful in South England; Syme, in E. B. 3.

*Potamogeton gracilis*, Fries.

Province - 11. Cheviotland; Professor Oliver!

Ambiguity. Dubious between *gracilis* and *pusillus*.

*Potamogeton mucronatus*, Schrader. "P. compressus, Sm."

Provinces - - 3 - 5 - - - 9. In nearly all, by printed records.

Native. Cyb. iii. 12. It remains still impossible to give a proper account of the area and distribution of Smith's *compressus*; that name having been so variously applied, usually to examples of *pusillus*, occasionally also to those of *obtusifolius*. From Devon to Orkney, by the Floras, etc. Shropshire; J. E. Bowman! Surrey; Boswell Syme. Specimens from Stoke Heath, Warrington; Syme in Eng. bot. ix. 49.

*Potamogeton (lucens) acuminatus*, Schum.

Provinces - - - - 5 - - - 9. And in several others.

Syn. 1126. Hereford; Rev. W. H. Purchas! Warwick; Mr. T. Kirk! Cheshire; Hon. J. B. L. Warren! Having kept no separate notes for this variety, I can now venture to cite three counties only, as shown by labels in my herbarium; although I have certainly seen the variety in others also.

*Potamogeton (lucens) decipiens*, Nolte.

Province 1. Canal at Bath, Somerset; Exchange Club sp.

Syn. 1126. I possess only the leaves from the E. C.

*Potamogeton (natans) "proper,"* Student's Flora.

Provinces - - 3 4 - - - 9 - - - 13 14 15 16. Surrey to Fife.  
Syn. 1132. Cyb. iii. 20. This has been represented so often by examples of the more frequent *P. polygonifolius*, labelled or recorded as "*natans*", that fresh records for it have become very desirable, made on re-examination throughout Britain; all those made before 1860 being rejected, as well as several of those bearing a later date.

*Potamogeton (polygonifolius) ericetorum*, E. B. 3.

Provinces all? "Found on almost every heath."  
Syn. 1132 (1133). This is distinguished in words from the type variety *genuinus*, of Dr. Boswell Syme, chiefly by the absence of the pellucid lower leaves; an accident of place or season. I think that the seeds never germinate, and vegetate so far as to produce leaves, unless under water for the time being; and that the earliest submerged leaves are always narrow and pellucid. In the coriaceous or floating leaves there is the most completely gradual transition from broadly or roundedly oval, with a cordate base, to acutely lanceolate, narrowing insensibly into the foot-stalk. So that, in truth, the three "varieties" are only three selected forms, or two extremes and an intermediate, described in English Botany apart from their connecting links.

*Potamogeton (polygonifolius) pseudo-fluitans*, E. B. 3.

Province - 12. Buttermere, Cumberland; Hort! Oliver!  
Syn. 1132 (1133). Dr. Boswell Syme makes a distinct variety of this Buttermere plant. To my own eyes it appears to be simply a rather extreme state of *polygonifolius*, as elongated by rising from deeper or drawn out by growing in running water, such as I have seen in various places, from Fleet Pond, Hants, to Braemar, Aberdeen, and Loch Erricht, Inverness.

*Potamogeton fluitans*, Auct. varr.

Provinces . . . ? Several, by use of the name.  
Ambiguity. This is a name of various application in our botanical books and on labels. Most usually it has meant either *rufescens* or the *pseudo-fluitans* (not limited) form above mentioned. An extract from a letter written by Mr. J. G. Baker, in 1864, will afford a striking example of the confusion in applying this name;—"Winch's three stations under '*fluitans*' belong, one each, to *rufescens*, *oblongus*, and *plantagineus*." See English Botany, ix. 63.

*Ruppia (maritima) spiralis*, "Hartm." E. B. 3.

Provinces 1 2 3 - - - - - 10. 13 Kirkcudbright?  
Syn. 1135. In separating the *R. rostellata*, the formula on page 346 is left unavailable for *R. maritima* (limited) which is the less frequent form. Dr. Boswell Syme writes that *spiralis* "does not appear to occur in Scotland." A specimen is preserved in my herbarium, labelled from the county of Kirkcudbright by Professor

Balfour, in which the nuts (rather young) are quite like those figured for *spiralis* in English Botany, 1427; but the peduncle is short, as in the real *rostellata* collected in the same county by Dr. Syme himself.

*Ruppia (maritima) rostellata*, "Koch." E. B. 3.

Provinces 1 2 3 4 5 6 - - - 11 13 14 15 16 - 18.

Syn. 1135. Cyb. ii. 23. Isle of Wight to Orkney; E. B. ix. 59.

*Zannichellia (palustris) eu-palustris*, E. B. 3.

Provinces all? "Common in England" . . . "extending to Orkney." Syn. 1136. Cyb. ii. 23. According to the figures (caricatures?) of the fruits in English Botany, nos. 1425 and 1426, all the thirty specimens of *palustris* in my herbarium are intermediate forms between *eu-palustris* and *pedicillata*. Thus, I do not understand the distinctions of English Botany, and can still hold only to the undivided *palustris*, in localising the specimens.

*Zannichellia (palustris) pedicillata*, "Fries." E. B. 3.

Provinces 1 2 3 - 5 - - - - 10 11. "Frequent in England"; Syme. Syn. 1136. This is the *pedunculata* of several books. "I have seen no Scotch specimens"; Dr. Boswell Syme.

*Zannichellia (palustris) polycarpa*, Nolte.

Provinces 0. Not found in Britain; Bab. man.

Error. Cyb. iii. 24; where the error is explained. E. B. ix. 57.

*Zannichellia dentata*, Willd.

Provinces . . . ? Perhaps none at all.

Ambiguity. In some of the older books on English plants this genus was differently distinguished into two species, under names of *palustris* and *dentata*. See Gray's Arrangement, ii. 82.

*Zostera (marina) angustifolia*, "Fries." "Reich." E. B. 3.

Provinces . . . ? Same as no. 1137 of the Synopsis?

Syn. 1137. This "has no tangible characters by which it may be separated" from *marina*, according to Dr. Boswell Syme. A mistake is made sometimes, by giving this name to young examples of *Ruppia maritima*.

## 82. TYPHACEÆ.

*Sparganium (natans) affine*, "Schneiz." E. B. 3.

Provinces - - 3 - - - 7 - - - 11 12 ? - 15 16 - 18.

Syn. 1144. Cyb. iii. 31. From Surrey (rarely) to Shetland.

*Sparganium (natans) minimum*, "Fries." E. B. 3.

Provinces - 2 3 4 5 6 - - 9 10 - - 13 14 15 16 17. Wight to Suth.

Syn. 1144. Cyb. iii. 31. Difficult to distinguish from *affine*.

*Typha (latifolia) media*, "DC." E. B. 3.

Provinces ? - 3. Devon? Surrey, and likely elsewhere.

Syn. 1147. Spikes half-inch apart in the Devon plant.

*Typha minor*, Sm.

Provinces - - 3 - 9 10. Apparently through misnomers.

Error. Cyb. iii. 36. The Liverpool example was *angustifolia*.

## 84. JUNCACEÆ:

*Juncus nigritellus*, D. Don.

Province - 15. Forfarshire; G. Don.

Ambiguity. Apparently a small state of *lamprocarpus*? I have seen specimens labelled as *nigritellus*, from Northumberland, Westmoreland, Cumberland, and Fife; all of which appeared to me simply *lamprocarpus*. It has been reported also in the counties of Kent and Chester.

*Juncus tenuis*, Willd. J. Gesneri, Sm.

Province - 15. Scotland; Dickson. Clova mountains; G. Don.

Ambiguity. Cyb. iii. 47. Neither authority is reliable; but the figure of *gracilis* in English Botany, no. 2174, may pass well enough for one of true *tenuis*.

*Juncus (bufonius) fasciculatus*, "Koch." E. B. 3.

Provinces - 2 3 - 15 18. And all the rest?

Syn. 1162. This segregate is said to be connected with "*genuinus*" the type form "by a complete series of intermediate forms." Under such circumstances which name, *genuinus* or *fasciculatus*, should be given to the intermediates? — There is yet a third form "*ranarius*" mentioned in English Botany, which "scarcely deserves to be ranked as a variety." And yet, it seems, all three are held to be so many distinct species by some botanists on the Continent; thus, properly enough explained in English Botany.

*Luzula (pilosa) Borreri*, Bromfield.

Provinces 1 2 3 - 5. And probably elsewhere.

Syn. 1170. Cyb. iii. 54 & 518. A sterile state of *pilosa*?

*Luzula (multiflora) sudetica*, DC. E. B. 3.

Province - 15. Glen Callater, Aberdeen; Boswell Syme.

Syn. 1173. In English Botany, x. 10, this third form is added to the other two, which have become sufficiently familiar under the names of *multiflora* and *congesta*; and both of which probably spread alike into all the provinces, though separate notes have not been made about their localities, apart from each other.

*Luzula nivea*, Desv.

Provinces - 5 15. Salop; Mr. Maw. Fife; Dr. Dewar!

Alien. Cyb. iii. 59. Planted at Broomhall, Fife.



## 85. CYPERACEÆ.

*Scirpus (uniglumis) Watsoni*, Bab.

Provinces - 9 - 15 16. Lancashire. Argyle. Moray.  
 Syn. 1193. Cyb. iii. 76. Attention was first called to this variety solely on account of the nuts (observed on a specimen from Moray) being "covered over closely with impressed dots." And as authors were then describing *uniglumis* with "smooth" nuts, I did not suppose it to be that quasi-species, then quite unknown to me except by book-description. Dr. Boswell Syme now describes the nuts of the latter segregate as being "faintly punctate-striate under an ordinary lens"; so that "*Watsoni*" may be held scarcely more than a synonym of *uniglumis*, not the name of a clearly distinguished variety. [This appears a place not unsuitable for a personal explanation, which I have desired to put on record somewhere. Early in my botanical life I resolved never either to split off a "new British species" or to give a new name to any British plant. The former part of this resolution has been strictly adhered to; and the latter departed from in extremely few instances, where the use of a temporary name became needful, as the better alternative than that of using one likely to prove erroneous. I much prefer, also, not to see my own surname converted into either varietal or specific name for a plant; and thus shall be very willing to let "*Watsoni*" pass out of use in *Scirpus*, as having now become an useless synonym;—although, under the original circumstances, I cannot say that Professor Babington was wrong in so distinguishing the plant.]

*Scirpus parvulus*, R. & S.

Province - 2. South Hants? Dorset; J. C. Mansel!  
 Re-discovered in 1870. Cyb. iii. 78. Ireland; A. G. More!

*Eriophorum alpinum*, Linn.

Province - 15. Erroneously in 7 and perhaps 17.  
 Extinct? Cyb. iii. 81. Forfarshire, formerly; afterwards lost through drainage. A specimen exists in the herbarium of Professor Balfour, labelled as *Scirpus cæspitosus* from Sutherland. It would seem to be the most reasonable explanation of this circumstance, that the label had accidentally got displaced to the wrong specimen. I believe myself warranted in making a record that Mr. A. G. More arrived at this opinion after fair investigation.

*Eriophorum capitatum*, Host. E. Scheuchzeri, Hoppe.

Province - 15. Perth; G. Don.  
 Error. Cyb. iii. 82. Eng. bot. x. 174. Misnomer?

*Eriophorum (angustifolium) minus*, Bab.

Provinces - - - - - 7 - - - - 12 - - 15 16 17. And others?  
 Syn. 1200. A weakly state of the species; noticed here because

sometimes mistaken for true *gracile*. The opposite state, that of vigorous or luxuriant growth, is given as a further variety in English Botany, under name of *elatus*. The name of *polystachion*, as used in the English Flora, may be said to mean the variety *elatus*; that of *gracile* being used there for *minus*.

*Carex Davalliana*, Sm.

Province 1. Lansdown, Bath; lost there "by drainage."

Extinct. Cyb. iii. 87. [York. Hadd. Edin. Kinc.]

*Carex (ovalis) bracteata*, E. B. 3.

Provinces - - 3 - 5. Surrey! Worcester.

Syn. 1211. Cyb. iii. 96. *C. ovalis*, b. *argyrolochis*, L. C. exc. The true *C. argyrolochis* is distinguished essentially by its pale and silvery glumes, not by foliaceous bracts, which are present or absent in either.

*Carex (elongata) Gebhardi*, Schkuhr.

Provinces . . . ? "Professor Babington includes it in his Manual, but gives no station for it, and I have seen no British specimens"; Eng. bot. x. 100.

*Carex (remota) tenella*, Sm. (not Schkuhr.)

Province - 15. Forfar; G. Don. Hants; Boswell Syme?

Syn. 1214. Cyb. iii. 98. Eng. bot. x. 96.

*Carex bryzoides*, Linn.

Province - 10. Studley Wood, Yorkshire; Bab. man. ed. 3 to 6. Error? Cyb. iii. 94. If really found, probably planted; E. B.

*Carex (muricata) pseudo-divulsa*, E. B. 3.

Provinces 1 - 3. Somerset. Kent. Surrey.

Syn. 1220. *C. virens*, Lam., not of Reichenbach; E. B.

*Carex (teretiuscula) Ehrhartiana*, Hoppe.

Province - 9. Manchester. North Hants? Surrey?

Syn. 1223. Cyb. iii. 107. Near Basingstoke, Hants, and on Wimbledon Common, Surrey, I have seen sedges which I hesitated to name *teretiuscula* only because their stems were several together in loose tufts; and thus approximating to the present variety, if not absolutely identical.

*Carex ustulata*, Wahl.

Province - 15. Perth and Forfar; G. Don, sole authority.

Error? Cyb. iii. 129. Eng. bot. x. 137.

*Carex (vulgaris) uliginosa*, E. B. 3.

Province - - 3. And elsewhere? "In muddy places."

Syn. 1228. By the character "densely cæspitose" in Eng. Bot. ed. 3, I suppose this to be the same with a form which I distributed from North Surrey, in 1846, labelled as "*vulgaris*, var. *juncea*." It was found growing in dense tufts in swampy rather than muddy ground.

*Carex Gibsoni*, Bab.

Provinces - 10. Yorkshire; Bab. man. "Extinct."

Ambiguity. Cyb iii. 111. A variety of *C. vulgaris*; E. B. 3.

*Carex (aquatilis) Watsoni*, E. B. 3.

Provinces - 13 14 15. Lanark. Linlith. Aberd. Fife? Forfar? Syn. 1230. I have some hesitation about combining the *aquatilis* of the Clova mountains with the Lowland plants from the Clyde and Almond rivers. Dr. Boott made out other affinities by pencilled notes to the specimens in my own herbarium. On two of them, collected in the Clyde district, probably in Lanarkshire, by Dr. Hooker, his note runs thus; "Near Goodenovii, bracts too long." On other two, from the Almond, collected by Professor J. H. Balfour in Sept. 1838, his note is "very like *stricta* (Lam.) of America." These last were named "*C. stricta*, Good." on the labels of the Botanical Society of Edinburgh. Thus, these sedges of the Almond river, near Edinburgh, have been assigned more or less uncertainly to three different species, to *aquatilis*, to *stricta* of Goodenough, and to *stricta* of Lamarck;—the latter being the *virginiana* of Smith, and one we might have supposed Dr. Boott likely to know.

*Carex cæspitosa*, "Linn." "Fries." "C. Drejeri, Lunge."

Provinces . . . ? "Britain; Dr. Greville."

Ambiguity. Cyb. iii. 112. Probably a mistake; Eng. bot. x. 175.

*Carex (acuta) Moenchiana*, Wendl.

Provinces . . . ? A form of *acuta*; Student's Flora of B. B. p. 480. Syn. 1232. Not noticed in the third edition of English Botany. But two other suggested varieties of *acuta* are mentioned there, as being "perhaps" the *prolixa* of Fries and the *tricostata* of Fries. These two are unknown to me. The former is stated to grow "in the ditch by the side of the Towing path, on the banks of the Thames near Richmond." The latter came "from clay-pits at Northwick, near Worcester, collected by Mr. G. Maw."

*Carex (saxatilis) Grahami*, Boott.

Province - 15. Forfar; W. Brand! Perth; E. B.

Syn. 1233. Cyb. iii. 115. Eng. bot. x. 172.—

*Carex saxatilis*.—"I cannot escape the conviction that this totally different-looking plant" . . . "is an alpine form of *C. vesicaria*, to which variety *Grahami* forms a passage"; The Student's Flora of the British Islands, p. 421.

*Carex (flava) Oederi*, Auct. "Ehrh."

Provinces - - 3 4 - - 7 - 9 10 - - - 14 15 - - 18. From E. B. 3.

Syn. 1234. Cyb. iii. 116. Apparently two different plants have been thus named by English botanists. The more frequent of these is a slight variety of *flava*, closely connected with the type by a series of intermediate forms. But another less frequent plant may perhaps be held separable from the *flava* by better and

less variable characters. Still, I cannot assign all the specimens in my own herbarium quite confidently between the *Oederi* and *lepidocarpa*; apparently, they shew localities for the former ranging from South Hants to Orkney. In English Botany, x. 159, Dr. Boswell Syme expresses the like uncertainty, but adds, "I never found the same difficulty when the plants were growing."

*Carex (flava) lepidocarpa*, Tausch.

Provinces all? But usually under name of *Oederi*.

Syn. 1234. See the preceding segregate.

*Carex (fulva) genuina*, E. B. 3.

" " *speirostachya*, Sm. E. B. 3.

Provinces all? Not ascertained for either of these apart.

Syn. 1237. Cyb. iii. 118. In my own notes of past years the names *fulva* and *speirostachya* have been used as exchangeable synonyms; for I never understood how to separate the plants themselves. In English Botany, Dr. Boswell Syme expresses the like uncertainty, and writes of *speirostachya* "had Smith not described it as a species, I should certainly not have noticed it even as a variety." He there adds a third variety, one quite unknown to myself, the *sterilis*, suggested to be a sedge intended by "Dr. Boott, in letter quoted in Bromfield's Flo. Vect. p. 565." This may possibly be the true *fulva*.

*Carex punctata*, Gaud.

Provinces 1 - 7. Cornwall? Anglesea? [12 Cumberland.]

Ambiguity. Cyb. iii. 121. See Phytologist iv. 679, as to Cumberland. As to the locality "near Beaumaris or Bangor," Dr. Arnott wrote "one of these is erroneous." There might be nothing very unexpected, in the finding of this sedge in England and Ireland; but the evidence for it appears to me hitherto to have been far from satisfactory. Dr. Boswell Syme had seen no British, Irish, or Guernsey specimens, as mentioned in English Botany, x. 151. Dr. Hooker accepts it for Guernsey and Ireland,—whether on testimony or by examined specimens, is not stated in 'The Student's Flora.'

*Carex (limosa, L.) vera*.

Provinces - ? - 4 ? ? - - 9 10 11 ? - ? 15 16 17.

Syn. 1244. Cyb. iii. 128. It seems impossible to assign old records of localities for "*limosa*" between this and *irrigua*. In English Botany, Dr. Syme gives no localities for the present segregate distinctly on his own individual knowledge. In my herbarium the specimens of true *limosa* are from East Suffolk, Cheshire, Fife, Forfar, Dumbarton, and Sutherland. York; Baker Bot. Northumberland and Cheviotland; New flo. Re-examination must determine which of the two really occurs in provinces 2 5 6 - 12 - 14.

*Carex (limosa) irrigua*, Hoppe.

Provinces - ? - - - - 7 - - - 11 ? 13 - 15 16.

Syn. 1244. Cyb. iii. 128. The specimens in my herbarium are from Denbigh, Northumberland, Dumfries, Kirkcudbright, Argyle (Ben Ima). Dr. Syme found it at Glenquay Moss, West Perth, and quotes the British Flora for the "Clova Mountains and Hill of Knock, Dunfermline."

*Carex (glauca) Micheliana*, Sm.

Province - 15. York; B. G. Kincardine; Beattie. Aberdeen.  
Syn. 1250. Cyb. iii. 133. Smith Correspondence, i. 441—2.

*Carex (glauca) stictocarpa*, Sm.

Province - 15. Forfarshire; Don. Ben Lawers, Perth; Syme.  
Syn. 1250. Cyb. iii. 133. Not known to me.

*Carex angustifolia*, Sm.

Province - 15. Forfar; G. Don in Eng. flo.

Ambiguity. "Of this I have seen but one specimen, and that none of the best"; Smith in E. F. iv. 128.

*Carex (hirta) ebracteata*, E. B. 3.

Province - - 3. Between Epsom and Ashtead, Surrey.

Syn. 1257. The sub-glabrous var. 'hirtiformis' in several provinces.

*Carex (ampullacea) involuta*, E. C. report, 1863.

Province - 9. Hale Moss, Cheshire; S. H. Bickham!

Syn. 1258. Said to occur also at Congleton and Oakmere.

*Carex (paludosa) Kochiana*, Gaud.

Province - 2. Isle of Wight; More. Sussex; Mitten.

Syn. 1260. "Scarcely deserves notice as a variety"; E. B. 3.

*Carex hordeiformis*, Wahl. *C. secalina*, Sm. in E. F.

Province - 15. Forfar; Thomas Drummond.

Error. Cyb. iii. 143. Gard. Flo. Forf. 217.

*Carex laxa*, Wahl.

Province - 15. Clova mountains, Forfar; Don. Acc.

Error. This name is omitted from the Indices to English Flora and English Botany; my note of it was taken from Don's Account, in Headrick's Agricultural Survey of Forfarshire, a work which I have not seen for many years past.

*Spartina alterniflora*, Loisel.

Province - 2. South Hants. Imported from America?

Alien? Cyb. iii. 145. Dr. Bromfield in E. B. S., etc.

*Echinochloa Crus-galli*, Beauv.

Provinces - 2 3 4 - - - - 10. [18. Orkney; Barry hist.]

Casual. Cyb. iii. 148. *Panicum Crus-galli* of Linneus and of

most British writers.—(In the Flora of Middlesex, Trimen and Dyer record *P. capillare*, only a single plant, and *P. miliaceum*, a casual. The latter has been seen also near Mitcham in Surrey, and within the docks at Gloucester.)

*Digitaria sanguinalis*, Beauv.

Provinces - 3 4 - - - 9 10 11 13 - 15.

Casual. Cyb. iii. 148.—(*D. ciliaris* is recorded in the Appendix to the Flora of Surrey; and the same grass was found by Dr. Carrington near Bury in Lancashire, according to the Exchange Club report for 1858.)

*Setaria verticillata*, Beauv.

Provinces 1 - 3 4 - - - - 10 11. [5. Stourbridge; Scott.]

Casual. Cyb. iii. 150. Exchange Club rep. 1858.

*Setaria glauca*, Beauv.

Provinces 1 - 3. Somerset. Surrey. Middlesex. Herts.

Casual. Cyb. iii. 150.—(*Setaria italica*, another casual, is mentioned in the Flora of Middlesex.)

*Phalaris canariensis*, Linn.

Provinces 1 to 15. Cornwall to Aberdeen, occasionally.

Casual. Cyb. iii. 151. Scattered by bird-catchers, etc.

*Phalaris paradoxa*, Linn.

Provinces - 2 3 - 10. Swanage, Dorset, in 1847 and 1851.

Casual. Cyb. iii. 152. Both this and *P. minor* are enumerated in the list of foreign plants imported into Surrey among corn for a Distillery. See Appendix to the Flora of Surrey, and the Journal of Botany, iv. 150. It has been seen also near Huddersfield in Yorkshire, according to Exchange Club report for 1858.

*Phleum asperum*, Jacq.

Provinces 1 - 3 4 5. No certain locality for it.

Casual. Cyb. iii. 156. I have specimens of it collected by Mr. W. Mac Ivor, at "Cobham, Kent"; Dr. Boswell Syme, msc. The Collector named seems to have been *singularly* fortunate in finding plants which nobody else can find, and in places frequented by other botanical collectors; see *Vella annua*, page 482, as another instance.—(Mr. Baker recorded *Phleum tenue* as a "weed on a bed of onions in garden ground at Thirsk"; see *E. C.* report for 1862, page 10.)

*Phleum Michelii*, All.

Province - 15. Forfarshire; G. Don, sole authority.

Error. Cyb. iii. 157. "Very summit of the highest mountains."

*Alopecurus (geniculatus?) pronus*, Mitten, msc. & L. C.

Province - 2. Albourne, West Sussex; Mr. Mitten!

Syn. 1279. This is placed under *pratensis* in The Student's Flora. Mr. Mitten contrasted it only against *geniculatus*, where I still incline to place it notwithstanding the more acute glumes.

*Stipa pennata*, Linn.

Provinces - - 3 - 10 - 12. Midx. York. Westm. Cumb.  
 Error. Cyb. iii. 183. See the Flora of Middlesex on the record for that county. The following extract from a letter written by Mr. Tatham, in 1845, is suggestive of error somewhere;—"I have wild specimens gathered in Westmoreland by the late J. Gough, of Kendal; and having these I did not keep, but gave away, the specimens I had sent me from Rumbolds Moor, by S. Gibson; it grew near the pathway between Ilkley and Keighley, and I have no reason whatever to doubt its correctness." (See under *Geranium macrorrhizum*, page 495, as to Samuel Gibson.)

*Agrostis (vulgaris) pumila*, Lightf.

Provinces 1 - 3 - - - 7 - 9 10 11 12 - 14 15 16 17 18.  
 Syn. 1291. Somerset; Flower. Middlesex; T. & D. flo. I have myself never met with it in the southern counties.

*Agrostis (alba) stolonifera*, Linn.

Provinces 1 2 3 4 5 - 7 - 9 10. 18. Orkney?  
 Syn. 1292. A name of rather loose application. (Subsequent experience has led me to distrust my own notes, made in years past, on the localities of *canina*, *vulgaris*, and *alba*, with their subordinate varieties; probably somewhat confused together in at least the earlier years of my botanical wanderings.)

*Aira (flexuosa) uliginosa*, Weihe.

Provinces - 2 3 4 - 15. Hants! Surrey! Norf. Forf. Kinc.  
 Syn. 1302. [Cheshire? Lancashire?] This appears to be sufficiently distinguishable from the *A. flexuosa* of dry heaths, by site and by characters. Shown by Dr. Trimen to be the variety *setacea* of Hudson's *Flora Anglica*; but it seems most unadvisable to create confusion in the specific name by which this is now known, through substituting a discarded varietal name.

*Lagurus ovatus*, Linn.

Province - - 3. Near Saffron Walden, probably sown there.  
 Extinct Casual? Cyb. iii. 182. Gibson's Flora of Essex, p. 367.

*Avena strigosa*, Linn.

Provinces all? Rare in England, more frequent in Scotland.  
 Colonist-Casual. Cyb. iii. 184. An ancient introduction into France; Godron Consid. Originally from the Caucasian countries; De Cand. geogr. bot. rais.

*Avena (pratensis) alpina*, Sm.

Province - 15. Forfar; G. Don. Perth? York?  
 Syn. 1309. Cyb. iii. 185. The counties to be indicated for this segregate may be said to depend on the degree of divergence from ordinary *pratensis*, which is enough to warrant the application of Smith's specific name *alpina*. I should apply the same name to the plants seen above the road on the Perthshire side of the Pass

of Drumochter (Drum Uachdar?) as to those seen in Glen Fiadh, Forfarshire; the latter being called *alpina*, so should be the former; all of them wide away from *planiculmis*.

*Avena planiculmis*, Schrader.

Provinces - 15 16. Forfar, by misnomer. Arran, by error?

Error. Cyb. iii. 186. The garden plant, which I received under this name from W. Borrer, has a tufty and spreading root, certainly not a "widely creeping root." As remarked above, it is quite unlike the Linnean *pratensis* or Smithian *alpina*.

*Avena subspicata*, Link. *Trisetum subspicatum*.

Provinces . . . ? "In Alpibus Angliæ. Anders. 69."

Ambiguity. "Should be looked for. I cannot obtain information from Sweden"; Bab. man. ed. 4 to 6. An error?

*Glyceria (fluitans?) pedicellata*, Townsend.

Provinces - 2 - 4 5 - - - - 10 - - - - 15.

Syn. 1322. As a variety of *plicata* in Man. Brit. Bot.

*Schlerochloa dura*, Beauv.

Province - 11. On ballast, Hartlepool, Durham.

Casual. Professor M. A. Lawson, in E. C. rep. 1867.

*Poa sudetica*, Haenke.

Prov. - - 3 - 5. Kew grounds; Dr. Hooker! Warwick; Mr. Kirk!  
Casual. Introduced with foreign hay or seeds? It is somewhere recommended to agriculturists, and perhaps is occasionally sown by them.

*Poa (pratensis) subcærulea*, Smith.

Provinces - - - - - 7 - - 10 - 12 - - 15. Elsewhere also?

Syn. 1331. Some other states or varieties of *Poa pratensis* appear in our books, under distinctive names; but I have not collected notes about their localities apart from those of the type.

*Poa (nemoralis) Parnellii*, Bab. man.

Provinces - 10 11. York; Baker! Durham; Hort.! Gibson!

Syn. 1334. Cyb. iii. 206. *P. nemoralis*, var., in New Flora.

*Poa (glauca) Balfourii*, Bab. man.

Provinces - - - - - 7 - - 10 11 - - - 15 16. Carn. to Westernness.

Syn. 1334\*. Cyb. iii. 207. Journal of Botany, iii. 157. I received living plants labelled "*Balfourii*" and "*Parnellii*" from Mr. Borrer's garden for cultivation. The former, very glaucous, was soon lost; while the latter, rather green than glaucous, established itself in a weed-like manner, as much at home in the Surrey garden as the *Poa nemoralis* might become.

*Poa (glauca) casia*, Smith.

Provinces - 15 16. Perth. Forfar. Aberdeen. Argyle.

Syn. 1334\*. Cyb. iii. 208. "*Poa glauca*, Sm." has varied applications in botanical books; for instance, the grass so named in the



'Catalogue of Plants collected in South Kent' cannot have been the species of the northern mountains so named. But, as Sir James Smith evidently intended the name to belong to the glaucous *Poa* of the mountains, it is here taken to express the aggregate species; Smith's variety *cæsia* (Eng. Flo. i. 128) being a segregate divergent in one direction, and the *Balfourii* apparently a segregate diverging towards *nemoralis* in a contrary direction. But truly, after abstracting these two, it is difficult to say what is left of *glauca* for a typical segregate. I understand from Dr. Boswell Syme, that he holds the *Poa cæsia* figured in English Botany, no. 1719, to be quite distinct from Smith's *glauca*. Unfortunately for myself, while writing these latter pages of my 'Compendium' I am ahead of the third edition of 'English Botany,' and thus lose its great help in doing so. Possibly what I mean by *cæsia* may truly be typical *glauca* in the views of Dr. Syme.

*Eragrostis poæoides*, Beauv.

Province - 9. Near Birkenhead, Chester; F. M. Webb.  
Casual. In a new made road; E. C. rep. 1862.

*Cynosurus echinatus*, Linn.

Provinces 1 2 3 - - - 8 9 10 11 - - 14 - - - 18.  
Casual. Cyb. iii. 214. Sown with seeds of clover, etc.

*Festuca ambigua*, "Le Gall. in Flore de Morbihan."

Province - 2. Isle of Wight; A. G. More!  
Native. "Eng. Bot. Supp. 2970."

*Festuca (ovina) tenuifolia*, Sibth.

Provinces 1 2 3 - - 6 - - - 11 - - - 15. Elsewhere also?  
Syn. 1342. I have not kept special notes for this variety. Other forms of *F. ovina* are recorded in books as segregate species or varieties.—(N.B. Since the Synopsis was printed, I have learned from Dr. Boswell Syme, that a slightly creeping prat and pascual *Festuca*, frequent in Surrey and elsewhere, which I have always considered to be the *duriuscula*, is really what various Authors intend by the name *rubra*. This cannot well have been Smith's idea of *rubra*, which he locates on the mountains and sandy sea-coast, not in the low inland fields of southern England. I doubt much whether the creeping *rubra* (or *sabulicola*) of the sea-coast has any actual re-appearance on "alpine precipices." See the Flora of Middlesex, page 329; the *F. duriuscula* of that well worked out Flora is apparently the same thing with the Surrey grass here alluded to, and which I separate alike from inland *ovina* and from coast *rubra*.)

*Festuca (sylvatica) decidua*, Sm.

Province - 15. Perthshire; G. Don. Eng. bot. 2266.  
Syn. 1345. Reduced to a variety in Eng. flo. i. 146.

*Festuca (elatior) arundinacea*, Schreber?

Provinces 1 2 3. S. Devon! Isle of Wight! Kent; Syme!  
Syn. 1346. Cyb. iii. 222 and 519. A large state of *F. elatior*?

*Festuca (pratensis) loliacea*, Huds.

Provinces 1 to 15. Devon to Perth! 18 Orkney; Neill Tour.  
Syn. 1347. Cyb. iii. 223. I can still see in this nothing but  
*pratensis* with the panicle reduced to a raceme or "spicate raceme."  
Impossible as it is to confound together the two extreme segregates,  
*arundinacea* and *loliacea*, yet they appear to be only states of the  
intermediate *elatior* and *pratensis*; two species which botanists  
cannot always distinguish with certainty, and the names of which  
appear to have been frequently misapplied or interchanged.

*Bromus rigidus*, Roth.

Province - 15. Fifeshire; Graham excurs.  
Casual. Cyb. iii. 232.—(*B. maximus*, Desf. casual in Surrey.)

*Bromus tectorum*, Linn.

Provinces - 2 3 - 5. [15. Forfar; G. Don.]  
Casual. Cyb. iii. 232. Introduced among corn and flax seeds,  
also perhaps with other merchandize or ballast.

*Bromus (asper) serotinus*, "Beneken."

Provinces - 8 - 10 - 15. Derby. York. Fife.  
Syn. 1349. Exchange Club report, 1867.

*Bromus (secalinus) velutinus*, Smith.

Provinces - 2 3. Sussex! Surrey; Syme! Midx. flo.  
Syn. 1354. Cyb. iii. 229. Several mis-records omitted.

*Bromus (commutatus) racemosus*, Anglor.

Provinces 1 to 16. By the name, as it is loosely applied in books.  
Syn. 1355. Cyb. iii. 231. Two grasses have been thus labelled  
by collectors. Usually *racemosus* is simply a synonym, intending  
*commutatus*; the plants so designated being one same species.  
The name *racemosus* has been also given instead to a non-  
pubescent state of *mollis*. I do not know that there is any other  
*racemosus* in England, except as a mere set of words in books,  
which are only supposed to represent something different in living  
nature.

*Bromus arvensis*, Linn.

Provinces 1 2 3 4 - - - 8 - 10 11 - - - 15. Excluding *commutatus*.  
Casual. Cyb. iii. 232. Of late years this has been met with by  
collectors more often than formerly; being sown among imported  
lucerne or clover seeds. But formerly specimens of *commutatus*  
were frequently mis-labelled as *arvensis*, while this latter was a  
grass known to few.

*Bromus patulus*, Mert. & Koch.

Provinces - - 3 - 5 - - - 10. Surrey. Gloucester. York?  
Casual. Cyb. iii. 232. Among us, confused with *arvensis*?

*Bromus squarrosus*, Linn.

Provinces 1 2 3 5. Som. Sus. Metrop. Glouc. Scotland?  
Error. Cyb. iii. 232. Eng. flo. i. 155. Flo. Metrop.

*Ceratochloa unioloides*, DC.

Provinces - 5 10. Warwick; Cox! York; Mudd!  
Casual or sown? 5. Round a partly drained pond in Warwick  
Old Park, in 1869; brought to Mrs. Russell. 10. Baker's Botany  
of North Yorkshire.

*Triticum cristatum*, Schreber.

Province - 15. Forfar; G. Don. Lunan Bay, Arbroath?  
Ambiguity. Cyb. iii. 237. Specimens from Don are in herbaria?

*Triticum biflorum*, "Brig." Mitten.

Province - 15. Ben Lawers, Perth; "Don in Borrer herb."  
Ambiguity. Cyb. iii. 237. London Jour. Bot. viii. 533.

*Triticum (repens) littorale*, Anglor.

Provinces all? Scilly Isles to Shetland.  
Syn. 1360. Cyb. iii. 235. I do not know how to separate this  
from some of the forms named *laxum* or *acutum* by other  
botanists.

*Triticum (junceum) verum*.

Provinces - 2 3 4 - 6 - 8 9 10 11 - - - - 16 17.  
Syn. 1362. This is certainly a different grass from *T. acutum*  
and *T. pungens*; but I am not able to point out among the  
localities on record for aggregate "*junceum*" all those in which  
this typical segregate will certainly be found; the provinces  
enumerated above are probably correct.

*Triticum (junceum) acutum*, DC. "T. laxum, Fries."

Provinces 1 2 3 4 - 6 - 8 - 10 11 12 13 14 16.  
Syn. 1362. Cyb. iii. 236. See *littorale* above.

*Triticum (junceum) pungens*, Pers.

Provinces 1 2 3 4 - - - - 10. Cornwall to York.  
Syn. 1362. Also in Sussex, Kent, Essex, and Cambridge.

*Lolium italicum*, Braun.

Provinces 1 to 16. *L. "multiflorum,"* of several localities.  
Alien. Cyb. iii. 238. Abundantly sown in fields for hay, and  
accidentally sown among other crops. Half naturalised.

*Lolium linicola*, Sonder.

Provinces - 2 - 10. Sussex; Salter! York; Ward.  
Casual. Cyb. iii. 239. It is an Alien in France, according to  
Dr. Godron; into which it is frequently brought with flax seeds  
from Riga.

*Elymus geniculatus*, Curtis.

Province - - 3. Near Greenwich (or Gravesend) Kent; Dickson.  
Extinct? Cyb. iii. 240. Was it ever found really wild either

near Greenwich or near Gravesend? — (*Elymus crinitus*, an introduced casual, is enumerated in the Appendix to the Flora of Surrey.)

*Lepturus incurvatus*, Trin.

Province - 15. Fife, on ballast. Doubtful elsewhere.

Casual? Cyb. iii. 246. *L. filiformis* is the usual form or species in Britain, and has been frequently recorded under the name of *incurvatus*. I am not prepared either to assert or deny that true or typical *incurvatus* has occurred in this country except as a casual introduction on ballast heaps, etc.

*Eleusine. Chloris. Lappago. Ægilops. Crypsis.*

Casuals. In the Exchange Club Report for 1858 we are told that *Eleusine indica* was found by Dr. Carrington, near Bury in Lancashire. And in the same report Mess. Hobkirk and Ingle are stated to have found the *Chloris compressa* and *Lappago racemosa*, with other exotics, near Huddersfield in Yorkshire. *Ægilops ovata* and *Crypsis aculeata* are enumerated among the various other introduced casuals, in the Appendix to the Flora of Surrey. It seems little worth while more formally to notice these rarely seen grasses.

#### 87. FILICES.

*Gymnogramme leptophylla*, Desv.

Province - 15. Aberdeen; Miss Veitch, *vide* W. Tanner.

Error. Cyb. iii. 370. Phytologist iv. 600 & 716.

*Polypodium (vulgare) cambricum*, Linn.

Province - 6. Glamorgan; Ray's Synopsis.

Syn. 1374. As being a monstrosity, rather than a variety, this should scarcely be admitted here, except on the ground that it is so usually noticed in a special manner in fern-books, and has formerly passed for a species of itself. *Polypodium vulgare* is found with the pinnæ ranging from quite entire to coarsely serrated or even deeply incised; the *cambricum* form is a further grade of marginal indentation, with the pinnæ irregularly or laciniately pinnatifid. It is now a plant cultivated in Ferneries, but I am not aware of any certain locality for it wild in England. Mr. Newman states that he has received it from Ireland.

*Cystopteris (fragilis) dentata*, Hook.

Provinces 1 - - - 5 6 7 8 9 10 11 12 - - 15 16. As reported.

Syn. 1379. I do not pretend to distinguish this fern clearly from *fragilis*; nor can their localities be satisfactorily apportioned between them. *C. angustata* is even more unsatisfactory. And *C. regia* seems to be truly but another name for the present segregate; except in so far as it may have been applied to the alien *C. alpina*.

*Cystopteris (fragilis) Dickieana*, "Sim." Newm.

Province - 15. Aberdeen; Dickie!

Syn. 1379. Phytol. iv. 716. Bot. Gaz. ii. 310. "This fern is known to botanists from a single locality only, a sea cave near Aberdeen, where it was found by Dr. Dickie;" Newman Hist. ed. 3, page 94. The fern itself is rather an aberrant production or monstrosity than a varietal segregate, much less a true species. I should have small confidence indeed in the botanical judgment and experience of any one who could suppose it to have tenable claim to be held a distinct species. Mr. Newman's figure, in the History, page 93 of edition third, represents a very extreme state of it. (I have seen a corresponding instance, in barren fronds of *Adiantum-nigrum* grown in the corner of a room where the light was dim.) Four wild specimens of the fern are placed in my herbarium, from the Aberdeen locality, and given to me by Professor Dickie himself. Three of these, which make the nearer approximation to Mr. Newman's figure, are entirely barren. The fourth is fertile or sori-bearing, and is at least half way from that figure to the ordinary *fragilis* as represented in the work of Mr. Newman; it might have quite well passed for *dentata*, apart from the dilated barren fronds. Moreover, my garden-grown examples, living and dried, all diverge farther from Newman's figure, than do the three barren fronds given to me by Dr. Dickie from the wild locality. If I were to judge exclusively by the fronds of *Dickieana*, which hitherto have come under my own inspection, I ought to suspect the sori-bearing fragment (represented alongside Newman's figure of the barren state) of being purely a fancy-sketch, a bit from a barren frond made fertile by the pencil of the draughtsman. Mr. Newman will act wisely if he carefully preserve the scrap of frond so represented, in evidence of the truth of his figure. Perhaps a similar tuft of barren fronds could be produced on a plant grown under cover and in dimmed light; but I should despair of ever re-producing a fertile frond of that dilated and overlapping form; is it not a great rarity?

*Cystopteris alpina*, Desv.

Provinces 1 - 3. Essex, supposed to have been planted.

Alien. Cyb. iii. 259. A letter from Mr. Edward Parfitt, of the Exeter Institution, dated in 1869, informed me that *C. alpina* had been "discovered by Miss Caroline Johnson, near Diptford, Totness." Mr. James Britten kindly gave me a frond, taken from a root sold by a Dealer, who had stated that he got it in Westmoreland in 1864.

*Polystichum (lobatum) aculeatum*, Anglor.

Provinces 1 - 3 - 12. And doubtless elsewhere.

Syn. 1383. Cyb. iii. 261—2. Although *aculeatum*, as English botanists usually apply the name, is a more developed form than

*lobatum*, it is conveniently treated here as the variety. Apart from *aculeatum* there is now little confusion between *lobatum* and *angulare* in England; they are easily distinguished from each other, and can scarcely be confused if seen alive, mature, and full lengths; though fragments in the dried state, especially from immature plants, may be difficult. *P. aculeatum*, with a rigid and perfectly evergreen frond like that of *lobatum*, still makes some approximation to *angulare* in the cutting or divisions of the frond, especially of the pinnules; and occasionally, when glued to paper in the herbarium, some specimens of it are not readily distinguished from the latter. Moreover, the name *aculeatum* is used for Smith's *angulare*, by Milde and other continental botanists, as if the two ferns were absolutely identical; although in England we mean by it a different fern, one more closely akin to *lobatum*. The book localities for "*aculeatum*" are divisible among the three; some few really going to *angulare*, more of them belonging to *lobatum*. I have seen no example of true *angulare* from Scotland; nor any which I should call *aculeatum*; but both are included in the Clydesdale Flora, by Mr. Henedy. A root of *lobatum*, brought from Glen Beg, in the Grampian mountains, in 1844, has remained permanently different, by colour and form, as well as manner of growth, from the *aculeatum* of Surrey, growing by it in the garden for a quarter of a century; but I deem them too gradually united by intermediate forms from various localities, to be fairly separable as varietal segregates. Mr. Briggs sent me the *aculeatum* from Cornwall; and I have it from Northumberland, sent by the late Mr. Storey. Briefly, *aculeatum* is that form of *lobatum* which comes nearest to *angulare*; this latter being as distinct from *lobatum*, as an apple-tree is from a pear-tree.

*Lastrea (Filix mas) affinis*, Newm. Hist.

Provinces 1 2 3 - - 7 - - 10 11 12 - - 15. And others?

Syn. 1387. Mr. Newman figures single pinnæ of two extreme forms, to represent this variety and the other which he calls *Borreri*. Two extremes serve well to illustrate the range of variation; but Mr. Newman himself admits the occurrence of "connecting links" between them. In truth, anybody may find almost any number of such links; some of them so evenly midway between the extremes, as to render it optional which varietal name to bestow upon them; — or, more correctly, to render both names alike non-applicable to them.

*Lastrea (Filix mas) Borreri*, Newm. Hist.

Provinces all? See the preceding.

Syn. 1387. The "*Filix mas*" is usually represented by the fronds which in texture and cutting are more or less middle intermediates between this and the preceding extreme.

*Lastrea (Filix mas) abbreviata*, Newm. Hist.

Provinces - 10 11. Ingleborough Hill, York. Teesdale, Durham. Syn. 1387. This fern is not known to me. Newman's beautiful work, the 'History of British Ferns,' is conveniently referred to for the three varieties of *Filix mas*; but it should be mentioned that he has them under the generic name of *Dryopteris*, not that of *Lastrea*. It is curious to note the discrepancies in the generic name adopted for this common fern by our three chief living Authors of British Floras; *Aspidium*, by Bentham, *Nephrodium*, by Hooker, *Lastrea*, by Babington. Of course Mr. Newman must look about for a different generic name, one not so likely to be adopted in books more strictly botanical. So again, in their turn, for the under-mentioned *Lastreas* or *Aspidiums* or *Nephrodiums*, the new name *Lophodium* is invented. Great as have been the services of Mr. Newman, in elucidating our British Ferns, he has gone far towards outbalancing them, by the great dis-service of adding a number of new and needless names to our super-abundant supply.

*Lastrea (cristata) uliginosa*, Newm. Hist.

Provinces - - 3 4 - - - 8 9. [15. Kincardine, erroneously.] Syn. 1389. Cyb. iii. 269. See page 455, for some remarks on this fern. Approximates to *spinulosa* in its cutting.

*Lastrea (dilatata) glandulosa*, Newm. Hist.

Provinces - - 3 - 5. Essex. Gloucester. [10. York]. Syn. 1391. This stands between *dilatata* and *spinulosa*, not satisfactorily assignable to either by the dried specimens alone, and I have not seen the plant alive. As in the case of *uliginosa*, it presents the difficulty of an intermediate form, the dried fronds of which might be united with either, or made into a species not clearly distinguished from either. *L. dilatata* has been sent to me labelled "*glandulosa*" by a good botanist; I do not know that any one ever so labelled an example of *spinulosa*.

*Lastrea (dilatata) collina*, Newm. Hist.

Provinces - 10 - 12. York. Westmoreland. Syn. 1391. A variety known to me by description only.

*Lastrea (dilatata) nana*, Newm. Hist.

Provinces - 2 3 - - - 7 8 9 10 - 12 - - 15. Syn. 1391. This is the *Aspidium dumetorum* of Smith, as explained on page 456. But the name may be intended also to cover a wider range of form than Smith's *dumetorum*; for Mr. Newman states that his *nana* is found in the woods of Sussex and Kent. Of late years, I have sought and collected fern roots numerously in Surrey and the adjacent portions of Sussex and Hampshire, but have never met with anything at all corresponding with Newman's figure of *nana* (originally given for *dumetorum*) or

with my half dozen fronds of Derbyshire *dumetorum*, mentioned on page 456 of this volume.

*Pseudathyrium (alpestre) flexile*, Newm. Hist. ed. 3, p. 203. Province - 15. Mid Perth. Forfarshire; Mr. Backhouse! Syn. 1393. Rather a puzzling fern. Mr. Newman has omitted to tell us in the work quoted, by what special characters it is to be distinguished from *P. alpestre*. His figure appears to represent a fern in an abnormal state, a sort of monstrosity, as are so many other strange aberrations of ferns now in cultivation. Of course, we accept the figure as the portrait of an individual, selected for its least likeness to *alpestre*. Let us illustrate this mode of making or figuring species, by a fancy counterpart. If a Zoologist should wish to make two species-on-paper out of *Canis familiaris*, he might draw a portrait of a strong and shaggy Newfoundland Dog, and then put in contrast a portrait of the slimmest of Italian Greyhounds. No doubt the two figures would make very good species-on-paper, if taken by themselves, with all intermediate forms left conveniently out of sight and description. Doubtless, a truth-seeker in their localities would easily make out the species to which *flexile* really belongs. The new generic name *Pseudathyrium* is used in my books because it so aptly expresses the affinity of this *Polypodium* with *Athyrium Filix-femina*.

*Athyrium (Filix femina) rhaticum*, Roth.

Provinces all? But authorities not clear.

Syn. 1394. A characteristic figure of this, the "smaller form" of *Filix-femina*, was given on page 63 of the first edition of Newman's History, repeated on page 207 of the third edition. It includes the *molle*, *convexum*, and *irriguum*, as figured in editions second and third. Judging by the examples in my herbarium, supported by more local observation of late years, in Surrey and adjacent counties, this is much the commoner form or sub-species.

*Athyrium (Filix femina) incisum*, Newm. Hist.

Provinces all? General; Newman History.

Syn. 1394. This is distinguished from the other form or sub-species by its larger size, more upright growth, more compound frond, thicker and more scaly stipes, pinnæ usually commencing abruptly far up the stipes, not extended in a gradually decreasing size almost to its base, and by the less numerous fronds, which are not produced in such continued succession through the summer, as on the smaller form. In the garden, and in the wilds where it can grow clear from other herbage, the indicated characters are well marked; but when the *rhaticum* has to push through other herbage, its lower shortened pinnæ are few or absent. I incline much to believe in two fairly distinct "sub-species," as here explained. In the other named forms (all



belonging to *rheticum*?) I can see only varieties, variations, aberrations.

*Athyrium (Filix fœmina) ovatum*, Newm. Phytol.

Province - 12. Keswick, Cumberland. Extinct there?

Syn. 1394. Cyb. iii. 273—4. Phytol. iv. 369 & 646. The variety *latifolium* of Babington and other describers.

*Phegopteris plumosa*, J. Smith.

Province - 10. Yorkshire, a single plant?

Syn. 1394. A curious aberration of *Filix fœmina*, at first sight suggesting the subgenus *Allantodea*, rather than *Athyrium*.

*Asplenium fontanum*, Presl.

Provinces - 2 3 - - 7 8 - 10 11 12 - - 15.

Ambiguity. Alien or Errors? Cyb. iii. 275 & 520. Reported from the counties of Dorset, Hants, Kent, Surrey, Bucks, Merioneth, Derby, York, Northumberland, Westmoreland, Cumberland, and Kincardine. All or nearly all these dozen counties become inadmissible when critically inquired into. In addition to the references given in the Cybele Britannica, two other locality-claims have been put forth in the Manual of British Botany, namely "Ashford, Hants," and "Northumberland." Does the former of these intend the locality of or near "Ashfield Lodge," as reported in the Phytologist for 1852, with Mr. W. H. Hawker's testimony to the fern being "truly a native of the locality"? If so, its nativity there is ill sustained by the following extract from a letter written by a celebrated Pteridologist, in November, 1853; namely, "A correspondence with the Rev. W. Hawker fixes the Hants habitat of *fontanum* on 'the inside wall of a garden.'" The wide habitat of "Northumberland" is not accepted by the Authors of the New Flora of Northumberland and Durham, dated in 1868. It is to be feared that "*Asplenium fontanum*" ought still to go to the category of *errors*.

*Asplenium (Trichomanes) anceps*, Lowe.

Provinces - - 3 - 15. And very likely in others between.

Syn. 1396. Cyb. iii. 277. This is a large state, rather than a distinctly different variety of *Trichomanes*. As found on the hedgebanks, in some of the lanes in South-west Surrey, it closely resembles the *anceps* of Madeira and the Azore Isles.

*Asplenium (Adiantum nigrum) productum*, Lowe.

Provinces - - 3 - ? Surrey! Stratford-on-Avon?

Syn. 1399. A very elongate form of the species, but traceable through transition links into the more usual form. I have not seen English examples so slenderly divided as the *acutum* of Ireland, figured in Newman's History. My longest English example measures about twenty inches, stipes all included; its lowest pinna exceeding four inches; all the pinnæ being much

produced at their tips. On placing together a number of specimens from Spain, Italy, Madeira, Canaries, and Azores, they appear entirely to connect the extreme *acutum*, through *Virgilii* and *productum*, with our English *Adiantum nigrum*; it being impossible to find any decided line or place of severance. Even the figure of the Irish *acutum*, in Newman's History, has not quite the extreme of fineness or slenderness in subdivision of the frond; a Spanish example, brought from Castille by Mr. John Ball, being even more finely divided.

*Trichomanes radicans*, Sw.

Provinces - 7 - 10 - 16. Extinct? 7—16. Planted? Ambiguity. Cyb. iii. 287. Carnarvon; a Guide. York; Dr. Richardson, in Ray's Synopsis. Arran; Mr. George Combe. Argyle; Mr. Young. "A very questionable native"; Clydesdale Flora.

*Botrychium rutaceum*, Swartz. Newman.

Provinces - 12 - 15. Westmoreland? Forfar? Ambiguity. Three examples of *Botrychium*, all irregular in form, were found by Mr. Cruickshank, on the sands of Barry, near Dundee, in 1839; a locality where the *Lunaria* is said to be frequent. These were referred by Mr. Newman with confidence to *rutaceum*. Three species of *Botrychium* have been recorded heretofore as British; appearing in Gray's Arrangement under the names of *lunatum*, *rutaceum*, and *matricarioides*. The first of these three intended *Lunaria*. Ray had put together the two last, apparently as a second species, found in Westmoreland. Probability leans to the side of *B. rutaceum* being actually a British fern, but confirmation is needed.

*Onoclea sensibilis*, Linn.

Provinces - 9 10 - 12. Warrington. North York. Lake Lanc. Planted Alien. Phytol. i. 492. Aiton in Jopling's C. & F.

## 88. LYCOPODIACEÆ.

*Lycopodium complanatum*, Linn.

Provinces - 2 - - 5. Near Bramshot, Hants? Worcestershire? Error? Bab. man. ed. 6, p. 445. Leefe msc.

*Lycopodium helveticum*, Linn. Selaginella helvetica.

Provinces 1 - 3. Mendip, Somerset. Middlesex? Error. Cyb. iii. 298. Phytologist iv. 384. Correspondence of Linneus and other Naturalists ii. 134.

*Isoetes (lacustris) echinospora*, Dur.

Provinces - 7 15 16. Carn. Kinc. Dumb. Elsewhere? Syn. 1418. Bab. Man. ed. v. & vi. Journal of Botany i. 3.

## 90. EQUISETACEÆ.

*Equisetum (limosum) fluviatile*, Linn. (not of Smith).

Provinces all? But not all actually certified.

Syn. 1425. Cyb. iii. 307. The name *fluviatile* has been used in various books for the species subsequently known as *Telmateia*, and quite recently among us re-named *maximum*. It has also been used for the branched state of *E. limosum*, as here intended. It has likewise been supposed to stand for some third species, distinct from both of those here mentioned; but that third species seems to be only a book supposition.

*Equisetum trachyodon*, A. Braun. *E. Mackaii*, Newm.

Province - 15. Den of Airly. Dee river, Aberdeenshire.

Ambiguity. Phytol. i. 174 & 376. No specimens of this plant having come under my own inspection, it was left out of the Synopsis, in accordance with the rule stated on page 64. If I could have felt satisfied about the reality of the species, from reading the book descriptions of it, adherence to the strict rule might have been waived in the case of an *Equisetum* adopted as a species equally by Newman and Babington.

*Equisetum (variegatum) Wilsoni*, Newm.

Province - 15. By the Dee, Aberdeen or Kincardine.

Syn. 1428. "Probably a large form" of *E. variegatum*; Bab. Man. The *E. arenarium* is an opposite form, small and prostrate or procumbent.

## V. NOTES AND CORRECTIONS.

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This volume has been printed in three separated Parts, dated in 1868, 1869, 1870; the several Parts having been written chiefly in the years preceding those dates. Some additional information has been obtained during the years named. The Clydesdale Flora, by Roger Henneidy, a well written and apparently a very reliable work, remained entirely unknown to me, while writing the First and Second Parts. And as my information about the botany of the western provinces of Scotland was incomplete, mostly old, and not quite reliable in many cases, the Clydesdale Flora has been since found a most useful acquisition. The Second Edition, dated in 1869, the one quoted from in the following pages, enables me to add provinces 13 or 16 to the areas of various plants, which before had not been ascertained to occur in the West Lowland or West Highland provinces; two of those in regard to which our floral lists might be deemed least completed. And I have been usefully aided in like manner for the same provinces by manuscript notes kindly sent by Mr. Galt of Glasgow.

Mr. Archer Briggs, a resident of Plymouth, has kindly communicated various acceptable facts about the plants of the Peninsula, and the extension into Cornwall of some species not before ascertained for that most westerly county of England. And Mr. A. G. More has also most obligingly gone over the two Parts, in order to test the accuracy of the usual citation of "Wight" in the series of southern counties; pointing out some needed corrections, which his own more thorough knowledge of the island botany enabled him to make.

Those four sources, with the Annual Reports of the Exchange Club, and other Contributions to the Journal of Botany, supply most of the added facts in the following pages, which lead to alterations in the provincial areas, and in the southern or northern counties, as before indicated for the plants treated in the 'Synopsis of Species' on pages 79—420.

Eventually, and perhaps already to some extent, there will doubtless be most need of corrections in the "Additional List" as printed on pages 473—605. Corrections of that List will be the gradual work of many botanical observers, spread over many years to come. As given on preceding pages, that very miscellaneous list will be found an useful summary towards shewing what is already known or recorded about the plants and their places, and through the references introduced it will usually direct readers to other sources for more ample information than could be conveyed here in the abbreviated forms used.

1. *Clematis Vitalba*, Linn. Localities in East Cornwall are reported by Mr. Archer Briggs.

9. *Adonis autumnalis*, Linn. I believe this is as wild and as well established in the Isle of Wight, as in any part of England; A. G. More, msc.

11. *Ranunculus trichophyllus*, Chaix. Province 16. "This is the only form of the old *R. aquatilis* growing in the Island of Cumbrae"; W. Galt, msc. Cumbrae, Bute, and Arran; Clydesdale Flora.

11. *Ranunculus fluitans*, Lam. The authority for the specific name is misprinted 'Linn.'

12. *Ranunculus Lenormandi*, Schultz. Province 16. Island of Cumbrae; W. Galt, msc.

14. *Ranunculus Ficaria*, Linn. Province 16. Cumbrae; W. Galt, msc. Very common; Clydesdale Flora.

38. *Nuphar pumila*, DC. "Mr. Wilson informs me that this is growing at Oulton. If so, province 9 must be added. I have a specimen from Shropshire"; J. F. Robinson, msc. But see page 478, for doubts about this plant.

58. *Coronopus Ruellii*, Gaertn. Province 16. Cumbrae; W. Galt, msc.

75. *Draba aizoides*, Linn. Mr. T. B. Flower's inquiries elicited an assurance that the report of this having been found in Somerset is incorrect.

98. *Nasturtium officinale*, Brown. Found in Shetland; A. C. Christie.

101. *Nasturtium amphibium*, Brown. The county of Lanark is very doubtful. Though recorded by Hopkirk "on the banks of the Clyde, frequent," Mr. Hennedy has not been able to find this plant there. Does it really occur in Dumfries-shire, as reported?

106. *Erysimum cheiranthoides*, Linn. This has been introduced in the neighbourhood of Frodsham, Cheshire, with agricultural seeds, and is now well established as a Colonist there, in province 9; J. F. Robinson, msc.

120. *Sinapis tenuifolia*, Brown. Isle of Wight, in 1869; F. Stratton. Must have been recently introduced, at the building of the Forts; A. G. More, msc.

125. *Reseda lutea*, Linn. Province 15. Possibly native in the county of Fife.

135. *Viola canina*, Bab. Man. Provinces 13 - - 16. Cathkin hills, in Lanarkshire; Gourock hills, in Renfrewshire; W. Galt, msc. Cumbrae; Ditto.

136. *Viola Curtisii*, "Bab. Man." Provinces 13 - - 16. Ayrshire coast, from Largs to Ardrossan; Cumbrae; W. Galt, msc.

145. *Dianthus prolifer*, Linn. Province [1. South Devon; Ravenshaw's Flora of Devon.]

150. *Dianthus deltoides*, Linn. "I should exclude it altogether from the Isle of Wight list, until it can be shown thoroughly established at some distance from cultivation; until then I do not think it deserves even the (Wight)"; A. G. More, msc.

182. *Arenaria trinervia*, Linn. Province 16 to be added. Common; Clydesdale Flora.

183. *Holosteum umbellatum*, Linn. [Province 16.] Hills at Bowling; Clydesdale Flora. This is a record which can hardly be accepted, unless on very special testimony to its accuracy; and no sort of remark or explanation is added in the excellent Flora quoted.

127. *Radiola millegrana*, Smith. Province 14 not to be excepted. A locality for the East Lowlands is given in Dr. Johnston's 'Natural History of the Eastern Borders.' In the Flora of Berwick, by the same Author, the locality of Ancroft moor, in Cheviotland, is given on page 43; a locality and plant apparently overlooked by the Authors of the 'New Flora of

Northumberland and Durham.' The plant would seem to be very rare in provinces 11 and 14, but not wholly absent from either.

210. *Lavatera arborea*, Linn. Provinces 13 - - (16). "Considered native on Ailsa Craig. Occurring as an outcast of gardens in Cumbrae, Bute, and Arran"; Clydesdale Flora.

215. *Hypericum perforatum*, Linn. Province 16. Cumbrae; W. Galt, msc. Arran; Clydesdale Flora.

233. *Geranium rotundifolium*, Linn. In East Cornwall; T. R. Archer Briggs!

240. *Geranium sanguineum*, Linn. The two names "Wight, Kent" have been mis-printed by repetition from the preceding species; the southern counties ought to have run "Cornwall, Dorset, Essex."

247. *Rhamnus Frangula*, Linn. Province 17 is indicated; but the northern county "Ross" is omitted from the next line.

255. *Ononis spinosa*, Linn. Say "Sussex" instead of "Wight" for south range. "Look to Bromfield's latest remarks, in the Phytologist iii. 278, where it is shown that he was only latterly acquainted with the right plant. I could never find *spinosa* in the Isle of Wight, and am even not quite satisfied as to South Hants"; A. G. More, msc.

266. *Trifolium ornithopodioides*, Linn. Stated to occur in Madeira, but the reference is not at hand.

292. *Arthrolobium ebracteatum*, DC. Correct the reference to Phytologist, which should be page 386, not 366.

298. *Vicia angustifolia*, Auct. Province 16 to be added, on authority of the Clydesdale Flora.

300. *Vicia lutea*, Linn. Encluse (Wight). Mr. A. G. More thinks there may have been some mistake about this in the Isle of Wight, unless simply as an introduced plant.

310\*. *Lathyrus tuberosus*, Linn. Add a reference to the Journal of Botany, no. 70, p. 319.

332. *Potentilla procumbens*, Auct. Province 16 to be added, on authority of the Clydesdale Flora.

332. *Potentilla Fragariastrum*, Ehrh. In the Clydesdale Flora this is indicated as "very common"; which may warrant the addition of province 16, and thus complete the series.

338. *Rubus saxatilis*, Linn. Province 1. Devon; Archer Briggs! The Cornish locality, recorded on the single and somewhat unsafe authority of the late Mr. Bree, may now be regarded with less distrust.

340\*. *Rubus corylifolius*, Sm. "Very common"; Clydesdale Flora. This may warrant the addition of province 16.

343. *Rosa Sabini*, Woods. Geneva, France, Belgium; Journal of Botany, viii. 161.

344. *Rosa mollissima*. Enclose the [Isle of Wight; A. G. More]. Mr. More deems the Vectian rose a form of *tomentosa*, not rightly placed under this *villosa* aggregate.

345. *Rosa tomentosa*, Sm. Add the Isle of Wight, in the south line, as above. Cornwall; Archer Briggs!

362. *Pyrus communis*, Linn. "This might have 'Wight' mentioned in the southern line. Though I believe it not aboriginal in the Isle; still, it is probably not less wild there than in other parts of South England. By omitting 'Wight' it seems as if the plant were not known in the island"; A. G. More, msc.

364. *Pyrus torminalis*, Ehrh. Province 9. Delamere Forest, truly wild; J. F. Robinson, msc.

371. *Epilobium roseum*, Schreb. Not wild in the Isle of Wight. It occurs in South Hants and Sussex.

374. *Epilobium alpinum*, Linn. Province 12 certainly. Gathered on Cross-fell, Cumberland, by the Rev. Frederic Addison; this hill being politically in the county named, although more properly belonging to the chain of hills mostly included in province 11. The base of the flowering stem being absent from Mr. Addison's specimen, it is impossible to say confidently to which segregate of *alpinum* the specimen belongs.

374\*. *Epilobium alsinifolium*, Vill. Province 18. Reported for Shetland by Mr. A. C. Christie.

378. *Circæa alpina*, Linn. Supposed to have been really found in Warwickshire, but as an escape from the garden of Mr. Boulby.

381. *Myriophyllum spicatum*, Linn. "Carnarvon" is purely a mis-print for "Cornwall"; a substitution which escaped detection in correcting the proof.

384. *Callitriche platycarpa*, Kutz. Mentioned in the Journal of Botany, v. 348, as *C. stagnalis*, Scop.

436. *Parnassia palustris*, Linn. Dorset is correct; the plant having been found there by Mr. Mansel, in 1868.

449. *Cicuta virosa*, Linn. The "?" should be affixed to "Dorset" also; the existence of the plant in that county requires verification. Sussex is probably correct; but *Oenanthe fluvialis* has been occasionally mislabelled *Cicuta*.



459. *Carum verticillatum*, Koch. A mis-print “]” seems to throw doubt on province 16 for this plant.

470. *Ēnanthe fistulosa*, Linn. Provinces 13 and 16 require verification. *Lachenalii*, ill understood when the ‘Flora Glottiana’ was written, may have then been misnamed *fistulosa*.

475. *Æthusa Cynapium*, Linn. Province 16 to be added. Cumbrae; Clydesdale Flora.

477. *Seseli Libanotis*, Koch. The authority for the name has been inadvertently written “Linn.” The plant is *Athamanta Libanotis* of Linneus.

511. *Linnæa borealis*, Gronov. A similar error here. Berwickshire; Johnston’s Natural History of the Eastern Borders.

537. *Valerianella dentata*, Koch. Province 16 also. Londesborough’s locality in Arran, road to Loch Ranza, is correct; W. Galt, msc.

604. *Carduus pratensis*, Huds. Erase the words “Humber between 150—400 yards”; they related to *heterophyllus*, and were accidentally misplaced to *pratensis*.

612. *Centaurea Cyanus*, Linn. Province (16) to be added. Cumbrae; Clydesdale Flora. This is one of the instances where it becomes almost optional whether to designate the plant a Colonist, or to regard it as a Casual only, in the northern provinces.

630. *Gnaphalium sylvaticum*, Linn. Isle of Wight very uncertain. “I should think rather a mistake of the plant. I do not think it ever was gathered in the Isle of Wight”; A. G. More.

630\*. *Gnaphalium norvegicum*, Gunn. Perth; Eng. Bot. 3.

641\*. *Aster salignus*, Willd. Province 11. “*Aster salicifolius*, D. I have found this American growing by the Tweed-side opposite Fishwick-mains; and I have been told that it has almost naturalised itself in Hirsell woods on the Leet”; Johnston’s Eastern Borders, page 102. See also page 533 of this volume.

667. *Anthemis nobilis*, Linn. Perhaps ought to be accepted as a native in province 16. Mr. Galt writes, “Formerly of frequent occurrence in Cumbrae; still got though much rarer, having been mostly dug up and transplanted into gardens.” See also the Clydesdale Flora.

694. *Erica vagans*, Linn. Province [11]. New Flora of Northumberland and Durham, page 207.

705. *Vaccinium Vitis-Idæa*, Linn. Shetland; A. Craig Christie. Not unlikely, but I am unprepared to say what reliance can be placed on the additional plants of Shetland reported under that gentleman’s name, which was otherwise unknown to me.

706. *Vaccinium Oxycoccus*, Linn. Isle of Wight. "Plentiful in one locality, where Bromfield and Salter both gathered it"; A. G. More, msc.

716. *Vinca minor*, Linn. Mr. Robinson writes, "without a doubt truly wild in Appleton Dingle, Cheshire."

728. *Polemonium cæruleum*, Linn. Insert (9). "I have found this in Cheshire, but must confess it generally looks suspicious"; J. F. Robinson, msc.

768. *Melampyrum cristatum*, Linn. Truly native in provinces 3 and 4, not a colonist, according to the Rev. W. W. Newbould.

790. *Orobanche rapum*, Thuil. "I take this to be *O. major* of Linneus, who states that it is parasitic especially on *Leguminosæ*, and quotes for it the *Rapum genistæ* of Lobel"; Student's Flora, page 275.

791. *Orobanche "lucorum."* Mr. Borrer appears to have been correct in referring the Surrey plant, thus named, to *elatior*, instead of to *caryophyllacea*. Cyb. Brit. iii. 475.

807. *Mentha sativa*, Linn. Isle of Wight, in two localities. "At Yar Bridge it seems quite wild enough; and Mr. Hambrough considers the other locality satisfactory; so I believe it may very well pass as a native"; A. G. More, msc.

846. *Scutellaria minor*, Linn. It occurs in the Peninsula of India; Dr. Hooker, C. B.

854. *Myosotis versicolor*, Lehm. By an unlucky misprint at the top of page 280 the specific name *palustris* has been substituted for that of *versicolor*. It should be corrected by the pen; the unsightly look being less objectionable than the misleading error of press.

868. *Pulmonaria angustifolia*, Linn. Reported to occur also in Somerset, but until specimens can be certified by some critical botanist, the province of the Peninsula [1] must remain within the distrusted enclosure.

888. *Lysimachia nummularia*, Linn. This is found in Stirlingshire by Mr. Galt, well established or perhaps indigenous.

892. *Centunculus minimus*, Linn. The county of Aberdeen may be substituted for that of Kincardine, in the north limit.

906. *Littorella lacustris*, Linn. Said to occur in Canada. It is curious to see the order *Plantaginaceæ* placed between, and thus separating, the closely allied *Solanaceæ* and *Scrophulariaceæ*, in 'The Student's Flora.'

940. *Polygonum Raii*, Bab. Province 10 to be inserted. Found in Yorkshire, in 1867, by Mr. T. J. Foggitt.

945. *Rumex pratensis*, M. & K. Province 14 to be added for this very unsatisfactory species.

958. *Asarum europæum*, Linn. Bucks and Berks to be added as counties for this plant, with Oxford more dubiously. See Journal of Botany, vol. viii. pp. 84 & 161.

1011. *Salix aurita*, Linn. Accidentally omitted at the top of page 316, this is given on page 561 instead.

1030, b. *Juniperus nana*, Willd. Erase the "0" after Ireland. This does occur in several stations in Ireland, and is mentioned under *vulgaris* in the Cybele Hibernica.

1038. *Listera ovata*, Brown. Isle of Wight, common; A. G. More, msc.

1041. *Cephalanthera grandiflora*, Bab. It has really occurred in the Isle of Wight, and may not be extinct there; A. G. More, msc.

1078. *Fritillaria Meleagris*, Linn. Province 1 should perhaps escape from the enclosure. Mr. Flower writes to me, "This plant grows in some plenty in Philips Norton, Somerset, where it has been observed 'for ages' and considered truly wild."

1082. *Allium oleraceum*, Linn. Isle of Wight; A. G. More, msc.

1087. *Gagea lutea*, Kerr. Sussex; E. B. 3.

1088. *Ornithogalum pyrenaicum*, Linn. Province 5. Gloucestershire, according to English Botany, third edition.

1094. *Muscari racemosum*, Mill. Province (1). The name is included in a list of Somerset plants, compiled by Mr. Flower, in 1869.

1096. *Asparagus officinalis*, Linn. The wild prostrate form is alleged to have been found in Dorset, in 1869.

1102. *Polygonatum officinale*, All. Dorset; E. B. 3.

1126. *Potamogeton lucens*, Linn. Never found by me in the Isle of Wight; and I fear a mistake, as I know the supposed locality quite well; A. G. More, msc.

1139. *Lemna gibba*, Linn. Province 13 to be added. Forth and Clyde canal; Clydesdale Flora.

1141\*. *Wolffia arhiza*, Wimm. As yet, known only in province 3. The county of "Hants," in province 2, was an error for "Kent," through misreading the name in a letter penned in a very small handwriting.

1146. *Sparganium ramosum*, Huds. Northward to Shetland; A. C. Christie.

1152. *Juncus glaucus*, Sibth. Province 16 to be added. Cumbrae and Arran; Clydesdale Flora.

1158. *Juncus obtusiflorus*, Ehrh. Northward to Renfrew, according to the Clydesdale Flora.

1159. *Juncus supinus*, Moench. A misprint of "S.E. Lowlands?" which intended "S.W. Lowlands?"

1164. *Juncus castaneus*, Linn. Perhaps the county of Dumbarton, not that of Argyle. See Eng. Bot. ed. 3.

1165. *Juncus trifidus*, Linn. Province 18. This occurs in Shetland, according to Mr. A. C. Christie. (See *Vaccinium Vitis-Idæa* on page 611.)

1174. *Luzula arcuata*, Hook. At 3000 feet in East Inverness, according to Dr. White.

1175. *Luzula spicata*, DC. This occurs in Shetland, according to Mr. A. C. Christie.

1181. *Rhyncospora fusca*, Sm. Found in Hampshire, mainland, according to English Botany, edition third.

1182. *Blysmus compressus*, Panz. In Edinburgh and Renfrew, according to Eng. Bot. ed. 3; the latter county being to the northward of Ayr. *B. rufus* is occasionally thus mis-named.

1197. *Scirpus acicularis*, Linn. Province 16 to be added; and perhaps also 18. Arran; Clydesdale Flora. Shetland; A. Craig Christie.

1204. *Carex dioica*, Linn. "Shapwick Moors, Glastonbury"; T. B. Flower, msc. So far Province 1 is confirmed.

1208. *Carex incurva*, Lightf. Province 11. The no. of this province is accidentally omitted, although a locality in it "Holy Isle" is named in the succeeding line.

1216. *Carex Boenninghausiana*, Willd. Wight! Parsonage Lynch, the only locality I know for it in the Isle of Wight; A. G. More, sp.

1223\*. *Carex paradoxa*, Willd. Province 4. County of Norfolk; Bab. Man.

1280. *Alopecurus fulvus*, Sm. Province 9. Chester; C. Bailey! N.B. The name of *agrestis* has been used inadvertently, instead of *geniculatus*, in the last line of page 383.

1286. *Polypogon monspeliensis*, Desf. Isle of Wight; F. Stratton. Must have been recently introduced, at the building of the forts; A. G. More.

1307. *Avena fatua*, Linn. Province (13). "Very rare. . . . Near Uddingston"; Clydesdale Flora.

1311. *Avena flavescens*, Linn. Provinces 13 and 16. "Very rare. Below Fairlie, on the sandy pastures; Island of Arran; sometimes introduced with seeds"; Clydesdale Flora.

1341\*. *Festuca Pseudo-Myurus*, Soy. Occurs in the Isle of Wight, according to Mr. A. G. More.

1359. *Triticum caninum*, Huds. Enclose [Wight]. I believe not growing in the Isle, as neither Dr. Salter nor I could find it; A. G. More, msc.

1381. *Cystopteris montana*, Link. In Canada; The Journal of Botany, for 1870, page 129.

1384. *Polystichum angulare*, Newm. Provinces 13 and 16, by the records. "Woods at Skelmorlie, very plentiful; several glens below and towards Largs; Cumbrae and Arran"; Clydesdale Flora.

1387. *Lastrea Filix-mas*, Presl. This fern is alleged to grow in Canada; but it is not admitted by Dr. Gray into the flora of the Northern States.

1389. *Lastrea cristata*, Presl. Province 13. "On the edge of a loch beyond Crofthead, parish of Neilston, Renfrewshire; first discovered by Dr. Walker Arnott and Mr. Clark, Curator of the Glasgow Botanic Gardens"; W. Galt, msc. and spec.

1412. *Lycopodium clavatum*, Linn. On St. Boniface Down, in the Isle of Wight; A. G. More, msc.

# CYBELE BRITANNICA.

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THE publication of this present *Compendium*, as a condensed reprint of the first three volumes of the original work, corrected to the more advanced knowledge of its subject in 1867—1869 (the years in which the three successively printed Parts were chiefly written), must largely supersede the scientific usefulness of the original work. Unless for its fourth volume, the larger edition of the *Cybele Britannica* can no longer be deemed a work necessary to those botanists who concern themselves with the geographical or topographical connexions of British Plants. The time has now come when the general tendency to cheapen books can be met without injustice to those persons who purchased the four volumes, or any of them singly, from the Publishers at their price of ten shillings a volume.

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