Jno. C. Collins
1836

REMARKS

ON THE

GEOGRAPHICAL DISTRIBUTION

OF

BRITISH PLANTS;

CHIEFLY IN CONNECTION WITH

LATITUDE, ELEVATION, AND CLIMATE.

BY

HEWETT COTTRELL WATSON.

"Preferring the connection of facts, which have been long observed, to the knowledge of insulated facts, although they were new, the discovery of an unknown genus seemed to me far less interesting than an observation on the geographical relations of the vegetable world." HUMBOLDT. — *Personal Narrative.*

LONDON:

PRINTED FOR

LONGMAN, REES, ORME, BROWN, GREEN, AND LONGMAN,

PATERNOSTER-ROW.

1835.

LONDON:
Printed by A. SPOTTISWOODE,
New-Street-Square.

TO

ROBERT GRAHAM, M.D.

REGIUS PROFESSOR OF BOTANY IN THE UNIVERSITY
OF EDINBURGH,

THIS LITTLE WORK

IS RESPECTFULLY DEDICATED,

IN GRATEFUL ACKNOWLEDGEMENT OF VALUABLE INSTRUCTION,

BY

HIS FORMER PUPIL,

THE AUTHOR.

PREFACE.

At the end of the year 1832, a small work, under the title of "*Outlines of the Geographical Distribution of British Plants*," was privately circulated, in the hope of obtaining such communications from others, as would facilitate the preparation of a more extended and more accurate work on the same subject. This expectation has been partly fulfilled, though not to the whole extent hoped for. The proposed work was commenced; but it very soon became evident, that, in order to complete such a work on the scale intended, several years would be required, and (what was more alarming) many volumes be filled. The attempt was in consequence abandoned; and the substitution of a small series of separate works, on a much more humble scale, has been decided upon. The following essay is one of these, and contains such general and preliminary remarks, lists and tables, as seem requisite to direct the attention of observers towards those points, connected with the subject of vegetable distribution, both as to facts and causes, which appear to demand their first notice; a tolerable

acquaintance with the *wild plants* of Britain being necessarily presumed in the reader. A second work, including details of localities for the less common species, has been recently published under name of the "*New Botanist's Guide.*" A third will embrace the particular distribution of species, considered individually, and the conditions or causes on which such may appear to depend. This must be founded essentially on the two former, with all additions and corrections that can be obtained. When a knowledge of the actual distribution of plants in Britain shall be sufficiently advanced for distinguishing the true from the false stations, and determining the comparative limits of species, a fourth work may appear, devoted to general summaries, plans, maps, and enlarged tables. This explanation is given, in consequence of the author feeling in some measure pledged to proceed with the work or works, for which he has requested and received the aid of other persons.

The title of REMARKS chosen for the present volume is to be taken quite literally. To fix on and form the first rude line of road over a trackless waste, is often a much more laborious undertaking than the subsequent repair and improvement of it; and, although such title is intended as a confession that the present sketch is by no means complete, it has required more time and patience, particularly in constructing the tables, than will be supposed by many persons who may now find a facile task in correcting

and improving it. Should close critics hunt out imperfections or omissions, the writer must be content to ask whether some counterbalance may not also be found. Very few years ago, he would have gladly welcomed this little book, from any other source, as a foundation for his own studies and investigations; nor is he without hope, that the *junior* botanists of Britain will find a perusal of it add to the extent, and also to the exactness, of their ideas on the department treated of. Such additions may not, indeed, be of much worth or direct utility; but, to borrow the words of a well-known writer and celebrated man, "there is something positively agreeable to all men, to all at least whose nature is not most grovelling and base, in gaining knowledge for its own sake."

To the friends who have assisted him by their suggestions, notes, specimens, or other means, the author begs to return his sincere thanks. Most of such communications are necessarily merged in a general sketch, like the present; but they will be seen, either in the *New Botanist's Guide*, or in the intended work on the distribution of species, both before mentioned. There are few or none of the botanists of Britain, however young in the study, who have not the opportunity of affording some assistance to one investigating the distribution of plants, and desirous of determining the laws which regulate it; indeed it is to the *young* that he chiefly looks for co-operation. Many have shown themselves willing as well as able to do this,

and hence it may not be unavailing to specify certain points on which information is desired.

1. Altitudes of hills, lakes, and fixed objects.

2. Information on the climate of places, particularly with reference to the temperature and humidity.

3. Dates of the first flowering of any of the following *wild* plants, if carefully noted: —

Corylus Avellana	Ranunculus Ficaria
Prunus spinosa	Viola canina
Cratægus Oxyacantha	Oxalis Acetosella
Rosa canina	Veronica Chamædrys
Lonicera Periclymenum	Hyacinthus non-scriptus
Ulex nanus	Arum maculatum
Hedera Helix	Cardamine pratensis
Erica Tetralix	Lotus corniculatus
—— cinerea	Vicia Cracca
Calluna vulgaris	Digitalis purpurea
Cytisus scoparius	Linaria vulgaris
Ilex Aquifolium	Senecio Jacobæa.

4. The highest or lowest places at which any species has been observed, whether in absolute height, in comparison with the appearance or cessation of other species, or in relation to the parts of particular mountains, as at the base, middle, or summit; provided such heights are not considerably within the limits assigned to the particular species in the present work.

5. Unpublished, or *recently confirmed* localities for the less common species; as also, localities near the

boundary-lines of such as are not spread over the whole island.

6. Actual specimens in confirmation of the localities, heights, &c. will be most welcome, and be preserved in the view of making them public evidence hereafter. The name of the *donor*, and that of the *county*, should INVARIABLY be written on the ticket accompanying each specimen. Also, the name of the person supposed to have gathered the specimen, if not the donor himself. Neglect of this renders the specimens of little value.

7. Notices of changes in the habits or characters of plants, in connection with differences of situation and season.

8. Information as to the success attending attempts to cultivate plants of milder or warmer climates, without the aid of artificial heat. Also, notices of the influence of elevation on the produce of fields and gardens.

9. Any corrections or amendments relating to the contents of this volume, as well as criticisms and suggestions for improvement, will be received with pleasure by the author, if allowed to make them public in case it should appear desirable to do so.

If this page chance to meet the eyes of any foreign botanist wishing to exchange the plants of his own country for those of Britain, the author will be happy to meet his wishes on receiving a letter intimating such. Foreign specimens of British species will be as welcome to the author, as specimens of those which are not found in Britain.

Ditton Marsh, Surrey, Nov. 1835.

CONTENTS.

APPENDIX.

REFERENCE TO THE PRINCIPAL TABLES AND LISTS.

Relating to Elevation.

Relating to Temperature.

Relating to Rain.

Relating to the Number of British Plants.

Relating to the Distribution of British Plants.

Relating to Nomenclature and Classification.

CORRECTIONS, &c.

Page 17, line 3, from the bottom, *for* Knight *read* M'Knight.

45, *for* 305 *read* 303.

47, line 10, from the bottom, *for* auricornus *read* auricomus.

54, line 2, *for* Sketch *read* Essay.

56. There has been a mistake in setting the types for the Table at the top of the page. The "Low" and "High Grounds" ought to have been represented as meeting *in* the Median region, whereas this region is made to appear as if exclusively belonging to the *Low* Grounds. (See page 65, near the bottom.) The word "Plains," should be inserted in the blank space opposite "Clematis Vitalba," in the same table, which is unintelligible without these corrections.

56, line 13, from the bottom, *for* will *read* may.

88, line 7, *for* counties *read* countries.

90, *Under* Salix *insert* "Habenaria chlorantha. Kent." (Recently discovered by Dr. Lindley, and will probably be found in other counties. It is likewise omitted in the Appendix.)

116. Ranunculus alpestris should be referred to the subalpine region doubtfully, because the precise station is not now known.

117. Pæonia corallina has been extended to the equator by the unnecessary addition of "to 0°."

119. Cochlearia grœnlandica probably rises much above the plains.

120. Sisymbrium Irio. "Pla." is omitted.

124. Stellaria nemorum begins in latitude 53 or (52).

125. Cerastium latifolium is joined with "aquaticum" instead of with "alpinum."

126. Tilia parvifolia perhaps reaches the upland region.

130. Orobus niger, "Upl. ?" is omitted.

130. O. sylvaticus, "Pla" is omitted.

Page 132. Sanguisorba officinalis, *for* Pla. ? *read* Pla. — ? It *is* found in the plains, and probably higher.

133. Cotoneaster vulgaris is omitted. *See* page 89.

142. Asperula odorata, " Brit." is omitted.

145. Cnicus lanceolatus, *for* 6 *read* 16.

168. Pinus sylvestris, *for* Pla. — Sub. ? *read* Pla. ? — Sub.

174. Potamogeton heterophyllus, *for* 59 *read* 51—59.

179. Carex stricta and others, the " ? " is misplaced; it should apply to all the three species.

179. Elyna caricina certainly ascends above the plains; probably to the sub-alpine region.

THE

GEOGRAPHICAL DISTRIBUTION

OF

BRITISH PLANTS.

I. REMARKS ON THE PHYSICAL GEOGRAPHY OF BRITAIN.

1. EXTENT AND POSITION.

THAT portion of the British Isles, to which the present treatise relates, will be understood to include the island of Britain, properly so called, consisting of England, Wales, and Scotland, and also the small isles immediately adjacent; but excluding Ireland, and the isles of Guernsey, Jersey, and Sark. Viewed separately, England, Wales, and Scotland run almost directly north and south; but nearly all Scotland lying to the west of a line drawn down the middle of England, the general direction of the whole island, from the south coast, is inclined considerably to the west of north. The longitudinal line of 2° W. from Greenwich cuts England into two nearly equal portions, eastward and westward, but scarcely touches Scotland; 4° W. long. being nearly the mesial line of the latter. Hence no longitudinal line can be drawn along Britain, which shall entirely divide the eastern from the western

coasts. In England and Wales, apart from Scotland, the line of 2° W. will do so pretty exactly.

From Cornwall to Orkney the length of Britain is nine and a half degrees of latitude, or about 650 miles, extending between the parallels of 50° and 59½°. Its breadth at the southern extremity is between seven and eight degrees; and near the northern extremity, from Caithness to the Western Isles, about four and a half. Connecting the adjacent isles and extreme points along the coast, the general form would be that of an irregular oblong, broader at the southern extremity; but so much is this intersected by bays, estuaries, and arms of the sea running far into the land, that in some places the eastern and western seas are scarcely one degree apart. By much the largest masses of land occur in England; yet there is perhaps no point in it more than sixty miles distant from the tides of the sea; so that the whole island may be looked upon, almost literally, as maritime or coast-land; a peculiarity materially affecting its botanical productions.

The distance of the south-eastern angle of England from the nearest point of Europe is little more than twenty miles. Hence they gradually recede from each other in a westerly and northerly direction, so that from Cornwall to Bretagne the distance is about one hundred miles, and the coasts of Scotland and Norway are much farther apart. Ireland fronts the western coast for a considerable extent, which would otherwise be entirely open to the Atlantic Ocean, as it is, notwithstanding, at the northern and southern extremities.

2. ELEVATION OF SURFACE.

The configuration of surface coincides with the geographical position, presenting a series of undulations or hills rising higher and higher as we advance from south-east

to north-west, their general direction being nearly parallel to the coasts of the German Sea and channels connecting it with the Atlantic; but the courses of the particular groups or chains vary considerably, some being almost at right angles to a general line connecting the highest summits of each. The counties of England, from the south-eastern angle northward to the Trent and Humber, westward to Dorset and Warwick, present only moderate undulations, seldom exceeding 300 yds, and never attaining 350 yds. In the north-east of Yorkshire, Egton Moors rise to 468 yds; Dartmoor in Devon attains to nearly 600 yds; and Exmoor exceeds 550 yds. Betwixt these are some other hills or groups between 300 and 400 yds of elevation, as the Cotteswold hills in Gloucestershire. But it is to the north-westward of the Severn and Trent that we find undulations of the surface rising to the rank of mountains. In the English counties bordering on Wales, as Salop, Worcester, Hereford, and Monmouth, the higher hills attain from 450 to 600 yds. In S. Wales we see them (Beacons of Brecon) exceed 950 yds; and in N. Wales several summits of the Snowdon chain surpass 1000 yds, the peak of Snowdon itself rising to nearly 1200 yds. The Penine chain of the North of England attains 600 yds in Derbyshire, nearly 800 yds in Yorkshire, and on the borders of Cumberland is little short of 1000 yds. The Cheviot hills near the northern extremity of this chain, but more properly connected with the Scottish mountains, are rather below 900 yds. The central mountains of the Lake district in England exceed 1050 yds. The range or series of mountains crossing the south of Scotland, exhibits summits about equal to those of the Penine chain; and in the Highlands we have many exceeding 1000 yds, several above 1200 yds, and a very few passing 1400 yds. The highest points of England, Wales, and Scotland are near the western coasts, in the counties of Cumberland (Scawfell Pikes,

1055 yds), Carnarvon (Snowdon, 1190 yds), and Inverness (Ben Nevis, 1455 yds). The groups or ranges second in respect to elevation, as the Penine range and Cairngorm group, are more central. But it is only quite in the north of Britain that we find high mountains near the eastern coast.

From the western position of the loftiest mountains of England, Wales, and Scotland, the total absence of any mountain-like elevation in the south-east of England, and the second-rate mountains of England and Scotland being more central, and coming nearer to the eastern coast northwards, it follows that in a general view over Britain the gradual rise of surface, as already mentioned, is from south-east to north-west. This, however, applies strictly to the interior ranges of mountains only, or to the actual summits; those near the western coasts being so deeply cut and divided by narrow valleys, that at the bases of the loftiest we find lakes and small flats of land scarcely raised above the sea level. The declivities of the mountains towards the north and west are consequently very rapid; while to the south or east they are much more gradual. The following list of the altitudes of hills, stations, &c. is compiled from various sources, as indicated by the letters in the first column after the names. In transcribing the list I have unluckily omitted and lost some few of the authorities. The rest are explained at the end of the list. It will be quite evident from the different estimates, which in some instances are given for the same hill, that the reputed heights of many of them admit of question: see the Ochils in Perthshire, Ben na Buird in Aberdeenshire, and West Lomond in Kinross-shire, for examples.*

* As a recent example of the vague manner in which heights are mentioned even in works of authority, we find Cader Idris called the second summit of Wales by the author of the *Encyclopædia of Geography*, while the Trigonometrical Survey shows several others to be much loftier.

TABLE OF ALTITUDES IN BRITAIN.

England.

		Feet
Cornwall.		
Trevose Head	B.	274
Deadman	B.	379
Sennen	B.	387
Maker Heights	B.	402
St. Burian	B.	415
St. Stephen's	B.	605
St. Agnes Beacon	B.	621
Bodmin Down	B.	645
Bindown	B.	658
Pertinney	B.	689
Carn Bonnellis	P.	805
Carnminnis		805
Cadon Barrow	B.	1011
Kit's Hill	B.	1057
Carraton Hill	B.	1258
Brown Willy	B.	1368
Devon.		
Bolt Head	B.	430
Farland	B.	589
Black Down	B.	817
Haldon Hill	P.	818
Butterton Hill	B.	1203
Rippin Tor	B.	1549
Cawsand Beacon	B.	1792
Somerset.		
Moor Lynch Mill	B.	330
Dundon Beacon	B.	360
Ash Beacon	B.	655
Dundry Beacon	B.	700
Lansdown Hill	P.	813
Bradley Knoll	B.	973
Bagborough	P.	1270
Dunkery Beacon (*Exmoor*)	B.	1668
Dorset.		
Charton Common	B.	582
Nine Barrow Down	P.	642
Black Down	B.	817
Dumbton Hill	B.	879
Bull Barrow	B.	927
Pilsdon Hill	B.	934
Wingreen Hill	B.	961
Wilts.		
Old Sarum	P.	339
Beacon Hill (*Amesbury*)	B.	690
Westbury Down	P.	775
Inkpen Beacon	B.	1011
Hants.		
Headon Hill (*Isle of Wight*)		400
Portsdown Hill	B.	447
Dean Hill	B.	539
Stockbridge Hill	B.	620
Mottesdon Down	B.	698
Dunnose (*Isle of Wight*)	B.	792
Highclere Beacon	B.	900
Butser Hill	B.	917
Sussex.		
Beachy Head	B.	564
Fairlight Down	B.	599
Brightling Down	B.	640
Top of Frant Steeple	B.	650
Bowhill	B.	702
Rook's Hill	B.	702
Crowborough Beacon	B.	804
Chanctonbury Hill	B.	814
Firle Beacon	B.	820
Ditchling Beacon	B.	858
Kent.		
Greenwich Observatory	B.	214
Warren Chalk Hill		300

		Feet
Tenterden Steeple -	B.	322
Allington Knoll -	B.	329
Shooter's Hill - -	B.	446
Dover Castle - -	B.	469
Goudhurst - -	B.	497
Top of Swingfield Steeple - -	B.	530
Folkestone Turnpike	B.	575
Boxley Hill - -		600
Hollingborn Hill -	B.	616
Paddlesworth - -	B.	642

SURREY.

St. Ann's Hill -	B.	240
Norwood - -	B.	389
Hundred Acres -	B.	443
Bagshot Heath -	B.	463
Banstead - -	B.	576
Botley Hill - -	B.	880
Hind Head - -	B.	923
Leith Hill - -	B.	993

BERKS.

Witcham Hill - -	P.	596
Scutchamfly - -	B.	853
White Horse Hill -	B.	893

OXFORD.

Shotover Hill - -	B.	599
Nuffield Common -	B.	757
Nettlebed Windmill -	B.	820
Epwell Hill - -	B.	836

BUCKS.

Bow Brick Hill -	B.	683
Muzzle Hill (*Brill*) -	B.	744
Wendover Down -	B.	905

MIDDLESEX.

Hanger Hill (*Tower*)	B.	251

HERTS.

Lillyhoe - -	B.	664
Kensworth - -	B.	904

		Feet
ESSEX		
Langdon Hill - -	B.	620
High Beech - -	B.	750
NORTHAMPTON.		
Arbury Hill - -	B.	804
WARWICK.		
Corley - -	B.	521
GLOUCESTER.		
Farley Down - -	B.	700
Symond's Hall -	B.	795
Stow on the Wold -	B.	883
May Hill - -	B.	964
Broadway Beacon -	B.	1086
Cleave Down - -	B.	1134
MONMOUTH.		
Treleg Beacon - -	B.	1011
Mynydd Mawr -	B.	1568
Sugar Loaf - -	B.	1852
WORCESTER.		
Ankerdine - -	L.	700
Lower Bromsgrove Lickey - -	L.	850
Abberley - -	L.	900
Clent - -	L.	900
Bredon - -	L.	940
Broadway - -	L.	1090
Upper Bromsgrove Lickey - -	L.	1100
Malvern Hill -	B.	1444
HEREFORD.		
Stow Hill - -	B.	1447
SALOP.		
Hawkestone Obelisk	B.	812
Wrekin - -	B.	1320
Long Mount Forest	B.	1674
Titterston Clee -	L.	1720
Brown Clee Hill -	B.	1805

		Feet
Stafford.		
Bar Beacon - -	B.	653
Castle Ring - -	B.	715
Ashley Heath - -	B.	808
Weaver Hill - -	B.	1154
Leicester.		
Strathern Point -	B.	490
Bardon Hill - -	B.	853
Notts.		
Holland Hill -	B.	487
Sherwood Forest -	P.	600
Derby.		
Allport Heights -	B.	980
Mam Tor (Brookes) -	B.	1350
Hathersedge - -	B.	1377
Lord's Seat - -	B.	1751
Axedge - -	B.	1756
Holme Moss - -	B.	1859
Chester.		
Bellefield Hill - -	B.	401
Heswell Hill -	B.	475
Beeston Castle - -	B.	556
Delamere Forest -	B.	569
Mole Cop - -	B.	1091
York.		
Gringley on the Hill	B.	235
Gristhorpe Cliffs -		270
Ledston Beacon -	B.	278
Clifton Beacon -	B.	417
Oliver's Mount -		490
Hunsley Beacon -	B.	531
Ingleton - -	N.	531
Burleigh Moor -	B.	553
Settle - -	N.	621
Heights above Troutbeck - -		650
Easington Heights -	B.	681
Barnaby Moor -	B.	784
Heights above Rievaulx Abbey -		800
Garraby Beacon -		805
Wilton Beacon -	B.	809
Danby Beacon -	B.	966
Silhoe Cross - -		1000
Rosebury Topping -	B.	1022
Black Hambleton Down - -	B.	1246
Bradfield Point -	B.	1246
Wainstones - -		1300
Rumbles Moor -	B.	1308
Whitfield Hill - -	N.	1346
Egton Moors - -		1404
Loose Hoe - -	B.	1404
Robincross Hill -	N.	1408
Holgate Pasture -	N.	1433
Burton Head -	B.	1485
Calney - -	N.	1600
Grinton Grits -	N.	1679
Dod End - -	N.	1683
Blea Moor - -	N.	1760
Gibbon Hill -	N.	1781
Snays Fell - -	N.	1782
Satron Hangers -	N.	1786
The Tail Brigg -	N.	1799
Ryssell - -	N.	1823
The Hoove - -	N.	1823
Whaw Fell - -		1833
Black Hill - -	N.	1864
East Stondale Moor -	N.	1866
Brownsey - -	N.	1896
Ten End - -	N.	1916
Burkin - -	N.	2000
Bear's Head - -	N.	2017
Gregreth - -	N.	2059
Highest Standard Top	N.	2153
Water Crag - -	N.	2186
Dod Fell - -	N.	2189
Noughtberry - -	B.	2205
Rogan's Seat - -	N.	2207
Lovely Seat - -	N.	2214
Calf - -	N.	2220
Bow Fell - -	N.	2226
Carn Fell - -	B.	2245
Pen Hill - -	P.	2245

		Feet
Colm	N.	2252
Pillar	N.	2260
Pennigant Hill	B.	2270
Whernside (*Kettlewell*)	B.	2273
Wildboar Fell	N.	2327
Shunnor Fell	B.	2329
Cotter Fell	N.	2330
Hugh Seat	N.	2330
Ingleborough	B.	2361
Whernside (*Ingleton*)	B.	2384

LANCASTER.

Rivington Hill	B.	1544
Whittle Hill	B.	1614
Boulsworth Hill	B.	1689
Bleasdale Forest	B.	1709
Pendle Hill	B.	1803
Coniston Fell	B.	2577

WESTMORELAND.

Ulswater		369
Dunmail Raise Road	O.	720
Grisedale Tarn	O.	1705
Nine Standards	B.	2136
Calf Hill	P.	2188
Stickle Pike	O.	2268
Langdale Pikes	O.	2400
Sergeant Crag (*Langdale*)	O.	2436
High Street	O.	2700
Brown-rig Well (*Helvellyn*)	O.	2755
Fairfield	O.	2950
Helvellyn	B.	3055

CUMBERLAND.

Derwentwater		228
Crow Park	O.	276
Cockshot	O.	321
Inn at Buttermere	O.	324
Threlkeld		463
Scilly Bank	B.	500
Castle Head	O.	508
Nag's Head (*Wythburn*)	O.	515
Head of Langstreth Valley	O.	623
Rescadale House (*Newlands*)	O.	708
Castle Crag (*Borrodale*)	O.	720
Swinside Hill	O.	740
Ashness Farm	S.	760
Watendlath Tarn	S.	860
Road over Whinlatter	O.	1008
Newlands Hause to Buttermere	O.	1088
Gatesgarth Hause (*Borrodale*)	O.	1108
Latrigg	O.	1108
Goldscalp End	O.	1114
Dent Hill	B.	1115
Wallow Crag	O.	1245
Rawling End	O.	1388
Edder Crag (*Grange Fell*)	O.	1394
Stile End (*Braithwaite*)	O.	1398
Barrow (*Braithwaite*)	O.	1438
Buttermere Moss (*Newlands*)	O.	1588
Dod (*Skiddaw*)	O.	1648
Bleaberry Fell (*Castlerig*)	O.	1658
Lord's Seat (*Thornthwaite*)	O.	1728
Black Comb	B.	1919
Bull Crag (*Newlands*)	O.	1920
Cowdale Hause	O.	1950
Cawsey Pike	O.	2040
Honister Crag	O.	2048
Starling Dod	O.	2048
High Pike	B.	2101
Carrock	O.	2148
Wanthwaite Crag	O.	2208
Robinson	O.	2292
Hindscarth	O.	2292
Ladyside Pike	O.	2292
Whiteside	O.	2292
Witeless Pike	O.	2300
Jenkin Hill (*Skiddaw*)	O.	2313
Dale Head (*Newlands*)	O.	2328
Red Pike	O.	2461

		Feet
Hobcarton Crag	O.	2469
Wendup (*Buttermere*)	O.	2538
Kirkfell	O.	2541
Grisedale Pike	O.	2580
Green Gavel	O.	2596
High Street	O.	2700
Grassmoor	O.	2756
Saddleback	B.	2786
Pillar	B.	2893
Cross Fell	B.	2901
Bow Fell	B.	2911
Great Gable	O.	2935
Carlside	O.	2982
Skiddaw	B.	3022
Scawfell	B.	3092
Scawfell Pikes	B.	3166
Durham.		
Brandon Mount	B.	875
Pontop Pike	B.	1018
Collier Law	B.	1678
Kirkhope	B.	2196
Northumberland.		
Rufflaw	B.	595
Blackheddon	B.	646
Alnwick Moor	B.	808
Simonside	B.	1407
Carter Fell	U.	1600
Hedgehope	B.	2346
Cheviot	B.	2658
Isle of Man.		
Greebar	U.	1480
Garraban	U.	1518
South Berule		1684
North Berule	B.	1804
Snea Fell	B.	2004

Wales.

Glamorgan.		
Cefn Bryn	B.	583
Garth	B.	981
Margam Down	B.	1099
Llangeinor Mountain	B.	1859
Craig-ar-Avon		1859
Pembroke.		
Highgate Down	B.	294
Newton Down	B.	322
Plumstone Down	B.	573
Brennin Vaur	B.	1285
Precelly Top	B.	1754
Cardigan.		
Aberystwith	B.	496
Capel Kynon	B.	1046
Talsarn	B.	1143
Tregarron Down	B.	1747
Plynlymmon	B.	2463
Caernarvon.		
Marros Beacon	B.	514
Llannon Mountain	B.	914
New Inn Hill	B.	1168
Black Mountains	U.	2869
Brecon.		
Dwiggin (*Builth*)	B.	2071
Capellante	U.	2394
Cradle	B.	2545
Trecastle Beacons	B.	2596
Beacons of Brecon	B.	2862
Radnor.		
Radnor Forest	B.	2163
Montgomery.		
Base of Rodney's Pillar on Breiddon Hill	B.	1199
Long Mountain	B.	1330
Llandinam Mountain	B.	1898

		Feet
Merioneth.		
Pengarn	B.	1510
F. Fawr	E.	1810
Craig Drwg	E.	2100
Cader Ferwyn	E.	2107
Moel Ferna	E.	2108
Craig y Cai	E.	2147
Arran y Gessel	E.	2224
Moelwyn	E.	2372
Rhinog Fach	E.	2400
Cader Fermyn	U.	2562
Cader Fronwen	E.	2563
Arrenig	B.	2809
Cader Idris	B.	2914
Arran Fowddy	B.	2955
Caernarvon.		
Beddegelart Inn		162
Ynalog Mount	B.	584
Dinas Dinorwig	E.	600
Great Ormes Head	E.	673
Llyn Ogwen		900
Rhiw Mountain	B.	1013
Pengarn	E.	1510
Penmaen Mawr	B.	1540
Bwlch Mawr	B.	1673
Gerwyn Goch	B.	1723
Rivel Mountain	B.	1866
Graig Goch	E.	2359
Aran	E.	2473
Moel Hebog	E.	2584
Shabod	E.	2878
Glydyr	E.	3300
Carnedd David	B.	3427
Carnedd Llewellyn	B.	3469
Snowdon	B.	3571
Anglesea.		
Moel Rhydladd	B.	465
Llanelian Mountain	B.	582
Holyhead Mountain	B.	709
Denbigh.		
Gwaunyager Down	B.	732
Moelfra Issa	B.	1036
Llanelian Mountain	B.	1110
Moelfra Ucha	E.	1234
Moel Arthur	E.	1491
Craig Eglwyseg	E.	1688
Cyrn Moelfra	E.	1714
Moel Morwith	B.	1786
Moel Fammau	B.	1845
Cyrn y Brain	B.	1857
Flint.		
Garreg Mountain		835

Scotland.

Wigton.		
Cairn-pat	P.	800
Knock of Luce		1014
Mochrum Fell		1020
Cairnharrah	P.	1110
Cairnsmuir	P.	1737
Larg	P.	1750
Kirkcudbright.		
Cairnhaerow	P.	1110
Ben Cairn	P.	1200
Knockendock		1500
Criffel	P.	1895
Cairnsmuir	U.	2598
Dumfries.		
Annan Hill	P.	256
Moffat	P.	582
Burnswork Hill	P.	740
Constitution Hill	P.	1004
Erickstane	P.	1118
Langholme Hill	P.	1204

		Feet
Tennis Hill	P.	1346
Black Larg	U.	1950
Cairn Kinnon	P.	2080
Ettrick Pen	U.	2220
Queensbury Hill	U.	2250
Lowther Hill	P.	2552
Hartfell	U.	2790
Black Larg (too high?)	P.	2890
Hartfell (too high?)	P.	3300

LANARK.

Clyde at Stonebyre Fall	L.	200
Strathaven	L.	450
Lesmahagow	L.	450
Douglas	L.	450
Aidrie	L.	500
Carluke	L.	500
Carnwath	L.	600
Biggar	L.	600
Lanark	L.	650
Kirk of Shotts	L.	650
Dolphington Kirk	L.	680
Clyde at Thankerton	L.	700
Ditchmont Hill		700
Westraw Law	L.	1000
Woodmuir Heights	K.	1106
Muldron Drum	K.	1166
Leaven Seat		1250
Director's House, Lead-hills		1280
Quothquhanlaw	L.	1500
Walston Mount	L.	1550
Lead Hills	L.	1564
Culter Fell		1700
Tinto	U.	2310
Lowthers	U.	3150

AYR.

Brown Carrick Hill	U.	924
Ailsa Crag	P.	940
Balagick		1000
Benerard	U.	1440
Blacksall End	P.	1540
Carleton Hill	P.	1554
Knocknorman	P.	1554
Knockdoban	P.	1950

PEEBLES.

Peebles Town	K.	500
Eddlestone Kirk	K.	750
Darnhall	K.	816
Whim House	K.	907
Kingside	K.	963
Kingside Edge	K.	1046
Roger Craig, near Noble House		1294
Mendie Hill	K.	1352
Carden Hill	P.	1400
Broughton Heights		1483
Mount Maw	K.	1710
Deerhope Rig	K.	1718
Cairn Hill		1800
Tod's Cairn	K.	2000
Minchmoor Hill	P.	2000
White Hope Hill	K.	2006
Emly Bank	K.	2026
Ewes Weik	K.	2059
Druids' Hill	P.	2100
Pulpit Stane		2100
Hill's Cleugh	P.	2100
Windlestraw Law	K.	2194
Glumseugh	P.	2200
Scrape		2560
Dollar Law	U.	2790
Broad Law		2800
Bollaburn		2840
Hartfield (Hartfell?)		2916

SELKIRK.

Meagle	P.	1480
Scrufe Hill	K.	1650
Peat Law	K.	1624
Ditto	P.	1694
Ward Law	P.	1900
Three Brothers		1978
Hangingshaw	P.	1980
Whinfell	B.	2241

		Feet
Windlestraw Law	K.	2194
Blackhouse Heights	P.	2360
Roxburgh.		
Marto (Minto ?)	P.	850
Dunian		1021
Elden Hills	P.	1364
Ruber's Law	P.	1419
Meg's Hill		1480
Carter Fell	P.	1502
Tudhope		1830
Wisp Hill	A.	1830
Ditto	B.	1940
Clint Hill		2000
Millewood Fell	P.	2000
Whinhead Fell		2000
Dunrig	B.	2408
Cheviots	P.	2680
Berwick.		
Eccles Manse	*	315
Dunse Law	P.	630
Stitchell	*	680
Hurne Castle	*	898
Cockburn Law	K.	900
Derrington Law		1155
Lady's Chair, in Girth Gate	K.	1216
Mainslaughter Hill	K.	1260
Tippet Knows		1325
Clint's Hill	K.	1549
Hertside Hill	K.	1552
Criblaw		1650
Haddington.		
Tranent Kirk	K.	166
Elphington Tower	K.	477
Doon Hill (*Dunbar*)	K.	500
North Berwick Law	K.	800
Spartleton Hill	K.	1615
Soutra Hill (*Lammermuir*)	K.	1712
Edinburgh.		
Newbattle Abbey	K.	147
Dalkeith House	K.	150
Melville Castle	K.	168
Dalkeith, the principal Street	K.	182
Inch Keith Isle, base of L. House	K.	188
Ravelston House	K.	198
Laswade Bridge	K.	227
Laswade Kirk	K.	271
Cross of Edinburgh	K.	271
Ratho Manse	K.	274
Red Hall House	K.	278
Ratho House	K.	280
Colinton Kirk	K.	300
Merchiston Castle	K.	311
Cockpen Old Kirk	K.	334
Riccarton House	K.	346
Libberton Kirk	K.	347
Calton Hill	K.	356
Norton Hill	K.	367
Platt, north hill	K.	376
Dalmahoy House	K.	380
Colinton House	K.	386
Platt, south hill	K.	406
Oxenford Castle	K.	406
Monk's Hill (*Dalmeny Park*)	K.	406
Calder House	K.	410
Preston Hall	K.	412
Castle Rock, the Half-moon battery	K.	443
Currie Kirk	K.	446
Craw Hill, above Hatton	K.	498
Pentland Village	K.	506

* History of the Berwickshire Naturalist's Club.

		Feet
Dreghorn House	K.	506
Tormein Hill, near Ratho	K.	509
Vogrie House	K.	513
Craig House Hill	K.	520
Currie Hill	K.	527
Blackford Hill	K.	531
Arniston House	K.	533
Corstorphine Hill	K.	536
Lennox Castle	K.	548
Salisbury Craig	K.	550
Borthwick Castle	K.	545
Kirknewton Kirk	K.	556
Craig Lockhart Hill	K.	571
Roman Camp (*Fairmile Head standing south*)	K.	584
Crichton Kirk and Castle	K.	590
Hawthornden	K.	598
Penecuik Kirk	K.	598
Glencorse Kirk	K.	602
Temple Village and ruined Castle	K.	604
Stow Kirk	K.	606
Swanstone House	K.	616
Penecuik House	K.	656
Glencorse Marne	K.	662
Black Castle Bridge	K.	698
Harwood	K.	699
Braid Hill	K.	706
Logan House	K.	779
Roseberry, or Clarkington	K.	786
Haltree	K.	796
Fala Kirk	K.	797
Arthur's Seat	K.	822
Dalmahoy East Hill	K.	826
Roman Camp (*Long Faugh*)	K.	828
Harburn	K.	830
Dalmahoy West Hill	K.	866
Roman Camp above Dalkeith	K.	876
Heriot Manse	K.	878
New Hall	K.	898
Pirn	K.	906
Pirntaiton	K.	906
King's Seat	K.	954
Crookstone	K.	956
Morton Hill	K.	976
Roman Camp (*Hala Shank*)	K.	1006
West Loch, (*N. of the Brown Dod*)	K.	1012
Crosswood Hill House	K.	1021
Easter Colzium	K.	1066
Hirendean Castle	K.	1081
Pirntaiton Camp	K.	1102
Woodmuir Height	K.	1106
Corston Hill	K.	1148
Auchinoon Hill	K.	1166
Meldron Drum	K.	1166
Lady's Chair, on Girth Gate	K.	1216
Cakemuir Hill	K.	1240
Haltree Camp (*Gala Water*)	K.	1252
Crumside Hill (*Gala Water*)	K.	1268
Ruther Law	K.	1290
Craig Law	K.	1293
Selmour Hill, above Stow	K.	1426
Symington Hill	K.	1438
Craigengar Hill (*Pentlands*)	K.	1510
Carketton Cairn (*Pentlands*)	K.	1560
Hirendean Hill	K.	1572
Castle Law Cairn (*Pentlands*)	K.	1587
Allenmuir Hill (*Pentlands*)	K.	1606
Peat Law (*Gala Water*)	K.	1624
Scrufe Hill	K.	1650
East Kip	K.	1712

		Feet
Mauseley Hill, highest point	K.	1722
Sayer's Law (*Lammermuir*)	K.	1735
West Cairn Hill (*Pentlands*)	K.	1764
Rashie Law	K.	1769
West Kip	K.	1786
East Cairn Hill (*Pentlands*)	K.	1802
Rawburn Law	K.	1806
Carnethie Cairn	K.	1857
East Black Hill (*highest Pentland*)	K.	1876
Tod's Cairn	K.	2000
Emly Bank	K.	2026
Jeffrie's Cross	K.	2044
Ewes Weik	K.	2059
Brown Dod (*Muirfoot*)	K.	2086
Bowbeat Hill	K.	2096
Black Hope Scars, the highest ground in the county	K.	2196
Linlithgow.		
Kirkliston Kirk	K.	192
Livingston Kirk	K.	343
Houston	K.	448
Binny Craig		711
Cocklerne House	K.	866
Cairn Naple	K.	906
Cairnaple (same ?)	P.	1490
Renfrew.		
Neil Crag	P.	820
Misty Law	P.	1240
Fife.		
Kelly Law	K.	810
Largo Law	K.	886
Ditto	P.	952
East Lomond	K.	1260
West Lomond	K.	1280
East Lomond	B.	1466

		Feet
Kinross.		
Valley of the Devon at Dollar	K.	100
West Lomond	K.	1280
Ditto	B.	1720
Clackmannan.		
Dunnyalt	K.	1345
King's Seat (*Ochils*)	K.	2100
Ben Clack, highest of Ochils	K.	2182
Ochils	P.	2450
Stirling.		
Campsie Hills		1500
Alva Hill		1600
Ben Lomond	U.	3195
Ditto	P.	3262
Argyle.		
Dunaquoich		1750
Glaschonzie Ben		1920
Crockmoy		2036
Ben Turk		2170
Sliagavil		2228
Ben Eaton		2306
Benein		2389
Cobler	P.	2389
Cruachan Ben		2459
Bennahua		2515
Buachal Etive		2537
Seur d'Honneil		2730
Ben Buich		3070
Bedinam Brawn	P.	3150
Cruachan Brinn	P.	3390
Ben Cruachan	U.	3669
Perth.		
Lawn at Blair		425
Barry Hill	P.	688
Forest Lodge		700
Kinnoul Hill		700
Belmont	P.	759
Dunsinane	P.	1004

		Feet
Kingpurnie	P.	1151
Loch Town Hill		1172
King's Seat	P.	1238
Mount Blair		1300
Loch Garry	A.	1300
Dunnyalt	K.	1345
Birnham Hill	P.	1580
Ben na Chally	P.	1800
King's Seat (*Ochils*)	K.	2100
Ben Clack, highest of Ochils	K.	2182
Ditto	P.	2420
Cairn y Chlanan		2800
Ben Chonzie	P.	2922
Ben Ledi		3009
Ben Voirlich		3300
Ben Dearg		3550
Schehalion		3564
Cairn Gower	U.	3690
Ben y Gloe		3720
Ben More	U.	3819
Ditto	P.	3907
Ben Lawers	U.	3945
Ditto	P.	4015

FORFAR.

Moss of Restenat		200
Strathmore, 100 to		200
Moss of Dunnichen		400
Dykehead		600
Dunnichen Hill	P.	720
Kirkton (*Glen Clova*)		800
Craig Owl	P.	1700
Catlaw	P.	2264
Mountains of Glen Dole	S.	3100
Bannock	A.	3377

KINCARDINE.

Bridge of Banchory	K.	172
Knockendock	P.	1500
Strath Fenella		1500
Scolty Hills		1500
Caerlock	U.	1890
Kerlavick	P.	1890
Klochnabane	P.	2370
Battock Hill	A.	2611
Mount Battock	U.	3460

ABERDEEN.

Bridge of Petarch	K.	280
Manse of Aboyne	K.	417
Bridge of Ballater	K.	780
Mordon Hill	P.	810
Abergeldie House	K.	842
Manse of Craithie	K.	860
Ben na Chie	P.	1000
Invercauld Bridge	K.	1030
Braemar Castle	K.	1070
Allanquocet	K.	1100
Meeting of the Goldie and Dee	K.	1294
Bendochie		1420
Callienar		1480
Junction of the Guisachan and Dee	K.	1640
Fare Hill	P.	1793
Junction of the Goldie and Dee	K.	1984
Coreen		2000
Cairn Fearg	P.	2100
Buck Hill	P.	2377
Mulbra Hill	P.	2700
Peter Hill	P.	2700
Cairneach		2700
Scroneach		2700
Garrach	P.	3000
Mountkeen		3180
Scairsock	U.	3390
Ben na Baird	S.	3600
Loch na Gar		3800
Ben na Buird		3940
Ben Avon		3964
Well Dee, highest source of the Dee	K.	4000
Cairngorm	A.	4095
Cairn Toul	A.	4245
Ben na Muic Dhu	U.	4300
Ditto	S.	4320

		Feet
Banff.		
Bin Hill - -		1045
Ben Cagan - -		1582
Loch Avon Hill -	P.	1750
Noath - -		1830
Knock Hill - -	P.	2500
Corryhable - -		2558
Inverness.		
Loch Ness - -	M.	54
Loch Lochy - -	M.	84
Caledonian Canal, between Loch Oich and Loch Lochy -	A.	92
Loch Oich - -	M.	94
Keppock - -	M.	339
Road from Inverness to Perth, the first stage over the Leys -	A.	500
Lower line, or parallel road of Glen Roy -	M.	972
Craig Monearn -	P.	1020
Craig Phadrick -	P.	1150
Middle line of Glen Roy - -	M.	1184
Loch Spey - -	M.	1203
Upper line of Glen Roy - -	M.	1266
Lake on Ben Nevis -	S.	1860
Maelfourvonie -	U.	2730
Cairn Ealer - -	A.	3350
Springs, west side of Ben Nevis -	S.	3750
Red Cairn, N. W. of Ben Nevis -	S.	3900
Cairngorm - -	U.	4080
Ben Nevis - -	U.	4374
Ross.		
Mountains of Loch Broom and Gairloch - -	A.	3500
Ben Wyvis - -	U.	3720

		Feet
Sutherland.		
Betty-hill Inn -	S.	150
Moors above Farr Kirk	S.	300
Ben Horn - -	U.	1710
Ben Heeall - -	S.	1720
Ben Orment -	U.	2307
Ben Laighall - -	S.	2500
Ben Spenue -	U.	2565
Ben Hee - -	U.	2860
Ben Hope - -	S.	2943
Ditto - -	U.	3060
Ben Klibrick -	U.	3155
Ben More (*Assynt*) -	U.	3231
Caithness.		
Morven - -		1221
Ord (Hill?) of Caithness	P.	1250
Scarry Hills - -		1876
Paps of Caithness -	P.	1929
Morvheim (too high?)	A.	3500
Orkney.		
Hoy Hills - -	U.	1590
Shetland.		
Fitriel Head - -	U.	900
Saxaford Hill (*Unst*) -	U.	936
Foula Isle - -	U.	1350
Ronas Voe Hill -	U.	1470
The Western Islands.		
Arran.		
Lamlash Isle -	A.	1000
Goat Fell - -	U.	2865
Ditto - -	P.	2945
Cantire.		
Sanda Isle - -	U.	900
Ben Turk - -	U.	1515
Bute.		
Garroch Head -	U.	750
Little Cumbray Isle -	U.	780

		Feet
Isla.		
Ben Oe	U.	546
Ben Tartevil	U.	762
Ben Ronastil	U.	1050
Ben Varn	U.	1500
Jura.		
Scarba Isle	U.	1500
Paps of Jura	U.	2580
Mull.		
Gribon Promontory		2000
Ben na Chat	A.	2294
Ben More	U.	3168
Rum, &c.		
Muck Isle	U.	600
Cannal Isle	U.	810
Sciur of Eig	U.	1335
Orevel, in Rum	U.	1800
Ben More, in Rum	U.	2310

		Feet
Skye.		
Macleod's Maidens	U.	210
Cliffs between Talisker and Loch Eynart	U.	750
Dun Can, Raasey Isle	U.	1500
Storr Hill	U.	2100
Ben Blaven	U.	3000
Cuchullin	U.	3000
Barras Isles.		
Muldonick Isle	U.	600
Sandera Isle	U.	780
Mingala Isle	U.	900
North Uist.		
Heval Mountain	U.	2010
Lewis.		
Barvas Hills	U.	780
Scarpa Isle	U.	990
Suaneval	U.	2700
Clisseval	U.	2700

AUTHORITIES.

A. Anderson's *Guide to the Highlands*, and accompanying map.

B. Measurements made during the trigonometrical survey under Col. Mudge; the heights here given being copied from the pictorial diagram of the hills of England and Wales, by the Rev. J. M. Butt.

E. Evans' Map of North Wales.

K. Map of the Basin of the Firth of Forth, by James Knox.

K. (In Aberdeen and Kincardine-shires.) Heights in the course of the river Dee, ascertained by Col. Haliburton and Dr. Skenekeith. These were politely given to me by Dr. Knight of Aberdeen, on occasion of an accidental meeting, as strangers, at Castleton in Braemar. I am unaware whether they have been published.

L. (Lanarkshire.) Heights mentioned in Patrick's *Description of the Indigenous Plants of Lanarkshire.*

L. (Worcestershire.) Mr. Edwin Lees.

M. Heights estimated from Dr. Macculloch's measurements of the parallel roads of Glen Roy.

N. Heights of hills in the vicinity of Dent, Hawes, and Sedburgh, and in Swaledale, Yorkshire, by John Nixon, Esq., in *Phil. Mag., or Annals of Philosophy,* vols. iii. and viii.

O. Otley's *Guide to the Lake District,* with some additional measurements kindly supplied to me by the author from his MSS.

P. Phillip's *Introduction to Geology.*

S. Measurements with Adie's Sympiesometer.

U. Maps by the *Society for the Diffusion of Useful Knowledge.*

The following particulars respecting the heights of canals in England are taken from *Annals of Philosophy,* vol. ix., and may be serviceable as points from whence to measure adjacent stations.

	Feet	In.
1. *Staffordshire and Worcestershire Canal.*		
Rise from Stourport to Autherley - - -	294	8
Fall thence to Heywood - - -	100	6
2. *Birmingham Canal.*		
Rise from Autherley to Wolverhampton - -	132	0½
Fall to Fazeley and Whittington Brook - -	264	10½
3. *Coventry Canal.*		
Rise from Fazeley to Longford - - -	96	1½
4. *Oxford Canal.*		
Rise from Longford to Clayton - -	74	1¼
Fall to the Isis - - - - -	195	3½
5. *Grand Junction Canal.*		
Rise from the Oxford Canal to Braunston - -	36	0

	Feet	In.
Fall to Wolverton - - - -	137	6
Rise to Tring - - - -	157	6
Fall to the Thames at Brentford - - -	395	0
The *Daventry Branch* rises - - -	54	0
The *Northampton Branch* to the river Nen falls -	118	0
The *Buckingham Branch* rises - - -	17	0
The *Aylesbury Branch* falls - -	96	0

The *Wendover Branch* from the Tring summit is level.

The *Paddington Branch* is level.

6. *Grand Trunk Canal.*

Rise from Shardlow to Etruria - -	316	3
Fall to Preston Bank - - -	326	2
The *Uttoxeter Branch* rises to Stanley Moss - -	75	0
Ditto falls to Uttoxeter - - -	192	10

7. *Duke of Bridgewater's Canal.*

Fall from Preston Brook to Runcorn - - -	84	6

The *Branch* to Legh is level.

8. *Worcester Canal.*

Fall (query, Birmingham to the Severn near Worcester?)	428	0

9. *Stratford Canal.*

Fall from King's Norton to the bed of the Avon -	338	8¼

10. *Dudley Canal.*

Fall from Tipton Green to Black Delph - -	116	0

A *Branch* to the Worcester Canal at Selly Oak is level.

11. *Stourbridge Canal.*

Fall from Black Delph to Stourton - - -	182	2¼

12. *Warwick and Birmingham Canal.*

Rise from Digbeth to the summit - -	42	0
Fall to Warwick - - - -	188	0

13. *Warwick and Napton Canal.*

Fall to Leamington - - - -	14	0
Rise thence to Napton - - -	146	8¼

14. *Grand Union Canal.*

Rise from Braunston to the summit - -	56	3
Fall to Foxton - - -	75	0

	Feet	In.
15. Union Canal.		
Fall from Foxton to Leicester - - -	160	0
16. Leicester Navigation.		
Fall from Leicester to Loughborough - -	50	0
Rise (? by Railway) to Thrington Bridge - -	185	0
17. Loughborough Navigation.		
Fall to the Trent - - - -	41	0
18. Ashby-de-la-Zouche Canal.		
Fall to Ticknall - - - -	84	0

3. CLIMATE.

The climate of Britain is necessarily in close dependence on its geographical position, and the form and elevation of its surface. The operations carried on by human industry, such as draining, enclosing, planting, &c. are supposed to have in some degree altered the climate of our island; but such influences, compared with the mighty sway of the solar rays, of winds and waters, clouds and mountains, must sink into utter insignificance. Particular spots, drained and sheltered, may have become better adapted to receive and retain heat, and partially to ward off cold winds; but the general temperature of the island is probably not altered to an extent appreciable by our instruments. It may be presumed, however, that the draining of so many marshes and morasses has lessened the humidity of the atmosphere to some extent; but the exhaustless reservoir of the Atlantic Ocean will prevent this having a very important effect. Perhaps, also, the planting of the last half century may have counterbalanced the draining.

The antagonist winds of Britain are the easterly and westerly; the latter decidedly prevailing in force and frequency. The easterly winds are usually dry and cold;

the westerly being mild and rainy. The latter come to us from an immense expanse of water preserving a high and comparatively equal temperature. The former, blowing off the continent of Europe, are frequently attended with great cold in winter and spring; and having little moisture, they rapidly dry up and parch the soil. Hence it happens that the eastern coasts, receiving the first impression of the eastern winds, altogether partake more of the continental climate*; the counteracting influence of the western winds being already much diminished by their passage across the island, and the check from the high western hills. This is particularly felt in England, which has a much wider expanse of inland surface, and is in part shielded from the full influence of the western winds by the proximity of Ireland, as well as by the more decidedly western position of the mountains. The contrary holds with respect to the western coasts, which experience more fully the insular climate.

a. *Temperature.*

The conditions chiefly affecting the temperature of different parts of Britain are, the elevation above the sea level, the latitude, and the geographical position, whether eastern, inland, or western. Elevation and latitude appear more particularly to affect the general or mean annual temperature; the influence of position is more evident in the distribution of heat through the seasons.

Numerous records of observed temperature are scattered through our periodical works devoted to natural science. Unfortunately, many of these are liable to ob-

* It is scarcely necessary to say, that a continental climate is distinguished from an insular climate by dryness; and by the greater extremes of heat and cold, in summer and winter, by day and by night. The insular climate presents a greater approach to equality of temperature; is changeable, cloudy, and humid.

jections which greatly detract from their value or utility when brought together. Those made by register thermometers assume the means of the daily extremes to give the temperature of the place. Such are certainly better than records at one or two fixed hours, and afford the most convenient mode of comparing the temperatures of different places; but the true mean of the twenty-four hours appears, on the average, to be higher than the means of extremes, whether daily or yearly. A greater number of records have been kept by noting the thermometer at one, two, or more, fixed hours. If the different observers had taken the same hours the value of their observations would have been greatly increased, notwithstanding that the hours adopted might not have been those which give a mean nearest to the true mean of the whole twenty-four, or of the extremes during the twenty-four hours.

Observations were made at Leith Fort, near Edinburgh, every half hour, for two whole years, during 1824 and 1825. The annual mean of each hour being calculated, and also that of the whole twenty-four, we readily ascertain how far the temperature at any given hour differs from the mean of the whole twenty-four. The subtraction of the excess, or addition of the deficiency, forms the *corrected mean* for the hour. This method and degree of correction have been applied indiscriminately to all places in Britain, and even to other countries; but it is very probable that in other places the annual mean of any given hour will not bear the same proportion to that deduced from the daily means of the whole twenty-four, as it does in Scotland. However, it is likely to be sufficiently near for practical purposes throughout Britain. By the Leith Fort registry, on the average of the two years, the difference between the mean temperature of each hour and that of the day was calculated to be as in the annexed table:—

Hour.	Diff. of Temp.	Hour.	Diff. of Temp.
1 A. M.	− 2·133	1 P. M.	+ 2·882
2 —	− 2·334	2 —	+ 3·203
3 —	− 2·578	3 —	+ 3·265
4 —	− 2·818	4 —	+ 2·972
5 —	− 2·873	5 —	+ 2·605
6 —	− 2·613	6 —	+ 2·027
7 —	− 1·983	7 —	+ 1·277
8 —	− 1·238	8 —	+ 0·375
9 —	− 0·212	9 —	− 0·438
10 —	+ 0·745	10 —	− 0·990
11 —	+ 1.683	11 —	− 1·463
12 —	+ 2·510	12 —	− 1·868

It appears from this table that the mean of the same hours, morning and evening, taken together, comes within a single degree of the mean of the whole twenty-four; and that 9 A.M. and 8 P.M. are nearest to the true mean, which occurs about 9¼ A.M. and 8½ P.M. The mean *minimum* is found at 5 A.M.; the mean *maximum* at 2¾ P.M. But these hours show only the several means for the whole year. The mean of the twenty-four hours occurs in January at 10½ A.M. and 7 P.M.; in July, at 9 A.M. and 8¾ P.M. The *minimum* temperature in January is at 6 A.M., and the *maximum* at 3 P.M.; in July they are at 4 A.M. and 5 P.M. The difference between the mean *maximum* and mean *minimum* is in January little more than 2½ degrees, while in July it exceeds 9½ degrees.

From these results it is evident that observations of the temperature at stated hours cannot form exact comparisons with those taken from the mean of the daily extremes, even on the whole year, and still less in summer. In winter the mean at any hour must differ very little from that of the whole twenty-four; since the mean extremes are under 3 degrees. But selecting observations made in the most suitable places, and applying the before-explained correction to those at stated hours, we may arrive at general conclusions with respect to the temperature of Britain, not likely to err widely from truth.

I. MEAN ANNUAL TEMPERATURE IN BRITAIN,

DEDUCED FROM THE MEANS OF THE DAILY EXTREMES.

Place.	Alt. in Feet.	Temp.	Years.	Period.
Penzance - -		51¾	1821—1831	10
Gosport - -		50½	1816—1820	5
Ditto - -		51¾	1826—1831	5
London - -		50½		30
Environs, *Do.* -		48¾		10
Bushey Heath -		49¾	1821—1825	4
Oxford - -		48¾	1816—1821	6
Cheltenham -		51¼		3
Manchester -	292	48¼	1821—1828	8
New Malton -		47½	1818—1824	6
Lancaster - -		49¼	1817—1821	4
Kendal - -	126	47	1823—1831	9
Keswick - -	250	48		
Edinburgh -		47¾		6
Ditto - -	260	47¼	1824—1830	7
Kinfauns -	145	47½	1815—1830	12
Annat - -		47¾	1824—1820	7

II. MEAN ANNUAL TEMPERATURE OF BRITAIN,

DEDUCED FROM OBSERVATIONS AT STATED HOURS.

Place.	Alt. in Feet.	Temp.	Years.	Period.	Hours.	Corrected Temp.
Isle of Wight		50	1809—1819	10	9 A.M.	50¼
Exeter -		46	1814—1818	5	8	47¼
Alderley -				10	8, 2, 10	46¾
Manchester -	180	47¾	1794—1818	15	8, 1, 11	47½
Isle of Man		49½	1822—1830	9	9 & 11	50¼
Carlisle -	40	47¼	1813—1824	12	8, 1, 9	46¾
Jesmond -	200	47½	1812—1818	7	9, 2, 10	47
Lead Hills	1280	44½	1812—1820	8	6 & 1	44½
Leith - -		48¼	1824—1825	2	½ hourly	48¼
Carbeth -	480	47½	1817—1820	4	10 A.M.	46¾
Dunfermline		45	1835—1824	20	9 A.M.	45¼
Clunie - -		47¾	1825—1832	8	10 & 10	47¾
Aberdeen -		47½	1823—1830	8	?	
Inverness -	30	48¾	1830—1831	2	10 & 10	48¾
Wick - -		45½	1823	1	10 & 10	45½
Ditto - -		46½	1825	1	7½ & 8½	47
Shetland -		44¾	1824—1825	1	7½ & 8½	45½

The observations, from which the above tables have been calculated, are recorded in the works mentioned below: —

Penzance - -	Annals of Philosophy and Philosophical Magazine.
Gosport, 1826—1831	
Wick - -	
Gosport, 1816—1820	Annals of Philosophy.
Bushey Heath -	
New Malton - -	
Lancaster - -	
Isle of Wight - -	
Exeter - -	
London - -	Clarke, on the Influence of Climate, &c.
Environs of Do. -	
Cheltenham - -	
Alderley - -	
Manchester, 1794—1818	
Oxford - -	Edinburgh Philosophical Journal.
Lead Hills - -	
Leith - -	
Carbeth - -	
Dunfermline - -	
Manchester, 1821—1828	Manchester Memoirs.
Kendal - -	Edinburgh Journal of Science.
Edinburgh, 1824—1830	
Isle of Man - -	
Kinfauns - -	Ditto, and Annals of Philosophy.
Annat - -	Magazine of Natural History.
Carlisle - -	Edinburgh Transactions.
Jesmond - -	Winch, Geog. Distr.
Clunie - -	Edinburgh New Philosophical Journal.
Aberdeen - -	
Inverness - -	
Shetland - -	
London - -	Humboldt's Table.
Edinburgh - -	

In calculating the tables it has in some few instances been found unavoidable to omit one year from the series, in consequence of absent numbers or volumes of the particular works in which they have been from time to time recorded, or omissions on the part of the observer. The *period* column, in which the number of years is stated, will show where such omissions have been made. Thus, the number of years from 1815 to 1830 inclusively would be 16, but the calculation for Kinfauns in the former table is made from 12 only. A general average will give us the following scale of temperature in connection with latitude, for places below 100 yards of altitude.

AVERAGE TEMPERATURE OF BRITAIN, ACCORDING TO LATITUDE.

Lat.	Temp.	Place.
51°	51°	Penzance, Gosport, Isle of Wight.
52	49½	London, Bushey, Oxford.
53	—	
54	47½	Manchester, Alderley.
55	47¾	Malton, Jesmond, Kendal, Carlisle, Isle of Man.
56	47¾	Edinburgh, Leith.
57	47¾	Kinfauns, Annat, Clunie.
58	47½	Aberdeen.
59	46¼	Wick.

It would appear by these calculations that in the middle of Britain, between latitudes 54°—57°, there is no appreciable difference of temperature, except from local causes; while southward of the 54th degree there is an increase exceeding 1° of temperature for 1° of latitude; and northward of the 57th degree there seems from the above (insufficient) data to be a diminution of 1½° of temperature for 2° of latitude. At Cheltenham, Lancaster, and Keswick, the recorded temperature appears too high; at Exeter and Dunfermline it is considerably below the average of other places near. The graduation of thermometers may cause an apparent difference of one or two degrees, or even more.

The influence of elevation above the sea level, in depressing the temperature, has been very little attended to in Britain. Sir Thomas Brisbane and Mr. Galbraith (Edin. New Phil. Journal) have estimated the decrease to be 1° of temperature for 212 feet of ascent, in latitude 55°—57°; while my own estimates (Mag. Nat. Hist. vol. vii. p. 444.) raise it to 239 feet between 53°—59°. These estimates do not refer to the winter months; nor is either of them worthy of implicit reliance. For the convenience of whole numbers we may call them 70 and 80 yards for 1° of temperature; and then assuming 48° as the temperature at the sea level, with an even decrease in ascending, the following scale will exhibit the supposed temperature of the mountain atmosphere, between latitudes 53°—57°; but on the northern side of the Grampians, beyond the line of 57°, we may deduct at least one degree.

SCALE OF SUPPOSED TEMPERATURE OF THE AIR ON THE MOUNTAINS OF BRITAIN.

Temp.	Elevation.		Temp.	Elevation.	
	Yards.	Yards.		Yards.	Yards.
47°	at 80 or at	70	37°	at 880 or at	770
46	160	140	36	960	840
45	240	210	35	1040	910
44	320	280	34	1120	980
43	400	350	33	1200	1050
42	480	420	32	1280	1120
41	560	490	31	1360	1190
40	640	560	30	1440	1260
39	720	630	29	——	1330
38	800	700	28	——	1400

The corrected mean temperature of Lead Hills at 426 yards is 44½°; that of Carbeth at 160 yards is 46¾°. Both accord better with the allowance of 80 yards for 1° of temperature; but they are considerably at variance from the above scale. In fact, the mean at Lead Hills allows only 1° of temperature for 122 yards of ascent.

The estimate of 70 yards gives a temperature below 28° for the summits of our highest mountains; that of 80 yards makes it 30°. Now, as these summits do not attain the line of perpetual snow, it is not unlikely that 30° may prove a closer approximation than 27½°. Were we to take the rate of decrease indicated by Lead Hills, say 120 yards, instead of 30° we should have 36° of temperature. Our loftiest summits are too near the snow-line for such an assumption. I believe to have heard Professor Jameson state in his Lectures, that 90 yards of ascent depresses the thermometer one degree. This scale would give 32° of temperature for our highest summits.

The mean annual temperature of the earth below 100 yards in Britain is almost the same as that of the air; but as we ascend the mountains it decreases more slowly. The temperature of the earth is usually determined by that of spring waters, but a distinction ought always to be taken between those of variable and those of fixed temperature. A spring changing its temperature with the seasons (as all do when flowing some distance near the surface, or collected into wells,) gives a higher mean than one keeping almost the same temperature through the year. Observations once a month are sufficient for a good spring. The following are recorded:—

TEMPERATURE OF THE EARTH IN BRITAIN.

	Alt.	Temp.	Place.	Alt.	Temp.
Gosport -		52°	Jesmond -	200	45¾°
Barnstaple -		52½	Newcastle -	180	49
Ditto -		50¼	Lead Hills -	1280	44
Ditton - -		54½	Leith -		47¼
Crumpsall -	292	48¾	Edinburgh -	214	47¾
Kendal -		47¼	Ditto -	230	47
Helvellyn -	2750	41	Ditto -	367	47½
Keswick -	250	46½	Rose Bank -	130	45½

These accord very nearly with the preceding observations on the temperature of the air. The means for places between the parallels of 53—56° (Helvellyn and Lead Hills excluded) is 47½; or one fourth of a degree below the mean temperature of the air. The warmer spring at Barnstaple forms a pump-well, and the temperature of the water was taken weekly after pumping until the water raised came to a settled temperature. The extremes observed were 49 and 56. From July to October, 1833, observations were made by the present writer; from October 1833 to June 1835, they were made by his sister, Mrs. Wakefield, on whose accuracy he can rely. The calculation is made for 1834; the records in months of the preceding and succeeding year coincide very nearly. The colder spring gushed copiously from a limestone rock at Landkey, near Barnstaple, and tried from July to October, 1833, did not vary a quarter of a degree. The temperature at Ditton is that of a pump-well, tried monthly during 1834. The extremes were 47½ and 61. This well is near the surface, partly under the floor of a house, and only six yards horizontally from a kitchen fire; the temperature is obviously raised too high.

According to data given in the Magazine of Natural History before referred to, there is a decrease of temperature in the earth, within Britain, equal to 1° of Fahrenheit's scale for 125—127 yards; the former being the mean of the year between latitude 54—56°; the latter, of the spring and summer months between 53—57°. Taking 125 yards, and assuming the temperature of the earth to be 48° at the sea level, we have the following scale of presumed temperature in ascending the hills. But in the south of England and north of Scotland a higher and lower temperature must be taken for the sea level.

TEMPERATURE OF THE EARTH, AT DIFFERENT ELEVATIONS, IN BRITAIN.

Temp.		Elevation.	Temp.		Elevation.
48	at	0 yards.	42	at	750 yards.
47	.	125	41	.	875
46	.	250	40	.	1000
45	.	375	39	.	1125
44	.	500	38	.	1250
43	.	625	37	.	1375

The distribution of temperature through the seasons merits the especial attention of botanists; but in this inquiry accurate observations at elevated stations are yet *desiderata.* The *maximum* of atmospheric temperature almost yearly occurs in July, and the *minimum* in January. Either may happen a month earlier or later; but neither is ever transferred (or most rarely, if ever) to spring or autumn. Springs usually attain their *maximum* in September, and *minimum* in February. The means of the seasons, or of particular months, vary much more in different years than do the annual means. Hence true averages can be drawn only from observations continued through several years. And since the hours which best represent the whole twenty-four, or the mean of the extremes, also vary according to season, correct results must be looked for chiefly in the data derived from register thermometers. In the following table the means are deduced from observations for six or more years by self-register thermometers; and it may be presumed that they will afford a very close approximation to accuracy.

MONTHLY DISTRIBUTION OF HEAT IN BRITAIN.

	Penzance.	Gosport.	Oxford.	Manchester.	Kendal.	Edinburgh.	Kinfauns.
January	42·33	37·81	36·92	36·90	34·43	36·22	36·52
February	44·00	40·45	37·20	38·90	35·78	38·37	38·88
March	46·92	44·33	42·08	42·20	41·81	41·35	40·77
April	51·11	49·59	46·75	46·60	45·90	45·34	45·00
May	54·00	55·27	52·75	52·20	51·36	50·77	50·78
June	58·58	61·95	57·08	57·60	57·64	56·56	56·65
July	60·94	63·97	61·67	60·20	59·39	59·09	58·77
August	61·46	62·65	60·80	59·30	57·68	56·72	57·94
September	57·77	58·37	57·20	56·70	53·58	54·01	53·94
October	54·50	54·05	52·75	50·50	49·29	48·40	48·02
November	48·94	46·28	43·67	43·90	41·02	41·11	41·94
December	46·11	41·56	37·08	41·10	40·63	39·38	38·28

Dividing the year into seasons of three months each, we have the means of the preceding monthly means as follows: —

DISTRIBUTION OF HEAT THROUGH THE SEASONS.

Place.	Year.	Winter.	Spring.	Summer.	Autumn.
Penzance -	52·22	44·15	50·68	60·33	53·74
Gosport -	51·36	39·94	49·73	62·86	52·90
Oxford -	48·83	37·07	47·19	59·85	51·21
Manchester -	48·85	39·00	47·00	59·03	50·37
Kendal -	47·47	36·95	46·69	58·27	47·96
Edinburgh -	47·28	37·99	45·82	57·46	47·84
Kinfauns -	47·30	37·93	45·52	57·79	47·97

The three following are copied from Humboldt's table in the Treatise on Isothermal Lines, translated in vols. iii. iv. v. of the Edinburgh Philosophical Journal.

Place.	Year.	Winter.	Spring.	Summer.	Autumn.
London -	50·4	39·6	48·6	63·2	50·2
Kendal -	46·2	36·8	45·2	56·8	46·2
Edinburgh -	47·8	38·6	46·4	58·2	48·4

Although less valuable, the observations at stated hours will further illustrate the differences of the seasons.

MONTHLY DISTRIBUTION OF HEAT AT STATED HOURS.

Months.	Isle of Wight. 9 A. M.	Manchester, 8, 1, 11.	Carlisle, 8, 1, 10.	Isle of Man, 9 A.M. 11 P.M.	Jesmond, 9, 2, 11.	Lead Hills, 9 A. M. 1 P. M.	Dunfermline, 9 A. M.	Clunie, 10, 10.	Aberdeen.
Jan.	37	36	35½	40½	36	32	35	36	37
Feb.	41	38½	39	41	39	35	37	38	38
March	44	40½	40½	42½	40½	37½	38	41½	40½
April	46	46½	45½	47	45	43	42	45	44½
May	56	52	51	53	50½	49½	48	51½	52
June	62	57	56	58	57	55	54	58½	56½
July	65	59½	58½	61	59	57	57	61	59
Aug.	62	59½	57½	60½	58	55	55	58½	58
Sept.	58	55½	54½	57	55½	50½	51	54	54½
Oct.	51	49	48	52	48	44	46	49	48½
Nov.	44	41½	42	46	43	35½	40	40	42
Dec.	39	37	37½	41½	37	33½	36	38½	39½

The means of these, grouped according to seasons, give the results below.

DISTRIBUTION OF HEAT THROUGH THE SEASONS, AT STATED HOURS.

Place.	Year.	Winter.	Spring.	Summer.	Autumn.
Isle of Wight	50·42	39·00	48·67	63·00	51·00
Manchester -	47·68	37·07	46·30	58·73	48·67
Carlisle - -	47·21	37·45	45·75	57·44	48·22
Isle of Man -	49·93	40·95	47·41	59·56	51·79
Jesmond -	47·37	37·49	45·27	57·96	48·70
Lead Hills -	44·28	33·37	43·36	55·80	43·35
Dunfermline	45·02	36·11	42·79	55·43	45·77
Clunie - -	47·66	37·54	46·14	59·21	47·75
Aberdeen -	47·56	38·09	45·87	57·81	48·47

From these data, we may assume as a general rule, from which the exceptions do not deviate very widely, that the mean temperature of summer is about 10°

above that of the whole year; and the mean of winter as much below; the mean of autumn being 1° or 2° higher, and that of spring 1° or 2° lower than the annual mean. At Penzance there is the nearest approach to equalisation, the means of winter and summer differing only 8° from that of the year. The contrary holds at London, where the mean of winter is 11° below, and that of summer 13° above, the annual mean. At Oxford, these differences are reversed. At Gosport, the summer and winter means respectively are about 11½° distant from that of the year. Northward of lat. 52°, the summer mean is below 60°, unless in very fine seasons, and usually above 57°. Southward of this lat. it is from 60° to 63°. The recorded extremes at London in the last forty years are — 6 and + 94; the range of Fahrenheit's thermometer therefore being 100°. I believe the average extremes are about 20° and 85°.

b. *Rain.*

The distribution of heat we have seen to be in accordance chiefly with latitude and elevation, modified considerably by local or geographical position. The quantity or distribution of rain bears reference principally to the latter condition. The quantity of rain falling in Britain varies much both annually and locally. In general, it may be said that the quantity is greater towards the western coasts, and near the mountain tracts. The usual mode of estimating the quantity of water falling as rain or snow is by the depth of inches, supposing it evenly spread over the surface, and no evaporation. In the following table are brought together a number of mean results obtained by the rain-gage; and though some of them may not be very precise, trifling inaccuracies will not materially affect the general means. Some source of fallacy must be conjectured in the estimate for Glasgow.

AVERAGE ANNUAL FALL OF RAIN.

Western Counties.	Rain.	Years.	Eastern Counties.	Rain.	Years.
Penzance - -	44	10	Edmonton - -	26	7
Helston - -	44	2	Bushey Heath -	20	3
Plymouth - -	44	?	London - -	21	40
Sidmouth - -	27	?	Epping - -	28	7
Alderley - -	33	10	Oxford - -	22	6
Crumpsall - -	34	8	Wycombe - -	31	7
Manchester - -	36	33	Chatsworth - -	28	16
Salford - - -	43	9	New Malton - -	37	2
Isle of Man - -	36	7	Edinburgh - -	23	2
Lancaster - -	40	20	Kinfauns - -	24	9
Carlisle - -	31	24	Aberdeen - -	30	2
Kendal - -	54	25	Inverness - -	26	2
Dumfries - -	37	16	Gordon Castle -	29	?
Lead Hills - -	33	6			
Largs - - -	43	?	Mean for E. Counties	$26\frac{1}{2}$	
Glasgow - -	21	17	———W. Counties	38	
Stocky Muir -	43	?			
			Difference -	$11\frac{1}{2}$	

With regard to the influence of local situation in augmenting or diminishing the quantity of rain, I have little information to give. The highest station in the preceding list of places is that on Lead Hills, and there the quantity of rain is below the average for the western counties; while from some measurements on the line of the Rochdale Canal it would seem that the high ground receives more than the low and open country, but that when surrounded by hills the low ground receives as much, or more than elevated places. The following are the quantities, as given in the *Memoirs of the Literary and Philosophical Society of Manchester:* —

RAIN ON THE LINE OF THE ROCHDALE CANAL.

Situation of Gauge.	Altitude.	Rain.
Moss Lock - - -	510	27·24
Blackstone Edge - -	1500	31·39
Sowerby Bridge - -	364	28·80
Stubbins - - -	268	32·83

The average for Sowerby Bridge is drawn from only two years' observations, 1828–9; the others are from five years, 1825–9. In 1828, the rain at Moss Lock was upwards of seven inches more than at Sowerby Bridge; in 1829, it was about half an inch less. In the other places, the means of each of these two years exceeded the means for Sowerby Bridge.

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

The amount of rain, as distributed through the different months, offers some points worthy of notice. In the Annals of Philosophy, Dr. Dalton has given the table of monthly means which is copied on the following page, with a slight alteration from the omission of Continental places; some few of which were included by Dr. Dalton in the original table.

MONTHLY FALL OF RAIN.

Months.	London, 40 years.	Chatsworth, 16 years.	Manchester, 33 years.	Liverpool, 18 years.	Lancaster, 20 years.	Kendal, 25 years.	Glasgow*, 17 years.	Dumfries, 76 years.	Means.
Jan.	1·464	2·196	2·310	2·177	3·461	5·299	1·595	3·095	2·700
Feb.	1·250	1·652	2·568	1·847	2·995	5·126	1·741	2·837	2·502
March	1·172	1·322	2·098	1·523	1·753	3·151	1·184	2·164	1·796
April	1·279	2.078	2·010	2·104	2·180	2·986	0·979	2·017	1·954
May	1·636	2·118	2·895	2·573	2·460	3·480	1·641	2·568	2·421
June	1·738	2·286	2·502	2·816	2·512	2·722	1·343	2·974	2·362
July	2·448	3·006	3·697	3·663	4·140	4·959	2·303	3·256	3·434
Aug.	1·807	2·435	3·665	3·311	4·581	5·039	2·746	3·199	3·348
Sept.	1·842	2·289	3·281	3·654	3·751	4·874	1·617	4·350	3.207
Oct.	2·092	3·079	3.922	3·724	4·151	5·439	2·297	4·143	3·606
Nov.	2·222	2·634	3·360	3·441	3·775	4·785	1·904	3·174	3·162
Dec.	1·736	2·569	3·832	3·288	3·955	6·084	1·981	3·142	3·323

In the Magazine of Natural History (vol. iv. p. 248.) are comparative tables of the monthly quantity of rain at Wycombe, Epping, and Edmonton, for the seven years preceding 1831, and at Carlisle from 1819 to 1826, inclusively, drawn up by Mr. G. Tatem. They may be consulted with advantage.

c. *Progress of the Seasons as indicated by that of Vegetation.*

I have felt desirous of ascertaining the local differences in the progress of the seasons, as indicated by the progress of vegetation. To facilitate this, I kept lists or registers of the dates of flowering of wild plants about Barnstaple and Thames Ditton, from January to May in 1833 and 1834, and at Keswick in the latter part of May

* The quantity of rain for Glasgow appears to be erroneous. It is given (21 inches) as little more than one-half the mean for the western counties; while at Stocky Muir, only twelve miles distant, it is said to be 43 inches.

and June of 1833. Absences from home, in each year, interrupted the regularity after the middle of May. The Rev. G. Gordon favoured me with a similar register for Elgin and adjacent country, during 1833; and also procured others kept in Nairnshire by Mr. Brichan, in Elginshire by Mr. Wilson of Alves, and in Strathpeffer, Ross-shire, by Mr. Gillan. Messrs. Woodward, jun., of Norwich, kindly furnished me with copies of very complete similar registers for Norwich and East Dereham, Norfolk, in 1834. But it is not to be supposed that any observer, however attentive, sees the first open flower of each species, and a reader needs scarcely be reminded that days must occasionally intervene without the proper opportunity for observation.

Unfortunately, many of the species noted are only found in one or other of the different lists, the common plants of one district often being the rare or absent in another. The general results or mean differences, as shown by comparing these lists together, make a step towards the object in view; but so great are the differences of time between the flowering of some of the species, that the means cannot be at all relied on as precise. They are the following: —

Barnstaple earlier than Nairnshire by		12	days.
	Elgin (Gordon) -	17¼	—
	Elgin (Wilson) -	17½	—
	Strathpeffer - -	30	—
Keswick earlier than Nairnshire -	-	6	—
Ditton earlier than Norwich -	-	0¼	—
	E. Dereham - -	2¼	—

By observations on the mountains of Cumberland in May and June of 1832, I concluded, that at a mean height of 2000 feet the flowering of spring plants was about two months later than near the sea level at Barnstaple; and also, that the combined influence of increased elevation

and more northern latitude lessened considerably as the season advanced, being much greater in the early part of the year.*

II. GENERAL REMARKS ON THE FLORA AND VEGETATION OF BRITAIN.

1. NUMERICAL ESTIMATE.

It is not an easy matter, in the present day, to define the flora of Britain. Many species, originally introduced by human agency, now exist in a wild state; some of them only continued by unintentional sowings along with corn or other cultivated plants; while several keep their acquired hold of the soil unaided, and often despite our efforts to dispossess them. Both these classes certainly *now* constitute a part of the British flora, with just as much claim as the descendants of Saxons or Normans have to be considered a part of the British nation. But there is a third class, consisting of plants which have yet acquired a very uncertain right to be incorporated with the proper spontaneous flora of the island, albeit many botanists anxiously seek to include them in it; — an anxiety perhaps originating more in the *Love of Approbation* (phrenologically speaking) than in the *Love of Science.* This third class consists partly of species springing up occasionally from seeds or roots thrown out of gardens, and maintaining themselves a few years; and partly also of those designedly planted for ornamental or economical purposes.†

* The reader, who is interested in the progress of vegetation according to season, should consult the *Kalendarial Index* in Loudon's Encyclopædia of Gardening, edit. of 1834–5.

† We often find botanists calling such "naturalised plants," although the only grounds may be that they live where planted.

Such are no more entitled to be called Britons, than are the Frenchmen or Germans who occasionally make their homes in England. In addition to these, our descriptive Floras include a considerable number now extinct, or never actually found wild in Britain. The numerical estimate, and in some measure also the botanical character of our flora, will vary accordingly as these classes of plants are included or excluded. Other circumstances, indeed, prevent the exact number of species* being determined, for scarcely two writers on the flora of the same country will be found to agree in their divisions into species and varieties, so that the supposed number of species is continually fluctuating; but the general tendency of the present day is to increase them, independently of new discoveries.

According to Mr. Arnott's calculations†, the flowering plants of the British isles amount to 1503 species, by Smith's English Flora; and by Gray's Natural Arrangement of British Plants, to 1636. Hooker's British Flora, different editions, contains between 1500 and 1520 species.‡ But these works include Ireland and the Channel isles along with Britain itself. Deducting about twenty species peculiar to one or other of the former islands, and at least as many extinct or mistaken species, we may estimate the British flora at about 1470 species, of which a considerable number have only doubtful, and several only extremely doubtful, claim to be admitted into it. Expunging a number of vague or nominal species (Salix Stewartiana, Epipactis purpurata, Carex angustifolia, &c.), and others scarcely established except where

* The word *species* is here used in its common acceptation; though the writer of this does not consider that any permanent distinction into species exists at all.

† Published in Murray's Encyclopædia of Geography.

‡ This is the best authority. A full catalogue of the species contained in the 3d edition is published by Mr. G. Francis, 55. Great Prescot Street, London, on a single sheet of paper, printed on one side only, " to facilitate botanical correspondence and reference, as an index to Herbariums," &c.

planted or sown (Castanea vulgaris, Crocus aureus, Linum usitatissimum, &c.), we may say that 1400 species is the extreme limit of our present flora, from which number some botanists would strike out 200, as varieties or introduced species. Indeed, 1200 species is probably too large an allowance for a rigidly exact estimate; but in accordance with the views generally entertained in the present day, I should take 1400 to 1450 species as the proper estimate of our flora, when wishing to make comparison numerically with that of another country, or of parts of our own.

In the Flora of Berwick we have the following summary: —

Place.	Monocotyledones.	Dicotyledones.	Total.
Britain - -	359	1158	1517
England - -	322	1048	1370
Scotland - -	276	879	1155
Berwick - -	155	526	681

"Of the British plants, Professor HENSLOW considers seventeen genera and forty-five species of Dicotyledones, and three genera and six species of Monocotyledones, as having been naturalised. Several of those which are native to England have emigrated into Scotland, where they are now more or less naturalised; but, with the exception of the Scotch fir, it would seem that the English flora has received no accessions from her northern sister. Of those which Professor HENSLOW marks as aliens, the Flora of Berwick possesses ten species; and no less than fifty-six of the English aborigines have no better claim to denization in our district." Additional Berwickshire species, to the number of twenty-six, are given in the History of the Berwickshire Naturalists' Club.

The writers of our local Floras of course differ somewhat in their classification of plants as species or varieties,

as well as in their tendency to admit those of doubtful claim; but they are sufficiently near to each other on these points to admit of comparison numerically. The following list presents the number of species contained in each of them: —

Maritime	No.	Inland.	No.
Devon - -	774	Tonbridge - -	717
Yarmouth - -	724	Oxford - -	727
Anglesea - -	764	Bedford - -	717
Berwick - -	707	Cambridge - -	847
Edinburgh - -	774	Bath - -	632
Glasgow - -	629	Lanark - -	604
Mean - -	$728\frac{2}{3}$	Mean - -	$707\frac{1}{3}$

One investigating the flora of a limited area, as a radius of ten or twenty miles, in Britain, may judge of his success by the above. The flora of Northumberland and Durham, 1026 species (Trans. Nat. Hist. Soc. of Newcastle, quoted in Edin. Journ. of Nat. and Geog. Science), is considerably above the mean, after allowing for the greater extent of surface; while that of Southport in Lancashire, 392 species (Hist. of Southport), is as much too low. The latter, however, probably relates to a small area, while the former is augmented by many species brought in shipping to the ballast-hills near Newcastle. The Flora of Bath does not include the genus *Salix*, and refers to a circumscribed space. I believe the average number of species contained in a score of Manuscript Catalogues of plants found in particular counties or vicinities, procured from friends or correspondents, will not amount to 600; but several of such catalogues entirely omit some genera, and do not profess to be complete lists of certain orders, as Gramineæ, Cyperaceæ, and Amentaceæ. On the average, a single county appears to contain nearly one half the whole number of species found

in Britain; and it would, perhaps, not be a very erroneous guess to say that a single mile may contain half the species of a county.

Arranging the present flora of Britain according to the Natural Orders of Botanists, we have the following distribution of the species, as given in the Flora of Berwick, and apparently (from a foot note) founded on calculations by Professor Henslow.

NUMERICAL ESTIMATE OF THE NATURAL ORDERS.

Orders.	British.	English.	Scottish.
I. Dicotyledones.			
Ranunculaceæ	36	35	28
Berberideæ	2	2	2
Nymphæaceæ	3	3	3
Papaveraceæ	11	10	7
Fumariaceæ	6	6	4
Cruciferæ	72	68	57
Cistineæ	5	5	1
Violarieæ	8	8	7
Resedaceæ	3	3	2
Droseraceæ	3	3	3
Polygaleæ	1	1	1
Frankeniaceæ	2	2	0
Caryophylleæ	58	50	47
Lineæ	5	5	3
Malvaceæ	6	6	5
Tiliaceæ	3	3	2
Hypericineæ	11	9	11
Acerineæ	2	2	2
Geraniaceæ	16	16	13
Balsamineæ	1	1	1
Oxalideæ	2	2	2
Celastrineæ	3	3	2
Rhamneæ	2	2	2
Leguminosæ	69	66	45
Rosaceæ	82	72	63
Cucurbitaceæ	1	1	1
Onagrarieæ	13	12	11
Halorageæ	5	5	3
Hippurideæ	1	1	1
Ceratophylleæ	2	2	1

Orders.	British.	English.	Scottish.
Lythrarieæ	3	3	2
Tamariscineæ	1	1	0
Portulaceæ	1	1	1
Paronychieæ	7	7	2
Crassulaceæ	16	16	10
Grossularieæ	6	6	5
Saxifrageæ	28	17	20
Umbelliferæ	65	62	46
Caprifoliaceæ	11	11	10
Lorantheæ	1	1	1
Rubiaceæ	21	18	17
Valerianeæ	8	7	5
Dipsaceæ	6	6	6
Compositæ	132	120	105
Lobeliaceæ	2	2	1
Campanulaceæ	13	12	9
Vaccinieæ	4	4	4
Ericineæ	20	12	14
Monotropeæ	1	1	1
Jasmineæ	3	3	3
Apocyneæ	2	2	2
Gentianeæ	15	14	7
Polemoniaceæ	1	1	1
Convolvulaceæ	5	5	5
Boragineæ	24	23	22
Solaneæ	12	12	9
Antirrhineæ	14	14	10
Orobancheæ	8	7	3
Rhinanthaceæ	13	13	10
Veroniceæ	19	15	16
Labiatæ	55	54	41
Verbenaceæ	1	1	1
Lentibularieæ	6	4	5
Primulaceæ	19	18	16
Plumbagineæ	5	5	4
Plantagineæ	5	5	5
Amaranthaceæ	1	1	0
Chenopodeæ	25	25	19
Polygoneæ	23	21	23
Thymeleæ	2	2	1
Santalaceæ	1	1	0
Elæagneæ	1	1	0
Aristolochieæ	2	2	1
Euphorbiaceæ	17	17	7
Urticeæ	5	5	4
Amentaceæ	84	61	70
Myriceæ	1	1	1
Coniferæ	4	3	4
	1158	1048	879

Orders.	British.	English.	Scottish.
II. Monocotyledones.			
Hydrocharideæ	2	2	1
Alismaceæ	9	9	6
Potameæ	17	17	15
Orchideæ	37	34	17
Irideæ	7	6	1
Amarylideæ	5	5	2
Asparageæ	8	7	6
Liliaceæ	19	19	11
Colchicaceæ	2	2	2
Junceæ	28	22	27
Restiaceæ	1	0	1
Aroideæ	2	2	2
Typhaceæ	6	6	5
Cyperaceæ	92	77	80
Gramineæ	120	110	96
Lemnaceæ	4	4	4
	359	322	276

2. BOTANICAL CHARACTER.

The botanical character of a flora is determined by the predominance of species exhibiting similar peculiarities of form or structure. The classifications of Systematic Botany profess to bring together such species into imaginary groups, constituting *orders* and *genera*. Hence the numerical predominance of species, referred to the same order or genus, gives a botanical stamp or character to the flora of a country, thus furnishing a ground for comparison of it with the flora of any other. Looking to this test, the character of the British flora, or prevalence of certain forms in it, will be represented in the following scale; the numerical estimates before given being adopted. Fractions are overlooked if less than ½, otherwise raised to 1.

COMPARATIVE SCALE OF NATURAL ORDERS.

Compositæ	*form* 1 *in* 11	Amentaceæ	*form* 1 *in* 18
Gramineæ	13	Rosaceæ	19
Cyperaceæ	16	Cruciferæ	21

Leguminosæ	*form* 1	*in*	22
Umbelliferæ			23
Caryophylleæ			26
Labiatæ			29
Orchideæ			41
Ranunculaceæ			42
Junceæ			54
Saxifrageæ			54
Chenopodeæ			61
Boragineæ			63
Polygoneæ			66
Rubiaceæ			72
Ericineæ			76
Veroniceæ			80
Primulaceæ			80
Liliaceæ			80
Euphorbiaceæ			89
Potameæ			89
Geraniaceæ			95
Crassulaceæ			95
Gentianeæ			101
Antirrhineæ			108
Onagrarieæ			115
Campanulaceæ			115
Rhinanthaceæ			115
Solaneæ			126
Papaveraceæ			138
Hypericineæ			138
Caprifoliaceæ			138
Alismaceæ			169
Violarieæ			190
Valerianeæ			190
Orobancheæ			190
Asparagineæ			190
Paronychieæ			217
Irideæ			217
Fumariaceæ			253
Malvaceæ			253
Grossularieæ			253
Dipsaceæ			253
Lentibularieæ			253
Typhaceæ			253
Cistineæ			305
Lineæ			305
Halorageæ	*form* 1	*in*	305
Convolvulaceæ			305
Plumbagineæ			305
Plantagineæ			305
Urticeæ			305
Amaryllideæ			305
Vaccinieæ			379
Coniferæ			379
Lemnaceæ			379
Nymphæaceæ			506
Resedaceæ			506
Droseraceæ			506
Tiliaceæ			506
Celastrineæ			506
Lythrarieæ			506
Jasmineæ			506
Berberideæ			759
Frankeniaceæ			759
Acerineæ			759
Oxalideæ			759
Rhamneæ			759
Ceratophylleæ			759
Lobeliaceæ			759
Apocyneæ			759
Thymeleæ			759
Aristolochieæ			759
Hydrocharideæ			759
Colchicaceæ			759
Aroideæ			759
Polygaleæ			1517
Balsamineæ			1517
Cucurbitaceæ			1517
Hippurideæ			1517
Tamariscineæ			1517
Portulaceæ			1517
Lorantheæ			1517
Monotropeæ			1517
Polemoniaceæ			1517
Verbenaceæ			1517
Amaranthaceæ			1517
Santalaceæ			1517
Eleagneæ			1517
Myriceæ			1517
Restiaceæ			1517

But many obvious and important peculiarities of plants being altogether unheeded in botanical classification, or at least not allowed to interfere materially with it, the general character of a flora is incompletely shown by reference to orders and genera alone. Still less can such a test give any just idea of the floral landscape or physiognomy of vegetation, since this depends much more on the prevalence of particular species, in respect to the number and magnitude of individual specimens, than on the number of species referred to any particular order or genus. Thus the *genera* Corylus, Calluna, Bellis, and Anthoxanthum, containing only one species each, form a far greater constituent of British vegetation than do Ophrys, Orobanche, Pyrola, and Scirpus, each containing several.

To depict the vegetation of a country, it hence becomes necessary to state the comparative frequency and copiousness of *each* species. For a small space, this is readily enough determined; but local scarcity or abundance, from differences of climate, soil, humidity, and other conditions, so very materially interferes with any attempt to do this for large tracts, that if two botanists, resident in different counties, were requested to place the names of a hundred species in a scale or series representing the comparative degree of rarity or abundance, they would be very unlikely to agree in their order of position. It would, indeed, be sufficiently easy to select a hundred species, which all British botanists would agree to call *rare;* and possibly a like number might be found, which they would all of them esteem *common;* but what could they say about the other twelve or thirteen hundreds?

As an approximation to some estimate of the comparative frequency of occurrence of the different species, in the table appended to this volume I have shown the latitudinal and regional range of each species, and also the number of published local Floras, and of my MS. Cata-

logues, in which it is mentioned. For the *rarer* species, or those not mentioned in three fourths of the local Floras, the number of counties in which I have stations is the best single test I can give of their scarcity or frequency; which may be ascertained by reference to the *New Botanist's Guide;* a work likely to be before the public at an earlier date than the present one. A little reflection and calculation will readily enable even a stranger to British vegetation to determine its physiognomy by these aids, since the number of Floras, Catalogues, and counties, in which a species occurs, taken in connection with its latitudinal and regional range, must be a near approach to precision on such head. The chief obstacle to this proving a rigid test will arise from the circumstance of some species being as widely and generally diffused, though less numerous than others in individual specimens. By reference to the table, it will be seen that Ranunculus acris extends the whole length of Britain in latitude, ranges from the Plains to the Alps, and is mentioned in every Flora and Catalogue. It is consequently one of the very few species boasting ubiquity, and may fairly be set down as one of the commonest plants we have. Ranunculus Ficaria is as widely and generally spread, with one exception, that it does not attain the Alps. Hence we conclude it to be equally common as the preceding in the low grounds, but less so on the mountains. R. auricornus, wanting in one Flora and six Catalogues, and not ascertained to grow in the 59th degree of latitude, or above the Upland Region (I believe it *does* reach the Alps), may be presumed considerably less common than the two preceding species. R. parviflorus, extending only half the length of Britain, limited to the plains, and mentioned only in about half the Floras and Catalogues, must be much rarer than any of the others, though occurring in twenty-eight counties. And R. alpestris, peculiar to a single degree of latitude, indeed to a single county, must

rank among the rarest of British plants. These examples will indicate the use of the table towards determining the comparative scarcity or frequency of species. It would be easy to group the species in lists according thereto; but as this would be merely a repetition, though differently arranged, of the information contained in the table, I avoid the additional type and paper that would be required. My object is to condense such matters as much as possible. It is usually a more facile task to make a large book, than to convey the same actual information in a small one.

III. REMARKS ON THE DATA FOR DETERMINING THE DISTRIBUTION OF PLANTS WITHIN BRITAIN.

The latitudinal extent of Britain, the varied elevation of its surface, its peculiar geographical position between an immense ocean on the one side and a wide continent on the other, with the local differences in its climate dependent on these peculiarities, would naturally lead a botanist to expect considerable diversity in its vegetation at the opposite extremities of the island, as well as in the low plains and on the mountain heights. This, indeed, is so obvious on the most superficial examination, that every British disciple of Flora is aware of the fact; but the amount of these differences, and the peculiarities in the range and limits of species, have been very little investigated, although such an inquiry opens out to the student of nature, views far more exalted, and a field of research far wider and more interesting, than the mere collection and examination of individual objects can ever afford to him. The commonest weed thus acquires an

interest and importance in affording knowledge and pleasure, equally with the rarest plants which botanical collectors take so much trouble to acquire.* The essential purport of the present work is to trace a general sketch or outline of the subject, which may serve as a basis and guide to more minute local observations. These, brought together by a comprehensive mind, will at a future day give us an insight into the true philosophy or exact laws of vegetable distribution in Britain; an end which our present materials are quite inadequate to fulfil. In fact, after reading the works of writers on English botany, and conversing or corresponding with many others greatly superior to me in botanical skill, I do not hesitate to say (it is hoped without giving offence), that very few indeed appear to have aught beyond the most vague and unconnected notions on the subject. No doubt, one great cause of this must rest in the want of works to be used as training guides, or points of comparison and reference, by young botanists who may not have the leisure or inclination to extend their rambles over the island, and make the necessary observations in person.

One of the earliest attempts is an inaugural dissertation by Dr. Bouè, well known as a geologist. But an essay by a foreigner, written during a temporary residence in Britain for other purposes, and at a period when local Floras and Catalogues were extremely few, cannot be supposed very exact; indeed, it is quite vague in plan, and apparently far from accurate in details. A much superior one has more recently appeared from the pen of Mr. Winch.† But this is rather composed of remarks on

* A moderate degree of acquaintance with technical botany suffices for the geographic botanist; but it is necessary that he should *know* plants: and the knowledge of species being thus indispensable to him, it is ridiculous in him to decry such, or to talk of puerility and waste of time in acquiring it.

† Essay on the Geographical Distribution of Plant in the Counties of Northumberland, Durham, and Cumberland.

the flora of the counties to which it relates, than on the distribution of plants *within* them. Nevertheless there is some valuable information on the latter topic, and it is to be regretted that a scale, showing the absolute and comparative elevation to which the species ascend or descend, was not formed by careful examination of the mountain tracts, and an endeavour made to connect such with experimental observations on the humidity and temperature at different heights. This, it is apprehended, would be most useful in a treatise having reference to a very limited extent of latitude, the surface of which rises to a considerable elevation. The influence of soil, or subjacent rocks, is also a fitting subject for local essays; and this Mr. Winch has been alive to in various of his writings. Mr. Macgillivray has an able paper "On the Vegetation of the Dee," in vol. v. of the Wernerian Memoirs, and copied into Anderson's Guide to the Highlands. The plan and method of this essay make it a good model; but it is rather too general, too much wanting in precision of detail, to give exact notions on the distribution of species. These constituted the principal, if not the only, works published on our present subject before the year 1832, when my own investigations commenced. Since then, some papers thereon have been contributed by me to the Edinburgh Philosophical Journal, the Magazine of Natural History, and the Companion to Curtis's Botanical Magazine. *Outlines* (rather too hastily put together) were privately circulated in 1832, with a view to draw forth information and assistance from others. Several correspondents have liberally supplied such; and it is hoped that botanists, resident near our higher mountains, will ere long bestir themselves; and, if wishing to write at all, not confine themselves to the mere list-making labour of a local Flora. Indeed, our most recent Floras do already exhibit an improvement in such respect, as, for example, the *Flora of Berwick.*

Putting aside philosophical generalisations, and directing attention to the distribution of plants through the counties of Britain, and the particular stations of our rarer species, we shall find materials much more ample; and instead of wanting facts, they will be found to accumulate upon us so rapidly and numerously, that the great difficulty is how to condense this information into a small space suitable to my present aim. Notwithstanding this, however, there are still many of the northern and western counties, regarding the floral productions of which we are most imperfectly informed. To my present purpose this want is of less consequence; the particular details of stations, and sketches of the distribution of individual species, being reserved for other works, as such would materially interfere with and distract from the more comprehensive generalisations sought here.

Unfortunately, along with the trustworthy materials there has gradually accumulated such a large intermixture of errors, that difficulties beset us on every side, as to what we may rely upon, and what is to be rejected *in toto*. In general it appears that the local Floras* are the most worthy of reliance, as referring to limited tracts, the productions of which usually pass under the eyes of the authors, and are submitted to due examination. I fear, however, that one or two of our later Floras are faulty in this respect; species being admitted on insufficient authority, and without the expression of any uncertainty on

* There are seven county Floras; namely, for Devon, Oxford, Bedford, Cambridge, Anglesea, Northumberland and Durham, and Lanark: and six for tracts including portions of different counties; namely, those of Bath, Tonbridge Wells, Midland Counties, Berwick-on-Tweed, Edinburgh, and Glasgow. Some of the county Floras, however, do not keep strict limits. Catalogues of the rarer plants of South Kent, Stockton-on-Tees, and Cumberland, have recently appeared as separate works. And still more recently we have a valuable little work on the Natural History of Yarmouth, including a Flora of its vicinity.

the part of the author or compiler; while others are omitted, though really existent, in consequence of the works professing to include an extent of country not actually examined. Thus they mislead as well by the positive as by the negative evidence.

The general Floras of Britain* must be liable to such errors in a much higher degree; and a work like the *Botanist's Guide* cannot at all avoid them. Beyond question, there are many and great errors † in this latter (as the compilers frequently hint), and *Withering's Arrangement* is probably more faulty still. Various lists of species may be found in Guide-books to watering places, Histories, and Periodicals; but frequently on incompetent or unexpressed authority, they are very unsafe guides to the botanist afar off. ‡

Besides these published data, I have accumulated, by personal labours, and through the kindness of friends and correspondents, a large stock of additional materials upon which I am inclined to place much reliance, having usually been able to apply to the authority for more explicit information when doubts arose. These materials consist of several lists of species for counties or other districts, numerous stations for the rarer plants, and a large number of specimens. Altogether, it is probable that my library and cabinet now contain more data for a

* Those which have been used are, the *English Flora* of Smith, and the *Flora Scotica* and *British Flora* of Hooker. Lindley's *Synopsis of the British Flora* does not embrace the localities of plants, except in very few instances.

† In the *New Botanist's Guide*, before alluded to, I have endeavoured to point out what are likely to be errors; but it cannot be hoped that I have myself avoided committing or perpetuating the errors inseparable from such compilations.

‡ But such as Don's List of the Rarer Plants of Forfarshire (in Headrick's *Agricultural Survey* of that county), Neill's Additional Plants of Orkney (*Tour*), Graham's Botanical Excursions in the Highlands (*Edinburgh Philosophical Journal*), Winch's Catalogue of Plants in North Wales (*Mag. Nat. Hist.*), may be looked upon as quite trustworthy.

work on the distribution of species within Britain, than will be found in the hands of any other person, and will consequently enable me to speak with considerable confidence regarding such.

For information on the influence of elevation, and the range and distribution of plants in connection therewith, I have hitherto been compelled to rely almost solely on my own limited and transitory opportunities for observation. This is much to be regretted, so little being published on the subject, that almost every thing had to be done; a task beyond the power of one whose place of residence has always been remote from the mountain tracts. And much as my works will show me indebted to botanical friends for their exertions and assistance in other respects, it seems that few of them have felt sufficient interest in that department to which I have attached the most importance. It is true, and it would be injustice to conceal, that several correspondents have given various useful facts in regard thereto. Thus, in the lists of plants for the Tees, Mr. Hogg has distinguished those chiefly, or only, found in the middle and higher parts of the course of that river. And Mr. Gordon, also, in the list of Moray plants, has distinguished them into three stages, according to their ranges from the mountains towards the coast. But such divisions, having reference only to their lower limits, can apply to a very small number. Their higher limits, or lines of cessation towards and on the mountains, constitute the most essential inquiry. Very few species reach the mountain-summits, but most of them descend to the shores. I have also derived additional information from Mr. Gordon and Mr. W. C. Trevelyan with respect to the range of several species into the Upland Zone (of the *Outlines*) which I had not enjoyed the opportunity of ascertaining. In Murray's Encyclopædia of Geography is a notice of the

distribution of plants in Britain, founded on *Winch's Sketch*, before mentioned, and observations by the Rev. J. Farquharson, of Alford, Aberdeenshire, on the heights attained by different species (chiefly as cultivated plants) in his vicinity. That district, however, is unfavourable for ascertaining the true limits, and hence they are usually given too low for the county in general, though doubtless correct for the particular tract.

IV. REMARKS ON THE DISTRIBUTION OF PLANTS WITHIN BRITAIN.

1. DISTRIBUTION IN ASCENDING REGIONS.

If we compare the vegetation on the northern and southern coasts of Britain, numerous species are seen on the one which we may in vain seek on the other. If we ascend the Highland mountains, before reaching their summits nine tenths of the species observed at the base have ceased to appear, and those which we still see are dwarfed, depressed, usually flowerless, and appear as if feebly struggling to maintain life; while other species, never found on the plains, here flourish in their fullest vigour. Bleak exposure, chilly climate, and clouded atmosphere seem to be conditions chiefly operative in effecting this change, gradually increasing from base to summit. Hence the usual course with botanists is to divide any country, the botanical aspect of which they wish to delineate, into successive or ascending stages, corresponding to such changes of climate and vegetation, be they caused by latitude, by elevation, or by other conditions affecting the growth of plants. But as no two species have precisely the same line of cessation, all such

stages are in some measure imaginary, or at least arbitrary, and can never be precisely described or delineated by exact lines. Still, they are useful as general indications, and for the most part answer the intended purpose. A single isolated hill may be divided into as many stages as wished, and with much exactness. Add adjacent hills, and local differences in the comparative order or sequence of species speedily appearing, broader stages must be taken, or the exceptions confuse the design. Groups of hills apart from each other are attended with yet wider variations in the comparative ranges of the same species. And when distant countries are compared together, such differences become so great and numerous, that only the broadest general distinctions can be adopted with success. Our criterion, therefore, of the fitness of any imaginary zones or regions of vegetation must be sought, on the one hand, in their general applicability to all parts of the tract or country to which they relate, without being attended with so many local exceptions as in effect to nullify them. But, on the other hand, they must not be so wide and vague as to express nothing. A few exceptions are to be preferred to the other alternative of vague inutility.

Britain extends over many degrees of latitude, has several distinct mountain tracts, and forms as it were a sort of centre, where the Greenlandic, Scandinavian, and Lusitanic climates meet together, or merge in each other. These peculiarities very greatly interfere with artificial systematising. The phenomena of vegetable distribution are thereby rendered so complex and interconfused, that it becomes a very difficult matter to say what are the most convenient general divisions of its vegetation. By bringing together such materials or data as I have been able to accumulate, it appears to me that the following scale will represent something like a general average, although not without certain exceptions.

Regions.		Characteristic Species.	Altitude or Latitude.	Probable Temperature of Earth.	Probable Temperature of Air.
Low Grounds.		Tamarix gallica, ext. to Lat.	52°	51°	50
		Clematis Vitalba - - —	54	49	48½
		Acer campestre - - —	56	48	47½
	Uplands	(Cornus sanguinea) ? —	58	47½	46¾
		(Viburnum Opulus) ? Alt.	200 yds.	46⅖	45½
		Quercus sessiliflora - —	300	45⅗	44¼
		Fraxinus excelsior - —	400	44⅘	43
		Corylus Avellana - —	500	44	41¾
	Medians	Cytisus scoparius - —	600	43⅕	40½
		Genista anglica - - —	700	42⅖	39¼
High Grounds.	Subalps	Arbutus Uva Ursi - —	800	41⅗	38
		Juniperus communis —	900	40⅘	36¾
		Calluna vulgaris - —	1000	40	35½
	Alps	Azalea procumbens - —	1100	39⅕	34¼
		Vaccinium Vitis Idæa —	1200	38⅖	33
		Empetrum nigrum - —	1300	37⅗	31¾
		Vaccinium Myrtillus —	1400	36⅘	30½
		Salix herbacea - - —	1450	36	30

The altitudes refer more particularly to the Scottish Highlands; many circumstances tending to prevent accurate estimates in England. The natural limits having given way to the limits artificially determined by the agency of man is one obstacle amongst others. Stations for the several species in the upland region will occur in England considerably higher than is indicated above, but the contrary will usually hold true with respect to those higher in the scale. *Calluna vulgaris* does not attain 1000 yds in Cumberland, but rises to nearly 1050 yds on the Cairngorm range. The oak (Winch) rises to nearly 500 yds in Durham, but is not seen so high in Scotland. The heights expressed are rarely or never attained by any of the species in the north and west of the Highlands. Neither, in fact, are we to suppose that nature really presents the regularity of step or stage represented in the scale. There is *not just* 100 yds between the cessation of the Cytisus and Genista, or the Calluna

and Azalea; nor is the distance always the same. The selected species are those which usually cease *nearly* in the order represented, and which from their frequency or visible size form convenient tests or features of the several regions.

Ascending zones or regions should be marked by the appearance, or lower limits, as well as by the upper limits of species; but the former are yet more capricious (if such an expression can apply to natural peculiarities) than the latter; nor can I give an exact scale of them to correspond with the preceding. The region of the plains commences on the south coast of England. Empetrum nigrum and Rubus saxatilis do not extend to the south coast. Vaccinium Vitis-Idæa and Arbutus Uva-Ursi scarcely belong to the plains. Saxifraga stellaris and Alchemilla alpina decidedly mark the upland region. Above these appear Thalictrum alpinum, Draba incana, Saxifraga oppositifolia. Silene acaulis and Epilobium alpinum (excluding *E. alsinifolium*) begin in the median region. Cerastium alpinum, Salix herbacea, Azalea procumbens belong to the subalpine region. Luzula arcuata and Saxifraga rivularis are seen only on the Alps.

In the *Outlines*, which preceded the present work, a slightly different arrangement was adopted, and it may be useful to compare them together to avoid mistakes through similarity of name not indicating precisely the same thing here.

Present Regions.	*Outlines.* Zones.	Regions.
Plains - -	Agricultural -	Wooded.
Uplands -	Upland - -	
Medians -	Moorland -	Barren.
Subalps -	Subalpine - -	
Alps - -	Alpine - -	Mossy.
	Snowy - -	

It will be observed that the only apparent change (other than of names) is in uniting the alpine and snowy zones into the *Alps*. But, according to the divisions in the *Outlines*, many species descending to the base of mountains were thrown into the same zone or region with others peculiar to the southern parts of Britain, and never found near the mountains; to avoid which incongruous union, a somewhat earlier termination is given to the *Plains* in the present work. The cessation of Empetrum nigrum was made the boundary line between the alpine and snowy zones; an insufficient distinction, since the distribution of this shrub in the alpine or mossy region is too irregular to become a test, and would appear to be more dependent on the nature of the ground or surface, than on elevation. *Moorland* being a term in common use to express heath-covered tracts at any elevation, I have found it mislead persons, whose ideas run more upon names than realities.

1. The *Region of the Plains* is too well known to British botanists to call for any particular description. It will include all the low or open country from the south coast of England to the borders of the Highlands in latitude 56—56½, terminating at the sea level on the shores of the Clyde and Tay. All hills attaining a sufficient elevation to produce species, which are not found in the low and open situations within this portion of Britain, will be referred to the higher regions. The absolute height at which such species grow is of little import in determining the line dividing the plains and uplands, since many species never found in the open country, do descend almost to the sea level about the bases of mountains or in the intervening valleys. A species *ascending* into such situations is still called a species of the plains, while one *descending* to the same place may be referred to the uplands only. If decidedly crossing each other,

the one in an ascending, and the other in a descending range, they will be considered common to the two regions. Some latitude must be allowed in these instances, and very slight trespasses into an adjacent region be overlooked. Such will usually be found in connection with the efflux of cold springs, the spray of descending streams, the shade of rocks, or other circumstances causing a local deterioration of the climate to which the plant is exposed.

The usual or prevalent vegetation of the plains is that most familiar to us, and generally known as *weeds* or *wild flowers*. The oak and ash form the principal truly indigenous forest trees of the region; to which some of the larger willows may be added. The beech, limes and elms (excepting Ulmus montana) are scarcely admitted to be hereditary Britons. The chesnut and sycamore, frequently planted, have a still more doubtful title. Ulmus montana and Betula alba, seen in many places here, are more characteristic of the uplands. Among other arborescent species, sometimes growing to trees, sometimes forming large shrubs, may be mentioned, as of common occurrence, Cratægus Oxyacantha, Ilex Aquifolium, Corylus Avellana, Alnus glutinosa, Sambucus nigra, and Pyrus Malus, with species of Salix. Acer campestre is frequent in the south of England, but dwindles off northward both in size and frequency. Rhamnus catharticus and Euonymus europæus are locally plentiful, and chiefly in the south and middle of England. A great portion of the underwood, hedgerows, and coppices are composed of the smaller-sized trees just enumerated, together with the various species of Rosa, Rubus, and Salix, Prunus spinosa, Viburnum Opulus, and Lonicera Periclymemum. Cornus sanguinea, Viburnum Lantana, Ligustrum vulgare, are local, and more plentiful in the south and middle of England. The smaller shrubs occupying the commons and other exposed places are chiefly

Ulex europæus, U. nanus, Cytisus scoparius, Ononis arvensis, O. spinosa, Genista anglica, Calluna vulgaris, Erica cinerea, E. Tetralix, Rosa arvensis, R. spinosa, Rubus fruticosus, and other varieties or species. Ruscus aculeatus occurs principally in the south of England. Vaccinium Myrtillus is more plentiful in Scotland and the north and west of England. The gravelly commons in the south of England are more frequently covered with the rosaceous and papilionaceous shrubs; those in the north and west with the Ericineæ. In the lower or more southern part of the region, we sometimes find in great plenty various herbaceous species which gradually run out or become rare northwards; such are Tamus communis, Bryonia dioica, Linaria Elatine, Euphorbia exigua, E. amygdaloides, Poa aquatica, Verbena officinalis, Linum angustifolium, Sison Amomum, Antirrhinum Orontium, Cnicus acaulis, Anthemis nobilis, &c. &c. On the other hand, several, that are rare or wanting in the south and south-east of England, decidedly increase in frequency northwards or towards the hilly tracts; such are Pinguicula vulgaris, Parnassia palustris, Geranium sylvaticum, Trollius europæus, Lysimachia nemorum, Carex dioica, Gymnadenia conopsea, Habenaria bifolia, H. viridis, Narthecium ossifragum, and Comarum palustre. Empetrum nigrum (Sussex), Saxifraga hypnoides (Somerset), and Habenaria albida are very uncommon in the plains, indeed scarcely belonging hereto.

In the extreme south of England, the orange ripens fruit when trained against walls and with the occasional protection of mats in severe weather. Some varieties of grape ripen yearly against walls in the south of England, and in very favourable seasons almost over the whole region. The walnut, filbert, fig, mulberry, and apricot succeed as standards; but chiefly in the southern part of the region. The chesnut ripens on the shore of the Firth of Forth (Loudon, Enc. Gard.). The myrtle endures the

open air in the south and middle of England, but is chiefly seen against walls or near the sea coast. Magnolias, Fuchsias, and Pelargoniums may also be kept in the open ground, but the latter are usually considered to demand some protection. The Camellia japonica is said (Gardener's Magazine) to bear the open air in Devon. Maurandya Barclayana, Eccremocarpus scaber, and Nierembergia phœnicea succeed in gardens, but require mats or other protection during winter.

2. *The Upland Region* is marked by the presence of Arbutus Uva-Ursi, Vaccinium Vitis-Idæa, Polygonum viviparum, Linnæa borealis, Trientalis europæa, Cornus suecica, Corallorhiza innata, Sedum villosum, Oxytropis uralensis, Galium boreale, and Listera cordata. Some of them may occur just within the limits of the preceding region; but if so they indicate a close approach to the uplands; which are more decidedly marked by the appearance of inferalpine species, as Saxifraga aizoides, S. stellaris, Epilobium alsinifolium, Alchemilla alpina, Oxyria reniformis. The higher parts of Dartmoor, Exmoor, and the moors or low hills in the north-east of Yorkshire, and in the English counties bordering on Wales, may be referred to this region. Also the declivities and valleys of the Welsh and Lake mountains, of the Penine chain, and the higher hills in the Lowlands, together with the south-eastern bases of the Highland mountains, and the whole low country beyond the Grampians, from the shores to the height of 200 to 600 yds, according to situation. Examples may be given in Llanberris Lakes, Llyn Ogwen, and Llyn Idwell, in Caernarvonshire; Watendlath Tarn, and Sparkling Tarn, near the Scawfell Mountains in Cumberland. Loch Lomond, Loch Lubnaig, Loch Tay, Glen Clova, and Castleton of Braemar give an ascending series in the Highlands. The absolute elevation at which species grow is of little im-

portance in this region. Their appearance or absence is more in connection with the proximity of their stations to high hills, or to the north-western coasts; the general result being a very rapid descent of upland plants towards the north and west coasts and the centres of mountain groups. Isolated hills or moors of 500 yds in elevation, rising in the region of the plains (Dartmoor, Exmoor, Egton moor, &c.), scarcely show any upland species; but deep valleys lying between hills attaining 800 or 1000 yds (Caernarvon and Cumberland) exhibit upland species almost down to the sea level. The name of *uplands* may hence appear not very happily chosen, but it sufficiently expresses the usual, although not the invariable position of the species. The upland species are always in the *upper* part of a line drawn from south to north, from flat to mountainous tracts, from low to high grounds. In particular situations the terms *boreal, inferalpine, submontane,* or *moorland* region might be preferred, but they would be less applicable generally.

Taking localities in open places, not along mountain streams or under the shade of rocks, Saxifraga aizoides is one of the first upland species met with after quitting the plains, leaving out of consideration those mentioned to appear about the confines or junction of the two regions. Saxifraga stellaris succeeds. Alchemilla alpina and Epilobium alsinifolium come next. Thalictrum alpinum and Carex capillaris are usually above these. Tofieldia palustris, Juncus triglumis, Luzula spicata, and Oxyria reniformis appear to occupy higher situations; but the last descends very low along the course of streams. Saxifraga oppositifolia, Dryas octopetala, Draba incana and Sesleria cærulea sometimes begin yet higher, sometimes appear to take a middle station; excepting the last, they descend to the sea coast in the north of Sutherland, but in England are scarcely seen below 500 or 600 yds. On getting completely within the upland region, we are

struck with a very decided change in the vegetation from that which is familiar to us in the plains. Cyperaceæ and Ericineæ in a great degree overwhelm and displace the Gramineæ and Leguminosæ in untilled lands. The woods of oak, ash, and beech are giving way to those of birch and fir. Pyrus aucuparia and Populus tremula are substituted for Corylus avellana and Ilex Aquifolium. The roses, brambles, and willows, most plentiful in the plains, yield partially or entirely to other forms of their respective genera prevailing here. Myrica Gale, Geranium sylvaticum, Trollius europæus, Habenaria albida, Gymnadenia conopsea, Pinguicula vulgaris, Rubus saxatilis, Arbutus Uva-Ursi, Vaccinium Vitis-Idæa, V. Myrtillus, Empetrum nigrum, Pyrola media, Saxifraga hypnoides, Polygonum viviparum, Epilobium angustifolium are often seen in abundance. Saxifraga aizoides, S. stellaris, Alchemilla alpina and Tofieldia palustris are also frequent. And of species common in the plains we still have, in great profusion, Festuca ovina, Triodia decumbens, Nardus stricta, Melica cærulea, Aira cæspitosa, Galium saxatile, Juncus bufonius, Rumex Acetosa, Erica cinerea, E. Tetralix, Calluna vulgaris, Leontodon Taraxacum (usually as *L. palustre*), and several species of Carex.

Wheat is cultivated only in the lower part of the region, and in the Highlands chiefly along the eastern coast. In the north of England this grain succeeds to 1000 feet (Winch), but in the middle or north of Scotland it appears doubtful whether it has proved worth while to cultivate it above 250 yds. Mr. Brand informs me that the statement respecting its cultivation up to 1000 yds in Forfarshire (Headrick's Agricultural Survey) is erroneous. Oats and rye ascend higher than wheat, and some varieties of barley and potato, yet higher, close the scene of cultivation; which is fixed by Winch at 2000 feet in the north of England. But in point of fact this must apply very locally, for there is little cultivation beyond 500 yds of

elevation in Britain. The apple, cherry, strawberry, currant and gooseberry, especially the last, succeed pretty well. The hazel bears copiously. On the east coast of Sutherland the peach will ripen against walls with the aid of a glass sash, perhaps even without. Flax is frequently cultivated. In the higher parts of the region there is little cultivation, green close-nipped sheep pastures, swampy bogs, or dry heaths constitute the prevailing features of the landscape. Trees are now comparatively scarce, though once plentiful, and the land is chiefly devoted to sheep pasture, with little further attention from human industry than the occasional burning off the natural covering of Ericineæ, in order to produce a more grassy pasturage. It has here altogether the aspect of a country where man is feebly struggling against the natural barrenness of the soil and a deteriorated climate. The scattered spots, devoted to the cultivation of potatoes and barley, are insufficient to give a more cheerful look, but rather tend to make the surrounding barrenness more apparent. We are not, however, to suppose that the climate is here so very bad. These scattered patches of cultivation prove the contrary. But the scanty clothing of soil on the dry declivities, and the sterile and often swampy nature of that in the valleys and flattened places, make it useless to employ labour and capital on land, which cannot make a return sufficiently ample to compete with returns for expenditure bestowed on more productive tracts. In various parts of the upland region are highly cultivated and productive tracts, but such scarcely rise above the middle.

3. *The Median Region* is a narrow belt just above the upper limit of cultivation and the growth of cupuliferous trees (oak and hazel). Silene acaulis early appears under rocks, or on débris carried down by streams, descending to 500 or 600 yds in Caernarvon and Cumberland, and 400 yds in the west of Inverness-shire; but it does not

yet form part of the open sward. Epilobium alpinum is more strictly a median species. Betula nana also occurs here, nor have I met with it lower down. Arabis petræa is sometimes seen. Perhaps the best characteristic of this region is the absence at once of Pteris aquilina, which rises to the extreme limit of the uplands, and of Salix herbacea and Azalea procumbens, often descending low down in the subalpine region. Several species will (for the present) be considered to cease here, which certainly rise above the uplands, and possibly even to the subalps; such as Geranium sylvaticum and Senecio Jacobæa. Genista anglica and Cytisus scoparius I have not seen in England above the upland region; indeed they are usually surpassed by the Ulex europæus in England and south of Scotland, although far exceeding this latter shrub in Aberdeenshire; and the Genista I have observed growing on a level with Carex rigida and Gnaphalium supinum. Rubus Chamæmorus and Cornus suecica begin to prevail here, and though a few very low stations are given for them (as the Hole of Horcum, in Yorkshire, for the latter; Cleghorn and Boniton woods, Lanarkshire, for the former), it is in the present, and lower part of the next region, that they appear to find their most congenial climate. Juncus triglumis and Tofieldia palustris are of increased frequency. Linnæa borealis forsakes the shade of the forest for the partial shelter of the heath-clad moor; and Trientalis europæa is often seen on the open commons or sheep pastures. The interposition of this narrow and somewhat ambiguous stage enables us to draw a more decided distinction between the *Low* and *High Grounds*, or *Mountains;* a distinction founded in nature, for the true alpine and subalpine species (Gnaphalium supinum, Juncus trifidus, Saxifraga nivalis, &c.), occasionally trespassing into this region, are never found below it.

4. *The Subalpine Region* commences at 500 to 800 yds. In Cumberland, 750 to 800 yds is probably the proper limit to fix, Salix herbacea growing round the summit of Grisedale Pike (850 yds) and Carex rigida occurring 100 yds lower on some of the neighbouring hills. On the Grampians, we find Juncus trifidus, Saxifraga nivalis, and Gnaphalium supinum below 700 yds in situations unfavourable to vegetation, but they are usually poor and sickly-looking specimens. I believe about 800 yds to be the natural limit of this region in open situations on the southern declivities of the Grampians. On the Ben Nevis range, we have Azalea procumbens, Gnaphalium supinum, and Silene acaulis, growing on the open moor by the side of the small lake on the north-west side of the hill, and Salix herbacea hangs into the stream where the water of the lake flows downwards. This lake is probably between 600 and 700 yds above the sea. On the moors above Loch Eil, at the opposite side of the Caledonian Canal, Azalea procumbens appears at 750 yds on a declivity towards the south-east. In the north-west of Sutherland, Carex rigida and Azalea procumbens appear at 500 yds on open declivities; and the occurrence of these and other subalpine species in Orkney, the greatest height of which is under 550 yds, proves this to be about the natural line. It would hence appear that the average lower line of true subalpine species is at 800 yds in latitude 55°, about 700 yds in lat. 57°, and at 500 yds in lat. 59°; and the subalpine region may be said to commence about 50 yds lower. Cytisus scoparius ascends to 650 yds in Aberdeenshire, and Genista anglica nearly to 750 yds; but they are not often seen thus high.

The cessation or appearance of species, in the subalpine region, varies much in the different mountain tracts. In Cumberland, where the region includes only the higher

parts of hills from 800 to 1050 yds of elevation, there is a very scanty flora indeed; many species, which ascend to the subalps in Scotland, failing much earlier in England. The small extent and little variety of surface for subalpine plants is doubtless adverse to their existence. The only truly subalpine species found in the north of England appear to be Carex rigida and Salix herbacea, plentiful on several of the mountains, and Cerastium alpinum, Poa alpina, and Saxifraga nivalis, seen very locally. Whether Saussurea alpina is found in this or the preceding region I know not. Of species common to the upland and subalpine regions, may be instanced Saxifraga stellaris, which is frequent on the summits, and Saxifraga aizoides and Alchemilla alpina more rarely. Rhodiola rosea and Statice Armeria are common to the shores of the plains, the rocks of the uplands, and the exposed summits of the English subalps. Several upland species, common enough in the subalpine region of Scotland, are rarely or never found so high in England. Thus, Cornus suecica, Juncus triglumis, Silene acaulis, Thalictrum alpinum and Oxyria reniformis are more frequent in, if not confined to, the lower regions.

In the Scottish Highlands we find it much otherwise. The subalpine region embraces the rocks and declivities of mountains ascending to the true alpine region, or summits of lower mountains adjacent to such. Here we find rocks and ravines constantly irrigated by cold waters pouring from above; a comparatively wide expanse of heathy declivities, in some places swampy, in others porous and quickly drained; and deep corries sheltered from the excessive violence of winds, concentrating the sun's rays if turned to the south, or if turned to the north preserving a cold atmosphere and surface throughout the summer. Such situations are favourable to variety in the flora both as regards descending and ascending species.

We have in consequence a much more ample catalogue of species for the Scottish subalpine region. Directing attention chiefly to the open declivities and summits, we first see Gnaphalium supinum, Carex rigida, Cerastium alpinum. Above these occur Azalea procumbens, Silene acaulis, Juncus castaneus. Then succeed Hieracium alpinum, Juncus trifidus, Salix herbacea, Sibbaldia procumbens. Still higher appear Cherleria sedoides, Juncus biglumis, Cerastium latifolium, Veronica alpina, and Phleum alpinum. But along the course of streams and among rocks considerable changes take place. In crevices of rocks within this region Saxifraga nivalis and Myosotis alpestris are luxuriant; but I have never seen them below the true alps in open places or on smooth surfaces. We can only get a true series by comparing the sequence of species in similar situations. Cardamine pratensis, Trollius europæus, Pyrola rotundifolia, and other species of the plains, grow vigorously here under protection of rocks. In such situations, if frequented by sheep, we still find Urtica dioica. A good many trees and shrubs fail here. Whether any species of rose or shrubby bramble should be referred to the subalps I am doubtful. They certainly approach near, although seldom. Pyrus Aucuparia, Betula alba (?), B. nana, Pinus sylvestris, Juniperus communis, Erica Tetralix, E. cinerea, Arbutus Uva-Ursi, and some species of Salix are arrested here. I believe this is the true limit of Betula alba, though I have seen a young specimen above the line of Calluna vulgaris on Ben Nevis, in a damp shaded ravine or glen where the line of the Calluna was depressed at least a hundred yards.

5. *The Alpine Region* is seen only in Scotland, unless the highest peaks of the Snowdon range in Wales be referred to it. In the scale it is fixed to commence where Calluna vulgaris ceases. This is a tolerably good test,

though not always exact. In Cumberland, the Calluna is rarely seen above the median region, the highest point at which I observed it being little more than 800 yds; a height rather exceeded by Pyrus Aucuparia and Juniperus communis (*nana*). On the Grampians, the true limit of Calluna appears to be at about 1000 yds. I have seen it at 1050 yds on the Cairngorm mountains, and in several places above 900 yds. On the Nevis range it ceases at 700 to 850 yds, according to aspect and moisture. On Ben Hope in Sutherland it ascends to 800 yds; and to 750 yds on Ben Loyal, in the same county. About 950 yds may be guessed as an average for latitude 56°—57°, and 750 yds for 58°—59°; or perhaps a little more.

Very few species are peculiar to this region. Draba rupestris, Saxifraga cernua, S. rivularis, and Luzula arcuata are so; possibly also Stellaria cerastoides and Arenaria rubella. The other species, commonly called *alpines*, descend more or less to the subalps, though for the most part about streams or among rocks. Here, however, they form a large constituent of the scanty sward round the mountain summits; while the few species of the plains straggling thus high are usually very weak and stunted. Luzula spicata, Silene acaulis, Carex rigida, Festuca ovina (*vivipara*) and Salix herbacea occupy the highest summits in abundance; and, nearly as high, occur Saxifraga stellaris, Gnaphalium supinum, Statice Armeria, Juncus trifidus, Alchemilla alpina and Sibbaldia procumbens, commonly in great plenty. Leontodon Taraxacum (*palustre*) and Rumex Acetosa ascend to a great elevation but seldom produce flowers above the limit of Vaccinium Myrtillus. The whole vegetation is remarkably dwarfed. The species found on the alps are those of small size at their fullest expansion, and here they are most of them much smaller than at lower elevations, and in more sheltered places. Vaccinium Myrtillus and Empetrum

nigrum are usually depressed to a very few inches, and Salix herbacea is always very small. The natural size of several alpine species does not exceed, and here rarely attains, three inches. Sibbaldia procumbens, Gnaphalium supinum, Silene acaulis and Saxifraga oppositifolia are examples; which indeed frequently do not exceed one inch above the surface. Saxifraga stellaris, Aira alpina, Luzula spicata, Polygonum viviparum, Juncus triglumis and Alchemilla alpina are taller-growing species, although here diminished to $\frac{1}{2}$ or $\frac{1}{4}$ of their full size. Vegetation is also sparing in quantity, as well as in size; and in many places not half covering the surface of the ground. Naked rocks, or bare shingle and gravelly detritus, are often more conspicuous than verdure. This occurs especially on the granitic and porphyritic mountains. The last hundred yards of ascent on Ben Nevis is almost destitute of flowering plants, and the last 500 yds very thinly clad. The schistose mountains are much better covered with vegetation, and hence it is usual in our Floras to mention the habitation of plants as "especially on a micaceous soil." Patches of snow remain unmelted through the year in this region; particularly on the Nevis and Cairngorm mountains; but it lies till autumn, and sometimes through the whole year, on several of the Grampians to the southward of these, as Loch-na-Garr, Ben Lawers, Ben More, &c. Fresh snow falls occasionally during summer, but speedily disappears in July and August. The vicinity of snow-patches seems rather to encourage than to repress vegetation, probably by reason of the moisture from liquefaction. It is worthy of remark also, that alpine springs of water excite the growth of some species chiefly found in the plains, and which are scarcely seen on the alps, except about the little rills from such springs. Poa annua occurs thus. It may be presumed from preceding remarks, that at this elevation

springs preserve a mean temperature considerably higher than that of the atmosphere, and thus *force* the plants, although in the middle of summer such springs are somewhat colder than the air. Thus, in low situations, springs (much cooler than the air in summer) cause the growth of plants characteristic of an inferior climate; while higher up they are attended with the opposite phenomena, being marked by a superior vegetation. However explained, I have noticed such to be the fact.

Having thus given a brief sketch of the several regions, which will enable any botanist to recognise them, I may repeat, by way of caution, that all such attempted divisions are very imperfectly defined in nature; in fact, almost arbitrary with the designer. But although the divisions into special zones or regions is thus little else than an artificial aid to description and memory, it is not the less true that ascending stages of vegetation do occur, and that the comparative limits of species may be pointed out in an ascending or descending scale. Thus, taking each genus or order by itself, we might place the species with considerable precision; but the whole flora of a country can never be so arranged in consequence of the terminal lines of species continually intersecting each other. Take the following arrangement of the Ericaceæ (without the Pyroleæ and Monotropeæ) as an example; the sequence being probably correct for the actual distribution in Britain. But who is able correctly to incorporate the Saxifrageæ with them? Even this list is not quite certain, for Arbutus alpina and Andromeda polifolia not occurring under the same latitude within Britain, it is doubtful whether the upper line of the latter does or does not cross the lower line of the Arbutus. The outer column represents the upper, the inner column gives the lower lines.

Vaccinium Myrtillus.
——— uliginosum.
——— Vitis Idæa.
Azalea procumbens.
Arbutus alpina.
Calluna vulgaris.
Vaccinium Oxycoccos.
Arbutus Uva Ursi.
Erica Tetralix.
—— cinerea.
Azalea procumbens.
Arbutus alpina.
Andromeda polifolia.
Vaccinium uliginosum.
Arbutus Uva-Ursi.
Vaccinium Vitis-Idæa.
Erica vagans.
Andromeda polifolia.
Vaccinium Oxycoccos.
Erica ciliaris.
Calluna and Erica.

2. DISTRIBUTION IN CONNECTION WITH ALTITUDE ABOVE THE SEA.

The following lists of plants observed in the Scottish Highlands, arranged in descending stages according to absolute elevation, may be of some interest. They were published in the Edinburgh New Philosophical Journal, No. 28.

"Several of the species may occur (especially on the Breadalbane mountains) rather higher than is here specified. All I can yet say is, that they do grow at least as high or as low, and probably not much more; but, no doubt, some of the spring flowers below 2000 feet were overlooked.

"*Species above* 4000 *feet.*—Aira alpina, Carex rigida, Empetrum nigrum (very rarely), Festuca ovina, Gnaphalium supinum, Juncus trifidus, Leontodon palustre, Luzula arcuata, L. spicata, Oxyria reniformis, Rumex Acetosa, Salix herbacea, Saxifraga stellaris, Sibbaldia procumbens, Silene acaulis, Vaccinium Myrtillus, Viola palustris. The absence of soil, rather than the height, probably arrests others. To these 17, we may add 6 others seen on the very summit of Ben-Lawers, which is said to be 4015 feet above the sea; viz. Cherleria sedoides, Cerastium alpinum, Polygonum viviparum, Saxifraga oppositifolia, S. nivalis, Saussurea alpina. Total 23.

"*Species between* 3000 *and* 4000 *feet.*—Achillæa Millefolium, Aira flexuosa, Alchemilla alpina, A. vulgaris, Anthoxanthum odoratum, Apargia Taraxaci, Arabis petræa, Arenaria rubella, Azalea procumbens, Calluna vulgaris (rare, and never to 3500 feet), Caltha palustris, Campanula rotundifolia, Cardamine hirsuta, C. pratensis, Carex dioica, C. panicea, C. pilulifera, C. pulla, Cerastium latifolium, C. viscosum, Chrysosplenium alternifolium, C. oppositifolium, Cochlearia officinalis, Draba rupestris, Eleocharis cæspitosa, Epilobium alpinum, Eriophorum angustifolium, Euphrasia officinalis, Galium saxatile, Juncus biglumis, J. triglumis, Myosotis alpestris, Nardus stricta, Narthecium ossifragum, Oxalis Acetosella, Poa alpina, P. annua, Ranunculus acris, Rhodiola rosea, Rubus Chamæmorus, Salix reticulata, Saxifraga cernua, S. hypnoides, S. rivularis, Silene maritima, Statice Armeria, Stellaria cerastoides, S. uliginosa, Thalictrum alpinum, Thymus serpyllum, Tormentilla officinalis, Trifolium repens, Tussilago Farfara, Vaccinium uliginosum, V. Vitis-Idæa, Veronica alpina, V. serpyllifolia. In all 57 species. To these may be added the 23 former. all of which (except Luzula arcuata) I have seen below 4000 feet L. arcuata, in Sutherland, must be below this, if not below 3000 feet. Total, 80 species.

"*Species between* 2000 *and* 3000 *feet.* — Achillæa Ptarmica, Adoxa moschatellina, Ajuga reptans, Alopecurus alpinus, Anemone nemorosa, Apargia autumnalis, Arabis hirsuta, Arbutus Uva-Ursi, A. alpina, Astragalus alpinus, Avena pratensis, Bellis perennis, Betula alba, B. nana, Carex atrata, C. binervis, C. cæspitosa, C. capillaris, C. curta, C. flava, C. pauciflora, C. pulicaris, C. rariflora, C. stellulata, C. Vahlii, Comarum palustre, Cornus suecica, Digitalis purpurea, Draba incana, D. verna, Drosera rotundifolia, Dryas octopetala, Eleocharis pauciflora, Epilobium alsinifolium, E. angustifolium, Erica cinerea, E. Tetralix, Erigeron alpinus, Eriophorum vaginatum, Festuca duriuscula, Galium pusillum, Genista anglica, Geranium sylvaticum, Geum rivale, Gnaphalium dioicum, Gymnadenia conopsea, Habenaria albida, H. viridis, Hieracium alpinum, H. Halleri, H. prenanthoides, Juncus castaneus, J. squarrosus, J. uliginosus, Juniperus communis, Leontodon Taraxacum, Linnæa borealis, Listera cordata, Lotus corniculatus, Luzula campestris, L. sylvatica, Melampyrum pratense, Melica cærulea, Montia fontana, Orchis maculata, Orobus tuberosus, Oxytropis campestris, Phleum alpinum, Pinguicula vulgaris, Pinus sylvestris, Polygala vulgaris, Potentilla alpestris, Pyrola minor, P. rotundifolia, P. secunda, Pyrus Aucuparia, Ranunculus Flammula, Rhinanthus Crista-Galli, Rosa canina? (rarely), Rubus saxatilis, Sagina procumbens, Salix arenaria, S. cinerea? S. lanata, S. Myrsinites, S. oleifolia? S. vaccinifolia (probably other willows), Saxifraga aizoides, Scabiosa succisa, Senecio Jacobæa, Sesleria cærulea, Solidago virgaurea, Sonchus alpinus, Spergula saginoides, Stellaria holostea, Tofieldia palustris, Trientalis europæa, Triglochin palustre, Trollius europæus, Urtica dioica, Vaccinium Oxycoccos, Veronica Beccabunga, V. saxatilis, Vicia sylvatica, Viola canina, V. lutea. To these 106 species, may be added all the preceding 80, except Saxifraga cernua, Draba rupestris, Luzula ar-

cuata, which I have not seen below 3000 ft. Total, 183 species.

"*Species between* 1000 *and* 2000 *feet.* — Agrostis alba, Aira cæspitosa, A. caryophyllea, A. cristata, Alnus glutinosa, Alopecurus geniculatus, A. pratensis, Anthriscus sylvestris, Anthyllis vulneraria, Arrhenatherum avenaceum, Artemisia vulgaris, Briza media, Bromus mollis, Bunium flexuosum, Capsella Bursa-Pastoris, Carduus acanthoides (very rarely), Carex pallescens, C. recurva, C. vulgatum, Chrysanthemum Leucanthemum, Cnicus arvensis, C. heterophyllus, C. lanceolatus, C. palustris, Corylus Avellana, Cynosurus cristatus, Cytisus scoparius, Dactylis glomerata, Drosera anglica, Epilobium palustre, Euphorbia Peplus, Fragaria vesca, Galeopsis Tetrahit, Galium boreale, G. verum, Gentiana campestris, Geranium Robertianum, Gnaphalium sylvaticum, Helianthemum vulgare, Heracleum Sphondylium, Hieracium murorum, H. paludosum, H. pilosella, H. pulmonarium, H. sylvaticum, Holcus lanatus, Humulus lupulus (very rarely, at 1090 feet in Braemar), Hypericum pulchrum, Hypochæris radicata, Juncus effusus, Lamium purpureum, Lathyrus pratensis, Linum catharticum (probably higher), Lobelia Dortmanna, Lolium perenne, Lonicera Periclymemum, Luzula pilosa, Lycopsis arvensis, Lysimachia nemorum, Melica uniflora, Mentha arvensis, Menyanthes trifoliata, Mercurialis perennis, Meum athamanticum, Myosotis arvensis, M. palustris, M. cæspitosa, Myrica Gale, Myriophyllum spicatum, Parnassia palustris, Pedicularis palustris, P. sylvatica, Pimpinella saxifraga, Plantago lanceolata, P. major, P. maritima, Poa fluitans, P. trivialis, Polygonum aviculare, P. Convolvulus, Populus tremula, Potentilla anserina, P. Fragariastrum, Primula vulgaris (probably higher), Prunella vulgaris, Prunus Padus, Pyrethrum inodorum, Pyrola media, Ranunculus auricomus, R. repens, Rosa spinosissima, R. tomentosa,

R. villosa, Rubus Idæus, Rumex crispus, R. obtusifolius, Salix Andersoniana, S. fusca, (some other willows), Senecio aquaticus, S. sylvaticus, Sinapis arvensis, Sonchus oleraceus, Spergula arvensis, Spiræa Ulmaria, Stellaria media, Subularia aquatica, Teucrium Scorodonia, Trifolium medium, T. pratense, Triodia decumbens, Ulex europæus (introduced), Urtica urens, Valeriana officinalis, Veronica arvensis, V. Chamædrys, V. officinalis, V. scutellata, Vicia Cracca, V. sepium, Viola tricolor. To these 120, we may add all the previous 186 species, except Aira alpina, Alopecurus alpinus, Alpargia Taraxaci, Arenaria rubella, Astragalus alpinus, Carex atrata, C. pulla, C. rariflora, C. Vahlii, Cerastium alpinum, C. latifolium, Cherleria sedoides, Draba rupestris, Erigeron alpinus, Gnaphalium supinum, Juncus biglumis, J. castaneus, Luzula arcuata, Myosotis alpestris, Oxytropis campestris, Phleum alpinum, Poa alpina, Salix lanata, S. reticulata, Saxifraga cernua, S. rivularis, Sesleria cærulea, Sibbaldia procumbens, Sonchus alpinus, Spergula saginoides, Stellaria cerastoides, Veronica alpina, and V. saxatilis, which I have not seen below 2000 feet; and it is not likely that any of them will be found much below this height. Deducting 33 from 306, we have 273 species left. Probably several others will hereafter be added to them.

"*Species below* 1000 *feet.* — These it will be tedious to enumerate: and they may be almost as readily shown by the negative evidence. Besides the species already mentioned as not occurring below 2000 or 3000 feet, the following seem to reach their lower limits above 1000 feet, Arabis petræa, Azalea procumbens, Betula nana, Carex rigida, Epilobium alpinum, Hieracium alpinum, Juncus trifidus (rare below 2000), J. triglumis, Luzula spicata, Potentilla alpestris, Salix herbacea, Saussurea alpina, Saxifraga nivalis, and Silene acaulis. A few others are observed below 1000 feet in the north and west of Scotland;

but so soon as we quit the Highlands they disappear from the low grounds. They are; Alchemilla alpina, Arbutus alpina, A. Uva-Ursi, Carex capillaris, Cornus suecica, Draba incana, Dryas octopetala, Epilobium alsinifolium, Galium boreale, Meum athamanticum, Oxyria reniformis, Pyrola secunda, Rubus Chamæmorus, Saxifraga aizoides, S. stellaris, S. oppositifolia, Thalictrum alpinum, Tofieldia palustris.

"*Species of undetermined Height.*—Besides what are enumerated in the previous lists, there are some other mountain plants which I have not seen growing; but which are most of them probably to be found between 2000 and 3000 feet. They are the extremely rare plants discovered by Mr. George Don, and one or two other botanists; Ajuga alpina, Arabis ciliata, Arenaria fastigiata, Bartsia alpina, Carex Mielichoferi, C. angustifolia, C. stictocarpa, C. hordeiformis, C. ustulata, Elyna caricina, Eriophorum alpinum (said to grow on Ben-Lawers), E. capitatum, Gentiana nivalis, Hieracium cerinthoides, Hierochloe borealis, Lychnis alpina, Menziesia cærulea, Poa laxa, Potentilla opaca, P. tridentata, Ranunculus alpestris, Salix (various species), Saxifraga denudata, S. elongella, S. lætevirens, S. cæspitosa, S. pedatifida, S. muscoides, Stellaria scapigera, Thlaspi alpestre, Veronica fruticulosa. Omitting these, and including all those previously mentioned, we have 306 species, enumerated as growing above 1000 feet of elevation. Had we a perfect catalogue, they would probably amount to 400 or 500; the whole flora of Scotland being about 1100 phænogamous species. Cryptogamous plants have been entirely omitted in these lists. If we now arrange them according to the Natural Orders, as given in Loudon's *Hortus Britannicus*, we have the numbers and proportions, at the different heights, as follows:—

TABLE OF THE ABSOLUTE ELEVATION OF HIGHLAND PLANTS.

Natural Orders.	Numbers.			Proportions.		
	1000–2000 Ft.	2000–3000 Ft.	3000–4320 Ft.	1000–2000 Ft.	2000–3000 Ft.	3000–4320 Ft.
Ranunculaceæ	8	6	3	$\frac{1}{34}$	$\frac{1}{46}$	$\frac{1}{27}$
Cruciferæ	9	7	5	$\frac{1}{30}$	$\frac{1}{26}$	$\frac{1}{18}$
Cistineæ	1	-	-	$\frac{1}{273}$		
Violariæ	4	3	1	$\frac{1}{68}$	$\frac{1}{61}$	$\frac{1}{80}$
Droseraceæ	3	1	-	$\frac{1}{91}$	$\frac{1}{183}$	
Polygaleæ	1	1	-	$\frac{1}{273}$	$\frac{1}{183}$	
Caryophylleæ	9	12	9	$\frac{1}{30}$	$\frac{1}{15}$	$\frac{1}{9}$
Lineæ	1	-	-	$\frac{1}{273}$		
Hypericineæ	1	-	-	$\frac{1}{273}$		
Geraniaceæ	2	1	-	$\frac{1}{136}$	$\frac{1}{183}$	
Oxalideæ	1	1	1	$\frac{1}{273}$	$\frac{1}{183}$	$\frac{1}{180}$
Leguminosæ	13	7	1	$\frac{1}{21}$	$\frac{1}{26}$	$\frac{1}{80}$
Rosaceæ	20	12	5	$\frac{1}{14}$	$\frac{1}{15}$	$\frac{1}{16}$
Onagrarieæ	4	3	1	$\frac{1}{68}$	$\frac{1}{61}$	$\frac{1}{80}$
Halorageæ	1	-	-	$\frac{1}{273}$		
Portulaceæ	1	1	-	$\frac{1}{273}$	$\frac{1}{183}$	
Crassulaceæ	1	1	1	$\frac{1}{273}$	$\frac{1}{183}$	$\frac{1}{180}$
Saxifrageæ	7	9	8	$\frac{1}{39}$	$\frac{1}{20}$	$\frac{1}{10}$
Umbelliferæ	5	-	-	$\frac{1}{55}$		
Caprifoliaceæ	3	2	-	$\frac{1}{91}$	$\frac{1}{91}$	
Rubiaceæ	4	2	1	$\frac{1}{68}$	$\frac{1}{91}$	$\frac{1}{80}$
Valerianeæ	1	-	-	$\frac{1}{273}$		
Dipsaceæ	1	1	-	$\frac{1}{273}$	$\frac{1}{183}$	
Compositæ	32	18	6	$\frac{1}{9}$	$\frac{1}{10}$	$\frac{1}{13}$
Lobeliaceæ	1	-	-	$\frac{1}{273}$		
Campanulaceæ	1	1	1	$\frac{1}{273}$	$\frac{1}{183}$	$\frac{1}{80}$
Vaccinieæ	4	4	3	$\frac{1}{68}$	$\frac{1}{46}$	$\frac{1}{27}$
Ericeæ	10	9	2	$\frac{1}{27}$	$\frac{1}{20}$	$\frac{1}{40}$
Gentianeæ	2	-	-	$\frac{1}{136}$		
Boragineæ	4	1	1	$\frac{1}{68}$	$\frac{1}{183}$	$\frac{1}{80}$
Scrophularineæ	14	8	3	$\frac{1}{19}$	$\frac{1}{23}$	$\frac{1}{27}$
Labiatæ	7	2	1	$\frac{1}{39}$	$\frac{1}{91}$	$\frac{1}{80}$
Lentibularieæ	1	1	-	$\frac{1}{273}$	$\frac{1}{183}$	
Primulaceæ	3	1	-	$\frac{1}{91}$	$\frac{1}{183}$	
Plumbagineæ	1	1	1	$\frac{1}{273}$	$\frac{1}{183}$	$\frac{1}{80}$
Plantagineæ	3	-	-	$\frac{1}{91}$		
Polygoneæ	7	3	3	$\frac{1}{39}$	$\frac{1}{61}$	$\frac{1}{27}$

Natural Orders.	Numbers.			Proportions.		
	1000-2000 Ft.	2000-3000 Ft.	3000-4320 Ft.	1000-2000 Ft.	2000-3000 Ft.	3000-4320 Ft.
Euphorbiaceæ - - -	2	-	-	$\frac{1}{136}$		
Urticeæ - -	3	1	-	$\frac{1}{91}$	$\frac{1}{183}$	
Amentaceæ - - -	14	10	2	$\frac{1}{19}$	$\frac{1}{18}$	$\frac{1}{40}$
Coniferæ - -	2	2	-	$\frac{1}{136}$	$\frac{1}{91}$	
Empetreæ - -	1	1	1	$\frac{1}{273}$	$\frac{1}{183}$	$\frac{1}{80}$
Juncagineæ - -	1	1	-	$\frac{1}{273}$	$\frac{1}{183}$	
Orchideæ - -	5	5	-	$\frac{1}{55}$	$\frac{1}{37}$	
Melanthaceæ - -	1	1	-	$\frac{1}{273}$	$\frac{1}{183}$	
Junceæ - - -	10	10	6	$\frac{1}{27}$	$\frac{1}{18}$	$\frac{1}{13}$
Cyperaceæ - -	18	20	7	$\frac{1}{15}$	$\frac{1}{9}$	$\frac{1}{4}$
Gramineæ - - -	25	13	7	$\frac{1}{11}$	$\frac{1}{21}$	$\frac{1}{11}$
Total of Sp.	273	183	80			
Total of Ord.	48	38	25			

The following is a similar arrangement of plants observed on the mountains of Cumberland; and was originally published in the Magazine of Natural History, vol. vii. (Mr. Loudon's italic letters and accents are continued).

"Taking the highest stations at which particular species were observed, they may be arranged in steps of 500 ft., as follows; but Scawfell Pikes, the highest hill of the county, being only 3166 ft., the first step in our descent will be a shorter one.

"1. *Between* 3000 *feet and* 3160 *feet.*—*O'*xalis Acetoséllа, Cerástium viscòsum, *S*axífraga stellàris, *G*àlium saxátile, Campánula rotundifòlia, *V*accínium Myrtíllus and *V*ìtis idæ'a, *T*hỳmus *S*erpýllum, *R*ùmex Acetòsa, *S*àlix herbàcea, *E'*mpetrum nìgrum, *C*àrex rígida, *F*estùca ovìna.

"2. *Between* 2500 *feet and* 3000 *feet.*—*R*anúnculus àcris, *C*áltha palústris, *C*ardámine praténsis, *V*ìola canìna, *V.* palústris, *P*ỳrus aucupària (the highest arborescent species, and the specimens of it only stunted bushes), Tormentílla officinàlis, *G*èum rivàle, *Alchemílla* alpìna, Rhodìola *r*òsea, Chrysosplènium oppositifòlium, *H*ieràcium muròrum, *S*tátice Armèria, *J*uníperus commùnis, Lùzula campéstris, L. máxima, *J*úncus squarròsus, Eriophorum vaginàtum, *C*àrex pilulífera, Anthoxánthum odoràtum.

"3. *Between* 2000 *feet and* 2500 *feet.*—*R*anúnculus Flámmula, *A*nemòne nemoròsa, *T*halíctrum alpìnum, Cochleària (dánica?), Stellària uliginòsa, Silène acaúlis, *R*ùbus saxátilis, Epilóbium *a*lsinifòlium, *S*axífraga oppositifòlia, *Valeriàna* officinàlis, Callùna vulgàris, Solidàgo virgaúrea, *A*chillæ'*a* *P*tármica, *A*párgia autumnàlis, Pinguícula vulgàris, *J*úncus effùsus, Eleócharis pauciflòra, Eriòphorum angustifòlium, *C*àrex binérvis, *C.* cæspitòsa.

"4. *Between* 1500 *feet and* 2000 *feet.*—*T*halíctrum mìnus, *A'*rabis hirsùta, *P*olýgala vulgàris, Sagìna procúmbens, *R*ùbus idæ'us, *Alchemílla* vulgàris, Móntia fontàna, *S*axífraga *h*ypnöìdes, *S. a*ïzöìdes, Angélica sylvéstris, Pimpinélla *S*axífraga, *H*eraclè*um* Sphondýlium, *E*rìca cinèrea, *E. T*étralix, *A'*rbutus U'va-úrsi, *G*naphàlium dioícum, Leóntodon *T*aráxacum, *C*nìcus palústris, *H*ieràcium paludòsum, *Verónica* officinàlis, *M*elampỳrum praténse, Digitàlis purpùrea, Pediculàris sylvática, *L*ysimàchia némorum, Oxýria renifórmis, *B*étula álba, *S*àlix (auríta?), *O'*rchis máscula, *H*yacínthus nonscríptus, Narthècium ossífragum, *J*úncus triglùmis, *C*àrex dioíca, *P*òa ánnua, *N*árdus strícta, *A*íra flexuòsa.

"5. *Between* 1000 *feet and* 1500 *feet.*—We begin to see the oak, ash, holly, and other trees, with a large addition of smaller species; but it does not appear to be worth while for us to carry these lists below 1500 ft., since they

would become more long than interesting as we descend to the low grounds.

"All these species descend to the low grounds about the lakes, except the following, the inferior limit of which appears to be at or about the heights added to their names:—*S*axífraga stellàris, 500 ft.; *S*àlix herbàcea, 2400 ft.; *E'*mpetrum nìgrum, *C*àrex rígida, 2200 ft.; *Alchemílla* alpìna, 400 ft. to 600 ft.; Rhodìola *r*òsea, 700 ft.; *S*tátice Armèria, about 1000 ft. or 1200 ft.; *T*halíctrum alpìnum, probably 1200 ft.; Cochleària dánica; Epilòbium *a*lsinifòlium, 700 ft.; Oxýria renifórmis, 450 ft. Silène acaúlis and *S*axífraga oppositifòlia were only seen in one station, and are fixed at about 2000 ft. by guess. *J*úncus triglùmis and *A'*rbutus U`va-úrsi were also seen in only one station, not actually measured. The lake at Keswick is estimated to be 228 ft. above the sea; that of Thirlmere is nearly 500 ft. All the other species were seen at or nearly on the level of one of these lakes. The early period at which the hills were visited would no doubt prevent my seeing all the species towards their summits, in the hollows near to which some patches of snow still lingered at the end of May, but quite disappeared before the second week of June. Excluding the ferns, we have, above 3000 ft., only 13 species; between 2000 ft. and 3000 ft., 53 species; and between 1000 ft. and 2000 ft., there were 150, or more. Now, by observations in the Highlands of Scotland last autumn (see the preceding pages 72. to 79.), there are at these heights on the Scottish mountains, 80, 183, and 273 species. The small extent of surface elevated above 1000 ft. or 1500 ft. in the county of Cumberland, the dryness of the mountain summits, and the comparative paucity of elevated valleys, deep chasms, and rocky precipices, will no doubt explain the numerical deficiency in its mountain flora. Up to 1000 ft. the vegetation of Cumberland is

superior to that of the Scottish highlands. Above 2000 ft. the species are not only fewer, but, with all the advantage of a more southern latitude, they commonly fail much earlier as we ascend the hills. The average heights to which the species mentioned in the preceding lists were observed to attain in the Highlands are, for the first (or those exceeding 3000 ft. in Cumberland), 3900 ft.; for the second, 3200 ft.; for the third, 2900 ft.; for the fourth, 2400 ft. By average height is meant the mean obtained by dividing the sum of the highest stations observed in Scotland by the number of species.

3. DISTRIBUTION IN CONNECTION WITH LINES OF LATITUDE AND LONGITUDE.

A correspondence between the extension of plants and the lines of latitude or longitude, viewed as a mere coincidence, presents nothing of interest; but where the former appears to be directly or indirectly dependent on the latter, it is much otherwise. We have seen that many species are found only at certain altitudes on the mountains, or in certain of the regions before described. Consequently, the mere fact of their existence under a given latitude in Britain is chiefly dependent on the extent and elevation of the mountains found there, and does not arise from the latitude or longitude. Were Britain a low plain throughout its whole extent, the distribution of plants, in correspondence with latitude and longitude, would doubtless be very different from that which is now seen under the diversified elevation and configuration of surface. Again, could we remove Britain ten degrees to the South or North, preserving the same

physical features in every other respect, how greatly would the vegetation become changed!

Latitude, longitude, altitude, and minor conditions, are so inseparably united in their influence over vegetation, that one cannot be considered apart from the others, with any reference to dependence or causation. The regions, already pointed out, relate to the distribution of plants under these combined influences. The mere range of latitude for each species is attempted to be shown in the Appendix Table by naming the most southern and most northern degree under which I am aware of a station on tolerably good authority, and without any very strong reason for suspecting error. Several will probably be found to extend beyond the latitudes named for them, especially towards the extremities of the island; and in Scotland more than in England, in consequence of local botany being less attended to in the former country. It was wished to distinguish the ranges of latitude, in which species are indigenous, from those to which they have been introduced; but, after much labour, it was found necessary to abandon the attempt at present. The eager desire manifested by botanical collectors to call their specimens "truly indigenous," however small the evidence thereof, raises insurmountable obstacles.

The above-mentioned Table does not include the *longitudinal range.* On account of the narrowness of Britain, its oblique position with reference to the poles of the earth, and the deeply indented coasts, no single meridian line divides the eastern from the western coasts; and in no other respect does the distribution of our plants appear to have any necessary connection with longitude, than as regards their tendency to the eastern or the western coasts. The mesial line of England and Wales, apart from Scotland, closely corresponds with 2° W. long. from Greenwich, and entirely divides the eastern from

the western coasts. The western boundaries of the counties Hants, Berks, Oxford, Warwick, Derby, York, Durham, and Northumberland, run nearly with this meridian. Hence these counties and all to the eastward of them may be called the *Eastern Counties*, while those lying to the westward will then be the *Western Counties*. According to the New Botanist's Guide, above a hundred species are limited to the eastern counties of England, and between sixty and seventy species are confined to the western counties, Wales included therewith. Nearly one half of these are peculiar to single counties, and the greater part of the rest occur only in two or three. Such, therefore, cannot with any sense of fitness be singled out as illustrations of the influence of longitude over vegetable distribution. Neither should introduced species be received as proper examples. The omission of all these very greatly reduces the number of eastern or western species; and increased knowledge will doubtless remove several of the following from the lists in which they are placed. Each is named under at least four counties, in the first volume of the New Botanist's Guide; that is, in so many counties of England or Wales.

Eastern Species.

Fumaria parviflora. Distribution little known. Likely to occur in the west.

Frankenia lævis. A good example. On the coast from Sussex to Cambridge, and introduced to Durham.

Ceratophyllum submersum. Distribution little known.

Peucedanum officinale. Very scarce. Kent to Notts.

Tordylium maximum. Possibly introduced. In four inland counties, namely, Middlesex, Herts, Bucks, Oxon. Hence not strictly an eastern species.

Lactuca Scariola. In 7 counties; the S.E. of England and Derbyshire.

Pulicaria vulgaris. In 10 counties; Oxford, Warwick, &c. Likely to occur further westward.

Phyteuma orbiculare. Hants to Kent. A chalk plant.

Villarsia nymphæoides. In 11 counties; Oxford, and eastward; introduced also to Northumberland. Said to have been found in Lancashire.

Chenopodium botryodes. Little known.

Atriplex pedunculata. A good example. On the coast from Kent to Lincoln; and also introduced to Durham.

Ulmus major. Little known; and probably introduced.

Orchis militaris.
Aceras anthropophora.
Ophrys aranifera.
} Chalk plants, extending westward to Berks or Oxford.

Liparis Loeselii. Kent, Suffolk, Norfolk, Cambridge.

Potamogeton zosteræfolius. Little known.

Digitaria ——— ? Two species; the stations confused, but in very few counties.

Spartina stricta. Coast from Hants to Suffolk.

Western Species.

Brassica monensis. A good example. Coast, from Wales to Scotland.

Subularia aquatica. Western Lakes in England, but extending into the north-eastern counties of Scotland.

Sedum Forsterianum. A doubtful species.

Saxifraga nivalis. Mountains of Wales and Westmoreland, but more frequent in the interior or eastern counties of Scotland.

Carum verticillatum. A good example. Wales to the Highlands.

Lobelia Dortmanna. Same as Subularia.

Bartsia viscosa. A good example. Cornwall to the Highlands.

Euphorbia Peplis. Dorset to Cardigan.

Alisma natans. Wales and Wigton.

Several other species, as Pinguicula lusitanica, Sedum anglicum, Cotyledon Umbilicus, and Scilla verna, though not entirely restricted to the western counties, are much more plentiful on or near the western coasts, and might be given as examples of western distribution with more show of reason than some of the former.

4. DISTRIBUTION IN CONNECTION WITH GEOGRAPHICAL OR LOCAL POSITION.

The distribution of plants in connection with *geographical position*, and the configuration or other peculiarities of the surface, merits particular attention, whether directly or indirectly caused thereby. Certain species extend over all Britain, from east to west, north to south, on the coast and inland. Some are spread over a definite and considerable portion of the island, but are altogether absent elsewhere. Others are so exceedingly local as to be found in single counties or stations only. And almost all intermediate degrees and kinds of distribution are exemplified by divers others. So soon as the necessary materials are collected, a sketch of the individual range and distribution of each species will be prepared. (See *Preface.*) It is now, and probably will always continue, impossible to arrange them into groups rigidly accordant to their peculiarities of distribution, but some general types of vegetation, or geographic districts, may be pointed out, without attempting to fix precise limits. The following are suggested: —

1st. *The Atlantic Type* embraces species found in the south-west of England or Wales; sometimes very locally, sometimes extending far along the southern or western counties, but rare or wanting on the east coast. Some plants of very limited geographical extension are common to this part of Britain, the west of France, and Portugal. Erica ciliaris, Sibthorpia europæa, Euphorbia Peplis, Bartsia viscosa, and Pinguicula lusitanica may be given as examples of the Type.

2d. *The Germanic Type*, includes species chiefly seen in the south-east of England and counties adjacent to the

German Ocean, running out more or less northwards and westwards. The chalk plants are referred to this type, but incidentally so on account of the chalk tracts lying in the south-east of England almost entirely. Phyteuma, Ophrys, Actinocarpus, are examples.

3d. *The English Type*, consisting of species chiefly or exclusively found in England, and decreasing in frequency northwards. Such are Acer campestre, Tamus communis, Iris fœtidissima, Orchis Morio.

4th. *The British Type* comprehends species widely spread over Britain, and not exclusively prevailing in any particular part of it, as Bellis, Calluna, Corylus.

5th. *The Scottish Type* is the opposite of the 3d, its species being prevalent chiefly in Scotland or the north of England, and becoming rare or disappearing southwards. Trollius, Andromeda, Primula farinosa, Geranium sylvaticum are examples of it.

6th. *The Highland Type* is composed of species either limited to the Scottish Highlands, or extending thence into the mountainous tracts of the north of England or Wales, but usually much less plentifully in the latter than in the Highlands. Examples occur in Salix herbacea, Azalea, Arbutus, Lobelia, Subularia.

7th. *The Hebridean Type* contains a few species peculiar to the extreme north and west of Scotland, or at least chiefly seen there, as Ericaulon septangulare, Ajuga pyramidalis, Primula scotica.

In the Tabular Appendix the different species will be referred to their respective types; but much liberty must be allowed in such reference. Many species are so extremely local, or so intermediate between the types suggested, that it becomes a doubtful question to which they should be assigned; while others give rise to the same uncertainty by partaking of the characteristic distribution of two or three. Thus, it appears doubtful whether Con-

volvulus sepium should be referred to the English or British Type; and Empetrum nigrum to the Scottish or Highland Type. Clematis Vitalba seems to unite the English and Germanic Types; Carum verticillatum hovers between the Atlantic and Highland types; and Pinguicula lusitanica joins the Atlantic to the Hebridean type. Attention to their distribution in other counties will assist decision in regard to some of the doubtful species.

The *local distribution* of plants appears partly connected with some one or more of the before mentioned conditions, partly in connection with peculiarities of soil, and partly on causes altogether unascertained. The very local occurrence of Erica ciliaris and Sibthorpia europæa would seem to be determined by the geographical position giving a peculiarly mild and maritime climate to the south-west of England. The prevalence of Ophrys apifera, muscifera, and aranifera, with other orchideous plants, in the south-east of England, is doubtless mainly owing to the chalk-lands being there. Northern species found on mountains or moors, in bogs or rocky places, for the most part show a tendency to the western side of England, which might be anticipated from its more mountainous character and humid climate. But some species of the Highland type affect the north-eastern counties of England exclusively, in a manner not readily explained; such are Nuphar pumila, Carex pauciflora, Cornus suecica, Trientalis, and Linnæa. Except the last, these all occur in the west of Scotland, and there does not appear any evident cause to prevent their extension into the north-west of England and Wales. Many other species, of very local occurrence, equally baffle all attempts at explanation. Who can even guess why Cotoneaster vulgaris and Anthericum serotinum are limited to small portions of Caer-

narvonshire, or Astragalus alpinus and Oxytropis campestris to single rocks in Forfarshire; Avena planiculmis to Arran, or Physospermum cornubiense to the vicinity of Bodmin? The following species appear to be peculiar to single counties: —

Ranunculus alpestris	Forfar.
Arabis stricta	Somerset.
ciliata	Forfar.
Draba aizoides	Glamorgan.
Thlaspi perfoliatum	Oxford.
Dianthus cæsius	Somerset.
Silene Italica	Kent.
Lychnis alpina	Forfar.
Elatine Hydropiper	Anglesea.
Althæa hirsuta	Kent.
Ononis reclinata	Wigton.
Trifolium resupinatum	Gloucester.
Oxytropis campestris	Forfar.
Vicia hybrida	Somerset.
Orobus niger, Potentilla tridentata	Forfar.
rupestris	Montgomery.
Rosa Wilsoni, Cotoneaster vulgaris	Caernarvon.
Herniaria hirsuta	Cornwall.
Saxifraga cernua	Perth.
muscoides	Westmoreland.
denudata, elongella, pedatifida	Forfar.
Bupleurum Odontites	Devon.
falcatum	Essex.
Physospermum Cornubiense	Cornwall.
Galium aristatum, spurium	Forfar.
Fedia Auricula	Cornwall.
carinata	Essex.
Sonchus alpinus, Prenanthes hieraciifolia	Forfar.

Cnicus tuberosus	Wilts.
Lobelia urens	Devon.
Campanula persicifolia	Banff.
Phyteuma spicatum	Sussex.
Menziesia cærulea	Perth.
Erica vagans	Cornwall.
Myosotis alpestris	Perth.
Anchusa officinalis	Northumberland.
Verbascum thapsiforme Orobanche caryophyllacea*	Kent.
Salix. †	
Ophrys fucifera	Kent.
Trichonema Columnæ	Devon.
Anthericum serotinum	Caernarvonshire.
Allium Ampeloprasum	Somerset.
Potamogeton acutifolius oblongus?	Sussex.
Juncus tenuis	Forfar.
Eriophorum capitatum	Perth.
Cyperus fuscus	Middlesex.
Carex tenella	Forfar.
clandestina	Somerset.
ustulata	Perth.
hordeiformis ‡ stictocarpa ‡ angustifolia ‡ Phleum Michelii Calamagrostis stricta Hierochloe borealis	Forfar.
Poa laxa	Inverness.
Avena planiculmis	Arran.
Elymus geniculatus	Kent.
Cynodon Dactylon	Cornwall.

* Lately found on rocks at Bury Head, Devon, by Mr. Borrer; as appears from the third edition of the British Flora.

† The species being so little settled, it is needless to give names.

‡ Doubtful as species.

V. REMARKS ON THE DISTRIBUTION OF BRITISH PLANTS OVER OTHER COUNTRIES.

To enter into full details on the geographical distribution of 1400 species would speedily expand the present sketch into a voluminous work, far beyond the dimensions within which it is wished to confine it for the present. At the same time, I feel reluctant entirely to omit the distribution of our indigenous species over other countries, — the consideration of such, in connection with their local distribution in our own island, tending materially to a correct appreciation of the latter, and to elucidate the conditions on which they would appear to be dependent. On this account, it is proposed to take a brief and connected glance at the general range and distribution of our indigenous trees and shrubs, chiefly in connection with the natural geographical divisions of the earth, and the more particular distribution within those countries, the floras of which have been geographically considered, namely, Lapland, Sweden, Sicily, France, and the Carpathians. The reader must be referred elsewhere for more full and precise information on the climate of the several countries, than is compatible with the intended limits of the present work. With regard to the temperature, the well-known table of Humboldt (Edin. Phil. Jour. vol. iii. iv. v.; Murray's Encyclopædia of Geography; and Ure's Dict. of Chemistry, — *Climate*) should be attentively considered; and additional information (where that table is most defective) will be found in the Edinburgh New Philosophical Journal, from the pen of Dr. Richardson.

Spitzbergen contains only one of our shrubs, and that of smallest dimensions, — Salix herbacea. The mean tem-

perature at the northern extremity, beyond lat. 80°, during the three summer months spent there by Sir Edward Parry, was found to be 34½. It is probable that the winter temperature must be far below zero of Fahrenheit's scale; but of this we have no certain information. Whatever may be the temperature of the air, vegetation is doubtless greatly protected from it by the deep covering of snow. About 20 of our herbaceous species have been found here.

Melville Island, five degrees more southward, but more completely surrounded by the accumulated masses of polar ice, has a mean temperature about zero; that of winter being — 28°, and of summer + 37°; but the mean of July rises to 42°. Several of our herbaceous species occur here, and about half a dozen which have not been found in Spitzbergen. But none of our indigenous shrubs appear to exist on the island, although Salix arctica (a near ally of S. herbacea) was brought hence by Sir Edward Parry.

Port Bowen, visited during Sir Edward Parry's Third Northern Voyage of Discovery, is situate a little to the S. W. of Melville Island, but is probably not much superior in climate. We here add a second little shrub pertaining to the British flora, — Salix reticulata.

On the *east coast of Greenland*, in latitude 72°—76°, there appears to be a better vegetation than was met with on Melville Island and the shores of Regent Inlet (73°—75°). In the collection of plants made by Captain Sabine, and described by Professor Hooker (Linn. Trans. xiv.), we find about thirty of our indigenous species, amongst which occurs another shrub, — Vaccinium uliginosum.

On *Whale Fish Islands*, in latitude 69°, during Parry's Third Voyage, were gathered the three shrubs above mentioned, and also Empetrum nigrum and Azalea procumbens.

On the coasts of *Fox Channel* and the northern extremity of Hudson's Bay, in latitude 62°—70°, a more considerable collection was made in the course of the two seasons spent there by Sir E. Parry. And although these icy coasts exhibit a flora decidedly inferior to that found in corresponding latitudes of the west of America or west of Europe, still there is a manifest superiority compared with the more northern shores visited during the first and third voyages of that enterprising commander. Upwards of forty British species occur in the collection. Amongst these are the five shrubs before named (which occur in the alpine region of Britain), and, in addition, Arbutus alpina, also ascending to the higher alps, and Arbutus Uva Ursi, not ascertained to grow above the subalps in Britain. The winter temperature is somewhat milder, but the summer temperature little superior to what we have seen for the more northern regions.

These coasts may be looked upon as exhibiting the most deteriorated climate and vegetation of which we have any exact information. Whether passing to the east, west, or south, we equally find a superiority in respect of both. Thus; —

At the *N. W. corner of America*, between 67°—71° of latitude, there is a better vegetation, than existing between 62°—70° at the N. E. corner. In the published list of collections, made during the expedition of the Blossom's boat along the former, we find the following British shrubs enumerated; those distinguished by an * having been already mentioned.

Potentilla fruticosa.
* Azalea procumbens.
* Arbutus alpina.
Andromeda polifolia.
Vaccinium Vitis-Idæa.
* Vaccinium uliginosum.
* Empetrum nigrum.
Betula nana.
Salix arenaria.
* reticulata.

Cornus suecica, Rubus Chamæmorus, and Vaccinium Oxycoccos, usually called herbs, but allied to shrubby plants, may also be named. We here find two species, the Potentilla and Andromeda, which do not ascend to the subalpine region of Britain, although they do possibly reach the median region with us, and ascend higher in other countries.

Greenland extends southwards to latitude 60°, northwards beyond 78°, and is thus nearly in the same latitude as the coasts from Melville Island to Hudson's Bay above mentioned, and not far distant in longitude. Nevertheless, like the N. W. corner of America, it shows a superior vegetation. In the list of Greenland plants, given by Giesecke, in Brewster's Cyclopædia, we find fifteen British shrubs and one tree.

* Azalea procumbens.
* Vaccinium Vitis-Idæa.
* uliginosum.
Calluna vulgaris.
Menziesia cœrulea.
* Andromeda polifolia.
Pyrus Aucuparia in (60°).
Betula alba.
* Betula nana.
Salix Myrsinites.
glauca.
* herbacea.
* reticulata.
lanata.
* Empetrum nigrum.
Juniperus communis (to 65°).

Iceland, in point of vegetation, equals or surpasses Greenland, notwithstanding its less southern latitude (63°—66°). The mean temperature of Rekiavig, on the south side of the island, appears to be 38° or 40°; that of summer attaining to 50°. The plants of Iceland, as enumerated by Professor Hooker, in *Sir George Mackenzie's Travels*, include the following shrubs: —

* Azalea procumbens.
* Vaccinum uliginosum.
Myrtillus.
* Calluna vulgaris.
* Arbutus Uva-Ursi.
* alpina.
(Pyrus domestica.
* Aucuparia.)

* Betula alba.	Salix purpurea.
* nana.	* reticulata.
* Empetrum nigrum.	* glauca.
* Juniperus communis.	* lanata.
Salix.	* arenaria.
* Myrsinites.	fusea.
arbuscula	caprea.
* herbacea.	pentandra.

Continuing our N. W. course, we find in *Lapland*, extended between the latitudinal parallels of 65°—71°, nearly 400 reputed British species, and amongst them 52 trees and shrubs. An immense accession to what we have found on the corresponding coasts of America and adjacent isles, forcibly demonstrating the superiority in the climate of arctic Europe over that of arctic America. But the enumeration of these must be postponed until we consider the altitudinal or regional distribution of plants in European countries. Instead, therefore, of keeping a N. W. course from Hudson's Bay, we may turn in a south-westerly direction towards the British Isles, intervening between Iceland and which, we find the numerous group of little isles called *Faroe*. Mr. Trevelyan has recently published (Edinburgh Phil. Journal, No. 35.) some interesting particulars of the climate and vegetation of these isles. He concludes the mean temperature to be 45½°, that of summer 54½°, and of winter 37¼°. Several circumstances induce me to believe that the observations (by different observers, in the past century) from which his calculations are made, cannot be relied on precisely. The result is too high, indicating a climate almost equal to that of the north of Scotland. It is not improbable that we shall come nearer to the truth by taking off 2° or 3°; indeed Mr. Trevelyan's own observations in 1821 make the summer only 52°. Small islands exposed to the stormy winds of the Atlantic are peculiarly unsuited to the growth of trees or shrubs, and we accordingly find

Faroe without any native tree, and supporting only shrubs of insignificant dimensions. In Mr. Trevelyan's list, 14 shrubby species occur, two only being excluded from the British flora, namely, Salix arctica and Ledum palustre. All of them occur in Iceland or Greenland, excepting Salix phylicifolia (?), S. hastata, and Erica cinerea. Mr. Trevelyan has given some notices respecting the elevations at which several species were observed to grow; thus, Salix hastata was seen at the sea level, and Salix herbacea usually above 1000 ft, though one specimen was noticed so low as 50 ft. Ascending the N. E. side of Mallingsfiall, in the island of Videroe, the first plant of Salix herbacea occurred at 1088 ft, and of Azalea procumbens at 1382 ft. These, with Empetrum nigrum and Vaccinium Myrtillus, attained the summit, which is 2366 feet.

The British Islands make the next step, and form the connecting link between the coasts and isles before mentioned and the European continent. Of course the N.W. line of all the remaining indigenous trees and shrubs crosses Britain. All occur at or near the sea level, except the following, and several willows not specified here: —

Salix reticulata, I have not seen below 700 yds.

Azalea procumbens, at 500 yds (?) in Orkney; 500 yds in Sutherland; 600 or 650 yds in the W. of Invernesshire; at 700 yds on the Grampians.

Salix herbacea, at 500 yds (?) in Orkney; 600 or 650 yds in the W. of Invernesshire; 750 yds in the N. of England.

Betula nana, at 500 to 550 yds in Aberdeenshire. Whether at a lower elevation elsewhere I cannot say. Probably so in Lanarkshire.

Vaccinium uliginosum, at moderate elevations; but I have never seen it actually on the sea level. At 500 feet in the N. of England, according to Winch.

Arbutus alpina, probably down to the sea level in the N.W. of

Sutherland; below 100 yds near Loch Erriboll; at 250 yds near Tongue; 600 or 650 yds on Ben Nevis.

Arbutus Uva-Ursi, sea level in the Highlands, not so in England.

Vaccinium Vitis-Idæa. Empetrum nigrum. { Very scarce within the region of the plains; plentiful above it. Not descending to the south coast of England.

It hence appears that very few shrubby species cease to grow on the plains before we pass southwards of latitude 50°; at least in maritime countries. But they cease upwards at very different elevations on the mountains; and reverting to our former divisions into ascending zones, we may group the trees and shrubs into a similar scale, as first seen in native situations on descending from the Highland mountains towards the south coast of England. The following series will suffice for present illustration, though it is not improbable that extended knowledge may render some changes necessary.

1. Salix herbacea stands alone on the extreme summits.
2. Vaccinium Myrtillus, V. uliginosum.
3. Empetrum nigrum, Salix reticulata.
4. Vaccinium Vitis-Idæa.
5. Azalea procumbens, Arbutus alpina.
6. Calluna vulgaris, Betula alba, Pyrus Aucuparia.
7. Juniperus communis, Pinus sylvestris, Betula nana, Vaccinium Oxycoccos.
8. Arbutus Uva-Ursi, Erica Tetralix, E. cinerea.
9. Genista anglica, Rubus Idæus, Menziesia cærulea (perhaps).
10. Cytisus scoparius, Andromeda polifolia (probably), Rosa spinosissima, Populus tremula, Myrica Gale.
11. Corylus Avellana, Alnus glutinosa, Lonicera Periclymemum, Ulex europæus, Prunus spinosa, Cratægus Oxycantha.
12. Fraxinus excelsior, Ilex Aquifolium, Hedera Helix, Ulmus montana.
13. Quercus sessiliflora, Prunus Padus, Pyrus Aria, Ribes petræum.
14. Viburnum Opulus, Quercus Robur (probably), Euonymus europæus, Rhamnus Frangula, Ononis arvensis, Pyrus Malus, Sambucus nigra, Solanum Dulcamara, Taxus baccata.

15. Cornus sanguinea, Ribes nigrum, R. alpinum, Prunus Cerasus.

16. Acer campestre, Berberis vulgaris, Ligustrum vulgare, Rhamnus catharticus, Pyrus domestica, P. torminalis, P. communis, Viburnum Lantana, Viscum album, Daphne Laureola, Ononis spinosa, Carpinus Betulus.

17. Clematis Vitalba, Genista pilosa, Hippophae rhamnoides, Buxus sempervirens.

18. Tamarix gallica, Erica ciliaris, E. vagans, Lonicera Xylosteum.

Let this list be compared with the distribution of the same species before pointed out, from Spitzbergen, along the north coast of America and islands, to Faroe, and it will be at once seen how close is the resemblance, although the order of succession is not quite the same; indeed, we cannot be assured that either sequence is rigidly correct.

The celebrated De Candolle has published a "Memoir on the Geography of the Plants of France, considered in relation to absolute Elevation." He divides them into five groups or tables, as below: —

1. Species never found in France below about 2000 metres of absolute height.

2. Species found only between 1000 and 2000 metres.

3. Species growing indifferently above 1000 and 2000 metres, but not below.

4. Species prowing indifferently above and below 1000 metres, the difference between the *minimum* and *maximum* being 1000 metres or more.

5. The remaining species grow below 1000 metres.

The altitudinal range of each species, named in the four first lists, is thus given.

	Metres.	English Feet.
1. Salix herbacea	2000—3000	6560—9840
2. Azalea procumbens	1200—2200	3936—7216
Vaccinium Vitis-Idæa	1000—1800	3280—5906
Ribes petræum	1000—1800	3280—5906
3. Salix reticulata	1500—2600	4920—8520
Arbutus alpina	1500—2400	4920—7872
Empetrum nigrum	1600—3000	5240—9840
4. Pinus sylvestris	400—1600	1312—5240
Juniperus communis	0—3000	0—9840
Salix pentandra	600—2000	1960—6560
fragilis	0—1500	0—4920
alba	0—1500	0—4920
Betula alba	0—3000	0—9840
Fagus sylvatica	0—1600	0—5260
Quercus sessiliflora	0—1200	0—3936
Buxus sempervirens	0—1200	0—3936
Hippophae rhamnoides	0—2400	0—7872
Daphne Mezereum	400—2000	1312—6560
Laureola	300—2000	984—6560
Erica Tetralix	0—2400	0—7872
vagans	0—1000	0—3280
Calluna vulgaris	0—3000	0—9840
Andromeda polifolia	100—1200	328—3936
Arbutus Uva-Ursi	300—1600	984—5240
Vaccinium Myrtillus	40—1600	131—5240
uliginosum	200—1600	656—5240
Oxycoccos	40—1600	131—5240
Ribes alpinum	400—1600	1312—5240
nigrum	50—2000	164—6560
Grossularia	0—1400	0—4592
Cratægus Oxyacantha	0—1600	0—5240
Cotoneaster vulgaris	12—1600	38—5240
Pyrus Aria	40—1200	131—3936
Aucuparia	30—1200	98—3936
Rosa villosa	40—1400	131—4592
collina	40—1800	131—5906
Potentilla fruticosa	0—1800	0—5906
Rubus corylifolius	0—1800	0—5906
Idæus	40—1500	131—4920
Prunus Cerasus	40—1400	131—4590
Padus	40—1200	131—3936

	Metres.	English Feet.
Genista tinctoria	40—1200	131—3936
pilosa	0—1200	0—3936
Cytisus scoparius	0—1200	0—3936
Ononis arvensis	0—1200	0—3936
Ilex Aquifolium	0—1000	0—3280
Rhamnus Frangula	0—1200	0—3936
Berberis vulgaris	0—1400	0—4592
Tilia grandifolia	100—1000	328—3280
parvifolia	0—1000	0—3280

In looking over this list, it must be borne in mind that the sea levels on the north and south coasts of France respectively (De Candolle includes Holland and the N. of Italy) have very different climates, amounting in mean annual temperature to 10 degrees (60°—50°); so that species growing at the same level may nevertheless be such as are adapted to different climates. This will apply more particularly to the lower limits. The snow-line may be stated at nearly 9000 English feet, but varying considerably in different places.

The *Flora Sicula* of Presl divides the island of Sicily into seven ascending regions, according to absolute elevation.*

* In the *Companion to the Botanical Magazine*, No. 2., are extracts from a Memoir on the Vegetation of Etna, by Dr. R. A. Philippi. "Etna, in the opinion of Dr. Philippi, does not admit of more than three regions of vegetation. 1. The *cultivated region*, extending from 0—3,300 feet. 2. The *woody region*, from 3,300—6,200 feet. 3. The *alpine region*, commencing at 6,200 feet." At Palermo, the mean temperature is 65°. The greatest heat during twenty years was 105°; the extreme cold, 34°. The mean quantity of rain above 20 inches, and the average number of rainy days 65 in the year. At Catania, the mean temperature is 68°. (See the work mentioned, for particulars respecting the vegetation of each region.)

1. The Subtropical Region, from the sea level to 100 feet of elevation, where tropical plants are cultivated; as the Date, Sugar cane, Banana, Papyrus, Mimosas, Acacias, &c.

2. The Colline Region (*regio collina*), beginning with the former at the sea level, and ascending to 2000 feet of elevation, where the cultivation of the Vine ceases. It is subdivided into two parts; in the *first*, Wheat, Maize, Rice, Cotton, and the Pistachio are cultivated; in the *second*, the Vine, Wheat, and Maize do not grow so well, and the Pistachio, Rice and Cotton are wanting. (Clematis Vitalba, Berberis vulgaris, Matthiola sinuata, Cheiranthus Cheiri are referred to this region in specifying the stations of species, in vol. 1., the only one yet reaching me.)

3. Lower Wooded Region, or that of Oaks and Chesnuts, extends from 2000 to 4000 feet. Rye is frequently cultivated. (Acer Pseudoplatanus.)

4. The Region of the Beech and Scotch Fir occurs at 4000—6000 feet. Here are Draba aizoides and Betula alba. (Acer campestre.)

5. The Subalpine Region, 6000—7500 feet, found on Etna only, has a dry, sterile, volcanic soil, nourishing few vegetables.

6. The Alpine Region, 7500—9000 feet.

7. The Region of Lichens, 9000—9200 feet. Above this, 9200—10,488 feet, the summit is altogether sterile.

In the *Personal Narrative* of Humboldt it is mentioned that Saussure found a decrease of temperature of 1° C. for 91 toises of ascent on Etna; that is, 1°.8 Fahr. for very nearly 582 feet, or 1° Fahr. for $323\frac{1}{3}$ feet. Assuming an equal decrease (not quite accurate), and 65° for the mean temperature on the sea level, we have nearly the following scale.

Region of the Vines - -	- 65 —58½
Region of Oaks and Chesnuts - -	- 58½—52
Region of Beech and Fir - -	- 52 —45
Subalpine Region - -	- 45 —40
Alpine Region - -	- 40 —35
Lichens to Summit - - -	- 35 —30

Wahlenberg has effected much more laboured and philosophical generalisations of the distribution of plants on the mountains of Lapland, the Alps of N. Switzerland, and the Carpathians. In the *Flora Lapponica* of this philosopher, he has traced six ascending zones or regions from the shores of the Gulf of Bothnia to the snow-clad tops of the Lapland mountains.

1. (*Lap.**) The Lower Wooded Region is marked by the presence of Pinus Abies, and where Lysimachia thyrsiflora, Trifolium pratense, Convallaria majalis, and Nymphæa alba flourish (lætè crescunt); some of the mountain species also occurring, as the Tofieldia palustris and Saussurea alpina. (The mean annual temperature of the air in this region appears to be about 33°, or less, that of the earth 38°—36°.)

2. (*Lap.*) The Higher Wooded Region is without the species characterising the former region, except that the Pinus Abies still grows. The upper limit of the region is found where this tree ceases to grow in favourable aspects Trifolium repens, Rumex aquaticus, and Nymphæa lutea cease in this region. Salix glauca and S. hastata appear, as also Bartsia alpina and Lychnis alpina on the banks of streams. The cultivation of Barley succeeds well here, but ascends very little higher. The birch unfolds its

* Abbreviations used in the subsequent table.

leaves in June. (Mean temperature of the earth below 36°, at 800 feet.)

3. (*Sub.*) The Subsylvan Region (*regio subsylvatica*) is known by the presence of Pinus sylvestris, without P. Abies. It is a narrow region not very distinctly marked. Prunella vulgaris fails here, and Thalictrum alpinum and Salix lanata appear. The lakes and larger rivers of this region are situate about 1000 French feet above the level of the sea. (Mean temperature of the earth about 35°, at 1200 feet; mean of the air at 1340 feet only 27°, of summer 55°, of winter 0°.)

4. (*Sub.*) The Subalpine Region supports Betula alba, but is without Pinus sylvestris. The region is considered to terminate where the birch does not attain 6 feet. Populus tremula and Prunus Padus cease before Betula alba, Pyrus Aucuparia attaining almost the same limit. It is a dry region much covered with Lichen rangeriferinus. Azalea procumbens, Juncus trifidus, and Luzula spicata begin to grow here. (Mean temperature of the earth 34½ at 1800 feet.)

5. (*Alp.*) The Lower Alpine Region is that portion of the mountains rising above the line of Betula alba, and where the patches of snow disappear before the middle of July. Silene acaulis begins to abound over the plains (*per campos*). Betula nana grows erect in marshy places. (Mean temperature of the earth 34°—33°.)

6. (*Sno.*) The Higher, or Snowy Alpine Region, has patches of snow in many places during the whole summer, moistening the ground by its constant melting. (Mean temperature of the earth 33°—32°.)

The limit of perpetual snow is found at about 3300 French feet above the sea level. Crossing the chain of mountains, and descending the Norwegian side towards

the ocean, our author changes the nomenclature of his regions, the better to correspond with the physical configuration of the surface, which, unlike the gradual descent on the Swedish side, is here formed of rapid and precipitous slopes.

1. (*Sno.*) The Higher Declivities of the Alps, being situate near the snow-line, are always irrigated by the waters of dissolving snows, and contain few plants.

2. (*Alp.*) The Lower Declivities of the Alps, commonly destitute of snow patches but scarcely drier than the former, chiefly support Betula nana (in the more dry places), Veronica alpina, Juncus trifidus, and Azalea procumbens.

3. (*Sub.*) The Bases of the Alps are where Betula alba appears, but not Pinus sylvestris. Among birches scarcely 6 feet high grow Saxifraga oppositifolia, S. nivalis, and S. cernua, in wet places. In the lower places, where tall birches occur, Sonchus alpinus and Ribes rubrum are found.

4. (*Sub.*) The Maritime Alps are the islands and promontories producing vegetation of an alpine character more by reason of their exposure to the sea winds than by their elevation. They are so denuded of trees and shrubs, as not even to produce the juniper, and scarcely any of the little shrubs of the alps; but they are adorned by Silene acaulis, Saxifraga oppositifolia, and Dryas octopetala. Saxifraga cæspitosa, Erigeron alpinum, and Sedum villosum also occur.

5. (*Lap.*) The Inferalpine Places and Valleys are marked by the growth of Pinus sylvestris, with which associate Convallaria verticillata, Campanula latifolia, and Fragaria vesca; but no alpine plants grow with them except Saxifraga stellaris. (For additional particulars respecting the vegetation of Lapland, the reader may consult the

Lachesis Lapponica and *Murray's Encyclopædia of Geography;* but in the latter work the notices of the botany of Lapland are rather incongruously placed under the head of *Denmark.*

The same author, in his work, "*De Climate et Vegetatione in Helvetia Septentrionali,*" disposes the plants of the N. of Switzerland, between the rivers Rhine and Arola, into six regions, comparing them with the floral regions of Lapland above mentioned. He commences with the uppermost, and instances several species occurring here and there in denuded places above the proper line of perpetual snow, as Empetrum nigrum and Vaccinium uliginosum. The snow-line is considered to be at 8200 (Paris) feet. His regions are thus: —

1. (*Sno.*) The Subnival, or Higher Alpine Region is that where patches of snow occur in shaded places, but the surface generally speaking is free from it. Cherleria sedoides, and other (non-British) species are instanced as characteristic of the region; but not growing close to the snow patches. It extends about 1000 feet downwards from the snow-line.

2. (*Alp.*) The Lower Alpine Region extends from the lowest perennial patches of snow to the upper limit of trees. The appearance of Pinus Abies marks the lower line of this region, which is rich in pasturage, and occupies a zone of 1700 feet perpendicularly. (Pinus Abies appears to cease where the temperature of the earth is 39°, at an elevation of 5500 feet.)

3. (*Sub.*) The Subalpine Region, extending between the upper lines of Pinus Abies and Fagus sylvatica, is subdivided by the upper line of P. Picea, supposed to answer to that of P. sylvestris in Lapland, which on some

of the Swiss mountains has also about the same limits as the P. Picea. The upper line of P. Picea is estimated to be at 4550 feet. Dryas octopetala, Saxifraga oppositifolia, Erigeron alpinus, &c. occur in this region. (The mean temperature of the earth, where P. Picea fails, appears to be 41° or 42°.)

4. (*Upl.*) The Higher Ascending Region (*regio montana superior*) is marked by woods of Fagus sylvatica. Corylus Avellana, Quercus Robur, Ulmus, Tilia, and cultivated Cherry are seen almost half way up the region, and Pears a little lower. (The line of Beeches exceeds 4000 feet. The mean temperature of the earth where this tree ceases is 43°, that of the air 38½°.)

5. (*Asc.*) The Lower Ascending Region (*regio montana inferior*) is characterised by the Walnut tree, the average elevation of which is estimated at 1950 feet, Swedish measure; but in certain situations it ascends several hundred feet higher. (It appears to fail where the temperature of the earth is about 47°.)

6. (*Bas.*) The Plains, or Base of N. Switzerland, where the Vine is cultivated.

In the *Flora Carpatorum*, Wahlenberg distinguishes the regions, as below: —

1. (*Pla.*) The Plains, or Region of Corn and Fruit, rising equally high as in Switzerland. Genista tinctoria occurs here. The Vine and Walnut are remote from the limits of the Flora Carpatorum, the former ascending 960, and the latter 1300 feet above the level of the sea.

2. (*Upl.*) The Upland, or Region of the Beech, is here richer in plants than in the N. of Switzerland. Symphytum tuberosum, Asarum europæum, and Avena planiculmis are found in the present region. The limit of the Beech

is estimated to be at 3935 feet, Swedish measure. (The temperature of the earth at this limit is 41° or 40°.)

3. (*Sub.*) The Subalpine Region stretches from the limit of the Beech to that of Pinus Abies, fixed at 4600 feet.

4. (*Alp.*) The Lower Alpine Region extends hence to the upper line of Pinus Mughus (2 feet in stature), at 5600 feet above the sea. Polygonum Bistorta grows here. (It would appear from a spring that the temperature of the ground at this height is 38°.

5. (*Sum.*) The Higher Alpine Region, above the line of Pinus Mughus, is remarkably sterile. The region extends over 2400 feet of perpendicular height; in the lower half of which are Vaccinium uliginosum and Empetrum nigrum. Above 6500 feet the surface is very poor in plants, and almost destitute of snow in summer.

More completely to bring into comparison or contrast the distribution of plants in Britain and the Middle and North of Europe, I shall add two lower regions to those of Swedish Lapland, namely, Upsal and Berlin. The floras of these two cities will represent intermediate regions between Lapland and N. Switzerland, answering nearly to the Plains and lower part of the Uplands of Britain. The following table represents the range of the British trees and shrubs in the several countries, most of the reputed species of Salix, Rosa, Rubus, and Ulmus being omitted, by reason of the difficulty attending the determination of their synonyms. The 5th column indicates the N. and N.W. limit, as before traced, from Spitzbergen to Britain, in the following order, — Spitzbergen, Port Bowen, N. Greenland 72°—76°, Whale Fish Islands, Fox Channel, Greenland, Iceland, Faroe, Scotland, England.

RANGE OF TREES AND SHRUBS.

	Britain.	Switzerland.	Carpathians.	Lapland, &c.	N. Limit
Clematis Vitalba	Pla.	- -	- -	- -	England.
Berberis vulgaris	Pla.	Bas. — Upl.	- -	Ber. — Ups.	Scotland.
Tilia grandifolia	Pla.	- -	- -	Ber.	Britain?
europæa	Pla.	Bas. — Upl.	- -	Ber.	Britain?
parvifolia	Pla.	- -	- -	Ber. — Ups.?	Britain?
Acer campestre	Pla.	Bas. — Upl.	Pla. — Upl.	Ber.	England.
Pseudoplatanus	Pla. — Upl.	Bas. — Sub.	Pla. — Sub.	Ber.	Britain?
Staphylea pinnata	Pla.	Bas?	- -	- -	Britain?
Euonymus europæus	Pla. — Upl.?	Bas.	Upl.	Ber.	Scotland.
Ilex Aquifolium	Pla. — Upl.	Bas. — Upl.	- -	- -	Scotland.
Rhamnus catharticus	Pla.	Bas. — Upl.	Upl.	Ber. — Ups.	Scotland.
Frangula	Pla. — Upl.?	Bas. — Upl.	Upl.	Ber. — Lap.	Scotland.
Ulex europæus	Pla. — Upl.	- -	- -	- -	Scotland.
nanus	Pla. — Upl.	- -	- -	- -	Scotland.
Genista pilosa	Pla.	- -	Pla.	Ber.	England.
anglica	Pla. — Med.	- -	- -	- -	Scotland.
Cytisus scoparius	Pla. — Med.	- -	- -	Ber.	Scotland.
Ononis arvensis	Pla. — Upl.	- -	- -	Ups.	Scotland.
spinosa	Pla.	- -	- -	Ber.	Scotland.

Prunus spinosa	Pla. — Upl.	Bas. — Upl.	Pla. — Upl.	Ber. — Ups.	Scotland.
insititia	Pla.	- -	- -	- -	Britain ?
domestica	Pla.	- -	- -	Ber.	Britain ?
Cerasus	Pla. — Upl. ?	Bas. — Asc.	Upl. ?	Ber. — Ups.	Scotland.
Padus	Pla. — Upl.	Bas. — Upl.	Pla. — Sub.	Ber. — Sub.	Scotland.
Spiræa salicifolia	Pla.	- -	- -	- -	Britain ?
Rubus Idæus	Pla. — Med.	Bas. — Upl.	Pla. — Upl.	Ber. — Sub.	Scotland.
Potentilla fruticosa	Upl.	- -	- -	- -	England.
Cratægus Oxyacantha	Pla. — Upl.	Bas. — Upl.	Pla. — Upl.	Ber. — Ups.	Scotland.
Mespilus germanica	Pla.	- -	- -	Ber.	England ?
Pyrus domestica	Pla.	- -	- -	- -	Iceland ?
torminalis	Pla.	Asc.	- -	- -	England.
communis	Pla.	Bas. — Upl.	Pla. — Upl.	Ber.	England.
Malus	Pla. — Upl.	Bas. — Upl.	Pla. — Upl.	Ber. — Ups.	Scotland.
Aria	Pla. — Upl.	Upl. — Sub.	Pla. — Sub.	- -	Scotland.
Aucuparia	Pla. — Sub.	Pla. — Sub.	Pla. — Alp.	Ber. — Sub.	Greenland.
Tamarix gallica	Pla.	- -	- -	- -	Britain ?
Ribes nigrum	Pla.	- -	Upl.	Ber. — Lap.	Britain ?
rubrum	Pla. — Upl.	- -	Pla. — Upl.	Ber. — Lap.	Scotland.
petræum	Pla. ? — Upl	Sub.	Sub.	Lap.	Scotland.
alpinum	Pla. — ?	Upl.	Upl.	Ups. — Lap.	Scotland.
Grossularia	Pla. — Upl.	- -	Upl.	Ber. — Ups.	Britain ?
Hedera Helix	Pla. — Upl.	Bas. — Upl.	- -	Ber.	Scotland.
Cornus sanguinea	Pla. — Upl.	- -	Pla.	Ber.	Scotland.
Sambucus nigra	Pla. — Upl.	Bas. — Upl.	Pla. ? — Upl.	Ber.	Scotland.
Lonicera Xylosteum	Pla.	Bas. — Upl.	Upl.	Ups.	Britain ?
Periclymenum	Pla. — Upl.	- -	- -	Ber.	Scotland.
Caprifolium	Pla	- -	- -	- -	Britain ?

	Britain.	Switzerland.	Carpathians.	Lapland, &c.	N. Limit.
Viburnum Lantana	Pla.	Bas. — Upl.	Upl.	- -	Scotland.
Opulus	Pla. — Upl.	Bas. — Asc.	Pla. — Upl.	Ber. — Ups.	Scotland.
Viscum album	Pla.	Bas.	- -	Ber.	Scotland.
Vaccinium Myrtillus	Pla. — Alp.	Sub. — Sno.	Upl. — Alp.	Ber. — Alp.	Iceland.
uliginosum	Upl. — Alp.	Sub. — Sno.	Alp. — Sum.	Ups. — Sno. ?	N. Greenland.
Vitis-Idæa	Upl. — Alp.	Sub. — Alp.	Pla. ? — Alp.	Ber. — Sno.	Greenland.
Arbutus Uva-Ursi	Upl. — Sub.	Sub.	Upl.	Ber. — Alp.	Fox Channel.
alpina	Upl. — Alp.	Alp. — ?	- -	Sub. — Alp.	Fox Channel.
Andromeda polifolia	Pla. — Med.	Bas. — Sub.	- -	Ber. — Alp.	Greenland.
Erica vagans	Pla.	- -	- -	- -	England.
ciliaris	Pla.	- -	- -	- -	England.
Tetralix	Pla. — Sub.	- -	- -	Ber.	Scotland.
cinerea	Pla. — Sub.	- -	- -	- -	Faroe.
Menziesia cærulea	Med. ?	- -	- -	Sub. — Alp.	Greenland.
Calluna vulgaris	Pla. — Sub.	Bas. — Sno.	Pla. — Alp.	Ber. — Alp.	Greenland.
Azalea procumbens *	Sub. — Alp.	Alp. — Sno.	- -	Sub. — Alp.	Whale Islands.
Ligustrum vulgare	Pla.	Bas. — Upl.	- -	- -	England.
Fraxinus excelsior	Pla. — Upl.	Bas. — Upl.	Pla. — Upl.	Ber. — Ups.	Scotland.
Solanum Dulcamara	Pla. — Upl.	Bas. — Upl.	Pla.	Ber. — Ups.	Scotland.
Daphne Mezereum	Pla.	Bas ? — Alp.	Upl. — Alp.	Ups. — Lap.	Britain ?
Laureola	Pla.	- -	- -	- -	Scotland.
Hippophae rhamnoides	Pla.	- -	- -	Lap.	England.
Buxus sempervirens	Pla.	- -	- -	- -	England.
Quercus Robur	Pla. — Upl. ?	Bas. — Upl.	Upl.	Ber.	Scotland.
sessiliflora	Pla. — Upl.	Bas. — Upl.	- -	Ber. — Ups.	Scotland.

Fagus sylvatica	Pla. — Upl.	Bas. — Upl.	Pla. — Upl.	Ber.	Britain ?
Castanea vulgaris	Pla. — Upl.	- -	- -	- -	Britain ?
Corylus Avellana	Pla. — Upl.	Bas. — Sub. ?	Pla. — Sub. ?	Ber. — Ups.	Scotland.
Carpinus Betulus	Pla.	Bas. — Asc.	Upl.	Ber.	England.
Betula alba	Pla. — Sub.	Asc. — Sub.	Pla. — Upl.	Ber. — Sub.	Greenland.
nana	Med. — Sub.	Asc. ?	- -	Lap. — Sno.	Greenland.
Alnus glutinosa	Pla. — Upl.	Bas. — Upl.	Pla. ?	Ber. — Ups.	Scotland.
Populus nigra	Pla.	Bas. — Upl.	Pla. — Upl.	Ber.	England.
canescens	Pla.	- -	- -	Ber.	England.
alba	Pla.	Bas.	- -	Ber.	England.
tremula	Pla. — Upl.	Bas. — Upl.	Pla. — Sub.	Ber. — Sub.	Scotland.
Salix herbacea *	Sub. — Alp.	Alp. — Sno.	Sum.	Sub. — Sno.	Spitzbergen.
reticulata	Sub. — Alp.	Sub. — Sno.	Sum.	Sub. — Sno.	Port Bowen.
Myrica Gale	Pla. — Upl.	- -	- -	Lap.	Scotland.
Pinus sylvestris	Pla. ? — Sub.	Asc. — Alp. ?	Pla. — Upl.	Ber. — Sub.	Scotland.
Taxus baccata	Pla. — Upl.	Asc.	— ?	- -	Scotland.
Juniperus communis	Pla. — Sub.	Bas. — Alp.	Sub. — Alp.	Ber. — Alp.	Greenland.
Empetrum nigrum	Pla. — Alp.	Alp. — Sno.	Sub. — Sum.	Ups. — Sno.	Whale Islands.

* In Sommerfelt's *Supplementum Floræ Lapponicæ*, Azalea procumbens is said to grow within 100 feet of the sea level, on the coast of Nordland, and Salix herbacea still lower.

Although liable to some local exceptions, it will be readily recognised that there is a general agreement in the ascending ranges of species, in regard both of elevation and latitude (or latitude and longitude combined). Several apparent exceptions may be explained by the rarity of the particular species in the given country, or to its geographical extension being very limited. Thus we might expect Cotoneaster vulgaris in Lapland and Scotland, since it ascends so high on the Alps and Carpathians. But to the N.W. of these mountains its extension must be limited by other conditions than temperature; for it fails in Britain and Sweden, where the temperature far exceeds what it bears in Switzerland and Hungary. In Britain, indeed, it has no *range* properly speaking, only one station being known. Again, in Britain and Switzerland, Vaccinium Myrtillus ascends so as to become one of the most elevated shrubs; but, compared with others, it ceases much earlier in Lapland, nor does it extend nearly so far to the N.W. as other shrubs surpassed by it on the mountains of Europe. In such cases, if it may be so expressed, the extension or distribution of the species terminates in the given direction before its *range* is completed. Opposite exceptions occur in the instance of Betula nana and Andromeda polifolia, the ascending ranges of which, comparatively with other shrubs, are rapidly contracted as we go southward, or in the latitudes of Britain and Switzerland.

It might be expected that the countries nearest to Britain, in geographical position and climate, would exhibit the closest resemblance in their floras; and this accordingly is found to be the case. The more distant is any given country, other circumstances alike or allowed for, the less exact is the resemblance in botanical productions. But longitudinal distance operates less rapidly than latitudinal; and in more southern latitudes the addition of non-British species is much greater than it is in countries

lying northward from Britain. The following list will convey an idea of the correspondence between the plants of Britain and those of other countries; but authors differ too much in their lines of division between species and varieties to allow of entire accuracy in numbers. Besides which, several species not correctly admitted into the Floras of Britain were included in the calculations.

TABLE SHOWING THE NUMBER OF BRITISH SPECIES FOUND IN OTHER COUNTRIES.

Spitzbergen has	23 in	48
Melville Island	21	67
Coasts of Regent's Inlet	19	49
E Greenland 72°—76° N. L.	29	56
Kotzebue Sound	68	191
Fox Channel, &c.	44	100
Greenland	123	206
Labrador	91	169
Iceland	300	354
Faroe	262	270
Ireland	860	873
N. America (Pursh.)	348	3050
America, 53°—69° N. L. (Richardson)	140	410
New Holland	35	4200
Lapland	375	495
Sweden	912	1165
Berlin	741	867
Holland	915	1140
France	1300	3695
Switzerland	1110	2313
Carpathians	692	1042
Gallicia	731	1212
Altai	423	1604
Japan	140	700
Greece	755	2330
Sicily	356	1814
Baleares	215	606
N. Africa	350	1500

A large number of British plants would appear to be wanting in France, according to the estimate of 1300 species only. This is caused by the omission of many uncertain species of Salix, Rosa, Rubus, Carex, Myosotis, &c., in the *Botanicon Gallicum*. Had the authors of that work been equal adepts at hair-splitting, as are some of the botanists of Britain and Germany, the number might have exceeded 1400. But omitting doubtful species, and many of those having the most doubtful claims to rank as Britons, the actual number common to France and Britain will sink below 1200. To a greater or less extent the same uncertainty applies to the numbers for every country named.

APPENDIX.—No. I.

TABLE INDICATING THE

DISTRIBUTION OF PLANTS WITHIN BRITAIN.*

I. RANUNCULACEÆ.

	Latitude.	Region.	Flo.	Cat.	Type.
CLEMATIS					
Vitalba (58)	51° to 57°	Pla.	8	9	Engl.
THALICTRUM					
alpinum	54 — 59	Upl.—Alp.	1	4	High.
{ minus	51 — 59	Pla.—Med.	6	7	Brit.
{ majus	52 — 57	Pla.—Upl.	3	4	Brit.
flavum (59)	51 — 56	Pla. ?	12	10	Brit.
ANEMONE					
nemorosa	51 — 58	Pla.—Sub.	12	17	Brit.
*apennina	52 — 58	Pla.—Upl.	1	0	Germ.?
*ranunculoides	52	Pla.	0	0	Germ.?
Pulsatilla	52 — 54	Pla.	3	0	Germ.
ADONIS					
†autumnalis	51 — 56	Pla.	4	2	Engl.
MYOSURUS					
minimus	51 — 55	Pla.	6	6	Engl.

* An explanation of this Table will be seen at the end of it.

	Latitude.	Region.	Flo.	Cat.	Type.
RANUNCULUS					
aquatilis	51° to 59°	Pla.—Upl.	12	19	Brit.
hederaceus	51 — 59	Pla.—Med.	11	16	Brit.
Lingua	51 — 59	Pla.—Upl.	9	11	Brit.
Flammula	51 — 59	Pla.—Med.	12	19	Brit.
Ficaria	51 — 59	Pla.—Med.	12	19	Brit.
alpestris	57	Sub.	0	0	High.
auricomus	51 — 58	Pla.—Upl.	11	13	Brit.
sceleratus	51 — 58	Pla.—Upl.	12	15	Brit.
acris	51 — 59	Pla.—Alp.	12	19	Brit.
repens	51 — 59	Pla.—Upl.	12	18	Brit.
bulbosus	51 — 59	Pla.—Upl.	12	18	Brit.
hirsutus	51 — 57	Pla.	10	6	Engl.
arvensis (59)	51 — 56	Pla.	11	13	Engl.
parviflorus	51 — 55	Pla.	7	9	Engl.
CALTHA					
palustris	51 — 59	Pla.—Alp.	12	18	Brit.
TROLLIUS					
europæus	52 — 59	Pla.—Alp.	5	5	Scot.
HELLEBORUS					
‡viridis	51 — 56	Pla.	7	8	Engl.
‡fœtidus	51 — 57	Pla.	9	7	Engl.
AQUILEGIA					
vulgaris	51 — 58	Pla.—Upl.	11	13	Brit.?
DELPHINIUM					
*Consolida	51 — 56	Pla.	4	2	Germ.?
ACONITUM					
*Napellus	51 — 53	Pla.	1	0	Atla.
ACTÆA					
spicata	52 — 55	Pla.	0	2	Scot.?

	Latitude.	Region.	Flo.	Cat.	Type.
PŒONIA					
corallina	52° to 0°	Pla.	0	1	Atla.
II. BERBERIDEÆ.					
BERBERIS					
vulgaris	51 — 58	Pla.—Upl.	11	10	Engl.
III. NYMPHÆACEÆ.					
NYMPHÆA					
alba	51 — 59	Pla.—Upl.	11	11	Brit.
NUPHAR					
? lutea	51 — 57	Pla.—Upl.	12	13	Brit.
? pumila	56 — 58	Upl.	1	1	High.
IV. PAPAVERACEÆ.					
PAPAVER					
*somniferum	51 — 57	Pla.	5	6	Engl.
‡hybridum	51 — 56	Pla.	6	4	Engl.
‡Argemone	51 — 58	Pla.—Upl.	9	13	Engl.
‡Rhœas	51 — 59	Pla.—Upl.	12	16	Engl.
‡dubium	51 — 59	Pla.—Upl.	12	14	Brit.?
MECANOPSIS					
cambrica	51 — 57	Pla.—Med.	2	1	Atla.
GLAUCIUM					
luteum	51 — 57	Pla.	6	6	Engl.
*violaceum	53	Pla.	1	1	Germ.?
CHELIDONIUM					
‡majus	51 — 58	Pla.—Upl.	12	16	Engl.
V. FUMARIACEÆ.					
CORYDALIS					
*lutea	51 — 56	Pla.	4	2	Engl.
*solida	51 — 55	Pla.	0	0	Engl.?
claviculata	51 — 58	Pla.—Upl.	8	12	Scot.

	Latitude.	Region.	Flo.	Cat.	Type.
FUMARIA					
‡ capreolata	51° to 59°	Pla. — Upl.	9	10	Brit.
‡ officinalis	51 — 59	Pla. — Upl.	12	19	Brit.
‡ parviflora	52 — 56	Pla.	1	1	Germ.?
‡ Vaillantii	51	Pla.	0	0	Germ.?

VI. CRUCIFERÆ.

CAKILE					
maritima	51 — 59	Pla. — Upl.	5	11	Brit.
CRAMBE					
maritima	51 — 56	Pla.	3	3	Engl.
CORONOPUS					
Ruellii	51 — 58	Pla. — Upl.	10	14	Engl.
‡ didyma	51 — 55	Pla.	3	3	Atla.?
ISATIS					
† tinctoria	51 — 56	Pla.	2	1	Engl.
THLASPI					
arvense	51 — 59	Pla. — Upl.	9	14	Brit.
perfoliatum	(55) 52	Pla.	1	1	Germ.?
alpestre	51 — 57	Pla. — Sub.?	2	3	Scot.?
CAPSELLA					
Bursa-pastoris	51 — 59	Pla. — Upl.	12	19	Brit.
HUTCHINSIA					
petræa	52 — 54	Pla. — Upl.	0	4	Atla.?
TEESDALIA					
nudicaulis	51 — 58	Pla. — Upl.	8	9	Engl.
IBERIS					
† amara	52 — 56	Pla.	5	1	Engl.
LEPIDIUM					
‡ latifolium	51 — 59	Pla. — Upl.	5	4	Engl.
‡ Draba	52	Pla.	0	0	Engl.?

	Latitude.	Region.	Flo.	Cat.	Type.
LEPIDIUM					
‡ ruderale	51° to 56°	Pla.	2	4	Engl.
campestre	51 — 58	Pla. — Upl.	10	12	Brit.
Smithii	51 — 57	Pla.	5	2	Brit.
COCHLEARIA					
officinalis	51 — 59	Pla. — Alp.	6	12	Brit.
grœnlandica	51 — 59	Pla.	1	4	Brit.?
anglica	51 — 58	Pla. — Upl.	4	6	Brit.
danica	51 — 59	Pla. — Alp.	5	6	Brit.
* Armoracia	51 — 59	Pla. — Upl.	10	6	Brit.
SUBULARIA					
aquatica	51 — 58	Pla.? — Med.	2	1	High.
DRABA					
verna	51 — 59	Pla. — Sub.	12	18	Brit.
aizoides	52	Pla.?	0	0	Atla.?
rupestris	57 — 59	Sub. — Alp.	0	0	High.
incana	54 — 59	Upl. — Alp.	1	3	High.
muralis	52 — 57	Pla.	1	0	Engl.
CAMELINA					
* sativa	51 — 59	Pla. — Upl.	4	5	Brit.
ALYSSUM					
Calycinum	57	Pla.	0	0	Scot.
KONIGA					
° maritima	51 — 58	Pla.	1	3	Engl.?
DENTARIA					
bulbifera	52 — 57	Pla.	1	1	Engl.
CARDAMINE					
amara	51 — 58	Pla. — Upl.	7	12	Brit.?
pratensis	51 — 59	Pla. — Sub.	12	19	Brit.
impatiens (58)	52 — 56	Pla.	3	3	Engl.
hirsuta	51 — 59	Pla. — Sub.	12	18	Brit.

	Latitude.	Region.	Flo.	Cat.	Type.
ARABIS					
stricta	52°	Pla.	0	2	Atla.
petræa (51)	53 to 59°	Med. — Alp.	2	1	High.
ciliata	57	Sub.?	0	0	High.
hirsuta	51 — 58	Pla. — Sub.	9	11	Brit.
Turrita	52 — 53	Pla.	2	1	Germ.
TURRITIS					
glabra	51 — 57	Pla.	4	4	Engl.
BARBAREA					
vulgaris	51 — 58	Pla. — Upl.	12	16	Brit.
† præcox	51 — 56	Pla.	4	0	Engl.
NASTURTIUM					
officinale	51 — 59	Pla. — Upl.	12	19	Brit.
sylvestre	51 — 56	Pla.	6	8	Engl.
terrestre	51 — 57	Pla.	12	10	Brit.
amphibium (59)	51 — 59	Pla.	10	7	Brit.?
SISYMBRIUM					
officinale	51 — 59	Pla. — Upl.	12	19	Brit.
‡ Irio	52 — 56		4	1	Engl.
Sophia	51 — 58	Pla. — Upl.	10	12	Brit.
thalianum	51 — 59	Pla. — Upl.	12	14	Brit.
ERYSIMUM					
‡ cheiranthoides	51 — 57	Pla.	5	8	Engl.
Alliaria	51 — 58	Pla. — Upl.	12	17	Brit.
† orientale	51 — 55	Pla.	1	0	Engl.
CHEIRANTHUS					
† Cheiri	51 — 58	Pla. — Upl.	12	12	Brit.
MATTHIOLA					
sinuata	51 — 54	Pla.	2	0	Atla.
HESPERIS					
* matronalis	51 — 58	Pla. — Upl.	6	3	Engl.?

	Latitude.	Region.	Flo.	Cat.	Type.
BRASSICA					
*Napus	51° to 58°	Pla.—Upl.	12	8	Brit.
*Rapa	51 — 58	Pla.—Upl.	11	8	Brit.
‡oleracea	51 — 57	Pla.	3	2	Brit.
monensis	54 — 56	Pla.	1	1	Atla.?
†campestris	51 — 57	Pla.	3	2	Engl.?
SINAPIS					
arvensis	51 — 59	Pla.—Upl.	12	18	Brit.
alba	51 — 58	Pla.—Upl.	12	8	Brit.
nigra	51 — 58	Pla.—Upl.	10	10	Engl.
‡tenuifolia	51 — 57	Pla.	6	4	Engl.
‡muralis	51 — 55	Pla.	1	5	Engl.
RAPHANUS					
Raphanistrum	51 — 59	Pla.—Upl.	11	16	Brit.
maritimus	51 — 56	Pla.	1	1	Atla.

VII. RESEDACEÆ.

RESEDA					
Luteola	51 — 58	Pla.—Upl.	12	16	Brit.
lutea	52 — 58	Pla.—Upl.	8	10	Engl.
*fruticulosa	51 — 55	Pla.	0	2	Atla.
*alba	51 — 52	Pla.	0	0	Atla.

VIII. CISTINEÆ.

HELIANTHEMUM					
guttatum	52 — 54	Pla.	1	0	Atla.
polifolium	51 — 52	Pla.	1	1	Atla.
canum	52 — 55	Pla.—Upl.	2	2	Atla.?
vulgare	51 — 58	Pla.—Upl.	12	13	Brit.

IX. VIOLARIEÆ.

	Latitude.	Region.	Flo.	Cat.	Type.
VIOLA					
‡odorata (59)	51° to 57°	Pla.	12	17	Engl.
palustris	51 — 59	Pla.—Alp.	9	14	Brit.
hirta	51 — 57	Pla.	10	10	Brit.
canina	51 — 59	Pla.—Sub.	12	19	Brit.
flavicornis	51 — 53	Pla.	0	4	Engl.?
lactea (56)	51 — 53	Pla.	2	2	Engl.?
tricolor	51 — 59	Pla.—Upl.	12	19	Brit.
lutea	51 — 58	Pla.—Sub.	5	7	Scot.

X. DROSERACEÆ.

DROSERA					
longifolia	51 — 59	Pla.—Upl.	6	6	Brit.
anglica	51 — 59	Pla.—Med.	4	5	Brit.
rotundifolia	51 — 59	Pla.—Sub.	11	16	Brit.
PARNASSIA					
palustris	52 — 59	Pla.—Med.	9	13	Brit.

XI. POLYGALEÆ.

POLYGALA					
vulgaris	51 — 59	Pla.—Sub.	12	19	Brit.

XII. FRANKENIACEÆ.

FRANKENIA					
lævis	51 — 55	Pla.	2	4	Germ.

XIII. CARYOPHILLEÆ.

DIANTHUS					
cæsius (54)	52	Pla.	0	1	Atla.
prolifer	51 — 53	Pla.	0	1	Engl.

	Latitude.	Region.	Flo.	Cat.	Type.
DIANTHUS					
†Caryophillus	52° to 55°	Pla.	1	2	Engl.
Armeria	51 — 57	Pla.	5	3	Engl.
deltoides	51 — 57	Pla.	5	4	Brit.
SAPONARIA					
officinalis	51 — 58	Pla.—Upl.	9	10	Brit.
SILENE					
anglica	51 — 58	Pla.—Upl.	5	5	Engl.
†quinquevulnera	52 — 53	Pla.	1	0	Germ.
Otites	53	Pla.	1	1	Germ.
conica	52 — 57	Pla.	1	1	Germ.
nutans (59)	52 — 57	Pla.	2	3	Engl.
italica	52	Pla.	0	0	Germ.
noctiflora	52 — 57	Pla.	4	4	Germ.
{ inflata	51 — 59	Pla.—Upl.	12	19	Brit.
{ maritima	51 — 59	Pla.—Alp.	6	11	Brit.
acaulis (51)	54 — 59	Med.—Alp.	1	2	High.
AGROSTEMMA					
‡Githago	51 — 59	Pla.—Upl.	12	19	Brit.
LYCHNIS					
alpina	57	Alp.?	0	0	High.
Viscaria	53 — 57	Pla.	1	1	Scot.
Flos-cuculi	51 — 59	Pla.—Upl.	12	19	Brit.
{ dioica	51 — 59	Pla.—Sub.?	11 }	19 {	Brit.
{ vespertina	51 — 56	Pla.	12 }		Brit.
SAGINA					
procumbens	51 — 59	Pla.—Sub.?	12	18	Brit.
apetala	51 — 59	Pla.	11	12	Brit.
maritima	51 — 58	Pla.—Upl.	3	6	Brit.
MŒNCHIA					
glauca	51 — 56	Pla.—Upl.?	8	6	Engl.

	Latitude.	Region.	Flo.	Cat.	Type.
ELATINE					
Hydropiper	54°	Pla.	0	0	Atla.
hexandra	52 to 57°	Pla.	0	1	Atla.?
HOLOSTEUM					
umbellatum	53	Pla.	0	0	Germ.
SPERGULA					
arvensis	51 — 59	Pla.—Upl.	12	18	Brit.
nodosa	51 — 59	Pla.—Upl.	10	16	Brit.
subulata	51 — 58	Pla.—Upl.	5	3	Brit.
saginoid.(53)	57 — 59	Sub.	0	0	High.
STELLARIA					
Holostea	51 — 58	Pla.—Sub.	12	19	Brit.
glauca (58)	51 — 56	Pla.	10	8	Brit.?
graminea	51 — 59	Pla.—Upl.	12	19	Brit.
scapigera	57	Pla.	0	0	High.
cerastoides	57 — 58	Alp.	0	1	High.
uliginosa	51 — 59	Pla.—Alp.	12	16	Brit.
media	51 — 59	Pla.—Upl.	12	19	Brit.
nemorum	51 — 58	Pla.—Upl.	4	6	Scot.
ARENARIA					
peploides	51 — 59	Pla.—Upl.	6	12	Brit.
marina	51 — 59	Pla.—Upl.	7	12	Brit.
rubra	51 — 59	Pla.—Upl.	11	17	Brit.
tenuifolia (57)	51 — 54	Pla.	7	3	Engl.
verna	51 — 58	Pla.—Med.	4	3	Scot.
rubella	57 — 59	Sub.?—Alp.	0	0	High.
fastigiata	57	?	0	0	Scot.?
Serpyllifolia	51 — 59	Pla.—Upl.	12	18	Brit.
trinervis	51 — 58	Pla.—Upl.	12	15	Brit.
CERASTIUM					
vulgatum	51 — 59	Pla.—Upl.	12	17	Brit.

	Latitude.	Region.	Flo.	Cat.	Type.
CERASTIUM					
viscosum	51° to 59°	Pla.—Alp.	12	18	Brit.
semidecand.	51 — 59	Pla.—Upl.	10	13	Brit.
tetrandrum	52 — 59	Pla.—Upl.	4	7	Brit.
arvense (59)	52 — 58	Pla.—Upl.	7	11	Engl.
alpinum	53 — 59	Sub.—Alp.	0	0	High.
latifolium	53 — 59	Sub.—Alp.	0	1	High.
aquaticu.(59)	51 — 56	Pla.	9	10	Engl.
CHERLERIA					
sedoides	57 — 59	Sub.—Alp.	0	0	High.
XIV. LINEÆ.					
LINUM					
angustifolium	51 — 54	Pla.	3	5	Engl.
perenne	53 — 55	Pla.	2	3	Germ.
°usitatissimum	51 — 59	Pla.—Upl.	9	8	Brit.
catharticum	51 — 59	Pla.—Med.	12	18	Brit.
RADIOLA					
millegrana	51 — 59	Pla.—Upl.	6	10	Brit.
XV. MALVACEÆ.					
LAVATERA					
arborea	51 — 57	Pla.	4	2	Engl.
ALTHÆA					
‡hirsuta	52	Pla.	1	1	Germ.
officinalis (56)	51 — 55	Pla.	2	5	Germ.?
MALVA					
sylvestris	51 — 58	Pla.—Upl.	12	18	Brit.
rotundifolia	51 — 58	Pla.—Upl.	12	14	Engl.
moschata	51 — 58	Pla.—Upl.	12	14	Engl.
XVI. TILIACEÆ.					
TILIA					
°grandifolia	52 — 57	Pla.	1	2	Engl.

	Latitude.	Region.	Flo.	Cat.	Type.
TILIA					
°europæa	51° to 57°	Pla.	10	6	Engl.
†parvifolia	52 — 55	Pla.	3	3	Engl.

XVII. HYPERICINEÆ.

HYPERICUM					
*calycinum	52 — 56	Pla.	0	0	Brit.?
Androsæmum	51 — 59	Pla.—Upl.	6	9	Brit.
montanum	51 — 56	Pla.	4	5	Engl.
hirsutum	51 — 57	Pla.	11	13	Brit.
pulchrum	51 — 59	Pla.—Med.	11	19	Brit.
perforatum	51 — 59	Pla.—Upl.	12	17	Brit.
dubium (58)	51 — 57	Pla.	7	7	Brit.
quadrangulum	51 — 58	Pla.—Upl.	12	17	Brit.
humifusum	51 — 58	Pla.—Upl.	11	14	Brit.
elodes	51 — 59	Pla.—Upl.	5	9	Brit.

XVIII. ACERINEÆ.

ACER					
campestre	51 — 56	Pla.	10	13	Engl.
*Pseudo-platan.	51 — 58	Pla.—Upl.	10	10	Brit.

XIX. GERANIACEÆ.

GERANIUM					
†phœum	51 — 57	Pla.—Upl.	8	1	Brit.
sylvaticum	52 — 59	Pla.—Sub.	5	6	Scot.
†nodosum (52)	54	Pla.?	0	0	Engl.?
pratense	51 — 58	Pla.—Upl.	10	11	Brit.
†pyrenaicum	52 — 57	Pla.	6	2	Brit.?
rotundifol. (56)	51 — 55	Pla.	6	3	Engl.
dissectum	51 — 58	Pla.—Upl.	12	17	Brit.
pusillum	51 — 58	Pla.—Upl.	12	13	Brit.
molle	51 — 59	Pla.—Upl.	12	19	Brit.

	Latitude.	Region.	Flo.	Cat.	Type.
GERANIUM					
columbinum	51° to 57°	Pla.	9	11	Brit.?
lucidum	51 — 59	Pla.—Upl.	11	14	Brit.
Robertianum	51 — 59	Pla.—Upl.	12	19	Brit.
sanguineum	51 — 58	Pla.—Upl.	6	6	Brit.
ERODIUM					
maritimum	51 — 55	Pla.	3	4	Engl.
† moschatum	51 — 55	Pla.	4	4	Engl.
cicutarium	51 — 59	Pla.—Upl.	12	14	Brit.

XX. BALSAMINEÆ.

IMPATIENS					
†Noli-me-tang.	51 — 56	Pla.	2	1	Brit.?

XXI. OXALIDEÆ.

OXALIS					
Acetosella	51 — 59	Pla.—Alp.	12	18	Brit.
corniculata	51 — 57	Pla.	3	0	Atla.?

XXII. CELASTRINEÆ.

STAPHYLEA					
°pinnata	54 — 56	Pla.	0	1	Engl.?
EUONYMUS					
europæus (58)	51 — 56	Pla.	11	12	Engl.
ILEX					
Aquifolium	51 — 59	Pla.—Upl.	12	16	Brit.

XXIII. RHAMNEÆ.

RHAMNUS					
catharticus	51 — 55	Pla.	8	12	Engl.
Frangula	51 — 56	Pla.	4	11	Engl.

XXIV. LEGUMINOSÆ.

	Latitude.	Region.	Flo.	Cat.	Type.
ULEX					
europæus	51° to 59°	Pla.—Upl.	12	19	Brit.
nanus	51 — 57	Pla.—Upl.	7	6	Engl.?
GENISTA					
pilosa	51 — 53	Pla.		1	Engl.
tinctoria	51 — 56	Pla.		12	Brit.
anglica	51 — 58	Pla.—Med.		14	Brit.
CYTISUS					
scoparius	51 — 59	Pla.—Med.	11	18	Brit.
ONONIS					
arvensis	51 — 58	Pla.—Upl.	12	18	Brit.
spinosa	51 — 56	Pla.	6	?	Brit.?
reclinata	55	Pla.	0	0	Scot.?
ANTHYLLIS					
vulneraria	51 — 59	Pla.—Upl.	11	15	Brit.
MEDICAGO					
minima	52 — 53	Pla.	1	1	Germ.?
denticulata	51 — 53	Pla.	0	2	Germ.
maculata	51 — 57	Pla.	6	7	Engl.
lupulina	51 — 58	Pla.—Upl.	12	16	Brit.
falcata	51 — 55	Pla.	2	2	Engl.
*sativa	51 — 57	Pla.	8	5	Brit.?
MELILOTUS					
‡officinalis	51 — 57	Pla.	11	10	Engl.
‡leucantha	52 — 56	Pla.	2	1	Engl.
TRIFOLIUM					
ornithopodioides	51 — 57	Pla.	2	5	Brit.
repens	51 — 59	Pla.—Sub.	12	18	Brit.
subterraneum	51 — 55	Pla.	6	6	Engl.
ochroleucum	51 — 55	Pla.	4	3	Engl.

	Latitude.	Region.	Flo.	Cat.	Type.
TRIFOLIUM					
pratense	51° to 59	Pla.—Med.	12	19	Brit.
medium	51 — 59	Pla.—Upl.	10	15	Brit.
maritimum	51 — 55	Pla.	1	3	Engl.
† stellatum (52)	51	Pla.	0	3	Germ.?
arvense	51 — 58	Pla.—Upl.	11	16	Brit.
scabrum	51 — 57	Pla.	8	8	Brit.
glomeratum	51 — 55	Pla.	2	3	Engl.
suffocatum	51 — 54	Pla.	2	2	Engl.
striatum	51 — 59	Pla.—Upl.	9	9	Brit.
fragiferum	51 — 56	Pla.	9	10	Brit.?
resupinatum	52	Pla.	0	1	Atla.?
procumbens	51 — 59	Pla.—Upl.	12	18	Brit.
filiforme	51 — 58	Pla.—Upl.	12	15	Brit.
LOTUS					
{ corniculatus	51 — 59	Pla.—Sub.	12	18	Brit.
{ tenuis	51 — 56	Pla.	2	2	Brit.
{ major (58)	51 — 57	Pla.	9	14	Brit.?
angustissim. (54)	51	Pla.	2	0	Engl.
OXYTROPIS					
uralensis	55 — 59	Pla.—Upl.	1	1	High.
campestris	57	Sub.	0	0	High.
ASTRAGALUS					
alpinus	57	Sub.	0	0	High.
hypoglottis	51 — 58	Pla.—Upl.	5	6	Brit.
glycyphyllos	51 — 58	Pla.—Upl.	8	11	Brit.
ORNITHOPUS					
perpusillus	51 — 58	Pla.—Upl.	11	13	Brit.
HIPPOCREPIS					
comosa	51 — 57	Pla.—Upl.	6	7	Engl.
ONOBRYCHIS					
sativa	52 — 54	Pla.	7	4	Engl.

	Latitude.	Region.	Flo.	Cat.	Type.
VICIA					
sylvatica	51° to 59°	Pla.—Med.	11	11	Brit.
Cracca	51 — 59	Pla.—Upl.	12	19	Brit.
{ sativa	51 — 59	Pla.—Upl.	12	17	Brit.
{ angustifolia	51 — 56	Pla.	3	7	Brit.
lathyroides	51 — 58	Pla.—Upl.	5	8	Brit.
lutea	51 — 57	Pla.	2	2	Brit.?
hybrida	52	Pla.	0	0	Atla.?
lævigata	51	Pla.	0	0	Atla.?
sepium	51 — 59	Pla.—Med.	12	17	Brit.
bithynica	51 — 55	Pla.	2	3	Engl.
ERVUM					
tetrasperm. (59)	51 — 57	Pla.	9	12	Engl.
hirsutum	51 — 59	Pla.—Upl.	11	18	Brit.
LATHYRUS					
Aphaca	51 — 55	Pla.	5	4	Engl.
Nissolia	51 — 54	Pla.	6	5	Engl.
hirsutus	52 — 55	Pla.	1	1	Engl.
pratensis	51 — 59	Pla.—Upl.	12	19	Brit.
palustris	52 — 56	Pla.	2	2	Engl.
sylvestris (59)	51 — 57	Pla.	8	6	Engl.
†latifolius	51 — 56	Pla.	3	1	Engl.
pisiformis	51 — 59	Pla.—Upl.	0	3	Brit.?
OROBUS					
niger (58)	57		0	1	High.
tuberosus	51 — 59	Pla.—Med.	11	16	Brit.
sylvaticus	52 — 57		4	0	Scot.?

XXV. ROSACEÆ.

PRUNUS					
{ *domestica	51 — 56	Pla.	8	5	Engl.
{ ‡insititia	51 — 58	Pla.—Upl.	10	6	Brit.
{ spinosa	51 — 59	Pla.—Upl.	12	18	Brit.
‡Cerasus (58)	51 — 57	Pla.—Upl.	12	10	Brit.?

	Latitude.	Region.	Flo.	Cat.	Type.
PRUNUS					
Padus	52° to 58°	Pla.—Upl.	7	7	Brit.
SPIRÆA					
Ulmaria	51 — 59	Pla.—Med.	12	19	Brit.
Filipendula	51 — 58	Pla.—Upl.	11	11	Brit.
†Salicifolia	53 — 58	Pla.—Upl.	6	5	Scot.
DRYAS					
octopetala	55 — 59	Upl.—Sub.	1	3	High.
GEUM					
urbanum	51 — 58	Pla.—Upl.	12	17	Brit.
rivale	51 — 59	Pla.—Sub.	10	14	Brit.
RUBUS [a]					
idæus	51 — 59	Pla.—Med.	11	17	Brit.
suberectus	51 — 58	Pla.—Upl.	1	6	Brit.?
carpinifolius	51 — 55	Pla.	0	2	Engl.?
rhamnifolius	51 — 55	Pla.	0	4	Engl.?
fruticosus	51 — 59	Pla.—Upl.	12	17	Brit.
leucostachys	51 — 55	Pla.	0	3	Engl.?
macrophyllus	51	Pla.	1	0	Engl.?
Koehleri	52 — 55	Pla.	2	3	Engl.?
{ corylifolius	51 — 57	Pla.—Upl.?	9	13	Brit.
{ cæsius (58)	52 — 56	Pla.	9	15	Engl.
saxatilis (51)	53 — 59	Pla.—Sub.	5	8	Scot.
Chamæmorus	53 — 59	Upl.—Alp.	5	6	High.
FRAGARIA					
{ vesca	51 — 59	Pla.—Med.	12	19	Brit.
{ calycina	56	Pla.	1	0	Scot.?
*elatior (58)	52 — 56	Pla.	2	5	Engl.
TORMENTILLA					
officinalis	51 — 59	Pla.—Alp.	12	19	Brit.
reptans	51 — 57	Pla.	9	6	Brit.

[a] I leave to more able *Rubists* the choice of union or division in this genus.

	Latitude.	Region.	Flo.	Cat.	Type.
POTENTILLA					
fruticosa	55°	Upl. ?	1	1	Scot. ?
rupestris	53	Upl. ?	0	0	Atla. ?
anserina	51 to 59°	Pla. — Upl.	12	19	Brit.
argentea	52 — 59	Pla. — Upl.	7	11	Brit.
{ verna	51 — 57	Pla. ?	6	3	Brit.
{ alpestris	53 — 58	Upl. — Alp.	1	1	High.
reptans	51 — 59	Pla. — Upl.	12	16	Brit.
opaca	57	Sub. ?	0	0	High.
tridentata	57	Sub. ?	0	0	High.
Fragariastrum	51 — 58	Pla. — Upl.	12	15	Brit.
COMARUM					
palustre	52 — 59	Pla. — Alp.	8	15	Brit.
SIBBALDIA					
procumbens	57 — 59	Sub. — Alp.	0	2	High.
AGRIMONIA					
Eupatoria	51 — 58	Pla. — Upl.	12	17	Brit.
ALCHEMILLA					
arvensis	51 — 59	Pla. — Upl.	12	19	Brit.
alpina	55 — 58	Upl. — Alp.	0	2	High.
vulgaris	51 — 59	Pla. — Alp.	11	12	Brit.
SANGUISORBA					
officinalis (58)	51 — 56	Pla. ?	5	6	Brit.
media	56 ?	Pla. ?	0	0	Scot. ?
POTERIUM					
Sanguisorba	51 — 57	Pla.	11	10	Brit.
ROSA					
rubella	54 — 58	Pla. — Upl.	2	1	Scot.
spinosissima	51 — 59	Pla. — Med. ?	5	13	Brit.
Wilsoni	54	Pla.	0	0	Atla. ?
involuta	56 — 57	Pla. — Upl.	1	0	Scot.
Sabini	51 — 59	Pla. — Upl.	2	4	Brit.
villosa	52 — 59	Pla. — Upl.	4	5	Brit.

	Latitude.	Region.	Flo.	Cat.	Type.
ROSA					
tomentosa	51° to 59°	Pla.—Med.	7	10	Brit.
inodora	51 — 58	Pla.—Upl.	3	1	Brit.
micrantha	51 — 53	Pla.	0	5	Engl.
‡rubiginosa	51 — 58	Pla.—Upl.	11	6	Brit.
sepium (52)	53	Pla.	0	2	Atla.?
canina	51 — 59	Pla.—Upl.	12	18	Brit.
bractescens	55	Pla.	0	0	Scot.?
cæsia	55 — 57	Pla.	1	0	High.
systyla	51 — 58	Pla.—Upl.	0	3	Engl.?
arvensis (59)	51 — 56	Pla.	11	14	Engl.
CRATÆGUS					
Oxyacantha	51 — 58	Pla.—Upl.	12	17	Brit.
MESPILUS					
†germanica	51 — 54	Pla.	1	1	Engl.
PYRUS					
communis	51 — 57	Pla.	8	5	Engl.
Malus	51 — 57	Pla.—Upl.	12	14	Brit.
torminalis	51 — 56	Pla.	6	4	Engl.
{ Aria	51 — 59	Pla.—Upl.	8	8	Brit.
{ pinnatifida	52	Pla.	1	0	Engl.?
Aucuparia	51 — 59	Pla.—Sub.	11	13	Brit.
†domestica(59)	51 — 54	Pla.	1	0	Engl.

XXVI. ONAGRARIEÆ.

EPILOBIUM					
angustifolium	52 — 59	Pla.—Med.	10	14	Scot.
hirsutum	51 — 59	Pla.—Upl.	12	16	Brit.
parviflorum	51 — 58	Pla.—Upl.	12	15	Brit.
montanum	51 — 59	Pla.—Upl.	12	18	Brit.
roseum	51 — 54	Pla.	2	2	Engl.
tetragonum	51 — 59	Pla.—Upl.	12	15	Brit.
palustre	51 — 59	Pla.—Upl.	11	13	Brit.

	Latitude.	Region.	Flo.	Cat.	Type.
EPILOBIUM					
alsinifolium	54° to 57°	Upl.—Sub.	2	2	High.
alpinum	54 — 58	Med.—Alp.	1	3	High.
ŒNOTHERA					
*biennis	52 — 55	Pla.	2	3	Engl.
ISNARDIA					
palustris	51 — 53	Pla.	0	1	Germ.
CIRCÆA					
Lutetiana	51 — 59	Pla.—Upl.	12	14	Brit.
alpina	52 — 59	Upl.?	4	4	High.

XXVII. HALORAGEÆ.

MYRIOPHYLLUM					
spicatum	51 — 59	Pla.—Upl.	12	14	Brit.
verticillatum(59)	51 — 55	Pla.	5	8	Engl.
CALLITRICHE					
verna	51 — 59	Pla.—Upl.	12	17	Brit.
autumnalis	51 — 59	Pla.—Upl.	9	7	Brit.
pedunculata	51 — 54	Pla.	0	1	Engl.?
HIPPURIS					
vulgaris	52 — 59	Pla.—Upl.	10	14	Brit.

XXVIII. CERATOPHYLLEÆ.

CERATOPHYLLUM					
demersum	51 — 56	Pla.	7	7	Brit.?
submersum	51 — 54	Pla.	0	2	Engl.

XXIX. LYTHRARIEÆ.

LYTHRUM					
Salicaria	51 — 57	Pla.—Upl.	11	13	Engl.?
hyssopifolium	52 — 54	Pla.	3	0	Germ.?

	Latitude.	Region.	Flo.	Cat.	Type.
PEPLIS					
Portula	51° to 59°	Pla.—Upl.	11	14	Brit.

XXX. TAMARISCINEÆ.

TAMARIX					
*gallica	51 — 52	Pla.	0	0	Engl.

XXXI. CUCURBITACEÆ.

BRYONIA					
dioica	52 — 56	Pla.	6	13	Engl.

XXXII. PORTULACEÆ.

MONTIA					
fontana	51 — 59	Pla.—Sub.	11	16	Brit.

XXXIII. ILLECEBREÆ.

CORRIGIOLA					
littoralis	51	Pla.	1	0	Atla.
ILLECEBRUM					
verticillatum	51	Pla.	1	0	Atla.
HERNIARIA					
glabra	51 — 54	Pla.	0	1	Engl.
hirsuta (54)	51	Pla.	0	0	Atla.
POLYCARPON					
tetraphyllum(54)	51 — 52	Pla.	1	0	Atla.
SCLERANTHUS					
annuus	51 — 58	Pla.—Upl.	11	15	Brit.
perennis	52 — 57	Pla.	2	2	Engl.

XXXIV. CRASSULACEÆ.

	Latitude.	Region.	Flo.	Cat.	Type.
TILLÆA					
muscosa	52° to 53°	Pla.	0	3	Germ.
SEDUM					
sexangulare	51 — 54	Pla.	2	1	Engl.
‡dasyphyllum	51 — 56	Pla.	4	3	Engl.
album	51 — 57	Pla.	5	6	Engl.?
anglicum	51 — 58	Pla. — Sub.	5	6	Atla.
villosum	55 — 58	Pla.? — Upl.	5	4	Scot.
acre	51 — 59	Pla. — Upl.	12	18	Brit.
{ reflexum	51 — 58	Pla. — Upl.	12	11	Brit.
{ rupestre	51 — 55	Pla.	2	2	Atla.?
{ Forsterianum	52 — 54	Pla.	0	1	Atla.?
{ glaucum	53 — 54	Pla.	0	1	Engl.
Telephium	51 — 59	Pla. — Upl.	12	14	Brit.
RHODIOLA					
rosea	53 — 59	Pla. — Alp.	2	5	High.
SEMPERVIVUM					
†tectorum	51 — 58	Pla. — Upl.	12	11	Engl.
COTYLEDON					
Umbilicus	51 — 57	Pla. — Upl.	4	8	Atla.

XXXV. GROSSULARIEÆ.

RIBES					
‡nigrum	51 — 59	Pla. — Upl.	7	4	Brit.
{ rubrum	51 — 59	Pla. — Upl.	7	7	Brit.?
{ petræum	55 — 58	Pla.? — Upl.	1	3	Scot.
alpinum	52 — 56	Pla.	3	3	Scot.
*Grossularia	51 — 58	Pla. — Upl.	11	8	Brit.

XXXVI. SAXIFRAGEÆ.

	Latitude.	Region.	Flo.	Cat.	Type.
SAXIFRAGA					
*umbrosa	55° to 56°	Pla.	3	1	Scot.?
stellaris (51)	53 — 58	Upl. — Alp.	3	4	High.
nivalis	54 — 58	Sub. — Alp.	0	0	High.
oppositifolia	53 — 59	Upl. — Alp.	0	3	High.
Hirculus	54 — 56	Pla. — ?	1	1	Scot.?
aizoides	54 — 59	Upl. — Alp.?	1	6	High.
granulata	52 — 58	Pla. — Upl.	10	12	Brit.
cernua	57	Alp.	0	0	High.
rivularis	57	Alp.	0	0	High.
tridactylites	51 — 58	Pla. — Upl.	9	13	Brit.
cæspitosa (59)	54 — 58	Med.? — Alp.	0	1	High.
muscoides	55	Upl.?	0	0	Scot.?
hypnoid. (51)	52 — 59	Pla. — Alp.	3	6	High.
denudata	57	Sub.?	0	0	High.
elongella	57	Sub.?	0	0	High.
lætevirens	57	Sub.?	0	0	High.
pedatifida	57	Sub.?	0	0	High.
CHRYSOSPLENIUM					
alternifolium	51 — 58	Pla. — Alp.	6	10	Brit.
oppositifolium	51 — 59	Pla. — Alp.	11	16	Brit.

XXXVII. UMBELLIFERÆ.

HYDROCOTYLE					
vulgaris	51 — 59	Pla. — Upl.	11	17	Brit.
SANICULA					
europæa	51 — 59	Pla. — Upl.	12	16	Brit.
CICUTA					
virosa	52 — 57	Pla.	8	3	Engl.?
APIUM					
graveolens	51 — 58	Pla. — Upl.	8	9	Brit.

	Latitude.	Region.	Flo.	Cat.	Type.
PETROSELINUM					
*sativum	51° to 55°	Pla.	3	0	Engl.
segetum (57)	51 — 54	Pla.	6	4	Engl.
TRINIA					
glaberrima (54)	52	Pla.	0	1	Atla.
HELOSCIADIUM					
repens	51 — 56	Pla.	7	6	Engl.?
nodiflorum	51 — 56	Pla.	10	9	Brit.
inundatum	51 — 59	Pla.—Upl.	10	11	Brit.
SISON					
Amomum	51 — 56	Pla.	8	9	Engl.
ÆGOPODIUM					
Podagraria	51 — 59	Pla.—Upl.	10	14	Brit.
CARUM					
*Carui	53 — 58	Pla.—Upl.	7	5	Engl.
verticillat. (51)	52 — 57	Pla.?—Upl.	1	0	Atla.?
BUNIUM					
flexuosum	51 — 59	Pla.—Upl.	12	18	Brit.
PIMPINELLA					
magna	51 — 56	Pla.	6	6	Engl.
Saxifraga	51 — 59	Pla.—Med.	12	16	Brit.
SIUM					
latifolium	51 — 56	Pla.	7	7	Engl.
angustifolium	51 — 59	Pla.—Upl.	10	11	Brit.
BUPLEURUM					
rotundifolium	51 — 55	Pla.	6	5	Engl.
falcatum	52	Pla.	0	0	Germ.
tenuissimum	51 — 55	Pla.	2	6	Engl.
Odontites	51	Pla.	1	0	Atla.?
ŒNANTHE					
fistulosa	51 — 58	Pla.—Upl.	9	11	Brit.

	Latitude.	Region.	Flo.	Cat.	Type.
ŒNANTHE					
peucedanifol.	51° to 56°	Pla.	5	5	Engl.
pimpinelloid. (58)	51 — 57	Pla.	6	9	Brit.
crocata (58)	51 — 57	Pla.	9	9	Brit.
apiifolia (58)	51 — 56	Pla.	0	5	Brit.?
Phellandrium	51 — 56	Pla.	8	9	Brit.
ÆTHUSA					
Cynapium	51 — 59	Pla.—Upl.	12	17	Brit.
FŒNICULUM					
vulgare	51 — 57	Pla.	6	7	Brit.
SESELI					
Libanotis	52 — 53	Pla.	1	0	Germ.?
LIGUSTICUM					
scoticum	56 — 59	Pla.—Upl.	3	3	Scot.
SILAUS					
pratensis (58)	51 — 56	Pla.	9	11	Engl.
MEUM.					
athamanticum	53 — 58	Pla.?—Upl.	3	1	Scot.
CRITHMUM					
maritimum	51 — 56	Pla.	4	6	Engl.
ANGELICA					
°Archangelica	52 — 55	Pla.	1	1	Engl.
sylvestris	51 — 59	Pla.—Upl.	12	17	Brit.
PEUCEDANUM					
officinale	52 — 54	Pla.	0	2	Germ.
palustre	52 — 56	Pla.	3	1	Brit.
†Ostruthiu.(59)	54 — 57	Pla.—Upl.	4	3	Scot.
PASTINACA					
sativa	51 — 56	Pla.	6	8	Engl.
HERACLEUM					
Sphondylium	51 — 59	Pla.—Upl.	12	19	Brit.

	Latitude.	Region.	Flo.	Cat.	Type.
TORDYLIUM					
‡maximum	52°	Pla.	1	0	Germ.
DAUCUS					
Carota	51 to 58°	Pla.—Upl.	12	18	Brit.
maritimus	51 — 57	Pla.	2	1	Atla.?
CAUCALIS					
‡latifolia	52 — 54	Pla.	2	1	Engl.
‡daucoides	52 — 55	Pla.	5	3	Engl.
TORILIS					
nodosa (58)	51 — 56	Pla.	10	14	Engl.
infesta	51 — 57	Pla.	6	7	Engl.
Anthriscus (58)	51 — 56	Pla.	12	15	Brit.
SCANDIX					
Pecten	51 — 59	Pla.—Upl.	12	18	Brit.
ANTHRISCUS					
†Cerefolium	52 — 56	Pla.	4	0	Brit.?
vulgaris	51 — 58	Pla.—Upl.	10	12	Brit.
sylvestris	51 — 59	Pla.—Upl.	12	12	Brit.
CHÆROPHYLLUM					
temulentum	51 — 58	Pla.—Upl.	12	19	Brit.
†aureum	56 — 57	Pla.	1	1	Scot.
†aromaticum	57	Pla.	0	0	Scot.
MYRRHIS					
‡odorata	52 — 58	Pla.—Upl.	6	7	Scot.
CONIUM					
maculatum	51 — 59	Pla.—Upl.	12	18	Brit.
PHYSOSPERMUM					
cornubiense	51	Pla.	0	0	Atla.
SMYRNIUM					
‡Olusatrum (58)	51 — 57	Pla.	8	6	Brit.
CORIANDRUM					
*sativum	52 — 55	Pla.	2	0	Engl.

	Latitude.	Region.	Flo.	Cat.	Type.
ERYNGIUM					
maritimum (58)	51° to 57°	Pla.	4	9	Engl.
campestre	51 — 55	Pla.	2	0	Engl.

XXXVIII. ARALIACEÆ.

HEDERA					
Helix	51 — 59	Pla.—Upl.	12	19	Brit.
ADOXA					
moschatellina	51 — 58	Pla.—Alp.	12	14	Brit.

XXXIX. CAPRIFOLIACEÆ.

CORNUS					
sanguinea	51 — 58	Pla.—Upl.?	10	13	Engl.
suecica	55 — 58	Upl.?—Sub.	4	2	High.
SAMBUCUS					
‡Ebulus	51 — 58	Pla.—Upl.?	12	12	Brit.
nigra	51 — 59	Pla.—Upl.	12	18	Brit.
LONICERA					
Periclymemum	51 — 59	Pla.—Upl.	12	19	Brit.
Caprifolium	52 — 56	Pla.	2	1	Germ.
†Xylosteum	51 — 56	Pla.	1	1	Engl.?
VIBURNUM					
Lantana	51 — 56	Pla.	8	6	Engl.
Opulus	51 — 58	Pla.—Upl.	12	16	Brit.
LINNÆA					
borealis	56 — 58	Pla.—Med.	1	2	High.

XL. LORANTHEÆ.

VISCUM					
album	51 — 57	Pla.	8	8	Engl.

XLI. RUBIACEÆ.

	Latitude.	Region.	Flo.	Cat.	Type.
SHERARDIA					
arvensis	51° to 58°	Pla. — Upl.	12	18	Brit.
RUBIA					
peregrina (56)	51 — 54	Pla.	4	4	Engl.
ASPERULA					
Cynanchica	51 — 54	Pla.	6	4	Germ.
odorata	51 — 59	Pla. — Upl.	12	12	
GALIUM					
verum	51 — 59	Pla. — Med.	12	19	Brit.
cruciatum	51 — 56	Pla.	11	16	Engl.?
palustre	51 — 59	Pla. — Upl.	12	18	Brit.
uliginosum	51 — 59	Pla. — Upl.	9	10	Brit.
saxatile	51 — 59	Pla. — Alp.	11	19	Brit.
erectum	51 — 57	Pla.	5	2	Engl.
cinereum	56 — 57	Pla.	0	0	Scot.
{ aristatum	57	Pla.	0	0	Scot.
{ Mollugo	51 — 58	Pla. — Upl.	10	12	Brit.
pusillum	53 — 57	Pla. — Upl.	2	1	Scot.
parisiense	52 — 54	Pla.	3	1	Engl.
saccharatum	54 — 57	Pla.	0	0	Scot.
tricorne	51 — 55	Pla.	3	5	Germ.
spurium	52 — 57	Pla.	2	0	Germ.
boreale	54 — 59	Upl. — Sub.	4	4	High.
Aparine	51 — 59	Pla. — Upl.	12	19	Brit.

XLII. VALERIANEÆ.

FEDIA					
{ mixta	53	Pla.	0	0	Germ.
{ eriocarpa	52 — 54	Pla.	0	0	Engl.
{ dentata	51 — 58	Pla. — Upl.	8	8	Engl.
Auricula	51	Pla.	0	0	Atla.
olitoria	51 — 59	Pla. — Upl.	12	16	Brit.

	Latitude.	Region.	Flo.	Cat.	Type.
VALERIANA					
*rubra	51° to 56°	Pla.	7	2	Engl.
dioica	51 — 56	Pla.—Upl.	11	14	Engl.
officinalis	51 — 59	Pla.—Sub.	12	19	Brit.
*pyrenaica	54 — 57	Pla.	3	0	Scot.

XLIII. DIPSACEÆ.

DIPSACUS					
pilosus (56)	51 — 55	Pla.	5	8	Engl.
sylvestris	51 — 56	Pla.	10	11	Engl.
°Fullonum	51 — 57	Pla.	4	1	Engl.
SCABIOSA					
columbaria	51 — 57	Pla.	9	11	Engl.
succisa	51 — 59	Pla.—Sub.	12	19	Brit.
KNAUTIA					
arvensis	51 — 59	Pla.—Upl.	12	18	Brit.

XLIV. COMPOSITÆ.

TRAGOPOGON					
pratensis (59)	51 — 58	Pla.—Upl.	11	15	Brit.
major	55 — 56	Pla.	2	1	Brit.?
porrifolius	52 — 56	Pla.	1	3	Engl.?
HELMINTHIA					
echioides	51 — 56	Pla.	9	9	Engl.
PICRIS					
hieracioides	51 — 56	Pla.	9	10	Engl.
SONCHUS					
alpinus	57	Sub.	0	0	High.
palustris	51 — 56	Pla.	3	1	Engl.
arvensis	51 — 59	Pla.—Upl.	12	19	Brit.
oleraceus	51 — 59	Pla.—Upl.	12	19	Brit.

	Latitude.	Region.	Flo.	Cat.	Type.
LACTUCA					
virosa	52° to 57°	Pla.	6	12	Brit.
Scariola	52 — 54	Pla.	1	0	Germ.
Saligna	51 — 54	Pla.	1	0	Germ.
PRENANTHES					
muralis	52 — 56	Pla. — ?	5	12	Engl.?
hieraciifolia	57	— ?	0	0	High.?
LEONTODON					
Taraxacum	51 — 59	Pla. — Alp.	12	19	Brit.
palustre	51 — 59	Pla. — Alp.	9	7	Brit.
APARGIA					
hispida	51 — 59	Pla. — Upl.	12	14	Brit.
Taraxaci	54 — 59	Sub. — Alp.	0	1	High.
autumnalis	51 — 59	Pla. — Sub.	12	16	Brit.
THRINCIA					
hirta	51 — 57	Pla.	10	7	Brit.?
HIERACIUM					
alpinum	54 — 58	Sub. — Alp.	0	2	High.
Halleri	55 — 57	Sub.?	0	0	High.
Pilosella	51 — 59	Pla. — Upl.	12	19	Brit.
dubium	54 — ?	?	0	0	Scot.?
†aurantiacum	54 — 58	Pla. — Upl.	1	1	Scot.
Lawsoni	55 — 57	Pla. — Med.	1	0	High.
pulmonarium	57	?	1	0	High.
murorum	51 — 59	Pla. — Sub.	10	12	Brit.
sylvaticum	51 — 59	Pla. — Upl.	7	12	Brit.
paludosum	52 — 58	Pla. — Upl.	5	7	Scot.
molle	56 — 57	Upl.?	0	0	Scot.
cerinthoides	57	?	0	0	High.
amplexicaule	52 — 57	Upl.?	0	0	High.
denticulatum	56 — 59	Upl.	0	3	High.
prenanthoides	55 — 58	Pla.? — Sub.	4	2	High.

	Latitude.	Region.	Flo.	Cat.	Type.
HIERACIUM					
subaudum	51° to 58°	Pla.—?	11	8	Brit.
umbellatum	51 — 59	Pla.—Upl.	8	11	Brit.
CREPIS					
tectorum	51 — 59	Pla.—Upl.	12	17	Brit.
biennis	52 — 56	Pla.	2	3	Engl.
BORKHAUSIA					
fœtida	52 — 55	Pla.	2	2	Germ.
HYPOCHÆRIS					
maculata	53 — 57	Pla.	1	0	Engl.
glabra	51 — 58	Pla.—Upl.	4	5	Germ.?
radicata	51 — 58	Pla.—Med.	12	15	Brit.
LAPSANA					
communis	51 — 59	Pla.—Upl.	12	19	Brit.
pusilla	51 — 58	Pla.—Upl.	2	2	Germ.
CICHORIUM					
Intybus	51 — 58	Pla.—Upl.	11	17	Engl.
ARCTIUM					
Lappa	51 — 59	Pla.—Upl.	12	19	Brit.
SERRATULA					
tinctoria (59)	51 — 56	Pla.—Upl.?	10	9	Engl.
SAUSSUREA					
alpina	54 — 59	Med.—Alp.	0	1	High.
CARDUUS					
nutans	51 — 59	Pla.—Upl.	11	15	Brit.
acanthoides	51 — 59	Pla.—Upl.	12	13	Brit.
tenuiflorus	51 — 57	Pla.	10	10	Engl.
‡marianus	51 — 58	Pla.—Upl.	9	11	Brit.
CNICUS					
lanceolatus	51 — 59	Pla.—Med.	12	6	Brit.
palustris	51 — 59	Pla.—Med.	12	16	Brit.
arvensis	51 — 59	Pla.—Upl.	12	18	Brit.

	Latitude.	Region.	Flo.	Cat.	Type.
CNICUS					
Forsteri	52°	Pla.	0	0	Germ.
eriophorus	51 to 57°	Pla.	7	6	Engl.
pratensis	51 — 56	Pla.	5	8	Germ.
heterophyllus	52 — 58	Pla.? — Upl.	6	6	Scot.
{ tuberosus	52	Pla.	0	1	Germ.?
{ acaulis (56)	51 — 53	Pla.	5	8	Germ.
ONOPORDUM					
‡Acanthium	52 — 57	Pla.	8	9	Engl.
CARLINA					
vulgaris	51 — 57	Pla.	9	12	Brit.
BIDENS					
cernua	51 — 58	Pla. — Upl.	12	12	Brit.
tripartita	51 — 57	Pla.	10	12	Brit.
EUPATORIUM					
cannabinum	51 — 59	Pla. — Upl.	12	16	Brit.
CHRYSOCOMA					
Linosyris	51 — 54	Pla.	0	0	Atla.
DIOTIS					
maritima	51 — 54	Pla.	2	0	Engl.
TANACETUM					
vulgare	51 — 59	Pla. — Upl.	11	18	Brit.
ARTEMISIA					
campestris	53	Pla.	0	0	Germ.
maritima	51 — 57	Pla.	6	8	Engl.
Absinthium	51 — 57	Pla.	10	11	Brit.
vulgaris	51 — 59	Pla. — Upl.	12	18	Brit.
GNAPHALIUM					
dioicum	51 — 59	Pla. — Alp.	8	11	Scot.
margaritaceum	52 — 53	Pla.	0	1	Atla.
†luteo-album	53	Pla.	1	0	Germ.
sylvaticum	51 — 59	Pla. — Upl.	9	12	Brit.
supinum	57 — 58	Sub. — Alp.	0	3	High.

	Latitude.	Region.	Flo.	Cat.	Type.
GNAPHALIUM					
uliginosum	51° to 59°	Pla.—Upl.	12	16	Brit.
†gallicum	52 — 57	Pla.	0	0	Germ.
minimum	51 — 58	Pla.—Upl.	11	12	Brit.
germanicum	51 — 58	Pla.—Upl.	12	19	Brit.
CONYZA					
squarrosa (57)	51 — 55	Pla.	8	9	Engl.
ERIGERON					
*canadensis	52 — 54	Pla.	1	1	Engl.
acris	52 — 56	Pla.	7	9	Engl.
alpinus	57	Sub.—Alp.	0	0	High.
TUSSILAGO					
Farfara	51 — 59	Pla.—Sub.	12	19	Brit.
PETASITES					
vulgaris	51 — 59	Pla.—Upl.	12	15	Brit.
SENECIO					
vulgaris	51 — 59	Pla.—Upl.	12	18	Brit.
viscosus	52 — 57	Pla.	8	3	Brit.
sylvaticus	51 — 59	Pla.—Upl.	12	15	Brit.
†squalidus	51 — 53	Pla.	0	1	Atla.?
tenuifolius	51 — 56	Pla.	9	8	Engl.
{ Jacobæa	51 — 59	Pla.—Med.	12	19	Brit.
{ aquaticus	51 — 59	Pla.—Upl.	12	16	Brit.
†paludosus	53 — 54	Pla.	1	0	Germ.
†saracenicus	52 — 58	Pla.—Upl.	4	2	Scot.
ASTER					
Tripolium	51 — 58	Pla.—Upl.	7	12	Brit.
SOLIDAGO					
Virgaurea	51 — 59	Pla.—Alp.	12	18	Brit.
INULA					
Helenium	51 — 58	Pla.—Upl.	10	6	Brit.?
LIMBARDA					
crithmoides	51 — 55	Pla.	1	0	Engl.

	Latitude.	Region.	Flo.	Cat.	Type.
PULICARIA					
dysenterica	51° to 56°	Pla.	9	14	Engl.
vulgaris	52 — 53	Pla.	4	2	Engl.
CINERARIA					
palustris	52 — 55	Pla.	1	1	Engl.
campestris	51 — 54	Pla.	3	1	Germ.
DORONICUM					
*Pardalianches	52 — 57	Pla.	5	0	Brit.?
*plantagineum	52 — 57	Pla.	0	0	Brit.?
BELLIS					
perennis	51 — 59	Pla.—Sub.	12	19	Brit.
CHRYSANTHEMUM					
Leucanthemum	51 — 59	Pla.—Med.	12	19	Brit.
‡segetum	51 — 59	Pla.—Upl.	12	16	Brit.
PYRETHRUM					
‡Parthenium	51 — 58	Pla.—Upl.	12	15	Brit.
{ inodorum	51 — 59	Pla.—Upl.	12	17	Brit.
{ maritimum	51 — 59	Pla.—Upl.	4	6	Brit.
MATRICARIA					
Chamomilla	51 — 56	Pla.	10	9	Engl.
ANTHEMIS					
nobilis	51 — 56	Pla.	5	6	Engl.
maritima	55	Pla.	1	1	Scot.?
arvensis	51 — 58	Pla.—Upl.	9	6	Brit.
Cotula	51 — 59	Pla.—Upl.	11	13	Brit.
†tinctoria	52 — 57	Pla.	1	1	Brit.?
ACHILLÆA					
Ptarmica	51 — 59	Pla.—Sub.	12	16	Brit.
serrata	54	Pla.?	0	1	Germ.?
Millefolium	51 — 59	Pla.—Alp.	12	19	Brit.
tomentosa	56	Pla.?	1	0	Scot.

	Latitude.	Region.	Flo.	Cat.	Type.
CENTAUREA					
Jacea?	51° to 57°	Pla.	1	1	Engl.?
nigra	51 — 59	Pla.—Upl.	12	19	Brit.
‡Cyanus	51 — 59	Pla.—Upl.	12	17	Brit.
Scabiosa	51 — 59	Pla.—Upl.	11	14	Brit.
Calcitrapa	51 — 55	Pla.	4	2	Germ.
*solstitialis	51 — 54	Pla.	0	2	Germ.
XANTHIUM					
†Strumarium	51 — 55	Pla.	1	0	Germ.?

XLV. LOBELIACEÆ.

LOBELIA					
urens	51	Pla.	1	0	Atla.
Dortmanna	52 — 59	Pla.?—Upl.	3	3	High.

XLVI. CAMPANULACEÆ.

CAMPANULA					
rotundifolia	51 — 58	Pla.—Alp.	12	18	Brit.
patula	51 — 55	Pla.	0	3	Engl.
‡Rapunculus	51 — 55	Pla.	2	2	Engl.
persicifolia	58	Upl.	0	1	High.?
latifolia (51, 58)	52 — 57	Pla.—?	7	11	Brit.
rapunculoides	52 — 57	Pla.	1	0	Germ.?
Trachelium	51 — 56	Pla.	7	7	Engl.
glomerata	51 — 57	Pla.	7	5	Germ.
hederacea	51 — 56	Pla.	2	2	Atla.
hybrida	51 — 55	Pla.	7	7	Germ.
PHYTEUMA					
spicatum	52	Pla.	0	1	Germ.
orbiculare	51 — 52	Pla.	0	1	Germ.
JASIONE					
montana	51 — 58	Pla.—Upl.	9	14	Engl.

XLVII. ERICACEÆ.

	Latitude.	Region.	Flo.	Cat.	Type.
VACCINIUM					
Myrtillus	51° to 59°	Pla.—Alp.	10	14	Brit.
Oxycoccos	51 — 58	Pla.—Sub.	8	10	Brit.
Vitis-Idæa	52 — 59	Pla.—Alp.	4	8	High.
uliginosum	54 — 58	Pla.—Alp.	1	4	High.
ARBUTUS					
Uva-Ursi	54 — 59	Upl.—Sub.	1	5	High.
alpina	57 — 59	Upl.—Alp.	0	2	High.
ANDROMEDA					
polifolia	52 — 57	Pla.	1	1	Scot.
ERICA					
vagans (54)	51	Pla.	0	0	Atla.
ciliaris	51	Pla.	0	0	Atla.
Tetralix	51 — 59	Pla.—Sub.	11	18	Brit.
cinerea	51 — 59	Pla.—Sub.	10	19	Brit.
MENZIESIA					
cærulea (58)	57	Sub.?	0	0	High.
CALLUNA					
vulgaris	51 — 59	Pla.—Sub.	12	19	Brit.
AZALEA					
procumbens	57 — 59	Sub.—Alp.	0	3	High.
PYROLA					
rotundifol. (59)	52 — 58	Pla.—Sub.	4	2	Brit.?
media	52 — 58	Pla.—Med.	3	4	Scot.
minor	52 — 58	Pla.—Sub.	7	6	Scot.
secunda	55 — 58	Upl.—Sub.	1	2	High.
uniflora	57 — 59	Upl.	0	2	High.
MONOTROPA					
Hypopitys (56)	51 — 55	Pla.	5	4	Engl.

XLVIII. OLEINÆ.

	Latitude.	Region.	Flo.	Cat.	Type.
LIGUSTRUM					
vulgare	51° to 57°	Pla.	12	14	Engl.
FRAXINUS					
excelsior	51 — 58	Pla.—Upl.	12	16	Brit.

XLIX. APOCYNEÆ.

VINCA					
*major	51 — 56	Pla.	9	4	Engl.
†minor	51 — 58	Pla.—Upl.?	11	11	Engl.?

L. GENTIANEÆ.

GENTIANA					
verna	55	Upl.?	1	1	Scot.?
Pneumonanthe	51 — 55	Pla.	2	1	Engl.
nivalis	57	Sub.—Alp.?	0	0	High.
campestris	51 — 59	Pla.—Sub.?	9	12	Brit.
Amarella	51 — 59	Pla.—Upl.	9	10	Brit.
CHLORA					
perfoliata	51 — 54	Pla.	6	8	Engl.
ERYTHRÆA					
Centaurium	51 — 58	Pla.—Upl.	12	17	Brit.
pulchella	51 — 56	Pla.	3	3	Engl.
littoralis	51 — 58	Pla.—Upl.	4	1	Brit.
latifolia	54 — 57	Pla.—Upl.	1	0	Brit.?
EXACUM					
filiforme	51	Pla.	1	1	Atla.
MENYANTHES					
trifoliata	51 — 59	Pla.—Med.	12	19	Brit.
VILLARSIA					
nymphæoides	51 — 56	Pla.	3	2	Germ.

LI. POLEMONIACEÆ.

	Latitude.	Region.	Flo.	Cat.	Type.
POLEMONIUM					
cæruleum	52° to 56°	Pla.—Upl.?	1	2	Germ.?

LII. CONVOLVULACEÆ.

CONVOLVULUS					
Soldanella	51 — 57	Pla.	3	6	Engl.
arvensis	51 — 59	Pla.—Upl.	12	15	Brit.
sepium	51 — 57	Pla.	12	14	Brit.?
CUSCUTA					
europæa	51 — 57	Pla.	7	4	Brit.
Epithymum	51 — 55	Pla.	7	6	Engl.

LIII. BORAGINEÆ.

LITHOSPERMUM					
purpuro-cæruleum (54)	51 — 52	Pla.	1	3	Engl.
arvense	51 — 58	Pla.—Upl.	12	17	Brit.
officinale	51 — 58	Pla.—Upl.	11	13	Brit.
maritimum (51)	53 — 59	Pla.—Upl.	4	4	Scot.
PULMONARIA					
‡angusti. (54)	51	Pla.	0	0	Engl.
‡officinalis	51 — 56	Pla.	5	1	Engl.
SYMPHYTUM					
tuberosum	52 — 58	Pla.—Upl.	5	4	Scot.
officinale	51 — 57	Pla.	11	11	Brit.?
ECHIUM					
vulgare	51 — 58	Pla.—Upl.	11	16	Brit.

	Latitude.	Region.	Flo.	Cat.	Type.
LYCOPSIS					
arvensis	51° to 59°	Pla.—Upl.	11	18	Brit.
ASPERUGO					
‡procumb. (58)	51 — 58	Pla.—Upl.	5	1	Engl.?
ANCHUSA					
‡officinalis (51)	56	Pla.	1	0	Scot.?
‡sempervirens	51 — 58	Pla.—Upl.	7	6	Brit.
MYOSOTIS					
versicolor	51 — 59	Pla.—Upl.	9	15	Brit.
collina	52 — 58	Pla.	1	8	Brit.
arvensis	51 — 59	Pla.—Upl.	12	19	Brit.
sylvatica	51 — 56	Pla.	7	6	Brit.
alpestris	57	Sub.?—Alp.	0	0	High.
palustris	51 — 58	Pla.—Med.?	12	19	Brit.
cæspitosa	52 — 56	Pla.—Med.?	3	10	Brit.
CYNOGLOSSUM					
officinale	51 — 59	Pla.—Upl.	10	15	Brit.
sylvaticum	52 — 57	Pla.	2	1	Germ.
BORAGO					
*officinalis	51 58	Pla.—Upl.	11	7	Brit.

LIV. SOLANEÆ.

VERBASCUM					
Thapsus	51 — 58	Pla.—?	12	15	Brit.
Lychnites	51 — 57	Pla.	4	3	Engl.
thapsiforme	52	Pla.	0	0	Germ.
pulverulentum	53 — 58	Pla.—Upl.?	0	2	Germ.
nigrum	51 — 56	Pla.	8	4	Engl.
‡virgatum	51 — 54	Pla.	1	1	Engl.
‡Blattaria	51 — 55	Pla.	1	0	Engl.

	Latitude.	Region.	Flo.	Cat.	Type.
HYOSCYAMUS					
niger	51° to 58°	Pla. — Upl.	11	16	Engl.
DATURA					
°Stramonium	51 — 55	Pla.	3	3	Engl.
ATROPA					
†Belladonna	52 — 58	Pla. — Upl.	8	10	Brit.
SOLANUM					
nigrum	51 — 57	Pla.	8	10	Engl.
Dulcamara	51 — 58	Pla. — Upl.	12	18	Brit.

LV. SCROPHULARINEÆ.

ANTIRRHINUM					
Orontium	51 — 55	Pla.	5	5	Engl.
*majus	51 — 58	Pla. — Upl.	11	7	Engl.
LINARIA					
*Cymbalaria	51 — 56	Pla.	10	7	Engl.
spuria	51 — 55	Pla.	7	6	Germ.
Elatine	51 — 55	Pla.	8	9	Engl.
repens	51 — 56	Pla.	4	8	Engl.
vulgaris	51 — 58	Pla. — Upl.	12	15	Brit.
minor	51 — 56	Pla.	10	8	Engl.
SCROPHULARIA					
‡vernalis	52 — 57	Pla.	2	0	Engl.
Scorodonia (52)	51	Pla.	0	0	Atla.
nodosa	51 — 58	Pla. — Upl.	12	17	Brit.
aquatica (59)	51 — 56	Pla.	12	15	Engl.?
DIGITALIS					
purpurea	51 — 59	Pla. — Med.	11	17	Brit.
LIMOSELLA					
aquatica	51 — 56	Pla.	4	3	Engl.
SIBTHORPIA					
europæa (55)	51 — 52	Pla.	1	1	Atla.

	Latitude.	Region.	Flo.	Cat.	Type.
BARTSIA					
alpina	55° to 57°	?	1	2	High.
viscosa	51 — 57	Pla.	2	1	Atla.
Odontites	51 — 59	Pla. — Upl.	12	18	Brit.
EUPHRASIA					
officinalis	51 — 59	Pla. — Alp.	12	19	Brit.
RHINANTHUS					
Crista-gallica	51 — 59	Pla. — Sub.	12	19	Brit.
major	? — 58	Pla. — Sub.	2	2	Scot.?
MELAMPYRUM					
cristatum (54)	52 — 53	Pla.	2	0	Germ.
arvense (54)	51 — 53	Pla.	2	0	Germ.
pratense	51 — 59	Pla. — Sub.	12	14	Brit.
sylvati. (51, 59)	54 — 58	Pla.? — Upl.	4	6	Scot.
PEDICULARIS					
palustris	51 — 59	Pla. — Upl.	12	18	Brit.
sylvatica	51 — 59	Pla. — Med.	11	19	Brit.
VERONICA					
spicata (51, 59)	52 — 55	Pla.	1	2	Engl.
serpyllifolia	51 — 59	Pla. — Alp.	12	18	Brit.
alpina	57 — 58	Sub. — Alp.	0	1	High.
saxatilis	57 — 59	Sub.	0	0	High.
fruticulosa	57	Sub.?	0	0	High.
scutellata	51 — 59	Pla. — Upl.	11	16	Brit.
Anagallis	51 — 59	Pla. — Upl.	11	16	Brit.?
Beccabunga	51 — 59	Pla. — Sub.	12	19	Brit.
officinalis	51 — 59	Pla. — Sub.	12	19	Brit.
hirsuta	56	Pla.	0	0	Scot.
montana	51 58	Pla. — Upl.	12	11	Brit.
Chamædrys	51 — 59	Pla. — Med.	12	18	Brit.
hederæfolia	51 — 59	Pla. — Upl.	12	18	Brit.
agrestis	51 — 59	Pla. — Upl.	12	18	Brit.

	Latitude.	Region.	Flo.	Cat.	Type.
VERONICA					
polita	51° to 58°	Pla. — Upl.	3	3	Brit.
Buxbaumii	52 — 56	Pla.	1	0	Engl.?
arvensis	51 — 59	Pla. — Upl.	12	18	Brit.
triphyllos (54)	53	Pla.	0	1	Germ.
verna	53	Pla.	0	0	Germ.

LVI. LABIATÆ.

LYCOPUS					
europæus	51 — 58	Pla. — Upl.	8	14	Brit.
MENTHA					
‡sylvestris	51 — 58	Pla. — Upl.	3	5	Engl.
‡rotundifolia	51 — 56	Pla.	6	2	Engl.
‡viridis	51 — 56	Pla.	4	2	Engl.
piperita	51 — 56	Pla.	6	7	Engl.
‡citrata	53 — 56	Pla.	2	0	Engl.
{ hirsuta	51 59	Pla. — Upl.	12	18	Brit.
{ acutifolia	52 — 54	Pla.	1	0	Engl.
rubra	51 — 58	Pla. — Upl.	8	2	Engl.
{ gentilis	51 — 56	Pla.	5	2	Engl.
{ gracilis	51 — 54	Pla.	3	0	Engl.
{ arvensis	51 — 59	Pla. — Upl.	12	14	Brit.
{ agrestis	52 — 55	Pla.	4	2	Germ.
Pulegium	51 — 56	Pla.	6	10	Engl.
THYMUS					
Serpyllum	51 — 59	Pla. — Alp.	12	18	Brit.
ORIGANUM					
vulgare	51 — 58	Pla. — Upl.	12	12	Brit.
TEUCRIUM					
Scorodonia	51 — 59	Pla. — Upl.	12	17	Brit.
Scordium	52 — 55	Pla.	2	2	Germ.
Chamædrys	51 — 57	Pla.	3	1	Engl.

	Latitude.	Region.	Flo.	Cat.	Type.
AJUGA					
reptans	51° to 59°	Pla.—Sub.	12	18	Brit.
alpina	57 — 58	?	0	0	High.
pyramidalis	57 — 58	Upl.?	0	3	Hebr.
Chamæpitys	52 — 53	Pla.	3	1	Germ.
BALLOTA					
nigra	51 — 56	Pla.	11	12	Engl.
LEONURUS					
†Cardiaca	51 — 58	Pla.—Upl.	8	7	Brit.
GALEOBDOLON					
luteum	51 — 56	Pla.	6	10	Engl.
GALEOPSIS					
Ladanum (59)	51 — 58	Pla.—Upl.	8	13	Germ.
villosa	54 — 55	Pla.	0	2	Scot.?
Tetrahit	51 — 59	Pla.—Upl.	12	18	Brit.
versicolor	52 — 58	Pla.—Upl.	7	12	Brit.
LAMIUM					
album	51 — 59	Pla.—Upl.	11	7	Brit.
*maculatum	52 — 57	Pla.—Upl.	0	3	Engl.
purpureum	51 — 59	Pla.—Upl.	12	19	Brit.
incisum	52 — 58	Pla.—Upl.	6	9	Brit.
amplexicaule	51 — 59	Pla.—Upl.	12	15	Brit.
BETONICA					
officinalis	51 — 56	Pla.	12	12	Engl.
STACHYS					
sylvatica	51 — 59	Pla.—Upl.	12	19	Brit.
ambigua	51 — 59	Pla.—Upl.	3	5	Brit.?
palustris	51 — 59	Pla.—Upl.	12	18	Brit.
germanica	52 — 54	Pla.	1	0	Germ.

	Latitude.	Region.	Flo.	Cat.	Type.
STACHYS					
arvensis	51° to 59°	Pla.—Upl.	11	15	Brit.
‡annua	52	Pla.	0	0	Germ.
NEPETA					
Cataria	51 — 59	Pla.—Upl.?	11	10	Brit.
GLECHOMA					
hederacea	51 — 59	Pla.—Upl.	12	19	Brit.
MARRUBIUM					
vulgare	51 — 58	Pla.—Upl.	9	11	Brit.
ACINOS					
vulgaris	51 — 58	Pla.—Upl.	7	10	Brit.
CALAMINTHA					
officinalis	51 55	Pla.	8	9	Engl.
Nepeta	51 54	Pla.	4	4	Engl.
CLINOPODIUM					
vulgare	51 — 59	Pla.—Upl.	12	15	Brit.
MELITTIS					
Melissoph. (53)	51 — 52	Pla.	1	1	Atla.
PRUNELLA					
vulgaris	51 — 59	Pla.—Med.	12	17	Brit.
SCUTELLARIA					
galericulata	51 — 58	Pla.—Upl.	12	18	Brit.
minor	51 — 56	Pla.	7	8	Engl.
SALVIA					
*praten. (51, 54)	52 — 53	Pla.	4	2	Germ.?
verbenaca	51 — 58	Pla.—Upl.	10	11	Brit.

LVII. VERBENACEÆ.

VERBENA					
officinalis	51 — 57	Pla.	9	12	Engl.

LVIII. OROBANCHEÆ.

	Latitude.	Region.	Flo.	Cat.	Type.
OROBANCHE					
major	51° to 57°	Pla.	9	9	Brit.
caryophyllacea	52	Pla.	0	1	Germ.
elatior	52 — 55	Pla.	4	5	Germ.
minor	51 — 54	Pla.	2	7	Engl.
rubra (55)	56 — 58	Pla.—Upl.	1	0	Hebr.
cærulea	51 — 53	Pla.	0	0	Germ.
ramosa	51 — 53	Pla.	2	1	Germ.
LATHRÆA					
squamaria, &c.	51 — 56	Pla.	6	8	Brit.

LIX. LENTIBULARIEÆ.

UTRICULARIA					
vulgaris	51 — 58	Pla.—Upl.	10	10	Brit.
intermedia	51 — 59	Pla.—Upl.	2	1	Brit.
minor	51 — 59	Pla.—Upl.	6	4	Brit.
PINGUICULA					
vulgaris	52 — 59	Pla.—Alp.	9	14	Scot.
alpina (59)	58	Upl.	0	2	Hebr.
lusitanica	51 — 59	Pla.—Upl.	1	3	Atla.

LX. PRIMULACEÆ.

CYCLAMEN					
†hederæf. (54)	52 — 53	Pla.	0	0	Germ.
PRIMULA					
veris	51 — 59	Pla.—Upl.	12	17	Brit.
elatior	52 — 57	Pla.—Upl.?	8	13	Brit.
vulgaris	51 — 59	Pla.—Sub.	12	19	Brit.
farinosa (52, 59)	54 — 56	Pla.	2	3	Scot.
scotica	59	Upl.	0	1	Hebr.

	Latitude.	Region.	Flo.	Cat.	Type.
TRIENTALIS					
europæa	55° to 58°	Pla.?—Sub.	1	3	High.
HOTTONIA					
palustris	52 — 55	Pla.	5	11	Engl.
LYSIMACHIA					
vulgaris	51 — 57	Pla.	11	9	Engl.
punctata	55	Pla.	1	2	Scot.?
thyrsiflora	52 — 57	Pla.	5	1	Engl.?
Nummularia	51 — 57	Pla.	9	13	Engl.
nemorum	51 — 59	Pla.—Sub.	11	18	Brit.
ANAGALLIS					
arvensis	51 — 58	Pla.—Upl.	12	17	Brit.
cærulea	51 — 57	Pla.	3	8	Engl.
tenella	51 — 59	Pla.—Upl.	12	17	Brit.
CENTUNCULUS					
minimus	51 — 58	Pla.—Upl.	6	2	Brit.
SAMOLUS					
Valerandi	51 — 58	Pla.—Upl.	11	12	Brit.

LXI. PLUMBAGINEÆ.

STATICE					
Armeria	51 — 59	Pla.—Alp.	7	12	Brit.
reticulata	53 — 54	Pla.	1	2	Germ.
spathulata	52 — 55	Pla.	0	3	Engl.
Limonium	51 — 56	Pla.	5	4	Engl.

LXII. PLANTAGINEÆ.

PLANTAGO					
major	51 — 59	Pla.—Upl.	12	19	Brit.
media (59)	51 — 56	Pla.	9	14	Engl.
lanceolata	51 — 59	Pla.—Med.	12	19	Brit.

	Latitude.	Region.	Flo.	Cat.	Type.
PLANTAGO					
maritima	51° to 59°	Pla.—Med.	8	13	Brit.
Coronopus	51 — 59	Pla.—Upl.	10	15	Brit.
LITTORELLA					
lacustris	51 — 59	Pla.—Upl.	8	8	Brit.
GLAUX					
maritima	51 — 59	Pla.—Upl.	7	13	Brit.

LXIII. AMARANTACEÆ.

AMARANTHUS					
*Blitum	51 — 55	Pla.	3	0	Germ.

LXIV. CHENOPODEÆ.

SALSOLA					
Kali	51 — 58	Pla.—Upl.	5	9	Brit.
CHENOPODIUM					
fruticosum	51 — 55	Pla.	2	1	Engl.
maritimum	51 — 58	Pla.—Upl.	7	9	Brit.
olidum	51 — 56	Pla.	7	5	Germ.?
polyspermum	51 — 57	Pla.	6	4	Engl.
‡Bonus Henric.	51 — 58	Pla.—Upl.	12	17	Brit.
urbicum	52 — 56	Pla.	8	5	Engl.
rubrum	51 — 56	Pla.	12	10	Engl.
botryodes	52 — 55	Pla.	1	3	Germ.
murale	51 — 57	Pla.	8	9	Engl.
hybridum	51 — 56	Pla.	5	3	Germ.
album	51 — 58	Pla.—Upl.	12	15	Brit.
ficifolium (51)	52 — 56	Pla.	3	3	Germ.
glaucum	51 — 55	Pla.	1	3	Germ.
ATRIPLEX					
portulacoides	51 — 56	Pla.	6	6	Engl.
pedunculata	52 — 55	Pla.	2	2	Germ.

	Latitude.	Region.	Flo.	Cat.	Type.
ATRIPLEX					
laciniata	51° to 59°	Pla.—Upl.	5	9	Brit.
littoralis	51 — 57	Pla.	5	7	Brit.
erecta	52	Pla.	0	1	Engl.
{ patula	51 — 59	Pla.—Upl.	12	15	Brit.
{ angustifolia	51 — 58	Pla.—Upl.	10	9	Brit.
BETA					
maritima	51 — 59	Pla.—Upl.	5	5	Brit.
SALICORNIA					
herbacea	51 — 58	Pla.—Upl.	7	7	Brit.
radicans	51 — 53	Pla.	0	2	Engl.

LXV. POLYGONEÆ.

POLYGONUM					
viviparum (53)	54 — 59	Upl.—Alp.	1	4	High.
Bistorta	51 — 59	Pla.—Upl.	9	3	Brit.
amphibium	51 — 59	Pla.—Upl.	12	17	Brit.
{ Persicaria	51 — 59	Pla.—Upl.	12	19	Brit.
{ lapathifolium	51 — 58	Pla.—Upl.	12	13	Brit.
Hydropiper	51 — 59	Pla.—Upl.	11	16	Brit.
aviculare	51 — 59	Pla.—Upl.	12	19	Brit.
littorale? [a]	51 — 56	Pla.	0	0	Atla.
minus	51 — 57	Pla.	6	7	Engl.
Convolvulus	51 — 59	Pla.—Upl.	12	19	Brit.
°Fagopyrum	51 — 58	Pla.—Upl.	9	5	Brit.
RUMEX					
Hydrolapathum	51 — 57	Pla.	10	9	Engl.

[a] This is the variety mentioned by Dr. Hooker in the *British Flora*, as very likely to prove distinct from P. aviculare. I observed it on the Cornish coast, in several places near Penzance and the Logan Stone. May it not be the P. flagellare of Sprengel's *Systema Vegetabilium?*

	Latitude.	Region.	Flo.	Cat.	Type.
RUMEX					
crispus	51° to 59°	Pla.—Upl.	12	19	Brit.
pratensis	52	Pla.	0	0	Germ.?
aquaticus	56	Pla.	0	3	Scot.
*alpinus	54 — 57	Upl.	0	0	Scot.
sanguineus	52 — 58	Pla.—Upl.	12	10	Brit.
acutus	51 — 59	Pla.—Upl.	10	13	Brit.
pulcher	51 — 56	Pla.	7	6	Germ.
obtusifolius	51 — 59	Pla.—Upl.	12	17	Brit.
maritimus	51 — 59	Pla.—Upl.	5	4	Engl.
palustris	51 — 57	Pla.	4	6	Engl.
Acetosa	51 — 59	Pla.—Alp.	12	19	Brit.
Acetosella	51 — 59	Pla.—Upl.	12	19	Brit.
OXYRIA					
reniformis (52)	53 — 59	Upl.—Alp.	0	3	High.

LXVI. THYMELEÆ.

DAPHNE					
*Mezereum	51 — 55	Pla.	1	3	Engl.
Laureola	51 — 56	Pla.	12	11	Engl.

LXVII. SANTALACEÆ.

THESIUM					
linophyllum	51 — 53	Pla.	2	2	Germ.

LXVIII. ELEAGNEÆ.

HIPPOPHAE					
rhamnoides	52 — 56	Pla.	1	2	Germ.

LXIX. ASARINEÆ.

ASARUM					
europæum	52 — 56	Pla.	2	0	Scot.?

	Latitude.	Region.	Flo.	Cat.	Type.
ARISTOLOCHIA					
‡Clematitis	52° to 53°	Pla.	2	0	Germ.

LXX. EUPHORBIACEÆ.

BUXUS					
‡ sempervirens	52 — 54	Pla.	1	0	Germ.
EUPHORBIA					
Peplis	51 — 53	Pla.	1	1	Atla.
helioscopia	51 — 59	Pla. — Upl.	12	19	Brit.
‡platyphylla	51 — 55	Pla.	5	3	Engl.
*hiberna	52	Pla.	0	0	Germ.
*pilosa	52	Pla.	1	1	Engl.
‡Esula	52 — 56	Pla.	2	1	Germ.?
‡Cyparissias	53 — 56	Pla.	2	0	Engl.?
paralia	51 — 55	Pla.	3	4	Atla.?
portlandica	51 — 55	Pla.	2	1	Atla.
exigua	51 — 57	Pla.	10	14	Engl.
Peplus	51 — 59	Pla. — Upl.	12	17	Brit.
†Lathyris	52 — 56	Pla.	4	4	Engl.
amygdaloides	51 — 53	Pla.	6	5	Engl.
MERCURIALIS					
annua	52 — 57	Pla.	7	5	Engl.
perennis	51 — 58	Pla. — Med.	12	15	Brit.

LXXI. URTICEÆ.

URTICA					
*pilulifera	51 — 55	Pla.	2	2	Engl.
urens	51 — 59	Pla. — Upl.	12	18	Brit.
dioica	51 — 59	Pla. — Sub.	12	19	Brit.
PARIETARIA					
officinalis	51 — 58	Pla. — Upl.	12	15	Brit.

	Latitude.	Region.	Flo.	Cat.	Type.
HUMULUS					
‡Lupulus	51° to 58°	Pla.—Upl.	11	15	Brit.?

LXXII. ULMACEÆ.

ULMUS					
campestris	51 — 57	Pla.	10	9	Engl.
{ †suberosa	52 — 56	Pla.	3	5	Engl.
{ †major	52 — 56	Pla.	1	2	Germ.
†carpinifolia	53	Pla.	0	0	Engl.?
†glabra	52 — 58	Pla.—Upl.	3	5	Engl.
†stricta	51	Pla.	0	0	Atla.
montana	51 — 58	Pla.—Upl.	10	9	Brit.

LXXIII. AMENTACEÆ.

QUERCUS					
{ Robur	51 — 58	Pla.—Upl.	12	16	Brit.
{ sessiliflora	51 — 58	Pla.—Upl.	8	6	Brit.
FAGUS					
†sylvatica	51 — 58	Pla.—Upl.	12	12	Brit.
CASTANEA					
°vulgaris	51 — 58	Pla.—Upl.	7	5	Engl.
CORYLUS					
Avellana	51 — 59	Pla.—Upl.	12	18	Brit.
CARPINUS					
‡Betulus	51 — 56	Pla.	7	4	Engl.
BETULA					
alba	51 — 59	Pla.—Sub.	12	17	Brit.
nana	56 — 59	Upl.?—Sub.	1	2	High.
ALNUS					
glutinosa	51 — 59	Pla.—Upl.	12	16	Brit.

	Latitude.	Region.	Flo.	Cat.	Type.
POPULUS					
canescens	51° to 56°	Pla.	6	4	Engl.
nigra	51 — 57	Pla.	10	6	Engl.
‡alba	51 — 56	Pla.	11	9	Engl.
tremula	51 — 59	Pla.—Upl.	12	15	Brit.
SALIX[a]					
purpurea	51 — 57	Pla.	4	1	Engl.
Helix	52 — 57	Pla.	8	6	Engl.
Lambertiana	51 — 57	Pla.	1	2	Engl.
Woolgariana	51 — 52	Pla.	0	0	Germ.
Forbyana	52 — 56	Pla.	3	2	Germ.
rubra	51 — 57	Pla.	4	1	Engl.
undulata	51 — 57	Pla.	1	0	Germ.
triandra	51 — 57	Pla.	8	3	Engl.
Hoffmanniana	52 — 53	Pla.	0	0	Germ.
amygdalina	51 — 56	Pla.	3	2	Engl.
pentandra	51 — 58	Pla.—Upl.	6	7	Brit.
Meyeriana	55	Pla.	0	0	Scot.?
decipiens	51 — 56	Pla.	4	3	Engl.
fragilis	51 — 57	Pla.	9	8	Engl.
Russeliana	51 — 58	Pla.—Upl.	8	3	Brit.
alba	51 — 57	Pla.	11	5	Brit.
vitellina	52 — 57	Pla.	6	4	Engl.
petiolaris (54)	56 — 57	?	1	0	High.
rosmarinifolia	(52 — 57)	?	2	0	Scot.?
angustifolia (59)	56 — 57	?	0	1	High.
Doniana	?	?	0	0	High.?
fusca	51 — 59	Pla.—Med.	11	5	Brit.
ambigua	52 — 57	Pla.	0	1	Brit.
reticulata	57 — 59	Sub.—Alp.	0	0	High.
glauca (54)	57	?	0	0	High.

[a] In this *genus* I cannot distinguish the native and introduced species. The reader is requested to refer to *Salix* in Appendix No. II. for a note on the value of the *species*.

SALIX	Latitude.	Region.	Flo.	Cat.	Type.
arenaria (54)	55° to 59°	Pla.—Sub.	2	3	High.
Stuartiana	57	?	0	0	High.
viminalis	51 — 57	Pla.	11	6	Brit.
stipularis	51 — 57	Pla.	2	1	Engl.
Smithiana	51 — 57	Pla.	6	1	Engl.
ferruginea	52 — 57	Pla.	1	0	Engl.
acuminata	51 — 59	Pla.—Upl.	9	3	Brit.?
holosericea	51	Pla.	0	0	Germ.
cinerea	51 — 56	Pla.	6	4	Brit.
aquatica	52 — 59	Pla.—Upl.	7	7	Brit.
oleifolia	51 — 57	Pla.	5	2	Brit.
aurita	51 — 59	Pla.—Med.	10	5	Brit.
caprea	51 — 57	Pla.	11	8	Brit.
sphacelata (52)	57	?	0	0	High.
cotinifolia	53 — 57	?	0	0	High.
hirta	53 — 57	Pla.	1	0	Engl.?
nigricans	52 — 57	Pla.	2	0	Engl.
Andersoniana	55 — 57	Pla.—?	2	1	High.
Damascena	55	?	0	0	Scot.
Forsteriana	55 — 57	Pla.—?	2	0	High.
rupestris	55 — 57	?	1	0	High.
petræa	57	?	0	0	High.
propinqua	?	?	0	0	High.
tenuior	57	Upl.	0	0	High.
laurina	55	?	0	0	Scot.?
laxiflora	57	Upl.	0	0	High.
radicans	55 — 57	?	1	0	High.
Borreriana	57	?	0	0	High.
Davalliana	?	?	0	0	Scot.?
tetrapla	57	?	0	0	High.
Weigeliana	55 — 57	?	0	0	High.
tenuifolia	52 — 55	Pla.?	0	0	Scot.?
nitens	55 — ?	?	0	0	Scot.?

	Latitude.	Region.	Flo.	Cat.	Type.
SALIX					
Croweana	53° to 55°	Pla.—?	1	1	Scot.?
bicolor	52 — 57	?	3	2	High.
phillyreifolia	57 — 58	?	0	0	High.
Dicksoniana	?	?	0	0	Scot.?
vacciniifolia	56 — 57	?	0	0	High.
carinata	57 ?	?	0	0	High.
prunifolia	57 — 59	?—Sub.	0	1	High.
venulosa	?	?	0	0	High.
myrsinites	57 — 58	Sub.?	0	1	High.
procumbens	57 — 58	?	0	0	High.
herbacea	52 — 59	Sub.—Alp.	0	3	High.
hastata	52 — 57	Pla.?	0	0	Scot.
lanata	57	Sub.	0	0	High.
MYRICA					
Gale	51 — 59	Pla.—Upl.	9	9	Brit.

LXXIV. CONIFERÆ.

PINUS					
sylvestris (52)	57 — 59	Pla.—Sub.?	6	7	High.
TAXUS					
baccata	51 — 58	Pla.—Upl.	9	8	Brit.
JUNIPERUS					
communis	52 — 59	Pla.—Sub.	11	8	Brit.

LXXV. EMPETREÆ.

EMPETRUM					
nigrum	51 — 59	Pla.—Alp.	5	11	Scot.

LXXVI. HYDROCHARIDEÆ.

HYDROCHARIS					
Morsus-ranæ	51 — 55	Pla.	7	6	Engl.

	Latitude.	Region.	Flo.	Cat.	Type.
STRATIOTES					
aloides	52° to 57°	Pla.	3	3	Germ.?

LXXVII. ALISMACEÆ.

SAGITTARIA					
sagittifolia	51 — 55	Pla.	8	11	Engl.
ACTINOCARPUS					
Damasonium	51 — 54	Pla.	1	1	Germ.
ALISMA					
Plantago	51 — 58	Pla.—Upl.	12	17	Brit.
ranunculoides	51 — 58	Pla.—Upl.	11	14	Brit.
natans	53 — 55	Pla.	1	0	Atla.
BUTOMUS					
umbellatus	51 — 57	Pla.	9	12	Engl.

LXXVIII. JUNCAGINEÆ.

SCHEUCHZERIA					
palustris	53 — 54	Pla.?	0	1	Scot.
TRIGLOCHIN					
maritimum	51 — 59	Pla.—Upl.	7	13	Brit.
palustre	51 — 59	Pla.—Sub.	12	17	Brit.

LXXIX. ORCHIDEÆ.

ORCHIS					
Morio (59)	51 — 56	Pla.	9	12	Engl.
mascula	51 — 59	Pla.—Upl.	12	17	Brit.
ustulata	51 — 55	Pla.	6	4	Germ.
fusca	52	Pla.	0	2	Germ.
militaris	52	Pla.	1	0	Germ.
tephrosanthos	52	Pla.	0	0	Germ.
hircina (57)	52	Pla	0	0	Germ.

	Latitude.	Region.	Flo.	Cat.	Type.
ORCHIS					
pyramidalis	51° to 57°	Pla.	7	8	Engl.
latifolia	51 — 59	Pla.—Upl.	12	17	Brit.
maculata	51 — 59	Pla.—Sub.	12	17	Brit.
GYMNADENIA					
conopsea	52 — 59	Pla.—Med.	11	13	Brit.
HABENARIA					
viridis	51 — 58	Pla.—Sub.	10	12	Brit.
albida	53 — 59	Pla.—Med.	4	5	High.
bifolia	51 — 59	Pla.—Upl.	12	16	Brit.
ACERAS					
anthropophora	52 — 53	Pla.	1	2	Germ.
HERMINUM					
monorchis	51 — 53	Pla.	2	2	Germ.
OPHRYS					
apifera	51 — 55	Pla.	7	10	Germ.
arachnitis	52 — 53	Pla.	0	1	Germ.
aranifera	51 — 54	Pla.	3	0	Germ.
fucifera	52	Pla.	0	1	Germ.
muscifera	51 — 55	Pla.	7	7	Germ.
GOODYERA					
repens (55)	57 — 58	Upl.	1	2	High.
NEOTTIA					
spiralis	51 — 54	Pla.	7	8	Engl.
LISTERA					
ovata	51 — 59	Pla.—Upl.	12	15	Brit.
cordata	54 — 59	Upl.—Sub.	4	8	High.
Nidus-avis	51 — 57	Pla.	10	9	Brit.
EPIPACTIS					
latifolia	51 — 59	Pla.—Upl.	12	10	Brit.
palustris	51 — 57	Pla.	9	10	Brit.

	Latitude.	Region.	Flo.	Cat.	Type.
EPIPACTIS					
grandiflora	51° to 57°	Pla.	3	2	Germ.
ensifolia	52 — 57	Pla.	1	2	Scot.
rubra (51)	52 — 54	Pla.	0	0	Engl.?
MALAXIS					
paludosa	51 — 59	Pla.—Upl.	4	2	Brit.
LIPARIS					
Loeselii	52 — 53	Pla.	1	1	Germ.
CORALLORHIZA					
innata	56 — 58	Upl.	1	1	High.
CYPRIPEDIUM					
Calceolus	55	Pla.?	1	2	Scot.?

LXXX. IRIDEÆ.

TRICHONEMA					
Columnæ	51	Pla.	0	0	Atla.
IRIS					
Pseudacorus	51 — 59	Pla.—Upl.	12	19	Brit.
fœtidissima	51 — 55	Pla.	7	6	Engl.
CROCUS					
*vernus	52 — 55	Pla.	1	0	Engl.
*sativus	52 — 53	Pla.	2	0	Engl.
{ *speciosus	53	Pla.	0	0	Engl.?
{ *nudiflorus	53 — 54	Pla.	0	0	Engl.?

LXXXI. AMARYLLIDEÆ.

NARCISSUS					
*poeticus	52 — 53	Pla.	1	0	Engl.
†biflorus	51 — 55	Pla.	5	2	Engl.
‡Pseudo-Narc.	51 — 57	Pla.	8	9	Engl.

	Latitude.	Region.	Flo.	Cat.	Type.
LEUCOJUM					
æstivum	52° to 55°	Pla.	0	0	Germ.
GALANTHUS					
*nivalis	51 — 56	Pla.	7	6	Brit.

LXXXII. TAMEÆ.

TAMUS					
communis	51 — 55	Pla.	8	13	Engl.

LXXXIII. SMILACEÆ.

RUSCUS					
aculeatus	51 — 56	Pla.	7	2	Engl.
CONVALLARIA					
Polygonat. (56)	52 — 55	Pla.	2	2	Engl.
multiflora	51 — 56	Pla.	5	3	Engl.
majalis	52 — 58	Pla.—Upl.	8	12	Brit.
verticillata	57	Upl. ?	0	0	High.
PARIS					
quadrifolia	52 — 58	Pla.—Upl.	9	12	Brit.

LXXXIV. ASPHODELEÆ.

ANTHERICUM					
serotinum	54	Pla.	0	0	Atla.
ORNITHOGALUM					
‡pyrenaicum	51 — 53	Pla.	3	3	Engl.
†nutans	52 — 55	Pla.	1	3	Engl.
†umbellatum	51 — 56	Pla.	7	3	Engl.
GAGEA					
lutea	52 — 58	Pla.—Upl.	3	3	Brit.

	Latitude.	Region.	Flo.	Cat.	Type.
SCILLA					
verna	51° to 59°	Pla.—Upl.	3	3	Atla.?
autumnalis (55)	51 — 52	Pla.	1	2	Atla.
HYACINTHUS					
nonscriptus	51 — 58	Pla.—Upl.	12	18	Brit.
MUSCARI					
*racemosum	52 — 53	Pla.	0		Germ.
ALLIUM					
Ampeloprasum	52 — 57	Pla.	0	1	Atla.
arenarium	52 — 57	Pla.	2	2	Scot.
‡carinatum	52 — 57	Pla.	1	1	Engl.?
‡oleraceum	52 — 57	Pla.	4	5	Engl.
vineale	51 — 57	Pla.	12	8	Brit.
ursinum	51 — 58	Pla.—Upl.	12	17	Brit.
Schænoprasum	51 — 57	Pla.	3	0	Scot.?
ASPARAGUS					
officinalis	51 — 56	Pla.	3	2	Engl.

LXXXV. TULIPACEÆ.

TULIPA					
*sylvestris	51 — 57	Pla.	5	1	Engl.
FRITILLARIA					
Meleagris	51 — 53	Pla.	3	1	Germ.

LXXXVI. MELANTHACEÆ.

COLCHICUM					
autumnale	51 — 57	Pla.	6	8	Engl.
TOFIELDIA					
palustris	55 — 58	Upl.—Sub.	1	2	High.

LXXXVII. TYPHINEÆ.

	Latitude.	Region.	Flo.	Cat.	Type.
TYPHA					
angustifolia	51° to 57°	Pla.	6	7	Engl.
latifolia	51 — 59	Pla.—Upl.	12	15	Brit.
SPARGANIUM					
{ ramosum	51 — 59	Pla.—Upl.	12	18	Brit.
{ simplex	51 — 59	Pla.—Upl.	12	15	Brit.
natans	51 — 59	Pla.—Upl.	7	10	Brit.

LXXXVIII. AROIDEÆ.

ACORUS					
Calamus	51 — 56	Pla.	5	3	Engl.
ARUM					
maculatum	51 — 58	Pla.—Upl.	12	16	Brit.?

LXXXIX. FLUVIALES.

POTAMOGETON[a]					
densus	51 — 56	Pla.	11	11	Engl.?
pectinatus	52 — 59	Pla.—Upl.	9	12	Brit.
pusillus	51 — 59	Pla.—Upl.	10	11	Brit.
gramineus	51 — 59	Pla.—Upl.	5	6	Brit.
acutifolius	51	Pla.	0	0	Germ.?
zosteræfo. (51)	53 — 54	Pla.	0	0	Engl.
crispus	51 — 58	Pla.—Upl.	12	13	Brit.
perfoliatus	51 — 59	Pla.—Upl.	11	10	Brit.
lucens	51 — 59	Pla.—Upl.	12	10	Brit.
prælongus	56 — 58	Pla.?—Upl.	0	0	High.
heterophyllus	59	Pla.	6	3	Brit.

[a] In this genus surely some unions ought to be made; but I am too little acquainted with the forms to attempt it.

	Latitude.	Region.	Flo.	Cat.	Type.
POTAMOGETON					
lanceolatus	52° to 58°	Pla.—Upl.	1	4	Brit.
rufescens	51 — 57	Pla.	6	2	Engl.
oblongus	52?	Pla.?	0	0	Germ.?
natans	51 — 59	Pla.—Upl.	12	18	Brit.
RUPPIA					
maritima	51 — 59	Pla.—Upl.	5	8	Brit.
ZOSTERA					
marina	51 — 59	Pla.—Upl.	6	6	Brit.
ZANNICHELLIA					
palustris	51 — 56	Pla.	11	12	Engl.?
LEMNA					
minor	51 — 58	Pla.—Upl.	12	17	Brit.
gibba	51 — 56	Pla.	6	5	Engl.
trisulca	51 — 57	Pla.	8	12	Engl.
polyrhiza	51 — 56	Pla.	5	6	Engl.

XC. JUNCEÆ.

NARTHECIUM					
ossifragum	51 — 59	Pla.—Sub.	10	15	Brit.
LUZULA					
sylvatica	51 — 59	Pla.—Alp.?	11	15	Brit.
campestris	51 — 59	Pla.—Alp.	12	18	Brit.
arcuata	58 — 59	Alp.	0	1	High.
spicata	55 — 58	Pla.—Alp.	0	4	High.
pilosa	51 — 59	Pla.—Upl.	12	18	Brit.
Forsteri	51 — 57	Pla.	2	2	Engl.
JUNCUS					
glaucus	51 — 57	Pla.	12	12	Brit.?
{ effusus	51 — 59	Pla.—Med.	12	18	Brit.
{ conglomerat.	51 — 59	Pla.—Upl.	12	18	Brit.

	Latitude.	Region.	Flo.	Cat.	Type.
JUNCUS					
balticus	57° to 59°	Upl.	0	3	High.
filiformis (59)	55	Pla.?	0	1	Scot.?
maritimus	51 — 58	Pla. — Upl.	3	7	Engl.?
acutus	51 — 54	Pla.	1	2	Engl.
acutiflorus	51 — 59	Pla. — Upl.	11	15	Brit.
lampocarpus	51 — 58	Pla. — Upl.	10	13	Brit.
obtusiflorus	52 — 55	Pla.	6	7	Engl.
uliginosus	51 — 59	Pla. — Sub.	12	15	Brit.
castaneus (55)	57	Sub. — Alp.	1	1	High.
trifidus	57 — 58	Sub. — Alp.	0	2	High.
compressus	51 — 59	Pla. — Upl.	11	8	Brit.
tenuis	57	Pla.?	0	0	High.
bufonius	51 — 59	Pla. — Upl.	12	19	Brit.
squarrosus	51 — 59	Pla. — Alp.	11	15	Brit.
biglumis	57 — 58	Sub. — Alp.	0	1	High.
triglumis	54 — 58	Upl. — Alp.	1	2	High.

XCI. ERIOCAULEÆ.

ERIOCAULON					
septangulare	57 — 58	Upl.	0	0	Hebr.

XCII. CYPERACEÆ.

CYPERUS					
longus	52	Pla.	0	2	Engl.
fuscus	52	Pla.	0	0	Germ.
SCHŒNUS					
nigricans	51 — 59	Pla. — Upl.	8	6	Brit.
RHYNCOSPORA					
alba	51 — 59	Pla. — Upl.	7	8	Brit.
fusca (54)	51 — 52	Pla.	0	1	Atla.

	Latitude.	Region.	Flo.	Cat.	Type.
CLADIUM					
Mariscus	51° to 59°	Pla.—Upl.	3	5	Brit.
SCIRPUS					
lacustris	51 — 59	Pla.—Upl.	11	15	Brit.
Holoschænus	51 — 52	Pla.?	1	0	Atla.
setaceus	51 — 59	Pla.—Upl.	12	14	Brit.
Savii	51 — 55	Pla.	0	0	Atla.
triqueter (53)	52	Pla.	0	0	Germ.
carinatus	51 — 55	Pla.	1	3	Germ.
maritimus	51 — 58	Pla.—Upl.	7	8	Brit.
sylvaticus	51 — 58	Pla.—Upl.	9	9	Brit.
BLYSMUS					
compressus	52 — 56	Pla.	5	5	Brit.?
rufus	54 — 59	Pla.—Upl.	4	0	Scot.
ELEOCHARIS					
palustris	51 — 59	Pla.—Upl.	12	17	Brit.
multicaulis	51 — 59	Pla.—Upl.	6	6	Brit.
pauciflora	51 — 59	Pla.—Upl.	7	7	Brit.
cæspitosa	51 — 59	Pla.—Alp.	11	4	Brit.
acicularis (59)	51 — 57	Pla.	7	6	Brit.
fluitans	51 — 59	Pla.—Upl.	9	10	Brit.
ERIOPHORUM					
vaginatum	51 — 59	Pla.—Sub.	7	11	Brit.
capitatum	57	Alp.?	0	0	High.
polystachion	51 — 59	Pla.—Upl.	9	9	Brit.
angustifolium	51 — 59	Pla.—Alp.	10	17	Brit.
gracile	51 — 57	Pla.—Sub.	1	1	High.
pubescens	53 — 59	Pla.—Upl.	2	4	Scot.
CAREX					
dioica	51 — 58	Pla.—Sub.	11	9	Brit.
pulicaris	51 — 59	Pla.—Sub.	12	12	Brit.
pauciflora	56 — 58	Upl.—Sub.	2	1	High.

CAREX	Latitude.	Region.	Flo.	Cat.	Type.
incurva	58° to 59°	Upl.	0	2	High.
arenaria	51 — 59	Pla. — Upl.	6	13	Brit.
intermedia	51 — 57	Pla.	8	7	Brit.
divisa	51 — 57	Pla.	1	4	Engl.
{ muricata	51 — 58	Pla. — Upl.	11	10	Brit.
{ divulsa	51 — 56	Pla.	7	10	Engl.
vulpina	51 — 58	Pla. — Upl.	12	13	Brit.
{ teretiuscula	51 — 58	Pla. — Upl.	6	5	Brit.
{ paniculata	51 — 58	Pla. — Upl.	12	11	Brit.
stellulata	51 — 59	Pla. — Sub.	12	15	Brit.
curta	51 — 58	Pla. — Sub.	9	6	Brit.
Vahlii	57	Alp.	0	0	High.
elongata	53 — 54	Pla.	0	0	Engl.?
ovalis	51 — 58	Pla. — Upl.	11	13	Brit.
{ tenella	57	Upl.?	0	0	High.
{ remota	51 — 58	Pla. — Upl.	12	8	Brit.
axillaris	51 — 57	Pla.	4	3	Brit.
digitata	52 — 54	Pla.	1	2	Engl.?
clandestina	52	Pla.	0	2	Atla.
pendula	51 — 57	Pla.	10	9	Engl.
strigosa	52 — 56	Pla.	6	4	Engl.
sylvatica	51 — 57	Pla. — Med.	12	13	Brit.
depauperata	51 — 57	Pla.	2	0	Engl.
Mielichoferi	57	?	0	1	High.
speirostachya	56	?	1	0	High.
capillaris (53)	55 — 59	Upl. — Sub.	1	2	High.
{ limosa	52 — 57	Pla.	3	2	Brit.
{ rariflora	57 — 59	Sub.	0	0	High.
Pseudo-Cyperus	51 — 59	Pla.	3	10	Brit.
ustulata	57	Alp.?	0	0	High.
atrata	54 — 57	Sub.	0	0	High.
pallescens	51 — 59	Pla. — Med.	10	12	Brit.
extensa	51 — 59	Pla. — Upl.	4	4	Brit.

	Latitude.	Region.	Flo.	Cat.	Type.
CAREX					
flava	51° to 59°	Pla.—Sub.	12	18	Brit.
Œderi	51 — 57	Pla.	6	9	Brit.
fulva	51 — 59	Pla.—Upl.	4	8	Brit.
distans	51 — 59	Pla.—Upl.	9	9	Brit.
binervis	51 — 59	Pla.—Sub.	6	9	Brit.
præcox	51 — 59	Pla.—Upl.	12	15	Brit.
pilulifera	51 — 58	Pla.—Alp.	11	10	Brit.
tomentosa (54)	52	Pla.	0	1	Engl. ?
panicea	51 — 59	Pla.—Alp.	12	15	Brit.
phæostachya	57 — 59	Sub.	0	0	High.
recurva	51 — 59	Pla.—Med.	12	16	Brit.
pulla	57 — 58	Sub.—Alp.	0	0	High.
cæspitosa	51 — 59	Pla.—Sub.	12	16	Brit.
rigida (51)	54 — 58	Sub.—Alp.	3	3	High.
? stricta	51 — 59	Pla.—Upl.	7	7	Brit.
aquatilis	57	Sub.	0	0	High.
acuta	51 — 59	Pla.—Upl.	11	10	Brit.
paludosa	51 — 58	Pla.—Upl.	10	13	Brit.
riparia	51 — 56	Pla.	12	12	Brit.
lævigata	51 — 57	Pla.	7	2	Engl.
vesicaria	51 — 58	Pla.—Sub.?	9	9	Brit.
ampullacea	51 — 59	Pla.—Upl.	10	10	Brit.
hirta	51 — 58	Pla.—Upl.	12	13	Brit.
filiformis	51 — 59	Pla.—Upl.	5	1	Scot.
hordeiformis	57	?	0	0	High.
stictocarpa	57	?	0	0	High.
angustifolia	57	?	0	0	High.
ELYNA					
caricina	51 — 57	Pla.	2	1	High. ?

XCIII. GRAMINEÆ.

ANTHOXANTHUM					
odoratum	51 — 59	Pla.—Alp.	12	18	Brit.

	Latitude.	Region.	Flo.	Cat.	Type.
NARDUS					
stricta	51° to 59°	Pla.—Alp.	11	17	Brit.
ALOPECURUS					
pratensis	51 — 59	Pla.—Upl.	12	17	Brit.
alpinus	57 — 58	Sub.	0	0	High.
agrestis	51 — 56	Pla.	8	9	Engl.
bulbosus	51 — 55	Pla.	1	3	Engl.
geniculatus	51 — 59	Pla.—Upl.	12	18	Brit.
fulvus	52 — 54	Pla.	1	1	Engl.
PHALARIS					
*canariensis	51 — 56	Pla.	9	3	Engl.
arundinacea	51 — 59	Pla.—Upl.	12	16	Brit.
AMMOPHILA					
arundinacea	51 — 59	Pla.—Upl.	5	9	Brit.
PHLEUM					
pratense	51 — 59	Pla.—Upl.	12	15	Brit.
alpinum	57 — 58	Sub.—Alp.?	0	0	High.
asperum (53)	52	Pla.	2	0	Engl.
Boehmeri	53	Pla.	1	1	Germ.
Michelii	57	?	0	0	High.
arenarium	51 — 57	Pla.	6	9	Engl.
MILIUM					
effusum (59)	51 — 58	Pla.—Upl.	11	11	Brit.
GASTRIDIUM					
lendigerum	51 — 54	Pla.	2	2	Engl.
POLYPOGON					
monspeliensis	51 — 55	Pla.	1	2	Germ.
littoralis	52 — 53	Pla.	0	0	Germ.
CALAMAGROSTIS					
lanceolata	51 — 56	Pla.	4	4	Engl.

	Latitude.	Region.	Flo.	Cat.	Type.
CALAMAGROSTIS					
Epigejos	51° to 57°	Pla.—Upl.	7	7	Brit.
stricta	57	Pla.	0	0	Scot.?
AGROSTIS					
canina	51 — 58	Pla.—Upl.	10	10	Brit.
setacea (54)	51 — 52	Pla.	1	2	Atla.
Spica-venti (59)	52 — 55	Pla.	5	3	Engl.
vulgaris	51 — 59	Pla.—Upl.	12	16	Brit.
alba	51 — 59	Pla.—Med.	12	15	Brit.
CATABROSA					
aquatica	52 — 59	Pla.—Upl.	10	11	Brit.
AIRA					
cristata	51 — 59	Pla.—Upl.	10	9	Brit.
{ cæspitosa	51 — 59	Pla.—Sub.	12	15	Brit.
{ alpina	54 — 58	Sub.—Alp.	1	1	High.
flexuosa	51 — 59	Pla.—Alp.	12	13	Brit.
canescens	51 — 53	Pla.	0	3	Germ
caryophyllea	51 — 59	Pla.—Upl.	12	15	Brit.
præcox	51 — 59	Pla.—Upl.	12	15	Brit.
MELICA					
nutans (51)	52 — 58	Pla.—Upl.	4	5	Scot.
uniflora	51 — 58	Pla.—Upl.	12	11	Brit.
cærulea	51 — 59	Pla.—Sub.	12	17	Brit.
HOLCUS					
mollis	51 — 58	Pla.—Upl.	12	16	Brit.
lanatus	51 — 59	Pla.—Upl.	12	17	Brit.
ARRHENATHERUM					
avenaceum	51 — 59	Pla.—Upl.	12	13	Brit.
HIEROCHLOE					
borealis	57	?	0	0	High.

	Latitude.	Region.	Flo.	Cat.	Type.
SESLERIA					
cærulea	55° to 57°	Upl.? — Sub.	1	2	High.
PANICUM					
*Crus-galli (59)	51 — 52	Pla.	0	1	Germ.
SETARIA					
†verticillata	52 — 55	Pla.	1	0	Germ.
†viridis	52 — 55	Pla.	2	1	Germ.
POA					
aquatica	51 — 57	Pla.	8	11	Engl.?
fluitans	51 — 59	Pla. — Upl.	12	15	Brit.
maritima	51 — 59	Pla. — Upl.	6	9	Brit.
distans	51 — 57	Pla.	3	7	Brit.
procumb. (58)	51 — 56	Pla.	3	5	Engl.
rigida	51 — 57	Pla.	10	9	Brit.
compressa	51 — 57	Pla.	11	10	Brit.
alpina	54 — 59	Sub. — Alp.	0	0	High.
laxa	57	Alp.?	0	0	High.
bulbosa	51 — 53	Pla.	2	2	Germ.?
trivialis	51 — 59	Pla. — Upl.	12	16	Brit.
pratensis	51 — 59	Pla. — Upl.	12	17	Brit.
annua	51 — 59	Pla. — Alp.	12	17	Brit.
nemoralis	52 — 58	Pla. — Upl.	10	6	Brit.
TRIODIA					
decumbens	51 — 58	Pla. — Upl.	12	13	Brit.
BRIZA					
media	51 — 59	Pla. — Upl.	12	17	Brit.
minor (54)	51 — 52	Pla.	0	1	Atla.
DACTYLIS					
glomerata	51 — 59	Pla. — Upl.	12	16	Brit.
CYNOSURUS					
cristatus	51 — 59	Pla. — Upl.	12	17	Brit.
°echinatus (51)	55	Pla.	1	0	Engl.?

	Latitude.	Region.	Flo.	Cat.	Type.
FESTUCA					
ovina	51° to 59°	Pla.—Alp.	12	16	Brit.
duriuscula	51 — 59	Pla.—Med.?	12	14	Brit.
rubra	52 — 59	Pla.—Upl.	6	3	Brit.
bromoides	51 — 58	Pla.—Upl.	8	11	Brit.
Myurus	51 — 57	Pla.	9	8	Brit.?
uniglumis	51 — 54	Pla.	2	1	Engl.
calamaria	52 — 58	Pla.—Upl.	1	1	Scot.?
loliacea	51 — 59	Pla.—Upl.	11	8	Brit.
pratensis	51 — 59	Pla.—Upl.	12	14	Brit.
elatior	51 — 59	Pla.—Upl.	12	8	Brit.
BROMUS					
giganteus	51 — 58	Pla.—Upl.	11	11	Brit.
asper	51 — 58	Pla.—Upl.	12	14	Brit.
sterilis	51 — 58	Pla.—Upl.	12	13	Brit.
diandrus	51 — 56	Pla.	4	2	Engl.
secalinus	51 — 58	Pla.—Upl.	8	10	Brit.
velutinus	53 — 56	Pla.	3	1	Germ.
mollis	51 — 59	Pla.—Upl.	12	17	Brit.
racemosus	51 — 57	Pla.	8	6	Brit.
arvensis	51 — 57	Pla.	4	1	Brit.
erectus	52 — 56	Pla.	6	3	Engl.
AVENA					
‡fatua	51 — 59	Pla.—Upl.	8	10	Brit.
‡strigosa	51 — 57	Pla.	3	2	Brit.
pratensis	51 — 58	Pla.—Med.	10	9	Brit.
alpina	57	Sub.	0	0	High.
planiculmis	56	?	2	0	Hebr.?
pubescens	52 — 59	Pla.—Upl.	9	9	Brit.
flavescens (59)	51 — 57	Pla.	10	12	Brit.?
ARUNDO					
Phragmites	51 — 59	Pla.—Upl.	12	15	Brit.

	Latitude.	Region.	Flo.	Cat.	Type.
ELYMUS					
arenarius	51° to 59°	Pla. — Upl.	2	6	Scot.
geniculatus	52	Pla.	0	0	Germ.
europæus	52 — 55	Pla.	3	0	Scot.?
HORDEUM					
murinum	51 — 59	Pla. — Upl.	10	14	Brit.?
pratense	52 — 56	Pla.	8	11	Engl.
maritimum	51 — 57	Pla.	3	6	Engl.
TRITICUM					
caninum	51 — 58	Pla. — Upl.	11	12	Brit.
repens	51 — 59	Pla. — Upl.	12	16	Brit.
junceum	51 — 59	Pla. — Upl.	5	9	Brit.
cristatum	57	Pla.	0	0	Scot.?
loliaceum	51 — 59	Pla. — Upl.	5	5	Brit.
BRACHYPODIUM					
pinnatum (57)	51 — 54	Pla.	6	2	Engl.
sylvaticum	51 — 59	Pla. — Upl.	12	11	Brit.
LOLIUM					
perenne	51 — 59	Pla. — Upl.	12	16	Brit.
{ arvense	51 — 57	Pla.	6	4	Brit.
{ temulentum	51 — 58	Pla. — Upl.	8	7	Brit.
ROTBOLLIA					
incurvata	51 — 56	Pla.	5	8	Engl.
KNAPPIA					
agrostidea	52 — 54	Pla.	1	0	Engl.
SPARTINA					
stricta	51 — 53	Pla.	0	1	Germ.
CYNODON					
Dactylon	51	Pla.	0	0	Atla.
DIGITARIA					
‡humifusa	52 — 53	Pla.	0	1	Germ.
‡sanguinal. (56)	52	Pla.	2	0	Germ.

EXPLANATIONS OF APPENDIX NO. I.

The Table is intended to exhibit several points relating to the distribution of plants within Britain, which can be shown in this form most conveniently and with least repetition.

The 1st column contains the names of reputed species, native or in some measure naturalised; omitting several of those usually introduced into British Floras, but which are either peculiar to adjacent islands not within the scope of the present work, or are presumed to be *now* extinct, if *ever* really found wild in Britain. The nomenclature is almost invariably that of *Hooker's British Flora*, second and third editions. This mark (°) signifies the species to be scarcely wild in Britain, and no doubt introduced. The star (*) indicates a species generally supposed to have been introduced, but now to some extent established. The dagger (†) shows a species more or less strongly suspected to be in the like circumstance, although now occurring spontaneously. And this mark (‡) distinguishes such as may possibly have been introduced, being weeds of cultivated ground or inhabited places. (See the remarks of Prof. Henslow, in the Magazine of Natural History, vol. viii. p. 84.) Names of of nearly allied *forms*, which it appears more expedient to unite as varieties, are joined by a bracket.

The 2d column denotes the range of latitude over which the species is reported to extend, although in divers instances not indigenous over the whole space indicated. An alleged greater extension, the accuracy of which there appears reason for questioning, is distinguished by the figures within ( ) following the specific name. All the plants of Orkney are given under the 59th degree, and

those of Cornwall under the 51st, though some of them do actually occur under the 60th and 50th degrees.* Such I have not the means of separating from the others, nor is it worth while to seek this, since the quantity of land is so trifling. Not having any list of Shetland plants I am unable to include those islands. (See page 83.)

The 3d column gives the regional range, for an explanation of which see page 56. The abbreviations are intelligible.

The 4th column denotes the number of local Floras in which the species occurs. Twelve have been consulted for this purpose; namely, those for, Devon, Bath, Tonbridge Wells, Oxford, Bedford, Cambridge, Anglesea, Northumberland and Durham, Berwick-on-Tweed, Edinburgh, Lanark, and Glasgow. The Flora of Yarmouth, in *Paget's Natural History of Yarmouth*, has been since published.

The 5th column denotes the same thing, substituting MS. Lists or Checked Catalogues in lieu of Floras. Nineteen have been consulted; namely, Sussex, Kent, Bungay, Yarmouth, Norfolk, Somerset, Bristol, Warwickshire, Charnwood and vicinity, Denbighshire, Leeds, Richmond in Yorkshire, Tees, Isle of Man, Jedburgh, Buchan, Moray, Ross, and Orkney. Catalogues for Worcestershire and Nottinghamshire came too late. I must refer to the *New Botanist's Guide* for particulars respecting these lists.

The 6th column indicates the floral or geographic type to which the species is referred, according to the explanations on p. 87.

* In looking at the table, it will be kept in mind that 51°, 52°, &c. do not indicate the mathematical lines so marked on maps, but the spaces between 50°—51°, 51°—52°, &c.

APPENDIX.—No. II.

TABLE SHOWING THE

GEOGRAPHICAL EXTENSION OF BRITISH PLANTS BEYOND 30° N. LATITUDE.*

I. RANUNCULACEÆ.

	America.	Europe.	Longitude.
CLEMATIS			
Vitalba		Tem.—Med.	1 2 3 4
THALICTRUM			
alpinum	Arc.	Arc.—Tem.	1 2 . 4 5 . 7 . 9
minus		Bor.—Med.	1 2 3 4 5 6
majus		Arc.—Med.	1 2 3 . 5 ?
flavum		Arc.—Med.	1 2 3 4 5 6
ANEMONE			
nemorosa	Bor.—Sta.	Arc.—Med.	1 2 3 4 . . 7 8 9
apennina		Tem.—Med.	1 2 3 4
ranunculoides		Arc.—Tem.	1 2 3 4
Pulsatilla		Bor.—Med.	1 2 3 4 5 ?
ADONIS			
autumnalis	*Bor.*	Tem.—Med.	1 2 3 4 9
MYOSURUS			
minimus		Bor.—Med.	1 2 3 4

* An explanation of the figures and abbreviations will be found at the end of the Table.

	America.	Europe.	Longitude.
RANUNCULUS			
aquatilis	Arc. — Sta.	Arc. — Med.	1 2 3 4 5 6 . 8 9
hederaceus	Arc.	Bor. — Med.	1 2 9
Lingua	Sta.	Bor. — Tem.	1 2 3 4 5 . . 8 9
Flammula	Arc.? — Sta.	Arc. — Med.	1 2 3 4 5 6 7 8 9
Ficaria		Arc. — Med.	1 2 3 4
alpestris		Tem.	1 2
auricomus	Pol.? — Sta.	Arc. — Med.	1 2 3 4 5 6 7 8 9
sceleratus	Arc. — Sta.	Bor. — Med.	1 2 3 4 5 6 . 8 9
acris	Arc. — Sta.	Arc. — Med.	1 2 3 4 5 6 . 8 9
repens	Arc. — Sta.	Arc. — Med.	1 2 3 4 5 6 . . 9
bulbosus	Bor. — Sta.	Bor. — Med.	1 2 3 9
hirsutus	Sta.	Bor. — Med.	1 2 3 4
arvensis		Bor. — Med.	1 2 3 4
parviflorus		Tem. — Med.	1 2 3 4
CALTHA			
palustris	Arc. — Sta.	Arc. — Med.	1 2 3 4 5 6 7 8 9
TROLLIUS			
europæus		Arc. — Tem.	1 2 3 4
HELLEBORUS			
viridis		Tem. — Med.	1 2 . 4
fœtidus		Tem. — Med.	1 2
AQUILEGIA			
vulgaris		Bor. — Med.	1 2 3 4 5 6
DELPHINIUM			
Consolida	*Sta.*	Bor. — Med.	1 2 3 4 9
ACONITUM			
Napellus	Arc. — Bor.	Bor. — Med.	1 2 3 4 5 6 7 8
ACTÆA			
spicata		Arc. — Med.	1 2 3 4 ?
PÆONIA			
corallina		Tem. — Med.	1 2 3 4

II. BERBERIDEÆ.

	America.	Europe.	Longitude.
BERBERIS			
vulgaris	Bor.—Sta.	Bor.—Med.	1 2 3 4 5 6 . . 9

III. NYMPHÆACEÆ.

NYMPHÆA			
alba		Arc.—Med.	1 2 3 4 5 6
NUPHAR			
lutea	Bor.—Sta.	Arc.—Med.	1 2 3 4 5 6 . 8 9
pumila	?	Arc.—Tem.	1 2 . . 5 . . ? ?

IV. PAPAVERACEÆ.

PAPAVER			
somniferum		*Bor.*—Med.	1 2 3
hybridum		Tem.—Med.	1 2 3 4
Argemone		Bor.—Med.	1 2 3 4
Rhœas		Bor.—Med.	1 2 3 4 . 6
dubium		Bor.—Med.	1 2 3 4
MECANOPSIS			
cambrica		Tem.	1
GLAUCIUM			
luteum		Tem.—Med.	1 2 3
violaceum		Tem.—Med.	1 2 3 4
CHELIDONIUM			
majus	*Sta.*	Bor.—Med.	1 2 3 4 5 6 . . 9

V. FUMARIACEÆ.

CORYDALIS			
lutea		Tem.—Med.	1 2
solida		Bor.?—Med.	1 2 3
claviculata		Tem.—Med.	1 . 3

	America.	Europe.	Longitude.
FUMARIA			
capreolata		Tem.—Med.	1 2 3
officinalis	Bor.—*Sta.*	Arc.—Med.	1 2 3 4 . 6 . . 9
parviflora		Bor.—Med.	1 2 3
Vaillantii		Tem.	1 . . . 5

VI. CRUCIFERÆ.

CAKILE			
maritima	Arc.	Arc.—Med.	1 2 3 4 9
CRAMBE			
maritima		Bor.—Tem.	1 2 . 4
CORONOPUS			
Ruellii		Bor.—Med.	1 2 3 4
didyma	Sta.?	Bor.—Tem.	1 2
ISATIS			
tinctoria		Bor.—Med.	1 2 3 4
THLASPI			
arvense	Bor.—Sta.	Arc.—Med.	1 2 3 4 5 6 . . 9
perfoliatum		Bor.—Med.?	1 2 3 4 5
alpestre	Bor.	Tem.	1 2 9
CAPSELLA			
Bursa-Pastor.	Arc.—Sta.	Arc.—Med.	1 2 3 4 5 6 . 8 9
HUTCHINSIA			
petræa		Bor.—Med.	1 2 3 4
TEESDALIA			
nudicaulis		Bor.—Med.	1 2 3
IBERIS			
amara		Tem.	1 2
LEPIDIUM			
latifolium		Bor.—Med.	1 2 3 4 5
Draba		Tem.—Med.?	1 2 3 4 5
ruderale	Arc.—Bor.	Bor.—Med.	1 2 3 4 5 . 7 8
campestre	Arc.—Sta.	Bor.—Med.	1 2 3 4 9
Smithii	*Sta.*	Tem.	1 2 9

	America.	Europe.	Longitude.
COCHLEARIA			
officinalis	Arc.—Bor.	Arc.—Tem.	1 2 . 4 5 6 7 8 9
grœnlandica		Pol.—Bor.	1
anglica	Pol.—Arc.	Arc.—Tem.	1 . . . . . 7 8 9
danica	Pol.—Arc.	Pol.—Tem.	1 . . . . . 8 9
Armoracia	*Sta.*	Tem.	1 2 . . ? . . . 9
SUBULARIA			
aquatica	Arc.—Sta.	Arc.—Tem.	1 . . . 5 . . . 9
DRABA			
verna	Arc.—Sta.	Bor.—Med.	1 2 3 4 9
aizoides		Tem.—Med.	1 2 3 4
rupestris	Pol.—Bor.	Pol.—Med.?	1 2 ? ? 5 . 7 8 9
incana	Pol.?—Bor.	Arc.—Tem.	1 2 . 4 5 6 7 8 9
muralis	Arc.	Bor.—Med.	1 2 3 4 . 6 . . 9
CAMELINA			
sativa		Bor.—Med.	1 2 3 4 5 6 . . 9
ALYSSUM			
calycinum		Bor.—Med.	1 2 3 4
KONIGA			
maritima		Tem.—Med.	1 2 3
DENTARIA			
bulbifera		Bor.—Med.	1 2 3 4
CARDAMINE			
amara		Bor.—Med.	1 2 3 4 5 6
pratensis	Arc.—Sta.	Arc.—Tem.	1 2 3 4 5 6 7 8 9
impatiens		Bor.—Med.	1 2 3 4 5
hirsuta	Arc.—Bor.	Bor.—Med.	1 2 3 4 . 6 7 8 9
ARABIS			
petræa	Arc.—Bor.	Tem.	1 . . . . . 7 8 9
stricta	Bor.?	Tem.	1 2 . . . . . ?
ciliata		Tem.	1 2
hirsuta	Arc.—Sta.	Arc.—Med.	1 2 3 4 5 ? 7 8 9
Turrita		Tem.—Med.	1 2

	America.	Europe.	Longitude.
TURRITIS			
glabra	Bor.	Arc.? — Med.	1 2 3 4 5 6 . 8
BARBAREA			
vulgaris	Bor. — Sta.	Arc. — Med.	1 2 3 4 5 6 7 . 9
præcox	Bor.	Bor.	1 2 3 . . . . 8 9
NASTURTIUM			
officinale	Sta.	Bor. — Med.	1 2 3 4 5 6 7 . 9
sylvestre		Bor. — Med.	1 2 3 4 5 6
terrestre	Arc. — Sta.	Arc. — Med.	1 2 3 4 5 . 7 8 9
amphibium	Bor. — Sta.	Bor.	1 2 3 4 5 6 . . 9
SISYMBRIUM			
officinale	Arc. — Sta.	Bor. — Med.	1 2 3 4 . . 7 . 9
Irio		Bor. — Med.	1 2 3 4
Sophia	Sta.?	Arc. — Med.	1 2 3 4 5 . . . ?
thalianum	Sta.	Bor. — Med.	1 2 3 4 5 . . . 9
ERYSIMUM			
cheiranthoid.	Arc. — Sta.	Arc. — Med.	1 2 3 ? 5 . 7 8 9
Alliaria		Bor. — Med.	1 2 3 4
orientale		Tem. — Med.	1 2 3 4 . 6
CHEIRANTHUS			
Cheiri		Tem. — Med.	1 2 3
MATTHIOLA			
sinuata		Tem. — Med.	1 2 3
HESPERIS			
matronalis	Bor.	Tem.	1 2 3 4 5 6 . . 9
BRASSICA			
Napus		*Bor.*	1 2 3 4 5 6
Rapa		*Bor.*	1 2 3
oleracea		Tem. — Med.	1 2 3
monensis			
campestris		Arc. — Med.	1 2 3 4 5
SINAPIS			
arvensis		Bor. — Med.	1 2 3 4

	America.	Europe.	Longitude.
SINAPIS			
alba	*Sta.*	Bor.—Med.	1 2 3 9
nigra	Sta.	Bor.—Med.	1 2 3 9
tenuifolia		Tem.—Med.	1 2 3
muralis		Tem.—Med.	1 2 3 4
RAPHANUS			
Raphanistru.	Sta.	Bor.—Med.	1 2 3 9
maritimus		Tem.—Med.	1 2

VII. RESEDACEÆ.

RESEDA			
Luteola		Bor.—Med.	1 2 3 4
lutea		Tem.—Med.	1 2 3 4
fruticulosa		Med.	1
alba		Tem.—Med.	1 2 3

VIII. CISTINEÆ.

HELIANTHEMUM			
guttatum		Tem.—Med.	1 2 3
polifolium		Tem.	1 ?
canum		Tem.	1 2 . 4
vulgare		Bor.—Med.	1 2 3 4

IX. VIOLARIEÆ.

VIOLA			
odorata		Bor.—Med.	1 2 3 4 5 6
palustris	Arc.—Bor.	Arc.—Tem.	1 2 3 4 5 6 . . 9
hirta		Bor.—Med.	1 2 3 4 5 6
canina	Arc.—Bor.?	Arc.—Med.	1 2 3 4 5 6 7 ? 9
flavicornis			
lactea		Bor.	
tricolor	Arc.	Arc.—Med.	1 2 3 4 5 6 . . 9
lutea		Tem.	1 2

X. DROSERACEÆ.

	America.	Europe.	Longitude.
DROSERA			
rotundifolia	Arc.—Sta.	Arc.—Tem.	1 2 3 4 5 6 7 8 9
longifolia	Arc.?—Sta.	Arc.—Tem.	1 2 3 4 5 6 . . 9
anglica	Bor.	Bor.—Tem.	1 2 3 . . . 7 8
PARNASSIA			
palustris	Arc.—Sta.	Arc.—Med.	1 2 3 4 5 6 7 8 9

XI. POLYGALEÆ.

POLYGALA			
vulgaris	Arc.—Sta.	Bor.—Med.	1 2 3 4 . 6 . . 9

XII. FRANKENIACEÆ.

FRANKENIA			
lævis		Tem.—Med.	1 2 3

XIII. CARYOPHYLLEÆ.

DIANTHUS			
cæsius		Tem.	1 2
prolifer		Bor.—Med.	1 2 3 4
Caryophyllus		Tem.—Med.	1 2 3 . . 6
Armeria	*Sta.*	Bor.—Med.	1 2 3 4 9
deltoides		Bor.	1 2 3 . . 6
SAPONARIA			
officinalis	*Sta.*	Bor.—Med.	1 2 3 4 9
SILENE			
anglica		Tem.	1 2 3
quinquevulnera		Tem.—Med.	1 2 3
Otites		Tem.—Med.	1 2 3 4 5 6

	America.	Europe.	Longitude.
SILENE			
conica		Tem.—Med.	1 2 3 4
nutans		Bor.—Med.	1 2 3 4 5 6
italica		Tem.—Med.	1 2 3
noctiflora		Bor.—Med.	1 2 3 4 5
inflata	Bor.—Sta.	Arc.—Med.	1 2 3 4 5 6 . . 9
maritima	Arc.	Arc.—Tem.	1 2 9
acaulis	Pol.—Sta.	Pol.—Tem.	1 2 3 4 . . 7 8 9
AGROSTEMMA			
Githago	*Bor.—Sta.*	Bor.—Med.	1 2 3 4 5 6 . . 9
LYCHNIS			
alpina	Arc.—Bor.	Arc.—Tem.	1 2 3 4 5 . . . 9
Viscaria		Bor.—Med.	1 2 3 4
Flos-Cuculi	Arc.	Bor.—Med.	1 2 3 4 5 . . . 9
dioica	Pol.—Arc.	Arc.—Med.	1 2 3 4 5 6 . . 9
vespertina		Bor.—Med.	1 2 3 4 5
SAGINA			
procumbens	Arc.—Sta.	Arc.—Med.	1 2 3 . 5 6 7 . 9
apetala	Sta.	Bor.—Tem.	1 2 9
maritima		Bor.	. 2
MŒNCHIA			
erecta		Tem.—Med.	1 2
ELATINE			
Hydropiper		Arc.—Tem.	1 2
hexandra		Tem.	1 2
HOLOSTEUM			
umbellatum		Bor.—Med.	1 2 3 4
SPERGULA			
arvensis	Arc.—*Sta.*	Arc.—Med.	1 2 3 4 . . 7 8 9
nodosa	Arc.—Bor.	Arc.—Tem.	1 2 3 4 5 . . 8 9
subulata	Bor.	Bor.—Tem.	1 2 8
saginoides	Arc.—Sta.	Pol.—Tem.	1 2 . 4 . . 7 . 9

	America.	Europe.	Longitude.
STELLARIA			
Holostea		Bor.—Med.	1 2 3 4 5 6
glauca	Arc.—Bor.	Bor.—Tem.	1 2 3 . ? . . . 9
graminea		Arc.—Tem.	1 2 3 4 5 . . . 9
scapigera			
cerastoides	Pol.—Arc.	Arc.—Med.	1 2 3 . 5 . . . 9
uliginosa	Bor.	Arc.—Tem.	1 2 3 . 5 . 7 8
media	Arc.—Sta.	Arc.—Med.	1 2 3 4 5 6 . 8 9
nemorum		Arc.—Tem.	1 2 3 4 5 6
ARENARIA			
peploides	Pol.—Sta.	Arc.—Tem.	1 2 . ? . 6 7 8 9
marina		Bor.—Med.	1 2 3 4
rubra	Bor.—Sta.	Bor.—Med.	1 2 3 . . . 7 8 9
tenuifolia		Bor.—Med.	1 2 3 4
verna	Bor.	Tem.—Med.	1 2 3 . . . 7 8
rubella	Pol.—Bor.	Pol.	1 . . . . . 8 9
fastigiata		Tem.—Med.	1 2 3
serpyllifolia	Arc.—Sta.	Arc.—Med.	1 2 3 4 5 6 . . 9
trinervis	Arc.	Arc.—Med.	1 2 3 4 5 . . . 9
CERASTIUM			
vulgatum	Arc.—*Sta.*	Arc.—Med.	1 2 3 4 5 6 . . 9
viscosum	Arc.—Sta.	Arc.—Med.	1 2 3 4 5 6 . 8 9
semidecandr.	Arc.	Arc.—Med.	1 2 3 4
tetrandrum		Bor.	. 2
arvense	Bor.—Sta.	Bor.—Med.	1 2 3 4 . . 7 8 9
alpinum	Pol.—Bor.	Pol.—Tem.	1 2 3 4 5 6 7 8 9
latifolium	Arc.	Tem.	1 2 9
aquaticum		Bor.—Med.	1 2 3 4 5
CHERLERIA			
sedoides		Tem.—Med.	1 2 3

XIV. LINEÆ.

LINUM			
angustifolium		Tem.—Med.	1 . 3

	America.	Europe.	Longitude.
LINUM			
perenne	Arc.—Bor.		1 2 3 4 5 6 7 8 9
usitatissimum	*Sta.*	Bor.—Med.	1 2 3 4 5 6 . . 9
catharticum	Arc.	Arc.—Med.	1 2 3 4 9
RADIOLA			
millegrana		Bor.—Med.	1 2 3

XV. MALVACEÆ.

LAVATERA			
arborea		Tem.—Med.	1 2 3
ALTHÆA			
hirsuta		Tem.—Med.	1 2 3 4
officinalis	*Sta.*	Tem.—Med.	1 2 3 4 5 . . . 9
MALVA			
sylvestris	*Sta.*	Bor.—Med.	1 2 3 4 5 . . . 9
rotundifolia	Bor.—*Sta.*	Bor.—Med.	1 2 3 4 5 . . . 9
moschata		Bor.—Tem.	1 2

XVI. TILIACEÆ.

TILIA			
grandifolia		Bor.—Tem.	1 2 3 4
europæa		?—Med.	. 2 3 4 . 6
parvifolia		Bor.—Tem.	1 2 3

XVII. HYPERICINEÆ.

HYPERICUM			
calycinum		Med.	. . 3
Androsæmum		Tem.—Med.	1 2 3 4
montanum		Bor.—Med.	1 2 3
hirsutum		Bor.—Med.	1 2 3 4 5

	America.	Europe.	Longitude.
HYPERICUM			
pulchrum		Bor. — Med.	1 2 3
perforatum	Bor. — *Sta.*	Arc. — Med.	1 2 3 4 5 6 . . 9
dubium		Bor. ? — Tem.	1 2 3
quadrangulare		Bor. — Med.	1 2 3 4
humifusum		Bor. — Tem.	1 2 . 4
Elodes		Tem.	1

XVIII. ACERINEÆ.

ACER			
campestre		Bor. — Med.	1 2 3 4
Pseudo-platanus		Tem. — Med.	1 2 ? 4

XIX. GERANIACEÆ.

GERANIUM			
phæum		Bor. — Tem.	1 2 3
sylvaticum	Arc.	Arc. — Med.	1 2 3 4 5 6 . . 9
nodosum		Tem. — Med.	1 2 3
pratense	Arc.	Bor. — Med.	1 2 3 4 5 6 . . 9
pyrenaicum		Tem. — Med.	1 2 3 4
rotundifolium		Bor. — Med.	1 2 3 . 5
dissectum	Sta.	Bor. — Med.	1 2 3 4 5 6 . . 9
pusillum	Sta.	Bor. — Tem.	1 2 3 4 9
molle		Bor. — Med.	1 2 3 4
columbinum	Sta.	Bor. — Med.	1 2 3 4 5 6 . . 9
lucidum		Bor. — Med.	1 2 3 4
Robertianum	Sta.	Bor. — Med.	1 2 3 4 9
sanguineum		Bor. — Med.	1 2 3 4 5
ERODIUM			
maritimum		Tem. — Med.	1 2 3
moschatum		Tem. — Med.	1 2 3
cicutarium	Bor.	Bor. — Med.	1 2 3 4 5 6 7

XX. BALSAMINEÆ.

	America.	Europe.	Longitude.
IMPATIENS			
Noli-me-tangere		Arc.—Tem.	1 2 3 4 5 6

XXI. OXALIDEÆ.

OXALIS			
Acetosella	Arc.—Sta.	Arc.—Med.	1 2 3 4 5 6 7 . 9
corniculata	Bor.—Sta.	Tem.—Med.	1 2 3 . . 6 . 8 9

XXII. CELASTRINEÆ.

STAPHYLEA			
pinnata		Tem.—Med.	1 2 3 4
EUONYMUS			
europæus		Bor.—Tem.	1 2 3 4 . 6
ILEX			
Aquifolium		Bor.—Med.	1 2 3 4 . 6

XXIII. RHAMNEÆ.

RHAMNUS			
catharticus	*Sta.*	Bor.—Med.	1 2 3 4 5 6
Frangula		Arc.—Med.	1 2 3 4 5 6

XXIV. LEGUMINOSÆ.

ULEX			
europæus		Tem.	1 2
nanus		Tem.	1
GENISTA			
pilosa		Bor.—Med.	1 2 3

	America.	Europe.	Longitude.
GENISTA			
anglica		Tem.	1
tinctoria	*Sta.*	Bor.—Med.	1 2 3 4 9
CYTISUS			
scoparius		Tem.—Med.	1 2
ONONIS			
spinosa		Bor.—Med.	1 2 3 4
arvensis		Bor.—Tem.	1 2
reclinata		Tem.—Med.	1 2
ANTHYLLIS			
Vulneraria	Arc.	Arc.—Med.	1 2 3 4 9
MEDICAGO			
minima		Bor.—Med.	1 2 3 4
denticulata		Tem.—Med.	1 2 . 4
maculata		Tem.—Med.?	1 2 3 4
lupulina	*Bor.—Sta.*	Bor.—Med.	1 2 3 4 5 . . . 9
falcata		Bor.—Med.	1 2 3 4 5
sativa		*Tem.*—Med.	1 2 3 4
MELILOTUS			
officinalis	*Bor.—Sta.*	Bor.—Med.	1 2 3 4 5 . . . 9
leucantha	*Sta.*	Bor.—Med.	1 2 3 4 5 6 . . 9
TRIFOLIUM			
ornithopodioid.		Tem.	1
repens	Arc.—Sta.	Arc.—Med.	1 2 3 4 5 6 ? 8 9
ochroleucum		Tem.—Med.	1 2 3 4 9
subterraneum		Tem.—Med.	1 2 3 4
pratense	Arc.—*Sta.*	Arc.—Med.	1 2 3 4 5 6 7 8 9
medium		Bor.—Tem.	1 2 3 4
maritimum		Tem.—Med.	1 2
stellatum		Tem.—Med.	1 2 3
arvense	Arc.—Sta.	Bor.—Med.	1 2 3 4 9
scabrum		Tem.—Med.	1 2 3 4
glomeratum		Tem.—Med.	1 2

	America.	Europe.	Longitude.
TRIFOLIUM			
suffocatum		Tem.—Med.	1 2
striatum		Bor.—Med.	1 2 . 4
fragiferum		Bor.—Med.	1 2 3 4
resupinatum		Tem.—Med.	1 2 3
procumbens	*Sta.*	Bor.—Med.	1 2 3 4 9
filiforme		Bor.—Med.	1 2 3
LOTUS			
tenuis		Bor.—Tem.	1 2
corniculatus	Arc.	Arc.—Med.	1 2 3 4 5 6 . . 9
major		Bor.—Med.	1 2 3 4
angustissimus		Tem.—Med.	1 2 3 4 5
OXYTROPIS			
campestris	Arc.—Bor.	Bor.—Tem.	1 2 . . . . . 8 9
uralensis	Arc.—Bor.	Tem.	1 2 ? 4 5 6 . 8 9
ASTRAGALUS			
alpinus	Pol.—Bor.	Arc.—Tem.	1 2 3 4 5 6 7 8 9
hypoglottis	Bor.	Tem.—Med.	1 2 . 4 5 6 . 8
glycyphyllos		Bor.—Med.	1 2 3 4 5
ORNITHOPUS			
perpusillus		Tem.—Med.	1 2
HIPPOCREPIS			
comosa		Tem.—Med.	1 2 3
ONOBRYCHIS			
sativa		Tem.	1 2 3 4
VICIA			
sylvatica		Arc.—Tem.	1 2 3 4 5 6
Cracca	Arc.—Sta.	Arc.—Med.	1 2 3 4 5 6 . 8 9
sativa	*Bor.*—Sta.	Bor.—Med.	1 2 3 . . . 7 . 9
angustifolia		Bor.?—Med.	1 2 3 4
lathyroides		Bor.—Med.	1 2 . 4
lutea		Tem.—Med.	1 2 3

	America.	Europe.	Longitude.
VICIA			
hybrida		Tem.—Med.	1 2 3
lævigata			
sepium		Arc.—Med.	1 2 3 4 5 6
bithynica		Tem.—Med.	1 2 3
ERVUM			
tetraspermu.	Bor.—Sta.	Bor.—Med.	1 2 3 4 5 6 7 . 9
hirsutum	Sta.	Arc.—Med.	1 2 3 4 . . 7 . 9
LATHYRUS			
Aphaca		Tem.—Med.	1 2 3 4
Nissolia		Tem.—Med.	1 2 3 4
hirsutus		Tem.—Med.	1 2 3 4
pratensis	Arc.	Arc.—Med.	1 2 3 4 5 6 . . 9
palustris	Bor.—Sta.	Arc.—Med.	1 2 3 4 5 6 . . 9
sylvestris		Bor.—Med.	1 2 3
latifolius		Bor.—Med.	1 2 3 4
pisiformis	Arc.—Sta.	Arc.—Tem.	1 2 3 4 5 6 7 8 9
OROBUS			
niger		Bor.—Med.	1 2 3 4
tuberosus		Bor.—Med.	1 2 3
sylvaticus			

XXV. ROSACEÆ.

PRUNUS			
domestica		Tem.—Med.	1 2 3 4 5 6
insititia		Tem.—Med.	1 2 3 4
spinosa	*Bor.—Sta.*	Bor.—Med.	1 2 3 4 . 6 . . 9
Cerasus		Bor.—Med.	1 2 3 4 5 6
Padus		Arc.—Tem.	1 2 3 4 5 6
SPIRÆA			
Ulmaria	Arc.	Arc.—Tem.	1 2 3 4 5 6 . . 9
Filipendula		Bor.—Tem.	1 2 3 4 5
salicifolia	Bor.—Sta.	Bor.—Tem.	1 2 3 4 5 6 . 8 9

	America.	Europe.	Longitude.
DRYAS			
octopetala	Pol.—Bor.	Pol.—Tem.	1 2 3 4 5 6 7 8 9
GEUM			
urbanum		Bor.—Med.	1 2 3 4 5 6
rivale	Arc.—Sta.	Arc.—Med.	1 2 3 4 5 6 . 8 9
RUBUS			
Idæus		Arc.—Med.	1 2 3 4 5 6
suberectus	Bor.	Tem.	1 . . . . . 8 9
carpinifolius		Tem.	1
rhamnifolius			
fruticosus		Bor.—Med.	1 2 3 4
leucostachys			
macrophyllus		Tem.	1
Koehleri		Bor.?—Tem.	1 ?
corylifolius		Bor.—Tem.	1 2 3
cæsius		Bor.—Med.	1 2 3 4 5 6
saxatilis	Arc.	Arc.—Tem.	1 2 3 4 5 6 . . 9
Chamæmorus	Arc.—Sta.	Arc.—Tem.	1 2 3 4 5 6 7 8 9
FRAGARIA			
vesca	Arc.—*Sta.*	Arc.—Med.	1 2 3 4 5 6 7 8 9
calycina		Tem.	1
elatior			
TORMENTILLA			
officinalis		Arc.—Med.	1 2 3 4 5 6 . . 9
reptans		Tem.	1 2 . . 5
POTENTILLA			
fruticosa	Arc.—Sta.	Bor.—Tem.	1 2 . 4 5 6 7 8 9
rupestris		Bor.—Tem.	1 2 . . 5
anserina	Arc.—Sta.	Arc.—Med.	1 2 3 4 5 6 7 8 9
argentea	Bor.—Sta.	Arc.—Med.	1 2 3 4 5 6 . 8 9
verna	Arc.	Bor.—Tem.	1 2 3 4 . 6 . . 9
alpestris	Arc.?	Arc.	1 ?
reptans		Bor.—Med.	1 2 3 4

	America.	Europe.	Longitude.
POTENTILLA			
opaca	Bor.	Bor.? — Med.	1 2 3 4 5 . . . 9
tridentata	Bor. — Sta.		. . . . . 8 9
Fragariastrum		Tem. — Med.	1 2 3 4 . 6
COMARUM			
palustre	Arc. — Sta.	Arc. — Tem.	1 2 3 4 5 6 7 8 9
SIBBALDIA			
procumbens	Arc. — Sta.	Arc. — Tem.	1 2 . 4 5 . 7 8 9
AGRIMONIA			
Eupatoria	Bor. — Sta.	Bor. — Med.	1 2 3 4 5 6 . 8 9
ALCHEMILLA			
arvensis		Bor. — Med.	1 2 3 4
alpina	Arc. — Sta.?	Arc. — Tem.	1 2 . 4 9
vulgaris	Arc. — Bor.	Arc. — Med.	1 2 3 4 5 6 . . 9
SANGUISORBA			
officinalis	Arc.	Bor. — Med.	1 2 3 4 5 6 . . 9
media	Bor.? — Sta.		. . . . 5 6 7 ? 9
POTERIUM			
Sanguisorba	Bor.	Bor. — Med.	1 2 3 4 5 6 . . 9
ROSA			
rubella			
spinosissima		Arc.? — Med.	1 2 3 4
Wilsoni			
involuta			
Sabini			
villosa		Arc. — Med.	1 2 3 4
tomentosa		Tem.	1 2 3 4
inodora		Bor.	. 2
micrantha	Sta.		 9
rubiginosa	Sta.	Bor. — Med.	1 2 3 4 9
sepium		Tem. — Med.	1 2
canina		Bor. — Med.	1 2 3 4 . 6

	America.	Europe.	Longitude.
ROSA			
bractescens			
cæsia			
systyla			
arvensis		Tem.	1 2
CRATÆGUS			
Oxyacantha		Bor.—Med.	1 2 3 4
MESPILUS			
germanica		Bor.—Med.	1 2 3 4
COTONEASTER			
vulgaris		Bor.—Tem.	1 2 3 4 5 6
PYRUS			
communis		Bor.—Med.	1 2 3 4 . 6
Malus		Bor.—Med.	1 2 3 4
torminalis		Tem.—Med.	1 2 3 4 5
Aria		Bor.—Med.	1 2 3 4
pinnatifida			
Aucuparia	Arc.—Bor.?	Arc.—Med.	1 2 3 4 5 6 . . 9
domestica	Arc.?	Tem.—Med.	1 2 3 4 9

XXVI. ONAGRARIEÆ.

EPILOBIUM			
angustifolium	Arc.—Sta.	Arc.—Med.	1 2 3 4 5 6 7 8 9
hirsutum		Bor.—Med.	1 2 3 4 5
parviflorum		Bor.—Med.	1 2 3 4
montanum	Arc.	Arc.—Tem.	1 2 3 4 5 . . . 9
roseum		Bor.—Tem.	1 2 3 4 5
tetragonum	Arc.—Sta.	Bor.—Med.	1 2 3 4 5 . 7 8 9
palustre	Arc.—Sta.	Arc.—Med.	1 2 3 4 5 . . 8 9
alsinifolium	Arc.—Bor.	Arc.—Tem.	1 2 . . . . 7 8 9
alpinum	Arc.—Sta.	Arc.—Med.	1 2 3 . 5 . 7 8 9

	America.	Europe.	Longitude.
ŒNOTHERA			
biennis	Bor.—Sta.	*Bor.—Med.*	1 2 3 . . . 7 8 9
ISNARDIA			
palustris	Bor.—Sta.	Tem.—Med.	1 2 3 . . . . 8 9
CIRCÆA			
lutetiana	Bor.—Sta.	Bor.—Med.	1 2 3 4 9
alpina	Bor.—Sta.	Arc.—Med.	1 2 . 4 5 6 7 8 9

XXVII. HALORAGEÆ.

MYRIOPHYLLUM			
spicatum	Arc.—Sta.	Arc.—Med.	1 2 3 ? 5 . . 8 9
verticillatum	Arc.—Sta.	Bor.—Med.	1 2 3 4 9
CALLITRICHE			
verna	Arc.—Sta.	Arc.—Med.	1 2 3 4 5 6 7 8 9
autumnalis	Arc.—Sta.	Arc.—Med.	1 2 3 ? . . 7 8 9
pedunculata		Bor.—Tem.	1 2
HIPPURIS			
vulgaris	Arc.—Sta.	Arc.—Tem.	1 2 3 4 5 6 7 8 9

XXVIII. CERATOPHYLLEÆ.

CERATOPHYLLUM			
demersum	Arc.—Sta.	Bor.—Med.	1 2 3 . . 6 . ? 9
submersum		Bor.—Tem.	1 2

XXIX. LYTHRARIEÆ.

LYTHRUM			
Salicaria	Bor.	Arc.—Med.	1 2 3 4 5 6 . . 9
hyssopifolium	Sta.	Tem.—Med.	1 2 . 4 5 . . . 9
PEPLIS			
Portula	Bor.	Arc.—Med.	1 2 3 4 9

XXX. TAMARISCINEÆ.

	America.	Europe.	Longitude.
TAMARIX			
gallica		Tem.—Med.	1 2 3 ? . ?

XXXI. CUCURBITACEÆ.

BRYONIA			
dioica		Tem.—Med.	1 2 3 4

XXXII. PORTULACEÆ.

MONTIA			
fontana	Arc.	Arc.—Med.	1 2 3 9

XXXIII. ILLECEBREÆ.

CORRIGIOLA			
littoralis		Tem.—Med.	1 2 3
ILLECEBRUM			
verticillatum		Tem.	1 2
HERNIARIA			
glabra		Bor.—Med.	1 2 3 4 5
hirsuta		Tem.—Med.	1 2 3 4 5
POLYCARPON			
tetraphyllum		Tem.—Med.	1 2 3
SCLERANTHUS			
annuus	Arc.—Sta.	Bor.—Med.	1 2 3 4 9
perennis		Bor.—Med.	1 2 3

XXXIV. CRASSULACEÆ.

TILLÆA			
muscosa		Tem.—Med.	1 2

	America.	Europe.	Longitude.
SEDUM			
sexangulare		Bor. — Med.	1 2 3
dasyphyllum		Tem. — Med.	1 2 3
album		Bor. — Med.	1 2 3 4
anglicum		Bor. — Tem.	1
villosum	Arc.	Arc. — Tem.	1 2 9
acre	Arc.	Arc. — Med.	1 2 3 4 9
reflexum		Tem. — Med.	1 2 3
rupestre	Arc.	Bor.? — Med.	1 2 3 9
Forsterianum			
glaucum			
Telephium		Bor. — Med.	1 2 3 4 5 6
RHODIOLA			
rosea	Arc. — Bor.	Arc. — Tem.	1 2 3 4 ? 6 7 8 9
SEMPERVIVUM			
tectorum		Bor. — Med.	1 2 3 4
COTYLEDON			
Umbilicus		Tem. — Med.	1 2 3

XXXV. GROSSULARIEÆ.

RIBES			
nigrum		Arc. — Tem.	1 2 3 4 5 6
rubrum	Arc. — Bor.	Arc. — Med.	1 2 3 4 5 6 . 8 9
petræum		Arc. — Tem.	1 2
alpinum		Arc. — Tem.	1 2 3 4 5 6
Grossularia		*Bor.* — Med.?	. 2 3 4 5 6

XXXVI. SAXIFRAGEÆ.

SAXIFRAGA			
umbrosa		Tem.	1 ?
stellaris	Pol.? — Bor.	Pol.? — Tem.	1 2 . . . 6 . ? 9

	America.	Europe.	Longitude.
SAXIFRAGA			
nivalis	Pol.—Bor.	Pol.	1 2 . . . . . 8 9
oppositifolia	Pol.—Bor.	Pol.—Tem.	1 2 . . . . 7 8 9
Hirculus	Pol.—Bor.	Arc.—Tem.	1 2 3 4 5 6 7 8 9
aizoides	Arc.—Bor.	Pol.—Tem.	1 2 3 . . . . 8 9
granulata		Bor.—Med.	1 2 3 4
cernua	Pol.—Bor.	Pol.—Tem.	1 2 . . 5 . 7 8 9
rivularis	Pol.—Bor.	Pol.—Arc.	1 ? 3 4 5 . 7 8 9
tridactylites	Arc.	Arc.—Med.	1 2 3 4 9
cæspitosa	Pol.—Arc.	Pol.—Med.	1 2 3 . . . 7 8 9
muscoides		Tem.	1 2 . 4
hypnoides	Arc.	Tem.	1 2 9
denudata			
elongella			
lætevirens			
pedatifida		Tem.	1 . . . . . ?
CHRYSOSPLENIUM			
alternifolium	Pol.—Bor.	Arc.—Tem.	1 2 3 4 5 6 7 8 9
oppositifol.	Sta.	Tem.	1 2 . . . . 7 . 9

XXXVII. UMBELLIFERÆ.

HYDROCOTYLE			
vulgaris	Arc.—Bor.	Bor.—Med.	1 2 3 . . 6 . . 9
SANICULA			
europæa		Bor.—Med.	1 2 3 4
CICUTA			
virosa	Bor.	Arc.—Tem.	1 2 3 4 5 6 . 8
APIUM			
graveolens		Bor.—Med.	1 2 3 4
PETROSELINUM			
sativum		Tem.—Med.	1 2 3
segetum		Tem.—Med.	1 2 3

	America.	Europe.	Longitude.
TRINIA			
glaberrima		Tem.—Med.	1 2 3 4
HELOSCIADIUM			
nodiflorum		Tem.—Med.	1 2 3
repens		Tem.	1 2
inundatum		Bor.—Tem.	1 2
SISON			
Amomum		Tem.—Med.	1 2 3
ÆGOPODIUM			
Podagraria		Bor.—Med.	1 2 3 4 5
CARUM			
Carui	*Arc.—Bor.*	Arc.—Med.	1 2 3 4 5 . . . 9
verticillatum		Tem.—Med.	1 2
BUNIUM			
flexuosum		Tem.—Med.	1 2 . 4
PIMPINELLA			
magna		Bor.—Tem.	1 2 ?
Saxifraga		Arc.—Tem.	1 2 3 4
SIUM			
latifolium	Bor.—Sta.	Arc.—Tem.	1 2 3 4 5 . 7 8 9
angustifolium		Bor.—Med.	1 2 3 4
BUPLEURUM			
rotundifolium	*Sta.*	Tem.—Med.	1 2 3 4 9
falcatum		Tem.	1 2 3 4 5
tenuissimum		Bor.—Med.	1 2 3 4
Odontites		Tem.—Med.	1 2 3
ŒNANTHE			
fistulosa		Bor.—Med.	1 2 3
peucedanifolia		Tem.—Med.	1 2 3 ?
pimpinelloides		Tem.—Med.	1 2 3 4
crocata		Tem.	1 2

	America.	Europe.	Longitude.
ŒNANTHE			
apiifolia		Tem.—Med.	1
Phellandrium		Bor. —Med.	1 2 3 4 5
ÆTHUSA			
Cynapium	*Sta.*	Bor.—Tem.	1 2 3 4 9
FŒNICULUM			
vulgare		Tem.—Med.	1 2 3 4
SESELI			
Libanotis		Bor.—Tem.	1 2 3 4
LIGUSTICUM			
scoticum	Arc.—Sta.	Arc.—Bor.	1 2 . . . 6 7 . 9
SILAUS			
pratensis		Bor.—Tem.	1 2 3 4 5
MEUM			
athamanticum		Tem.	1 2
CRITHMUM			
maritimum		Tem.—Med.	1 2 3 4
ANGELICA			
Archangelica	Arc.—Bor.	Arc.—Tem.	1 2 3 4 5 6 7 . 9
sylvestris	Arc.?	Bor.—Med.	1 2 3 . 5 . . . ?
PEUCEDANUM			
officinale		Tem.—Med.	1 2 3 4 5
palustre		Arc.—Tem.	1 2 3
Ostruthium	Arc.—Bor.	Bor.—Med.	1 2 3 9
PASTINACA			
sativa	Bor.—*Sta.*	Bor.—Med.	1 2 3 4 5 . . 8 9
HERACLEUM			
Sphondylium		Bor.?—Med.	1 2 3 . . ?
TORDYLIUM			
maximum		Tem.—Med.	1 2 3 4

	America.	Europe.	Longitude.
DAUCUS			
Carota	*Sta.*	Bor.—Med.	1 2 3 4 5 . . . 9
maritimus		Tem.—Med.	1 2
CAUCALIS			
latifolia		Tem.—Med.	1 2 3 4
daucoides		Tem.—Med.	1 2 3 4
TORILIS			
nodosa		Tem.—Med.	1 2 3 4
infesta		Tem.	1 2
Anthriscus		Bor.—Med.	1 2 3 4
SCANDIX			
Pecten		Bor.—Med.	1 2 3 4
ANTHRISCUS			
Cerefolium		Bor.—Med.	1 2 3 4
vulgaris		Arc.—Med.	1 2 3 4
sylvestris		Bor.—Med.	1 2 3 4
CHÆROPHYLLUM			
temulentum		Bor.—Tem.	1 2 3 4
aureum		Tem.	1 2 . 4
aromaticum		Bor.—Med.	. 2 3
MYRRHIS			
odorata		Tem.—Med.	1 2 3
CONIUM			
maculatum	*Bor.—Sta.*	Bor.—Med.	1 2 3 4 5 . . . 9
PHYSOSPERMUM			
cornubiense		Tem.—Med.	1 2 3 4
SMYRNIUM			
Olusatrum		Tem.—Med.	1 2 3
CORIANDRUM			
sativum		Bor.—Med.	1 2 3

	America.	Europe.	Longitude.
ERYNGIUM			
maritimum		Bor.—Med.	1 2 3 4
campestre		Bor.—Med.	1 2 3 4

XXXVIII. ARALIACEÆ.

HEDERA			
Helix		Bor.—Med.	1 2 3 4 . 6
ADOXA			
Moschatellin.	Bor.—Sta.	Arc.—Tem.	1 2 3 4 5 6 . 8

XXXIX. CAPRIFOLIACEÆ.

CORNUS			
sanguinea	Bor.?—Sta.?	Bor.—Med.	1 2 3 4 5 6 . . ?
suecica	Arc.—Bor.	Arc.—Tem.	1 2 3 4 5 6 7 . 9
SAMBUCUS			
Ebulus		Bor.—Med.	1 2 3 4
nigra		Bor.—Med.	1 2 3 4 . ?
LONICERA			
Periclymenum		Bor.—Med.	1 2 3
Caprifolium		Tem.—Med.	1 2 3 4
Xylosteum		Bor.—Med.	1 2 3 4 5
VIBURNUM			
Lantana		Tem.—Med.	1 2 3 4
Opulus		Bor.—Med.	1 2 3 4 5 6
LINNÆA			
borealis	Arc.—Sta.	Arc.—Tem.	1 2 3 4 5 6 7 8 9

XL. LORANTHEÆ.

VISCUM			
album		Bor.—Med.	1 2 3 4 . 6

XLI. RUBIACEÆ.

	America.	Europe.	Longitude.
SHERARDIA			
arvensis		Bor.—Med.	1 2 3 4
RUBIA			
peregrina		Tem.—Med.	1 2 3
ASPERULA			
Cynanchica		Tem.—Med.	1 2 3 4
odorata		Bor.—Med.	1 2 3 4 5
GALIUM			
verum	Arc.—*Sta.*	Arc.—Med.	1 2 3 4 5 6 . . 9
cruciatum		Tem.—Med.	1 2 3
palustre	Arc.	Arc.—Med.	1 2 3 4 5 6 . . 9
uliginosum		Arc.—Tem.	1 2 3 4 5 6
saxatile		Bor.—Tem.	1 2
erectum		Tem.	1 2
cinereum		Tem.—Med.	. 2
aristatum		Tem.	1 2
Mollugo	Arc.	Bor.—Med.	1 2 3 4 9
pusillum	Arc.	Bor.?—Tem.	? . ? 9
parisiense		Tem.—.Med.	1 2
saccharatum		Tem.—Med.	1 2 3
tricorne		Tem.—Med.	1 2 3
spurium		Bor.—Med.	1 2 . . ? 5
boreale	Arc.—Bor.	Arc.—Tem.	1 2 3 4 5 6 7 8 9
Aparine	Bor.—Sta.	Arc.—Med.	1 2 3 4 5 . 7 8 9

XLII. VALERIANEÆ.

FEDIA			
mixta		Bor.—Tem.	1 2
eriocarpa		Tem.—Med.	1 2 . 4
dentata		Tem.	1 2 3 4

	America.	Europe.	Longitude.
FEDIA			
Auricula		Tem.	1 2
carinata		Tem.	1 2 3 4
olitoria		Tem.—Med.	1 2 3 4
VALERIANA			
rubra		Tem.—Med.	1 2 3
dioica		Tem.	1 2 3
officinalis	Arc.	Arc.—Tem.	1 2 3 4 5 6 . . 9
pyrenaica		Tem.	1

XLIII. DIPSACEÆ.

DIPSACUS			
pilosus		Tem.	1 2 3 4
sylvestris	*Sta.*	Tem.—Med.	1 2 3 4 9
Fullonum		Tem.	1 2
SCABIOSA			
columbaria		Bor.—Med.	1 2 3 4 5
succisa		Arc.—Med.	1 2 3 4 9
KNAUTIA			
arvensis		Arc.—Med.	1 2 3 4

XLIV. COMPOSITÆ.

TRAGOPOGON			
pratensis		Bor.—Med.	1 2 3 4 5 6
major		Bor.—Med.	1 2 3 4
porrifolius		Tem.—Med.	1 2 3
HELMINTHIA			
echioides		Tem.—Med.	1 2 3 4
PICRIS			
hieracioides		Bor.—Med.	1 2 3 4 5 6

	America.	Europe.	Longitude.
SONCHUS			
alpinus	Bor.	Arc.—Tem.	1 2 9
palustris		Bor.—Med.	1 2 3 4
arvensis	*Bor.—Sta.*	Arc.—Med.	1 2 3
oleraceus	*Bor.—Sta.*	Arc.—Med.	1 2 3 4 5 6 7 8 9
LACTUCA			
virosa		Tem.—Med.	1 2 3
Scariola		Bor.—Med.	1 2 3 4 5
saligna		Tem.—Med.	1 2 3 4 5
PRENANTHES			
muralis		Bor.—Med.	1 2 3 4
hieraciifolia		Tem.	1 2 . 4
LEONTODON			
Taraxacum	Arc.—Sta.	Arc.—Med.	1 2 3 4 5 6 7 8 9
palustre	Pol.—Bor.	Pol.—Tem.	1 2 . 4 . . 7 8 9
APARGIA			
hispida		Bor.—Med.	1 2 3 4
Taraxaci	Arc.	Arc.—Tem.	1 2 9
autumnalis	Arc.—*Sta.*	Arc.—Med.	1 2 3 . 5 . . . 9
THRINCIA			
hirta		Bor.—Med.	1 2 3
HIERACIUM			
alpinum	Arc.—Bor.	Arc.—Med.	1 2 3 4 5 . . . 9
Halleri		Tem.—Med.?	1 2 ?
Pilosella	Arc.	Bor.—Med.	1 2 3 4 9
dubium		Arc.—Tem.	. 2 3
auriantiacum		Tem.	1 2
Lawsoni			
pulmonarium			
murorum	Arc.	Arc.—Med.	1 2 3 4 5 6 . . 9
sylvaticum	Bor.	Arc.—Tem.	1 2 9
paludosum		Arc.—Tem.	1 2 3
molle	Bor.?	Tem.	1 2 3 9

	America.	Europe.	Longitude.
HIERACIUM			
cerinthoides		Tem.	1 2
amplexicaule		Tem.	1 2 . 4
denticulatum			
prenanthoid.	Bor.	Bor.—Tem.	1 2 . 4 . . . 8 9
subaudum		Bor.—Med.	1 2 3 4
umbellatum	Bor.	Arc.—Tem.	1 2 3 4 5 . . 8 9
CREPIS			
tectorum		Arc.—Med.	1 2 3 4 5
biennis	Bor.	Bor.—Med.	1 2 3 . . . . 8 9
BORKHAUSIA			
fœtida		Tem.—Med.	1 2 3
HYPOCHŒRIS			
maculata		Arc.—Tem.	1 2 3 4 5
glabra		Bor.—Tem.	1 2
radicata		Bor.—Med.	1 2 3
LAPSANA			
communis	*Bor.*	Bor.—Med.	1 2 3 4 5 . . . 9
pusilla		Bor.—Tem.	1 2
CICHORIUM			
Intybus	*Bor.—Sta.*	Bor.—Med.	1 2 3 4 5 6 . . 9
ARCTIUM			
Lappa	Bor.—*Sta.*	Bor.—Med.	1 2 3 4 5 6 . . 9
SERRATULA			
tinctoria		Bor.—Med.	1 2 3 . . 6
SAUSSUREA			
alpina	Arc.—Bor.	Arc.—Tem.	1 2 . . 5 6 7 8
CARDUUS			
nutans		Bor.—Med.	1 2 3 4 5
acanthoides		Bor.—Med.	1 2 3

	America.	Europe.	Longitude.
CARDUUS			
tenuiflorus		Tem. — Med.	1 2 3
marianus		Bor. — Med.	1 2 3 4
CNICUS			
lanceolatus	Arc. — Sta.	Bor. — Med.	1 2 3 4 5 9
arvensis	Arc. — *Sta.*	Arc. — Med.	1 2 3 4 . . . . 8 9
palustris		Arc. — Med.	1 2 3 4 5
Forsteri			
pratensis		Tem.	1
eriophorus		Bor. — Med.	1 2 3 . . 6
tuberosus		Tem.	1 2
acaulis		Bor. — Tem.	1 2 . 4 5 6
heterophyll.	Arc.	Arc. — Med.	1 2 3 4 5 6 . . 9
ONOPORDUM			
Acanthium	*Sta.*	Bor. — Med.	1 2 3 4 9
CARLINA			
vulgaris		Bor. — Med.	1 2 3 4 5
BIDENS			
cernua	Bor. — Sta.	Bor. — Tem.	1 2 3 4 5 . . 8 9
tripartita		Arc. — Med.	1 2 3 4 5
EUPATORIUM			
cannabinum		Bor. — Med.	1 2 3 4
CHRYSOCOMA			
Linosyris		Bor. — Med.	1 2 3 4
DIOTIS			
maritima		Tem. — Med.	1 2 3
TANACETUM			
vulgare	*Bor. — Sta.*	Arc. — Med.	1 2 3 4 5 6 . . 9
ARTEMISIA			
campestris		Bor. — Med.	1 2 3 4 5 . . ?
maritima		Bor. — Med.	1 2 3 . 5

	America.	Europe.	Longitude.
ARTEMISIA			
Absinthium		Bor.—Med.	1 2 3 4 5
vulgaris	Arc.—Sta.	Arc.—Med.	1 2 3 4 5 6 7 8 9
GNAPHALIUM			
dioicum	Arc.—Bor.?	Arc.—Tem.	1 2 3 4 5 6 . 8 9
margaritac.	Bor.—Sta.	*Tem.*	? 2 . . . . 7 8 9
luteo-album		Bor.—Med.	1 2 3 4 . . 7
sylvaticum	Arc.—Sta.	Arc.—Med.	1 2 3 4 5 6 . . 9
supinum	Bor.	Arc.—Tem.	1 2 9
uliginosum	Arc.—Sta.	Arc.—Med.	1 2 3 4 5 6 7 8 9
gallicum		Tem.—Med.	1 2 3
minimum		Tem.	1 ? . 4
germanicum	Sta.	Bor.—Med.	1 2 3 4 9
CONYZA			
squarrosa		Bor.—Med.	1 2 3 4
ERIGERON			
canadensis	Bor.—Sta.	Bor.—Med.	1 2 3 4 9
acris		Arc.—Med.	1 2 3 4 5 6
alpinus	Arc.—Bor.	Arc.—Med.	1 2 3 ? 5 . 7 8 9
TUSSILAGO			
Farfara	*Sta.*	Arc.—Med.	1 2 3 4 5 6
PETASITES			
vulgaris		Bor.—Med.	1 2 3 4 . 6
SENECIO			
vulgaris	Arc.—Sta.	Arc.—Med.	1 2 3 4 9
viscosus		Bor.—Med.	1 2 3
sylvaticus		Bor.—Med.	1 2 3
squalidus		Tem.—Med.	1 2 . 4
tenuifolius		Tem.	1 2 3 4 ?
Jacobæa		Bor.—Med.	1 2 3 4 5 ?
aquaticus		Bor.—Med.	1 2 3

	America.	Europe.	Longitude.
SENECIO			
paludosus		Bor.	1 2 3
saracenicus		Bor.	1 2 3 . 5
ASTER			
Tripolium		Bor.—Med.	1 2 3 4 5
SOLIDAGO			
Virgaurea	Arc.—Sta.	Arc.—Med.	1 2 3 4 5 6 7 8 9
INULA			
Helenium	Sta.	Bor.—Med.	1 2 3 4 5 6 . . 9
LIMBARDA			
crithmoides		Tem.—Med.	1 2
PULICARIA			
dysenterica		Bor.—Med.	1 2 3 4
vulgaris		Bor.—Med.	1 2 3 4 5
CINERARIA			
palustris	Arc.	Bor.—Tem.	1 2 3 4 5 6 . 8
campestris	Arc.?	Arc.—Tem.	1 2 3 4 ? . ?
DORONICUM			
Pardalianches		Tem.—Med.	1 2 3
plantagineum		Tem.	1 2
BELLIS			
perennis		Bor.—Med.	1 2 3 4
CHRYSANTHEMUM			
Leucanthem.	Bor.—Sta.	Arc.—Med.	1 2 3 4 5 6 7 . 9
segetum		Bor.—Med.	1 2 3
PYRETHRUM			
Parthenium		Bor.—Med.	1 2 3 4
inodorum	Arc.—Bor.	Arc.—Tem.	1 2 3 4 . . 7 8 9
maritimum	Arc.	Bor.—Tem.	1 2 9

	America.	Europe.	Longitude.
MATRICARIA			
Chamomilla		Bor.—Med.	1 2 3 4 5
ANTHEMIS			
nobilis		Tem.	1 2
maritima		Tem.—Med.	1 2 3
arvensis	*Sta.*	Bor.—Med.	1 2 3 4 9
Cotula	*Bor.*—*Sta.*	Bor.—Tem.	1 2 3 4 9
tinctoria		Bor.—Med.	1 2 3 4 5
ACHILLÆA			
Ptarmica	*Sta.*	Bor.—Tem.	1 2 3 4 5 6 . . 9
serrata			
Millefolium	Arc.—*Sta.*	Arc.—Tem.	1 2 3 4 5 6 7 8 9
tomentosa		Tem.—Med.	1 2 3 4 . . ?
CENTAUREA			
Jacea	*Sta.*	Bor.—Med.	1 2 3 4 9
nigra	*Bor.*—*Sta.*	Tem.—Med.	1 2 9
Cyanus	*Sta.*	Bor.—Med.	1 2 3 4 9
Scabiosa		Bor.—Tem.	1 2 3 4 5 6
Calcitrapa	*Sta.*	Tem.—Med.	1 2 3 4 9
solstitialis		Tem.—Med.	1 2 3
XANTHIUM			
Strumarium	*Arc.*—Sta.	Bor.—Med.	1 2 3 4 5 . . . 9

XLV. LOBELIACEÆ.

LOBELIA			
urens		Tem.	1
Dortmanna	Bor.—Sta.	Arc.—Tem.	1 2 . . . . . 8 9

XLVI. CAMPANULACEÆ.

CAMPANULA			
rotundifolia	Arc.—Sta.	Arc.—Med.	1 2 3 4 5 6 . 8 9
patula	Arc.	Bor.—Med.	1 2 3 9

	America.	Europe.	Longitude.
CAMPANULA			
Rapunculus		Bor.—Med.	1 2 3 4
persicifolia		Bor.—Med.	1 2 3
latifolia		Arc.—Tem.	1 2 3 4
rapunculoides		Bor.—Tem.	1 2 3
Trachelium		Bor.—Med.	1 2 3 . . 6
glomerata		Bor.—Med.	1 2 3 4 5 6
hederacea		Tem.	1
hybrida		Tem.—Med.	1 2 3 4
PHYTEUMA			
orbiculare		Tem.	1 2 3
spicatum		Tem.	1 2 3
JASIONE			
montana		Bor.—Med.	1 2 3

XLVII. ERICACEÆ.

VACCINIUM			
Myrtillus	Arc.	Arc.—Med.	1 2 3 4 5 6 7 8 9
uliginosum	Pol.—Sta.	Arc.—Tem.	1 2 3 4 5 6 7 8 9
Vitis-Idæa	Arc.—Sta.	Arc.—Tem.	1 2 3 4 5 6 7 8 9
Oxycoccos	Arc.—Sta.	Arc.—Tem.	1 2 3 4 5 6 7 8 9
ARBUTUS			
Uva-Ursi	Arc.—Sta.	Arc.—Tem.	1 2 3 4 5 6 7 8 9
alpina	Arc.—Bor.	Arc.—Tem.	1 2 3 4 5 6 7 8 9
ANDROMEDA			
polifolia	Arc.—Sta.	Arc.—Tem.	1 2 3 4 5 6 7 8 9
ERICA			
vagans		Tem.—Med.	1 2
ciliaris		Tem.	1
Tetralix		Bor.—Tem.	1 2
cinerea		Bor.—Med.	1 2

	America.	Europe.	Longitude.
MENZIESIA			
cærulea	Arc.—Sta.	Arc.—Bor.	1 2 . . 5 6 7 . 9
CALLUNA			
vulgaris	Arc.	Arc.—Med.	1 2 3 4 9
AZALEA			
procumbens	Arc.—Sta.	Arc.—Tem.	1 2 3 4 5 6 7 8 9
PYROLA			
rotundifolia	Arc.—Sta.	Arc.—Tem.	1 2 3 4 5 6 7 8 9
media		Bor.	. 2
minor	Arc.—Sta.	Arc.—Tem.	1 2 3 4 5 6 7 8 9
secunda	Arc.—Sta.	Arc.—Med.	1 2 3 4 5 6 7 8 9
uniflora	Arc.—Sta.	Arc.—Tem.	1 2 3 4 5 6 7 8 9
MONOTROPA			
Hypopitys	Bor.?—Sta.	Bor.—Tem.	1 2 3 4 5 . . . 9

XLVIII. OLEINEÆ.

LIGUSTRUM			
vulgare	Sta.	Bor.—Med.	1 2 3 4 . 6 . . 9
FRAXINUS			
excelsior		Bor.—Med.	1 2 3 4 . 6

XLIX. APOCYNEÆ.

VINCA			
minor		*Bor.*—Med.	1 2 3 4
major		Tem.—Med.	1 2 . 4

L. GENTIANEÆ.

GENTIANA			
verna	Arc.	Tem.—Med.	1 2 3 4 9

	America.	Europe.	Longitude.
GENTIANA			
Pneumonant.	Sta.	Bor.—Tem.	1 2 3 4 5 6 . . 9
nivalis	Arc.—Bor.	Arc.—Tem.	1 2 . . 5 . . . 9
campestris	Arc.	Arc.—Med.	1 2 3 4 5 . . . 9
Amarella	Arc.—Bor.	Arc.—Med.	1 2 3 4 . . . 8
CHLORA			
perfoliata		Tem.—Med.	1 2 3 4
ERYTHRÆA			
Centaurium	Sta.	Bor.—Med.	1 2 3 4 9
pulchella		Bor.—Tem.	1
littoralis		Bor.?	
latifolia			
EXACUM			
filiforme		Tem.—Med.	1 . 3
MENYANTHES			
trifoliata	Arc.—Sta.	Arc.—Tem.	1 2 3 4 5 6 7 8 9
VILLARSIA			
nymphæoides		Tem.—Med.	1 2 3 4 5 6

LI. POLEMONIACEÆ.

POLEMONIUM			
cæruleum	Pol.—Arc.	Arc.—Tem.	1 2 3 4 5 6 7 . 9

LII. CONVOLVULACEÆ.

CONVOLVULUS			
Soldanella		Tem.—Med.	1 2 . 4 . 6
arvensis	Sta.	Bor.—Med.	1 2 3 4 5 . . . 9
sepium	Bor.—Sta.	Bor.—Med.	1 2 3 4 5 6 . . 9

	America.	Europe.	Longitude.
CUSCUTA			
europæa	*Sta.*	Bor.—Med.	1 2 3 4 5 6 . . 9
Epithymum		Tem.	1 2

LIII. BORAGINEÆ.

LITHOSPERMUM			
purpuro-cæruleum		Tem.—Med.	1 2 3 4
arvense	*Sta.*	Arc.—Med.	1 2 3 4 5 6 . . 9
officinale	*Sta.*	Bor.—Med.	1 2 3 4 5 6 . . 9
maritimum	Arc.—Sta.	Arc.	1 2 ? . . 6 7 8 9
PULMONARIA			
officinalis		Bor.—Med.	1 2 3 4
angustifolia		Bor.—Tem.	1 2 3
SYMPHYTUM			
officinale	Sta.	Bor.—Med.	1 2 3 4 9
tuberosum		Tem.—Med.	1 2 3
ECHIUM			
vulgare	Arc.—*Sta.*	Bor.—Med.	1 2 3 4 9
LYCOPSIS			
arvensis	*Sta.*	Arc.—Tem.	1 2 3 4 9
ASPERUGO			
procumbens		Arc.—Med.	1 2 3 4 5
ANCHUSA			
officinalis		Bor.—Med.	1 2 3 4
sempervirens		Tem.	1 2
MYOSOTIS			
versicolor		Bor.—Tem.	1 2
collina		Bor.—Med.	1 2 3
arvensis	Bor.—Sta.	Arc.—Tem.	1 2 3 4 5 . . . 9

	America.	Europe.	Longitude.
MYOSOTIS			
sylvatica		Arc.—Tem.	1 2 3 . 5
alpestris	Arc.	Tem.	? 2 3 4 5 . 7
palustris	Sta.	Arc.—Med.	1 2 3 4 5 ? . . 9
cæspitosa		Bor.—Tem.	1 2 3 . 5
CYNOGLOSSUM			
officinale	*Sta.*	Bor.—Med.	1 2 3 4 5 . . . 9
sylvaticum		Tem.	1 2
BORAGO			
officinalis		*Bor.*—Med.	1 2 3

LIV. SOLANEÆ.

VERBASCUM			
Thapsus	*Sta.*	Bor.—Med.	1 2 3 4 5 . . . 9
Lychnites	Sta.	Tem.	1 2 ? 9
thapsiforme		Tem.	1 2
pulverulentum		Tem.	1 2 . 4
nigrum		Bor.—Tem.	1 2 3 ? ?
virgatum		Tem.	1 2
Blattaria	Sta.	Tem.—Med.	1 2 3 4 9
HYOSCYAMUS			
niger	*Sta.*	Bor.—Med.	1 2 3 4 5 6
DATURA			
Stramonium	Sta.	Bor.—Med.	1 2 3 4 5 6 . . 9
ATROPA			
Belladonna		Tem.—Med.	1 2 3 4
SOLANUM			
nigrum	Bor.—Sta.	Bor.—Med.	1 2 3 4 5 6 . . 9
Dulcamara	Sta.	Bor.—Med.	1 2 3 4 5 6 . . 9

LV. SCROPHULARINEÆ.

	America.	Europe.	Longitude.
ANTIRRHINUM			
Orontium		Bor.—Med.	1 2 3
majus		Tem.—Med.	1 2 3
LINARIA			
Cymbalaria		Tem.—Med.	1 2 3
spuria		Tem.—Med.	1 2 3 4
Elatine	*Sta.*	Bor.—Med.	1 2 3 4 9
repens		Tem.	1 2
vulgaris	*Sta.*	Bor.—Med.	1 2 3 4 5 6 . . 9
minor		Bor.—Med.	1 2 3 4
SCROPHULARIA			
vernalis		Tem.	1 2 . 4
Scorodonia		Tem.—Med.	1 2 3 ? ?
nodosa		Arc.—Med.	1 2 3 4 5
aquatica		Bor.—Med.	1 2 3 4
DIGITALIS			
purpurea		Tem.	1 2
LIMOSELLA			
aquatica	Arc.	Arc.—Tem.	1 2 3 4 5 . . . 9
SIBTHORPIA			
europæa		Tem.—Med.	1 . 3
BARTSIA			
alpina	Arc.—Bor.	Arc.—Tem.	1 2 3 4 9
viscosa		Tem.—Med.	1 2 3
Odontites		Bor.—Med.	1 2 3 4 5
EUPHRASIA			
officinalis	Arc.—Sta.	Arc.—Med.	1 2 3 4 5 6 7 8 9

	America.	Europe.	Longitude.
RHINANTHUS			
Crista-galli	Arc.—Sta.	Arc.—Tem.	1 2 3 ? 9
major		Bor.—Tem.	1 2 3 4 5 6
MELAMPYRUM			
cristatum		Bor.—Med.	1 2 3 4 5
arvense		Bor.—Med.	1 2 3 4 . 6
pratense		Arc.—Tem.	1 2 3 4
sylvaticum		Arc.—Tem.	1 2 3
PEDICULARIS			
palustris		Arc.—Tem.	1 2 3 4 5
sylvatica	Arc.	Bor.—Tem.	1 2 9
VERONICA			
spicata		Bor.—Med.	1 2 3 4 5
serpyllifolia	Arc.—*Sta.*	Arc.—Med.	1 2 3 4 5 6 . . 9
alpina	Arc.—Bor.	Arc.—Tem.	1 2 3 4 5 . 7 . 9
saxatilis	Arc.	Arc.—Tem.	1 2 9
fruticulosa	Arc.	Tem.	1 2 9
scutellata	Arc.—*Sta.*	Arc.—Med.	1 2 3 4 5 6 . . 9
Anagallis	Arc.—Sta.	Bor.—Med.	1 2 3 4 5 6 . . 9
Beccabunga	Arc.—Sta.	Bor.—Med.	1 2 3 4 5 . . . 9
officinalis	Arc.—Sta.	Arc.—Med.	1 2 3 4 9
hirsuta			
montana		Bor.—Tem.	1 2 3
Chamædrys		Arc.—Med.	1 2 3 4 . 6
hederæfolia	Sta.	Bor.—Med.	1 2 3 4 9
agrestis	*Bor.*—*Sta.*	Bor.—Med.	1 2 3 4 9
polita		Bor.—Med.	1 2 3
Buxbaumii		Tem.—Med.	1 2 3 4
arvensis	Sta.	Bor.—Med.	1 2 3 4 . 6 . . 9
triphyllos		Bor.—Med.	1 2 3 4
verna		Bor.—Tem.	1 2 3 4 5

LVI. LABIATÆ.

	America.	Europe.	Longitude.
LYCOPUS			
europæus	Sta.	Bor.—Med.	1 2 3 4 5 6 . . 9
MENTHA			
sylvestris		Bor.—Med.	1 2 3 4 5
rotundifolia		Tem.—Med.	1 2 . 4
viridis	Sta.	Bor.—Tem.	1 2 3 9
piperita	Sta.	Tem.	1 . . . . . 6 . . 9
citrata		Bor.	. 2
hirsuta		Bor.—Med.	1 2 3 4 5 6
acutifolia		Tem.	. 2
rubra		Bor.—Tem.	1 2
gentilis		Bor.—Med.	1 2 3
gracilis		Bor.	. 2
arvensis		Bor.—Med.	1 2 3 4 5 6
agrestis			
Pulegium		Tem.—Med.	1 2 3 4
THYMUS			
Serpyllum	Arc.—*Sta.*	Arc.—Med.	1 2 3 4 5 6 . . 9
ORIGANUM			
vulgare	Sta.	Bor.—Med.	1 2 3 4 5 6 . . 9
TEUCRIUM			
Scorodonia		Tem.—Med.	1 2 3
Scordium		Bor.—Med.	1 2 3 4 5
Chamædrys		Tem.—Med.	1 2 3 4
AJUGA			
reptans		Bor.—Med.	1 2 3 4 9
alpina		Arc.—Tem.	1 2 . 4
pyramidalis	Arc.	Arc.—Med.	1 2 3 4
Chamæpitys		Tem.—Med.	1 2 3 4

	America.	Europe.	Longitude.
BALLOTA			
nigra	Sta.	Bor.—Med.	1 2 3 4 9
LEONURUS			
Cardiaca	*Bor.—Sta.*	Bor.—Med.	1 2 3 4 . 6 . . 9
GALEOBDOLON			
luteum		Bor.—Med.	1 2 3
GALEOPSIS			
Ladanum	Arc.—*Sta.*	Bor.—Tem.	1 2 3 4 9
villosa		Tem.	1 2
Tetrahit	Arc.—*Sta.*	Arc.—Tem.	1 2 3 4 5 6 . . 9
versicolor		Arc.—Tem.	1 2 3
LAMIUM			
album		Bor.—Med.	1 2 3 4 5
maculatum		Bor.—Med.	1 2 3 4
purpureum	Arc.	Bor.—Med.	1 2 3 4 5 6 . . 9
incisum		Bor.—Tem.	1 2
amplexicau.	*Sta.*	Bor.—Med.	1 2 3 4 5 6 . . 9
BETONICA			
officinalis		Bor.—Med.	1 2 3 4
STACHYS			
sylvatica	Sta.	Arc.—Med.	1 2 3 4 5 . . . 9
ambigua	Bor.	Tem.	1 2 8
palustris		Bor.—Med.	1 2 3 4 5
germanica		Tem.—Med.	1 2 3 4 5 6
arvensis		Bor.—Med.	1 2 3
annua		Bor.—Med.	1 2 3 4
NEPETA			
Cataria	*Sta.*	Bor.—Med.	1 2 3 4 5 . . . 9
GLECHOMA			
hederacea	Sta.	Bor.—Med.	1 2 3 4 5 6 . . 9

	America.	Europe.	Longitude.
MARRUBIUM			
vulgare	Bor.—Sta.	Bor.—Med.	1 2 3 4 9
ACINOS			
vulgaris		Bor.—Med.	1 2 3 4
CALAMINTHA			
officinalis		Tem.—Med.	1 2 3 4
Nepeta		Tem.—Med.	1 2 3 4
CLINOPODIUM			
vulgare	Bor.—Sta.	Bor.—Med.	1 2 3 4 . 6 . . 9
MELITTIS			
Melissophyllum		Tem.—Med.	1 2 3 4 . 6
PRUNELLA			
vulgaris	Arc.—*Sta.*	Arc.—Med.	1 2 3 4 5 6 . . 9
SCUTELLARIA			
galericulata	Bor.—Sta.	Arc.—Med.	1 2 3 4 5 . . 8 9
minor		Tem.	1 2
SALVIA			
pratensis		Bor.—Med.	1 2 3 4
Verbenaca		Tem.—Med.	1 2 3

LVII. VERBENACEÆ.

VERBENA			
officinalis		Tem.—Med.	1 2 3 4 . 6

LVIII. OROBANCHEÆ.

OROBANCHE			
major		Bor.—Med.	1 2 3
caryophyllacea		Bor.—Med.	1 2 3 4 5
elatior		Tem.	1
minor		Tem.	1 2

	America.	Europe.	Longitude.
OROBANCHE			
rubra			
cærulea		Tem. — Med.	1 2 3 4
ramosa		Tem. — Med.	1 2 3 4
LATHRÆA			
squamaria		Bor. — Tem.	1 2 3 4

LIX. LENTIBULARIEÆ.

UTRICULARIA			
vulgaris	Bor. — Sta.	Bor. — Med.	1 2 3 . 5 . . . 9
intermedia	Bor.	Arc. — Tem.	1 2 . . 5 . . 8
minor		Bor. — Tem.	1 2 3 . 5
PINGUICULA			
vulgaris	Arc. — Sta.	Arc. — Tem.	1 2 3 4 5 6 . 8 9
alpina	Arc.	Arc. — Tem.	1 2 9
lusitanica		Tem.	1 2

LX. PRIMULACEÆ.

CYCLAMEN			
hederæfolium		Tem. — Med.	1 2 3
PRIMULA			
veris		Bor. — Med.	1 2 3 4
elatior		Bor. — Med.	1 2 3 4
vulgaris		Bor.? — Med.	1 2 3 4
farinosa	Arc. — Sta.?	Bor. — Tem.	1 2 . 4 5 6 . 8 9
scotica			
TRIENTALIS			
europæa	Bor.? — Sta.?	Arc. — Tem.	1 2 3 4 5 6 ? ? ?
LYSIMACHIA			
vulgaris		Arc. — Med.	1 2 3 4 5 6

	America.	Europe.	Longitude.
LYSIMACHIA			
punctata		Tem.—Med.	. 2 3 . 5
thyrsiflora	Bor.	Arc.—Tem.	1 2 3 . 5 . . 8
Nummularia		Bor.—Med.	1 2 3 4
nemorum		Tem.—Med.	1 2
HOTTONIA			
palustris		Bor.—Tem.	1 2 3
ANAGALLIS			
arvensis	Sta.	Bor.—Med.	1 2 3 4 . 6 . . 9
cærulea		Bor.—Med.	1 2 3 4
tenella		Tem.—Med.	1 2 3
CENTUNCULUS			
minimus		Bor.—Tem.	1 2 3
SAMOLUS			
Valerandi	Bor.—Sta.	Bor.—Med.	1 2 3 4 9

LXI. PLUMBAGINEÆ.

STATICE			
Armeria	Pol.—Sta.	Arc.—Med.	1 2 3 . . . 7 8 9
reticulata		Tem.	1 . . 4
spathulata		Tem.—Med.?	1 2 3
Limonium	Sta.	Bor.—Med.	1 2 3 . . 6 . . 9

LXII. PLANTAGINEÆ.

PLANTAGO			
major	Arc.—Sta.	Arc.—Med.	1 2 3 4 5 6 . 8 9
media	Sta.	Bor.—Med.	1 2 3 4 5 . . . 9
lanceolata	Arc.—Sta.	Bor.—Med.	1 2 3 4 . . . ? 9
maritima	Arc.—Sta.	Arc.—Med.	1 2 3 4 5 . . . 9
Coronopus	Arc.	Bor.—Med.	1 2 3 9

	America.	Europe.	Longitude.
LITTORELLA			
lacustris		Arc. — Tem.	1 2
GLAUX			
maritima	Arc. — Sta.	Arc. — Tem.	1 2 3 4 5 6 . . 9

LXIII. AMARANTACEÆ.

AMARANTHUS			
Blitum	*Sta.*	Bor. — Med.	1 2 3 4 . 6 . . 9

LXIV. CHENOPODEÆ.

SALSOLA			
Kali	Sta.	Bor. — Med.	1 2 3 4 5 ? . . 9
CHENOPODIUM			
fruticosum		Tem. — Med.	1 2 3 4
maritimum	Bor. — Sta.	Bor. — Med.	1 2 3 4 5 ? . . 9
olidum		Bor. — Med.	1 2 3 4
polyspermum		Bor. — Med.	1 2 3 4 5 6
Bonus Henr.	Sta.	Bor. — Med.	1 2 3 9
urbicum		Bor. — Med.	1 2 3 4
rubrum	*Sta.*	Bor. — Med.	1 2 3 ? 9
botryodes			
murale		Bor. — Med.	1 2 3 4
hybridum	*Sta.*	Bor. — Tem.	1 2 3 4 5 ? . . 9
album	Sta.	Arc. — Med.	1 2 3 4 5 6 . . 9
ficifolium		Tem. — Med.	1 2 3
glaucum	Sta.	Bor. — Med.	1 2 3 4 5 . . . 9
ATRIPLEX			
portulacoides		Tem. — Med.	1 2 3
pedunculata		Bor. — Tem.	1 2 . 4 5
laciniata	Arc. — Sta.	Bor. — Med.	1 2 3 4 5 . . . 9
ittoralis	Arc.	Bor. — Tem.	1 2 . 4 5 . 7

	America.	Europe.	Longitude.
ATRIPLEX			
erecta		Tem.	1
patula	Arc.—Sta.	Bor.—Med.	1 2 3 4 5 . . . 9
angustifolia		Arc.—Tem.	1 2 3
BETA			
maritima		Tem.—Med.	1 2 3 4
SALICORNIA			
herbacea	Sta.	Bor.—Med.	1 2 3 4 5 6 . . 9
radicans			

LXV. POLYGONEÆ.

POLYGONUM			
viviparum	Pol.—Sta.	Pol.—Med.	1 2 3 4 5 6 7 8 9
Bistorta	Arc.	Bor.—Med.	1 2 3 4 5 6 . . 9
amphibium	Arc.—Sta.	Arc.—Med.	1 2 3 4 5 6 . . 9
Persicaria	Arc.—Sta.	Bor.—Med.	1 2 3 4 5 6 . . 9
lapathifolium	Sta.	Arc.—Med.	1 2 3 4 5 6 . . 9
Hydropiper	Arc.	Bor.—Med.	1 2 3 4 5 6 . . 9
aviculare	Arc.—Sta.	Arc.—Med.	1 2 3 4 5 6 . . 9
littorale ?			
minus		Bor.—Tem.	1 2 3 . 5
Convolvulus	Bor.—Sta.	Arc.—Med.	1 2 3 4 5 6 . . 9
Fagopyrum	*Sta.*	Bor.—Med.	. . 3 . . 6 . . 9
RUMEX			
Hydrolapathum		Tem.—Med.?	1 2 3
crispus	*Bor.—Sta.*	Bor.—Med.	1 2 3 4 5 6 . . 9
pratensis			
aquaticus	*Sta.*	Arc.?—Med.?	. 2 3 . 5 . ? . 9
alpinus		Tem.—Med.	1 2 3 4
sanguineus	*Bor.—Sta.*	Bor.?—Med.	1 2 3 . . . . 8 9
acutus	Arc.—*Sta.*	Bor.—Tem.	1 2 3 4 . . . 8 9
pulcher		Tem.—Med.	1 2 3 4
obtusifolius	*Sta.*	Bor.—Med.	1 2 3 ? 9

	America.	Europe.	Longitude.
RUMEX			
maritimus		Bor.—Tem.	1 2 3
palustris		Bor.?—Tem.?	1 2 3
Acetosa	Arc.	Arc.—Med.	1 2 3 4 5 6 7 . 9
Acetosella	Arc.—Sta.	Arc.—Med.	1 2 3 4 5 6 . . 9
OXYRIA			
reniformis	Pol.—Bor.	Pol.—Med.	1 2 3 ? 5 6 7 8 9

LXVI. THYMELEÆ.

DAPHNE			
Mezereum		Arc.—Med.	1 2 3 4 5
Laureola		Tem.—Med.	1 2 3

LXVII. SANTALACEÆ.

THESIUM			
linophyllum		Tem.—Med.	1 2 3

LXVIII. ELEAGNEÆ.

HIPPOPHAE			
rhamnoides		Arc.—Tem.	1 2 ? 4 5

LXIX. ASARINEÆ.

ASARUM			
europæum		Tem.—Med.	1 2 3 4
ARISTOLOCHIA			
Clematitis		Tem.—Med.	1 2 3 4

LXX. EUPHORBIACEÆ.

BUXUS			
sempervirens		Tem.—Med.	1 2 3 4

	America.	Europe.	Longitude.
EUPHORBIA			
Peplis		Tem.—Med.	1 2 3 4
Helioscopia	Sta.	Arc.—Med.	1 2 3 4 . 6 . . 9
platyphylla		Tem.—Med.	1 2 3 4
hiberna		Tem.	1
pilosa	Bor.—Sta.	Tem.—Med.	1 2 3 4 9
Esula		Bor.—Tem.	1 2 3 4 5 6
Cyparissias		Bor.—Med.	1 2 3 . 5
paralia		Tem.—Med.	1 2 3
portlandica		Med.	. . 3
exigua		Bor.—Med.	1 2 3 4
Peplus	Sta.	Bor.—Med.	1 2 3 . . 6 . . 9
Lathyris	*Sta.*	Tem.—Med.	1 2 3 . . 6 . . 9
amygdaloides		Tem.—Med.	1 2 3 4
MERCURIALIS			
annua		Tem.—Med.	1 2 3 4
perennis		Bor.—Med.	1 2 3 4

LXXI. URTICEÆ.

URTICA			
urens	*Arc.—Sta.*	Arc.—Med.	1 2 3 4 5 6 . . 9
dioica	Arc.—Sta.	Arc.—Med.	1 2 3 4 5 6 . . 9
pilulifera		Tem.—Med.	1 2 3 4
PARIETARIA			
officinalis		Bor.—Med.	1 2 3 4
HUMULUS			
Lupulus	Sta.	Bor.—Med.	1 2 3 4 5 6 . . 9

LXXII. ULMACEÆ.

ULMUS			
campestris?		Bor.—Med.	1 2 3 4 5
suberosa		Tem.—Med.	1 2 3 4

	America.	Europe.	Longitude.
ULMUS			
major		Tem.	1 2
carpinifolia			
glabra		Tem.	. 2
stricta			
montana		Bor. — Tem.	1 2 3 4

LXXIII. AMENTACEÆ.

QUERCUS			
Robur		Bor. — Med.	1 2 3 4 . ?
sessiliflora		Bor. — Med.	1 2 3 4 . ?
FAGUS			
sylvatica	Sta.?	Bor. — Med.	1 2 3 4 . . . . ?
CASTANEA			
vulgaris	Sta.?	Tem. — Med.	1 2 3 4 . 6 . . ?
CORYLUS			
Avellana		Bor. — Med.	1 2 3 4 . 6
CARPINUS			
Betulus		Bor. — Med.	1 2 3 4
BETULA			
alba	Arc.	Arc. — Med.	1 2 3 4 5 6 . . 9
nana	Arc. — Sta.	Arc. — Tem.	1 2 3 4 5 6 7 ? 9
ALNUS			
glutinosa	?	Bor. — Med.	1 2 3 4 5 6 . 8
POPULUS			
canescens		Tem.	1 2 . 4
alba		Bor. — Med.	1 2 3 4 5
nigra		Bor. — Med.	1 2 3 4 5 ?
tremula		Arc. — Med.	1 2 3 4 5 6

	America.	Europe.	Longitude.
SALIX *			
purpurea Helix Lambertia. Woolgaria. Forbyana rubra	Arc. — Bor.	Bor. — Med.	1 2 3 4 . . . 8 9
undulata triandra Hoffmanni. amygdalina		Bor. — Med.	1 2 3 4 5 6

* Finding it utterly impossible to give any thing approaching to an accurate view of the distribution of our *Salices*, on account of the very different divisions into species adopted by different writers, and the confused and contradictory references to authorities and synonyms existing in works, I have been compelled to attempt this only with respect to the *groups* of the *British Flora*. Nor do I much regret this necessity, since such groups more nearly accord with the *species* of some of the best authorities of the Continent, than do the species of British writers. The excessive subdivisions of British botanists will be pretty apparent from the numbers of species noticed in the *Floras* of some of our neighbours. The *Flora Lapponica* has 19 species; the *Flora Suecica* has 28; the *Botanicon Gallicum* has 30; the *Flora Germanica Excursoria*, which includes the whole of central Europe (between France and Turkey, the Baltic and Mediterranean seas), has only 48. The *British Flora* describes 71 species. The two following quotations cannot be too widely circulated. In the last edition of the *British Flora*, its author most judiciously writes: — "It would gratify me, and I am sure all true lovers of Botany, if Mr. Borrer, who has so profound a knowledge of British *Willows*, *Roses*, and *Brambles*, would abolish, as species, all those which he thinks too nearly allied to others, instead of sanctioning them by his authority." The other, contained in the *Flora of Northumberland and Durham*, is less delicately worded; but I believe there are few botanists who have not heard oral remarks fully as decided. "Then again there is another class of Botanists more injurious than these, they too are generally men who set their faces against *any* increase of genera, but who, at the same time, consider that the most trifling difference in a leaf, a serrature, or a hair, should constitute a specific distinction: and to such an extravagant pitch is this system now carried in certain genera — take *Rosa*, *Rubus*, *Salix*, *Myosotis*, no two persons are or can be agreed on what constitutes a species and what not, in such tribes. The consequence is, that all sober-minded Botanists will have nothing to do with these genera, and the crazy ones have each their own ideas as to species."

	America.	Europe.	Longitude.
SALIX			
pentandra Meyeriana	Arc.	Arc.—Tem.	1 2 3 4 5 6 . . 9
decipiens fragilis Russeliana	Bor.—Sta.	Bor.—Med.	1 2 3 4 . . . 8 9
alba vitellina	Bor.?—*Sta.*	Bor.—Med.	1 2 3 4 5 6 . . 9
petiolaris	Sta.		 9
rosmarinif. angustifolia	Sta.	Bor.	. . 3 . 5 . . . 9
Doniana fusca	Arc.—Sta.	Bor.—Tem.	1 2 3 . 5 . . . 9
ambigua	Sta.		 9
reticulata	Pol.—Bor.	Arc.—Tem.	1 2 . 4 5 . 7 8 9
glauca arenaria Stuartiana	Arc.—Bor.	Arc.—Tem.	1 2 3 4 5 . 7 8 9
viminalis stipularis Smithiana ferruginea acuminata holosericea	*Sta.*	Bor.—Med.	1 2 3 4 5 . . . 9
cinerea aquatica oleifolia aurita caprea sphacelata	Arc.	Arc.—Med.	1 2 3 4 5 6 . . 9

	America.	Europe.	Longitude.
SALIX			
cotinifolia			
hirta			
nigricans			
Andersoni.			
damascena		Arc.—Tem.	1 2 . . . 6
Forsteriana			
rupestris			
petræa			
propinqua			
tenuior			
laurina			
laxiflora			
radicans			
Borreriana			
Davalliana			
tetrapla		Arc.—Tem.	1 2 . . 5 6
Weigeliana			
tenuifolia			
nitens			
Croweana			
bicolor			
phillyreifol.			
Dicksonia.			
vacciniifoli.			
carinata		Arc.—Tem.	1 2 . . 5
prunifolia			
venulosa			
Myrsinites	Arc.—Bor.	Arc.	1 2 3 . 5 . . 8 9
procumbe.			
herbacea	Arc.	Pol.—Tem.	1 2 . . 5 . . . 9
hastata	Arc.	Arc.—Tem.	1 2 3 4 5 6 . . 9
lanata			
MYRICA			
Gale	Bor.—Sta.	Arc.—Tem.	1 2 . . . 6 . 8 9

LXXIV. CONIFERÆ.

	America.	Europe.	Longitude.
PINUS sylvestris		Arc.—Med.	1 2 3 4 5 6
TAXUS baccata		Bor.—Med.	1 2 3 4 . 6
JUNIPERUS communis	Arc.—Sta.	Arc.—Med.	1 2 3 4 5 6 ? 8 9

LXXV. EMPETREÆ.

EMPETRUM nigrum	Arc.—Sta.	Arc.—Tem.	1 2 3 4 5 6 7 8 9

LXXVI. HYDROCHARIDEÆ.

HYDROCHARIS Morsus-Ranæ		Bor.—Tem.	1 2 3
STRATIOTES aloides		Arc.—Tem.	1 2 3

LXXVII. ALISMACEÆ.

SAGITTARIA sagittifolia	Bor.—Sta.	Arc.—Bor.	1 2 3 4 5 6 . . 9
ACTINOCARPUS Damasonium		Tem.—Med.	1 2
ALISMA Plantago	Bor.—Sta.	Arc.—Med.	1 2 3 4 5 6 . . 9
ranunculoides		Bor.—Med.	1 2
natans		Bor.—Tem.	1 2

	America.	Europe.	Longitude.
BUTOMUS			
umbellatus		Bor.—Med.	1 2 3 4 5

LXXVIII. JUNCAGINEÆ.

SCHEUCHZERIA			
palustris	Bor.—Sta.	Arc.—Tem.	1 2 . 4 5 ?
TRIGLOCHIN			
maritimum	Arc.—Sta.	Arc.—Tem.	1 2 3 4 5 6 . 8 9
palustre	Arc.—Sta.	Arc.—Med.	1 2 3 4 5 6 7 8 9

LXXIX. ORCHIDEÆ.

ORCHIS			
Morio	Arc.	Bor.—Med.	1 2 3 4 9
mascula	Arc.	Bor.—Med.	1 2 3 4 9
ustulata		Bor.—Tem.	1 2 3 4
fusca		Tem.	1 2 . 4
militaris		Bor.—Med.	1 2 3 4 5 ?
tephrosanthos		Tem.—Med.	1 2 . 4
hircina		Tem.	1 2 . 4
pyramidalis		Bor.—Med.	1 2 3 4
latifolia	Arc.	Arc.—Med.	1 2 3 4 5 6 . . 9
maculata	Arc.	Arc.—Med.	1 2 3 4 5 6 . . ?
GYMNADENIA			
conopsea		Arc.—Med.	1 2 3 4 5 6
HABENARIA			
albida	Arc.	Arc.—Tem.	1 2 9
viridis	Arc.	Arc.—Tem.	1 2 3 4 5 . . . 9
bifolia		Arc.—Med.	1 2 3 4 5 6
ACERAS			
anthropophora		Tem.—Med.	1 2 3

	America.	Europe.	Longitude.
HERMINIUM			
Monorchis		Arc.—Tem.	1 2 3 4 5 6
OPHRYS			
apifera		Tem.—Med.	1 2 3
arachnites		Tem.—Med.	1 2 3
aranifera		Tem.—Med.	1 2
fucifera			
muscifera		Bor.—Med.	1 2 3
GOODYERA			
repens	Sta.	Arc.—Tem.	1 2 3 4 5 . . . 9
NEOTTIA			
spiralis		Bor.—Med.	1 2 3
LISTERA			
ovata	Arc.	Arc.—Med.	1 2 3 4 9
cordata	Bor.—Sta.	Arc.—Tem.	1 2 3 4 5 . . . 9
Nidus-Avis	Arc.	Bor.—Tem.	1 2 3 4 5 . . . 9
EPIPACTIS			
latifolia		Arc.—Med.	1 2 3 4 5 6
palustris		Bor.—Tem.	1 2 3 4
grandiflora		Tem.—Med.	1 2 3 4
ensifolia		Bor.—Med.	1 2 3
rubra		Bor.—Med.	1 2 3 4
MALAXIS			
paludosa		Bor.—Tem.	1 2
LIPARIS			
Loeselii		Bor.—Tem.	1 2
CORALLORHIZA			
innata	Arc.	Arc.—Tem.	1 2 3 4 5 6 7 8 9
CYPRIPEDIUM			
Calceolus		Arc.—Tem.	1 2 3 4 5 6

LXXX. IRIDEÆ.

	America.	Europe.	Longitude.
TRICHONEMA			
Columnæ		Tem.—Med.	1 2
IRIS			
Pseudacorus		Bor.—Med.	1 2 3 4 5
fœtidissima		Tem.—Med.	1 2 3 4
CROCUS			
vernus		Tem.—Med.	1 2 3
sativus		Tem.—Med.	1 2 3
speciosus		Tem.	. 2 . 4
nudiflorus		Tem.—Med.	1 . 3

LXXXI. AMARYLLIDEÆ.

NARCISSUS			
poeticus		Tem.—Med.	1 2 3
biflorus		Tem.—Med.	1 2
Pseudo-Narcissus		Tem.	1 2 . 4
LEUCOIUM			
æstivum		Tem.—Med.	1 ? 3 4
GALANTHUS			
nivalis		Tem.—Med.	1 2 3 4

LXXXII. TAMEÆ.

TAMUS			
communis		Tem.—Med.	1 2 3 4

LXXXIII. SMILACEÆ.

RUSCUS			
aculeatus		Tem.—Med.	1 2 3 4

	America.	Europe.	Longitude.
CONVALLARIA			
Polygonatum		Bor. — Med.	1 2 3 4 5 6
multiflora	Bor. — Sta.	Bor. — Med.	1 2 3 4 . 6
majalis		Arc. — Med.	1 2 3 4
verticillata		Arc. — Tem.	1 2 . 4
PARIS			
quadrifolia	Arc.	Arc. — Tem.	1 2 3 4 5 6 . . 9
ASPARAGUS			
officinalis	*Sta.*	Bor. — Med.	1 2 3 4 5 6 . . 9

LXXXIV. ASPHODELEÆ.

ANTHERICUM			
serotinum	Arc.	Tem.	1 2 7
ORNITHOGALUM			
pyrenaicum		Tem. — Med.	1 2 3 4
nutans		Tem.	1 2 3 4
umbellatum	*Sta.*	Bor. — Med.	1 2 3 4 9
GAGEA			
lutea		Bor. — Tem.	1 2 3 4 5
SCILLA			
verna		Tem.	1
autumnalis		Tem. — Med.	1 2 3 4
HYACINTHUS			
non-scriptus		Tem.	1 2
MUSCARI			
racemosum		Tem. — Med.	1 2 3 4
ALLIUM			
Ampeloprasum		Tem. — Med.	1 2 3
arenarium		Bor. — Tem.	? 2 3 . . 6
carinatum		Bor. — Tem.	1 2 3

	America.	Europe.	Longitude.
ALLIUM			
oleraceum		Arc.—Tem.	1 2 3
vineale	*Sta.*	Bor.—Tem.	1 2 3 9
ursinum		Bor.—Med.	1 2 3 4
Schœnopras.	Bor.	Arc.—Tem.	1 2 3 4 5 6 . 8

LXXXV. TULIPACEÆ.

TULIPA			
sylvestris		Tem.—Med.	1 2 . 4
FRITILLARIA			
Meleagris		Bor.—Med.	1 2 . 4

LXXXVI. COLCHICACEÆ.

COLCHICUM			
autumnale		Tem.—Med.	1 2 3 4
TOFIELDIA			
palustris	Arc.—Bor.	Arc.—Tem.	1 2 3 4 5 6 7 8 9

LXXXVII. TYPHINÆ.

TYPHA			
angustifolia	Sta.	Bor.—Med.	1 2 3 4 5 6 . . 9
latifolia	Bor.—Sta.	Bor.—Med.	1 2 3 4 5 6 . ? 9
SPARGANIUM			
ramosum	Sta.	Bor.—Med.	1 2 3 4 5 . . . 9
simplex		Bor.—Tem.	1 2 3 4 5
natans	Arc.—Sta.	Arc.—Med.	1 2 3 4 . . 7 . 9

LXXXVIII. AROIDEÆ.

ACORUS			
Calamus	Bor.—Sta.	Bor.—Med.	1 2 3 4 5 6 . . 9

	America.	Europe.	Longitude.
ARUM			
maculatum		Bor.—Med.	1 2 3

LXXXIX. FLUVIALES.

POTAMOGETON			
densus	Sta.	Tem.—Med.	1 2 3 9
pectinatus	Arc.—Sta.	Arc.—Med.	1 2 3 . . . . 8 9
pusillus	Arc.	Arc.—Tem.	1 2 3 4 5 . . . 9
gramineus		Arc.—Med.	1 2 3
acutifolius		Tem.	1 2
zosteræfolius		Tem.	1
crispus	Arc.—Sta.	Bor.—Med.	1 2 3 4 9
perfoliatus	Arc.—Sta.	Arc.—Med.	1 2 3 4 5 6 . 8 9
lucens	Arc.—Sta.	Bor.—Med.	1 2 3 4 5 6 . . 9
prælongus		Arc.—Tem.	1 2
heterophyllus	Sta.	Arc.—Tem.	1 2 9
lanceolatus			
rufescens		Arc.—Tem.	1 2 . . 5
oblongus		Tem.	1
natans	Arc.—Sta.	Arc.—Med.	1 2 3 4 5 6 . . 9
RUPPIA			
maritima	Sta.	Bor.—Med.	1 2 3 9
ZOSTERA			
marina	Arc.—Sta.	Arc.—Med.	1 2 3 4 . 6 . . 9
ZANNICHELLIA			
palustris	Sta.	Bor.—Med.	1 2 3 4 5 . . . 9
LEMNA			
minor	Bor.—Sta.	Bor.—Med.	1 2 3 4 5 6 . 8 9
gibba	Sta.	Bor.—Tem.	1 2 3 4 9
trisulca	Bor.—Sta.	Arc.—Med.	1 2 3 4 5 . . 8 9
polyrhiza	Sta.	Bor.—Tem.	1 2 3 4 9

XC. JUNCEÆ.

	America.	Europe.	Longitude.
NARTHECIUM			
ossifragum		Arc.—Tem.	1 2
LUZULA			
sylvatica	Bor.?	Arc.—Tem.	1 2 . . . . . ?
campestris	Arc.—Sta.	Arc.—Med.	1 2 3 4 5 6 7 8 9
arcuata	Pol.—Bor.?	Pol.—Arc.	1 2 . . . . 7 8 9
spicata	Arc.—Sta.	Arc.—Tem.	1 2 3 . 5 . 7 . 9
pilosa	Arc.—Sta.	Arc.—Med.	1 2 3 4 5 6 . . 9
Forsteri		Tem.	1 2
JUNCUS			
glaucus	Arc.—Bor.	Bor.—Med.	1 2 3 4 . . . 8
effusus	Arc.—Sta.	Arc.—Med.	1 2 3 4 . 6 . . 9
conglomeratus		Bor.—Med.	1 2 3 . . 6
balticus	Arc.?	Arc.—Bor.	1 2
filiformis	Bor.	Arc.—Tem.	1 2 3 4 5 ?
maritimus		Tem.—Med.	1 2 3 4 . . . 8
acutus	Sta.	Tem.—Med.	1 2 3 9
acutiflorus		Bor.—Med.	1 2 3
lampocarpus		Arc.?—Tem.	1 2 3 4 5 6
obtusiflorus		Bor.—Med.	1 2 3
uliginosus		Tem.	1 2
castaneus	Arc.—Bor.	Bor.	. 2 . . 5 . 7 8
trifidus	Arc.—Sta.	Arc.—Tem.	1 2 9
compressus	?	Arc.—Tem.	1 2 3 4 5 . . . ?
tenuis	Bor.—Sta.	?	? 8 9
bufonius	Arc.—Sta.	Arc.—Med.	1 2 3 4 5 6 . . 9
squarrosus	Arc.—Sta.	Arc.—Med.	1 2 3 . 5 . . . 9
biglumis	Pol.—Arc.	Arc.	1 2 . . . . . 8 9
triglumis	Arc.	Arc.—Tem.	1 2 . . 5 6 . 8 9

XCI. ERIOCAULEÆ.

	America.	Europe.	Longitude.
ERIOCAULON			
septangulare	Bor. — Sta.		9

XCII. CYPERACEÆ.

CYPERUS			
longus		Tem. — Med.	1 2 3
fuscus		Bor. — Med.	1 2 3 4 5
SCHŒNUS			
nigricans		Bor. — Med.	1 2 3
RHYNCHOSPORA			
alba	Sta.	Arc. — Tem.	1 2 3 9
fusca	Sta.	Bor. — Tem.	1 2 9
CLADIUM			
Mariscus		Bor. — Med.	1 2 3 4 5
SCIRPUS			
lacustris	Arc. — Sta.	Arc. — Med.	1 2 3 4 5 6 . 8 9
Holoschœnus		Tem. — Med.	1 2 3 4 5
setaceus	Arc.	Bor. — Med.	1 2 3 4 5 . . . 9
Savii		Med.	. 2
triqueter		Tem.	1 2
carinatus			
maritimus	Bor. — Sta.	Bor. — Med.	1 2 3 4 5 . . 8 9
sylvaticus	Bor.	Bor. — Med.	1 2 3 4 5 . . 8
BLYSMUS			
compressus	Arc.	Bor. — Tem.	1 2 3 4 9
rufus		Arc. — Tem.	1 2 . . 5
ELEOCHARIS			
palustris	Arc. — Sta.	Arc. — Med.	1 2 3 4 5 . . 8 9
multicaulis		Arc. — Tem.	1 2

	America.	Europe.	Longitude.
ELEOCHARIS			
pauciflora		Arc.—Tem.	1 2 . 4
cæspitosa	Arc.—Sta.	Arc.—Tem.	1 2 . . . . . 8 9
acicularis	Arc.—Sta.	Arc.—Tem.	1 2 3 4 5 . . . 9
fluitans		Bor.—Tem.	1 2
ERIOPHORUM			
vaginatum	Arc.—Sta.	Arc.—Tem.	1 2 3 4 5 6 . 8 9
capitatum	Pol.—Bor.	Pol.—Tem.	1 2 . . . . 7 8 9
polystachyon	Arc.?	Bor.—Tem.	1 2 3 4 5 . . . ?
angustifolium	Pol.—Sta.	Arc.—Tem.	1 2 3 . ? . 7 8 9
gracile	Arc.	Arc.—Tem.	1 2 9
pubescens	Arc.—Sta.	Arc.—Tem.	1 2 3 4 5 6 . . 9
CAREX			
dioica	Arc.—Bor.	Arc.—Tem.	1 2 3 . . . . 8 9
pulicaris	Arc.	Arc.—Tem.	1 2 3 9
pauciflora	Sta.	Arc.—Tem.	1 2
incurva		Arc.—Med.	1 2 3
arenaria	Arc.	Bor.—Tem.	1 2 3 9
intermedia		Bor.—Med.	1 2 3 . 5
divisa		Tem.	1
muricata	Arc.	Bor.—Med.	1 2 3 4 5 . . . 9
divulsa		Bor.—Med.	1 2 3 4 5
vulpina	Arc.	Bor.—Med.	1 2 3 4 5 6 . . 9
teretiuscula	Sta.	Arc.—Tem.	1 2 9
paniculata	Sta.	Bor.—Tem.	1 2 3 9
stellulata	Sta.	Arc.—Tem.	1 2 3 4 9
curta	Arc.—Sta.	Arc.—Tem.	1 2 . . 5 6 . . 9
Vahlii		Arc.—Tem.?	1 2 . . 5
elongata	Arc.	Bor.—Tem.	1 2 3 9
ovalis	Arc.	Arc.—Med.	1 2 3 4 5 6 . . ?
tenella			
remota	Bor.—Sta.?	Bor.—Med.	1 2 3 4 . 6 . 8 9
axillaris			
digitata		Arc.—Med.	1 2 3

	America.	Europe.	Longitude.
CAREX			
clandestina		Tem.	1 2 . 4
pendula		Tem. — Med.	1 2 3 4 5
strigosa		Tem.	1 2
sylvatica	Bor. — Sta.	Bor. — Med.	1 2 3 4 5 . . . 9
depauperata		Tem. — Med.	1 2 3
Mielichoferi			? ?
speirostachya			
capillaris	Arc. — Bor.	Arc. — Tem.	1 2 . . 5 . . 8 9
limosa	Arc. — Sta.	Arc. — Tem.	1 2 3 4 5 6 . 8 9
rariflora		Arc.	1
Pseudo-Cyp.	Arc. — Sta.	Bor. — Tem.	1 2 3 9
ustulata		Arc.	1 2 . . 5 . . . 9
atrata	Arc. — Sta.	Arc. — Tem.	1 2 . 4 5 6 7 . 9
pallescens	Arc. — Sta.	Arc. — Med.	1 2 3 4 5 6 . . 9
extensa		Bor. — Tem.	1 2 . 4
flava	Arc. — Sta.	Arc. — Tem.	1 2 3 9
œderi	Bor. — Sta.	Tem.	1 2 3 9
fulva		Bor. — Tem.	1 2 3
distans		Bor. — Med.	1 2 3 4
binervis		Bor. — Tem.	1 2
præcox		Bor. — Med.	1 2 3 4 5
pilulifera	Arc.?	Bor. — Med.	1 2 3
tomentosa		Bor. — Tem.	1 2
panicea	Bor.	Arc. — Tem.	1 2 3 4 5 6
phæostachya			
recurva		Bor. — Med.	1 2 3
pulla		Arc.	? 2 1
cæspitosa	Arc. — Sta.	Arc. — Tem.	1 2 3 4 5 6 7 . . 9
rigida	Arc.	Arc.? — Med.	1 2 3 . 5 . 7 . 9
stricta	Arc.	Bor. — Med.	1 2 3 . . . 7 . 9
aquatilis	Sta.	Arc.	1 2 9
acuta	Arc. — Sta.	Arc. — Med.	1 2 3 4 5 6 . . 9
paludosa		Bor. — Med.	1 2 3 4
riparia		Bor. — Med.	1 2 3 4 5

	America.	Europe.	Longitude.
CAREX			
lævigata		Tem.	1 2
vesicaria	Arc.—Sta.	Arc.—Med.	1 2 3 4 5 6 . . 9
ampullacea	Arc.—Sta.	Arc.—Med.	1 2 3 . 5 . . 8 9
hirta	Arc.	Bor.—Med.	1 2 3 4 9
filiformis	Sta.	Arc.—Tem.	1 2 3 9
hordeiformis		Tem.?	. 2 . 4 5
stictocarpa			
angustifolia			
ELYNA			
caricina		Arc.	1

XCIII. GRAMINEÆ.

ANTHOXANTHUM			
odoratum	Arc.—*Sta.*	Arc.—Med.	1 2 3 4 5 . . . 9
NARDUS			
stricta	Arc.	Arc.—Tem.	1 2 3 4
ALOPECURUS			
pratensis	*Sta.*	Arc.?—Med.	1 2 3 4 5 ? . . 9
alpinus	Pol.—Arc.		. . . . . 7 8 9
agrestis		Bor.—Med.	1 2 3 4
bulbosus		Bor.—Med.	1 2 3
geniculatus	Arc.—Sta.	Arc.—Med.	1 2 3 4 5 6 . . 9
fulvus			
PHALARIS			
canariensis	*Sta.*	*Bor.*—Med.	1 2 3 9
arundinacea		Bor.—Med.	1 2 3 4 5 6
AMMOPHILA			
arundinacea	Arc.—Sta.	Arc.—Med.	1 2 3 9
PHLEUM			
pratense	Arc.—*Sta.*	Bor.—Med.	1 2 3 4 5 6 . . 9
alpinum	Arc.—Bor.	Bor.—Med.	1 2 3 4 5 . 7 . 9

	America.	Europe.	Longitude.
PHLEUM			
asperum		Tem. — Med.	1 2
Boehmeri		Bor. — Med.	1 2 3
Michelii		Tem. — Med.	1 2 . 4
arenarium		Bor. — Med.	1 2 3
MILIUM			
effusum	Arc. — Sta.	Arc. — Med.	1 2 3 4 5 . . . 9
GASTRIDIUM			
lendigerum		Tem. — Med.	1 2 3
POLYPOGON			
monspeliensis		Tem. — Med.	1 2 3 4
littoralis		Tem.	. . 3
CALAMAGROSTIS			
lanceolata	Bor.	Arc. — Med.	1 2 3 4 5 6
epigejos		Arc. — Med.	1 2 3 4 5 6 . . 9
stricta	Arc. — Bor.	Arc.	. . . . . 7 8 9
AGROSTIS			
canina	Arc. — *Sta.*	Bor. — Tem.	1 2 3 . 5 . . . 9
setacea		Tem. — Med.	1
Spica-venti	*Sta.*	Bor. — Med.	1 2 3 4 9
vulgaris	Arc. — *Sta.*	Arc. — Tem.	1 2 3 4 9
alba	Arc. — *Sta.*	Bor. — Med.	1 2 3 4 5 . . . 9
CATABROSA			
aquatica	Arc. — Bor.	Arc. — Med.	1 2 3 4 . . . 8 9
AIRA			
cristata		Bor. — Med.	1 2 3 4 5 6
cæspitosa	Arc. — Sta.	Arc. — Med.	1 2 3 4 5 6 . . 9
alpina	Arc. — Bor.	Arc.	1 2 9
flexuosa	Arc. — Sta.	Arc. — Med.	1 2 3 9
canescens		Bor. — Med.	1 2 3
caryophyllea		Bor. — Med.	1 2 3 4
præcox	Arc. — Sta.	Bor. — Tem.	1 2 3 9

	America.	Europe.	Longitude.
MELICA			
nutans		Arc.—Med.	1 2 3 4 5 6
uniflora		Bor.—Med.	1 2 3 4
cærulea		Arc.—Med.	1 2 3 4
HOLCUS			
mollis		Bor.—Med.	1 2 3
lanatus	Sta.	Bor.—Med.	1 2 3 4 9
ARRHENATHERUM			
avenaceum	Sta.	Bor.—Med.	1 2 3 4 9
HIEROCHLOE			
borealis	Arc.—Sta.	Arc.—Med.	1 2 3 4 5 6 7 . 9
SESLERIA			
cærulea	Arc.	Bor.—Med.	1 2 9
PANICUM			
Crus-Galli	*Sta.*	Bor.—Med.	1 2 3 4 5 . . . 9
SETARIA			
verticillata	*Sta.*	Tem.—Med.	1 2 3 4 . 6 . . 9
viridis	Sta.	Bor.—Med.	1 2 3 4 5 . . . 9
POA			
aquatica	Bor.—Sta.	Bor.—Med.	1 2 3 4 5 . . . 9
fluitans	Arc.—Sta.	Bor.—Med.	1 2 3 4 9
maritima	Arc.—Sta.	Bor.—Med.	1 2 3 . 5 . . . 9
distans		Arc.—Med.	1 2 3 4 5
procumbens		Tem.—Med.	?1 ?
rigida		Tem.—Med.	1 2 3 4
compressa	Arc.—Sta.	Bor.—Med.	1 2 3 4 9
alpina	Arc.	Arc.—Med.	1 2 3 . . . . 8 9
laxa	Pol.?—Bor.?	Arc.—Tem.	1 2 . . . . . ? ?
bulbosa		Bor.—Med.	1 2 3 4 5 . . . 9
trivialis	Arc.—Sta.	Arc.—Med.	1 2 3 4 5 6 . . 9
pratensis	Arc.—*Sta*	Arc.—Med.	1 2 3 4 5 6 . . 9

	America.	Europe.	Longitude.
POA			
annua	Arc.—Sta.	Arc.—Med.	1 2 3 4 5 6 . . 9
nemoralis	Arc.—Sta.	Med.	1 2 3 4 5 6 7 . 9
TRIODIA			
decumbens		Bor.—Med.	1 2 3
BRIZA			
media	*Sta.*	Bor.—Med.	1 2 3 4 9
minor		Tem.—Med.	1 2 3
DACTYLIS			
glomerata	Sta.	Arc.—Med.	1 2 3 4 5 . . . 9
CYNOSURUS			
cristatus		Bor.—Med.	1 2 3 4
echinatus		Tem.—Med.	1 2 3 4
FESTUCA			
ovina	Pol.—Bor.	Arc.—Med.	1 2 3 4 5 . 7 8 9
duriuscula	Arc.—Sta.	Bor.—Med.	1 2 3 . . . 7 . 9
rubra	Arc.—Sta.	Arc.—Tem.	1 2 3 . 5 . . . 9
bromoides		Tem.—Med.	1 2
Myurus	Sta.	Tem.—Med.	1 2 3 4 9
uniglumis		Tem.—Med.	1 2 3
calamaria		Tem.	1 2 . 4
loliacea		Tem.	1 2
pratensis	*Sta.*	Arc.—Med.	1 2 3 4 5 . . . 9
elatior	Arc.—Sta.	Bor.—Med.	1 2 3 9
BROMUS			
giganteus		Bor.—Tem.	1 2 3 4 5
asper		Bor.—Med.	1 2 3 4
sterilis		Bor.—Med.	1 2 3 4
diandrus		Tem.—Med.	1 2 . 4
secalinus	*Sta.*	Arc.—Tem.	1 2 3 4 9
velutinus		Bor.—Tem.	1 2 3
mollis	Sta.	Bor.—Med.	1 2 3 4 9

	America.	Europe.	Longitude.
BROMUS			
racemosus		Bor.—Tem.	1 2
arvensis		Arc.—Tem.	1 2 3 4
erectus		Bor.—Tem.	1 2
AVENA			
fatua		Arc.—Med.	1 2 3 4 . 6
strigosa		Bor.—Tem.	1 2 3
pratensis		Bor.—Med.	1 2 3 4 5 6
alpina			
planiculmis		Tem.—Med.	. 2
pubescens		Arc.—Tem.	1 2 3 4
flavescens		Bor.—Med.	1 2 3 4 5 6
ARUNDO			
Phragmites	Sta.	Arc.—Med.	1 2 3 4 5 6 . . 9
ELYMUS			
arenarius	Arc.—Bor.	Arc.—Med.	1 2 3 4 5 6 7 . 9
geniculatus		Bor.?	. ?
europæus		Bor.—Tem.	1 2 3 4
HORDEUM			
murinum		Bor.—Med.	1 2 3 4
pratense		Bor.—Tem.	1 2 3 ? 5
maritimum		Tem.—Med.	1 2 3
TRITICUM			
caninum	Sta.	Arc.—Tem.	1 2 . 4 5 . . . 9
repens	Sta.	Arc.—Med.	1 2 3 4 5 6 . . 9
junceum		Bor.—Med.	1 2 3 4
cristatum	Sta.	Tem.—Med.	. . 3 4 5 6 . . 9
loliaceum		Tem.	1
BRACHYPODIUM			
pinnatum		Bor.—Med.	1 2 3 4 5
sylvaticum		Tem.—Med.	1 2 3 4

	America.	Europe.	Longitude.
LOLIUM			
perenne	Sta.	Arc.—Med.	1 2 3 4 9
arvense		Bor.—Med.	1 2 3 ?
temulentum	Sta.	Bor.—Med.	1 2 3 . . 6 . . 9
ROTTBOLLIA			
incurvata		Tem.—Med.	1 2 3
KNAPPIA			
agrostidea		Tem.—Med.	1 2
SPARTINA			
stricta		Tem.	1
CYNODON			
Dactylon	Sta.	Tem.—Med.	1 2 3 4 9
DIGITARIA			
humifusa		Tem.	1
sanguinalis	Bor.—Sta.	Bor.—Med.	1 2 3 9

EXPLANATION OF THE TABLE, APPENDIX, NO. II.

The two first columns, succeeding the names of plants, are intended to exhibit the general range of each species through certain imaginary zones of climate or latitude in the N. E. of America and in Europe. These zones are the *Polar*, *Arctic*, and *Boreal*, common to America and Europe; succeeded in the former by the *United States*, and in the latter by the *Temperate* and *Mediterranean Zones*.

1. *The Polar Zone* will be understood as including all the polar lands beyond 72° lat.

2. *The Arctic Zone* extends from latitude 72° to Behring's Straits, the Arctic Circle in the interior of America, Hudson's Straits, the southern extremity of Greenland, Iceland, and Lapland, and the shores of the White Sea.

3. *The Boreal Zone* in America extends southwards to the boundaries of the United States, and in Europe to the Baltic Sea, and latitude 55° in Russia.

4. *Temperate Europe* is the tract of countries lying between the Baltic and Mediterranean Seas, and extending across Europe from the Pyrenees to the Caucasus.

5 *The Mediterranean* Zone includes the countries round that sea and its islands, from the Pyrenees and Black Sea (exclusively) to the N. of Africa, and from Portugal to Asia Minor.

The United States form a 4th zone in America, nearly corresponding to the temperate and Mediterranean zones in Europe. Only its northern and southern zones are named for each species; the intermediate ones being omitted.

The columns of figures denote the longitudinal distribution of the species; Europe, Asia, and America being divided each into a *Western*, *Interior*, and *Eastern Belt*, indicated by the figures 1, 2, 3; 4, 5, 6; 7, 8, 9. Interior Europe embraces Sweden, the West of Russia from the White Sea to the Carpathian Mountains, Germany (except the N. E. angle), Switzerland, the Austrian and Prussian territory, Italy, the islands of the Mediterranean situate between Italy, Spain, and N. Africa, and also the coast of Africa from Tangier to Tripoli. Interior Asia will include the Altaic Mountains, and the interior of Siberia, for some distance on both sides of Lake Baical and the Lena. Interior America will extend from Hudson's Bay to the Rocky Mountains, and thence northwards to Melville Island, and southwards along the plains of the Mississippi to the Gulf of Mexico. The eastern and western divisions will be understood from this explanation of the in-

terior ones; but it may be proper to state, that Greenland and Iceland are referred to E. America, the Levant to E. Europe, and the Crimea to W. Asia. In the figures, 1 answers to W. Europe, and 9 to E. America; the intermediate numbers correspond to the intermediate belts or divisions.

That this Table professes to be either complete or free from inaccuracies let no reader imagine. It is impossible at the present day for *any one* to complete such a table; and it is necessarily liable in no trifling degree to the usual errors of compilations from a great variety of authorities of unequal value.* It can be regarded only as an approximation towards a picture of the geographical extension of the plants named. The latitudinal zones are abbreviated to the three first letters; and the use of italics indicates a presumption that the species is not indigenous in the zone.

* Botanists, whose attention is limited to the plants found in Britain, may form some idea of the difficulty of tracing their distribution abroad by means of Floras, often of very different eras, when they see that in two British Floras, published almost together (by Dr. Lindley in 1829, and by Dr. Hooker in 1830), near 200 species do not correspond, either from difference of names, or from being sunk into varieties by the one or other author. The misapplications of names, by no means unfrequent, cause yet more difficulty than the changes.

APPENDIX.—No. III.

LISTS OF THE MOST PREVALENT SPECIES, AS SHOWN BY THE LOCAL FLORAS. *

1. *Species named in all the Local Floras.*

Thalictrum flavum
Anemone nemorosa
Ranunculus aquatilis
Flammula
Ficaria
sceleratus
acris
repens
bulbosus
Caltha palustris
Nuphar lutea
Papaver Rhœas
dubium
Chelidonium majus
Fumaria officinalis
Capsella Bursa-Pastoris
Draba verna
Cardamine pratensis
Cardamine hirsuta
Barbarea vulgaris
Nasturtium officinale
terrestre
Sisymbrium officinale
Thalianum
Erysimum Alliaria
Cheiranthus Cheiri
Brassica Napus
Sinapis arvensis
alba
Reseda luteola
Helianthemum vulgare
Viola odorata
canina
tricolor
Polygala vulgaris
Silene inflata

* As such species are omitted in the *New Botanist's Guide*, it has appeared desirable to collect them together in these *Lists*, in order that the negative evidence, derived from the *Floras* in which they are wanting, may illustrate peculiarities in their distribution.

Agrostemma Githago
Lychnis Flos-Cuculi
vespertina
Sagina procumbens
Spergula arvensis
Stellaria Holostea
graminea
uliginosa
media
Arenaria serpyllifolia
trinervis
Cerastium vulgatum
viscosum
Linum catharticum
Malva sylvestris
rotundifolia
moschata
Hypericum perforatum
quadrangulum
Geranium dissectum
pusillum
molle
Robertianum
Erodium cicutarium
Oxalis Acetosella
Ilex Aquifolium
Ulex europæus
Ononis arvensis
Medicago lupulina
Trifolium repens
pratense
procumbens
filiforme
Lotus corniculatus
Vicia Cracca
sativa
sepium
Lathyrus pratensis
Prunus spinosa
Cerasus.

Spiræa Ulmaria
Geum urbanum
Rubus fruticosus
Fragaria vesca
Tormentilla officinalis
Potentilla anserina
reptans
Fragariastrum
Agrimonia Eupatoria
Alchemilla arvensis
Rosa canina
Cratægus Oxyacantha
Pyrus Malus
Epilobium hirsutum
parviflorum
montanum
tetragonum
Circæa lutetiana
Myriophyllum spicatum
Callitriche verna
Sedum acre
reflexum
Telephium
Sempervivum tectorum
Sanicula europæa
Bunium flexuosum
Pimpinella Saxifraga
Æthusa Cynapium
Angelica sylvestris
Heracleum Sphondylium
Daucus Carota
Torilis Anthriscus
Scandix Pecten
Anthriscus sylvestris
Chærophyllum temulentum
Conium maculatum
Hedera Helix
Adoxa moschatellina
Sambucus Ebulus
nigra

Lonicera Periclymemum
Viburnum Opulus
Sherardia arvensis
Asperula odorata
Galium verum
palustre
Aparine
Fedia olitoria
Valeriana officinalis
Scabiosa succisa
Knautia arvensis
Sonchus oleraceus
arvensis
Leontodon Taraxacum
Apargia hispida
autumnalis
Hieracium Pilosella
Crepis tectorum
Hypochæris radicata
Lapsana communis
Arctium Lappa
Carduus acanthoides
Cnicus lanceolatus
palustris
arvensis
Bidens cernua
Eupatorium cannabinum
Artemisia vulgaris
Gnaphalium uliginosum
germanicum
Tussilago Farfara
Petasites vulgaris
Senecio vulgaris
sylvaticus
Jacobæa
aquaticus
Solidago Virgaurea
Bellis perennis
Chrysanthemum Leucanthemum
segetum

Pyrethrum Parthenium
inodorum
Achillæa Ptarmica
Millefolium
Centaurea nigra
Cyanus
Campanula rotundifolia
Calluna vulgaris
Ligustrum vulgare
Fraxinus excelsior
Erythræa Centaurium
Menyanthes trifoliata
Convolvulus arvensis
sepium
Lithospermum arvense
Myosotis arvensis
palustris
Verbascum Thapsus
Solanum Dulcamara
Linaria vulgaris
Scrophularia nodosa
aquatica
Bartsia Odontites
Euphrasia officinalis
Rhinanthus Crista-Galli
Melampyrum pratense
Pedicularis palustris
Veronica serpyllifolia
Beccabunga
officinalis
montana
Chamædrys
hederæfolia
agrestis
arvensis
Mentha hirsuta
arvensis
Thymus Serpyllum
Origanum vulgare
Teucrium Scorodonia

Ajuga reptans
Galeopsis Tetrahit
Lamium purpureum
amplexicaule
Betonica officinalis
Stachys sylvatica
palustris
Glechoma hederacea
Clinopodium vulgare
Prunella vulgaris
Scutellaria galericulata
Primula veris
vulgaris
Anagallis arvensis
tenella
Plantago major
lanceolata
Chenopodium Bonus-Henricus
rubrum
album
Atriplex patula
Polygonum amphibium
Persicaria
lapathifolium
aviculare
Convolvulus
Rumex crispus
sanguineus
obtusifolius
Acetosa
Acetosella
Daphne Laureola
Euphorbia helioscopia
Peplus
Mercurialis perennis
Urtica urens
dioica
Parietaria officinalis
Quercus Robur
Fagus sylvatica
Corylus Avellana
Betula alba
Alnus glutinosa
Populus tremula
Alisma Plantago
Triglochin palustre
Orchis mascula
latifolia
maculata
Habenaria bifolia
Listera ovata
Epipactis latifolia
Iris Pseudacorus
Hyacinthus non-scriptus
Allium vineale
ursinum
Typha latifolia
Sparganium ramosum
simplex
Arum maculatum
Potamogeton crispus
lucens
natans
Lemna minor
Luzula campestris
pilosa
Juncus glaucus
effusus
conglomeratus
uliginosus
bufonius
Scirpus setaceus
Eleocharis palustris
Carex pulicaris
vulpina
paniculata
stellulata
remota
sylvatica
flava.

Carex præcox
panicea
recurva
cæspitosa
riparia
hirta
Anthoxanthum odoratum
Alopecurus pratensis
geniculatus
Phalaris arundinacea
Phleum pratense
Agrostis vulgaris
alba
Aira cæspitosa
flexuosa
caryophyllea
præcox
Melica uniflora
cærulea
Holcus mollis
lanatus
Arrhenatherum avenaceum
Poa fluitans
trivialis
pratensis
annua
Triodia decumbens
Briza media
Dactylis glomerata
Cynosurus cristatus
Festuca ovina
duriuscula
pratensis
elatior
Bromus asper
sterilis
mollis
Arundo Phragmites
Triticum repens
Brachypodium sylvaticum
Lolium perenne

---

2. *Species named in* 9, 10, *or* 11 *of the Local Floras.*

	Absent.
Ranunculus hederaceus	Bath.
Lingua	Devon, Tonbridge, Glasgow.
auricomus	Berwick.
hirsutus	Anglesea, Berwick.
arvensis	Anglesea.
Helleborus fœtidus	Devon, Tonbridge, Berwick.
Aquilegia vulgaris	Berwick.
Berberis vulgaris	Anglesea.
Nymphæa alba	Berwick.
Papaver Argemone	Bath, Lanark, Glasgow.
Fumaria capreolata	Tonbridge, Bath, Bedford.

	Absent.
Coronopus Ruellii	Lanark, Glasgow.
Thlaspi arvense	Bath, Bedford, Anglesea.
Lepidium campestre	Bedford, Cambridge.
Cochlearia Armoracia	Bedford, Berwick
Arabis hirsuta	Tonbridge, Bedford, Berwick.
Nasturtium amphibium	Anglesea, Berwick.
Sisymbrium Sophia	Bath, Glasgow.
Brassica Rapa	Bath.
Sinapis nigra	Edinburgh, Lanark.
Raphanus Raphanistrum	Bath.
Viola palustris	Bath, Oxford, Cambridge.
hirta	Lanark, Glasgow.
Drosera rotundifolia	Bath.
Parnassia palustris	Devon, Tonbridge, Bath.
Saponaria officinalis	Berwick, Lanark, Glasgow.
Lychnis dioica	Cambridge.
Sagina apetala	Edinburgh.
Spergula nodosa	Tonbridge, Bath.
Stellaria glauca	Devon, Bath.
Arenaria rubra	Bath.
Cerastium semidecandrum	Lanark, Glasgow.
aquaticum	Anglesea, Berwick, Edinburgh.
Linum usitatissimum	Bath, Oxford, Berwick.
Tilia europæa	Berwick, Glasgow.
Hypericum hirsutum	Anglesea.
pulchrum	Bath.
humifusum	Bath.
Acer campestre	Berwick, Glasgow.
Pseudo-platanus	Berwick, Glasgow.
Geranium pratense	Devon, Tonbridge.
columbinum	Cambridge, Berwick, Glasgow.
lucidum	Tonbridge.
Euonymus europæus	Glasgow.
Cytisus scoparius	Bath.
Anthyllis vulneraria	Tonbridge.
Melilotus officinalis	Berwick.
Trifolium medium	Lanark, Glasgow.
arvense	Bath.
striatum	Bath, Lanark, Glasgow.
fragiferum	Berwick, Lanark, Glasgow.

	Absent.
Lotus major	Bedford, Lanark, Glasgow.
Ornithopus perpusillus	Berwick.
Vicia sylvatica	Tonbridge.
Ervum tetraspermum	Berwick, Edinburgh, Lanark.
hirsutum	Bath.
Orobus tuberosus	Cambridge.
Prunus insititia	Berwick.
Spiræa Filipendula	Glasgow.
Geum rivale	Tonbridge, Bath.
Rubus Idæus	Bath.
corylifolius	Bath, Oxford, Bedford.
cæsius	Devon, Lanark, Glasgow.
Tormentilla reptans *	Bath, Cambridge, Glasgow.
Alchemilla vulgaris	Tonbridge.
Poterium Sanguisorba	Edinburgh.
Rosa rubiginosa	Bath.
arvensis	Berwick.
Pyrus Aucuparia	Oxford.
Epilobium angustifolium	Devon, Cambridge.
palustre	Bath.
Callitriche autumnalis	Bath, Edinburgh, Lanark.
Hippuris vulgaris	Devon, Tonbridge.
Lythrum Salicaria	Edinburgh.
Peplis Portula	Bath.
Montia fontana	Bath.
Scleranthus annuus	Bath.
Ribes Grossularia	Bedford.
Saxifraga granulata	Devon, Bath.
tridactylites	Berwick, Lanark, Glasgow.
Chrysosplenium oppositifolium	Cambridge.
Hydrocotyle vulgaris	Bath.
Helosciadium nodiflorum	Lanark, Glasgow.
inundatum	Bath, Lanark.

* I am satisfied that varieties of two different plants pass under this name, the one being Potentilla reptans, the other Tormentilla officinalis. Whether there does exist a third species, distinct from both, I am unable to say. Eriophorum polystachion, in like manner, is represented, one while by E. angustifolium, at another by E. pubescens. Nor are these the only examples of British plants thus crossed.

	Absent.
Ægopodium Podagraria	Tonbridge, Anglesea.
Sium angustifolium	Lanark, Glasgow.
Œnanthe fistulosa	Bath, Berwick, Lanark.
crocata	Bedford, Cambridge, Lanark.
Silaus pratensis	Anglesea, Lanark, Glasgow.
Torilis nodosa	Lanark, Glasgow.
Anthriscus vulgaris	Bath, Glasgow.
Cornus sanguinea	Berwick, Glasgow.
Galium cruciatum	Anglesea.
uliginosum	Edinburgh, Lanark, Glasgow.
saxatile	Bath.
Mollugo	Anglesea, Berwick.
Valeriana dioica	Lanark.
Dipsacus sylvestris	Lanark, Glasgow.
Scabiosa Columbaria	Edinburgh, Lanark, Glasgow.
Tragopogon pratensis	Berwick.
Helminthia echioides	Edinburgh, Lanark, Glasgow.
Picris hieracioides	Anglesea, Berwick, Edinburgh.
Leontodon palustre	Bath, Oxford, Bedford.
Thrincia hirta	Anglesea, Berwick.
Hieracium murorum	Tonbridge, Bath.
subaudum	Bath.
Cichorium Intybus	Tonbridge.
Serratula tinctoria	Berwick, Edinburgh.
Carduus nutans	Glasgow.
tenuiflorus	Tonbridge, Cambridge.
marianus	Devon, Tonbridge, Lanark.
Carlina vulgaris	Edinburgh, Lanark, Glasgow.
Bidens tripartita	Edinburgh, Lanark.
Tanacetum vulgare	Edinburgh.
Artemisia Absinthium	Lanark, Glasgow.
Gnaphalium sylvaticum	Devon, Bath, Glasgow.
minimum	Bath.
Senecio tenuifolius	Edinburgh, Lanark, Glasgow.
Inula Helenium *	Berwick, Edinburgh.
Pulicaria dysenterica	Edinburgh, Lanark, Glasgow.

* Far from a common plant, although named in 10 Floras.

	Absent.
Matricaria Chamomilla	Bath, Berwick.
Anthemis arvensis	Bath, Anglesea, Glasgow.
Cotula	Berwick.
Centaurea Scabiosa	Berwick.
Jasione montana	Bath, Berwick, Edinburgh.
Vaccinium Myrtillus	Bath, Cambridge.
Erica Tetralix	Bath.
cinerea	Bath, Bedford.
Vinca major	Northumberland, Berwick, Glasgow
minor	Berwick.
Gentiana campestris	Tonbridge, Bath, Cambridge.
Amarella	Tonbridge, Lanark, Glasgow.
Lithospermum officinale	Berwick.
Symphytum officinale	Anglesea.
Echium vulgare	Lanark.
Lycopsis arvensis	Bath.
Myosotis versicolor *	Bath, Oxford, Bedford.
Cynoglossum officinale	Lanark, Glasgow.
Borago officinalis	Lanark.
Hyoscyamus niger	Lanark.
Antirrhinum majus	Berwick.
Linaria Cymbalaria	Tonbridge, Berwick.
minor	Anglesea, Edinburgh.
Digitalis purpurea	Cambridge.
Pedicularis sylvatica	Bath.
Veronica scutellata	Bath.
Anagallis	Glasgow.
Ballota nigra	Lanark.
Lamium album	Anglesea.
Stachys arvensis	Bedford.
Nepeta Cataria	Edinburgh.
Marrubium vulgare	Bath, Lanark, Glasgow.
Salvia Verbenaca	Lanark, Glasgow.
Verbena officinalis	Berwick, Lanark, Glasgow.
Orobanche major	Berwick, Lanark, Glasgow.

* The dates of christening many species of the present day must be taken into account, when their distribution is tested by the older Floras.

	Absent.
Utricularia vulgaris	Bath, Lanark.
Pinguicula vulgaris	Devon, Tonbridge, Bath.
Lysimachia vulgaris	Edinburgh.
Nummularia	Anglesea, Berwick, Edinburgh.
nemorum	Bath.
Samolus Valerandi	Lanark.
Plantago media	Devon, Anglesea, Lanark.
Coronopus	Bath, Lanark.
Atriplex angustifolia	Oxford, Cambridge.
Polygonum Bistorta	Tonbridge, Bath, Berwick.
Hydropiper	Bath.
Fagopyrum	Berwick, Lanark, Glasgow.
Rumex Hydrolapathum	Berwick, Edinburgh.
acutus	Oxford, Bedford.
Euphorbia exigua	Lanark, Glasgow.
Humulus Lupulus	Berwick.
Ulmus campestris	Tonbridge, Berwick.
montana	Bath, Glasgow.
Populus nigra	Bath, Glasgow.
alba	Glasgow.
Salix fragilis *	Bath, Berwick, Glasgow.
alba	Bath.
fusca	Bath.
viminalis	Bath.
acuminata	Bath, Bedford, Glasgow.
aurita	Bath, Edinburgh. †
caprea	Bath.
Myrica Gale	Bath, Oxford, Bedford.
Taxus baccata	Devon, Bedford, Edinburgh.
Juniperus communis	Devon.
Alisma ranunculoides	Bath.
Butomus umbellatus	Berwick, Lanark, Glasgow.
Orchis Morio	Berwick, Lanark, Glasgow.

---

* It will be borne in mind that none of the *Willows* could be given under the preceding list, in consequence of their being altogether omitted in the Flora of Bath.

† S. cinerea of the Edinburgh Catalogue probably includes S. aurita, which I believe does occur in the localities indicated for the former.

	Absent.
Gymnadenia Conopsea	Devon.
Habenaria viridis	Devon, Tonbridge.
Listera Nidus-avis	Anglesea, Glasgow.
Epipactis palustris	Tonbridge, Lanark, Glasgow.
Paris quadrifolia	Devon, Tonbridge, Berwick.
Potamogeton densus	Berwick.
pectinatus	Devon, Lanark, Glasgow.
pusillus	Bath, Lanark.
perfoliatus	Edinburgh.
Zannichellia palustris	Bedford.
Narthecium ossifragum	Bath, Oxford.
Luzula sylvatica	Cambridge.
Juncus acutiflorus	Bedford.
lampocarpus	Oxford, Bedford.
compressus	Bath.
squarrosus	Bath.
Scirpus lacustris	Lanark.
sylvaticus	Bedford, Cambridge, Anglesea.
Eleocharis cæspitosa	Oxford.
fluitans	Bath, Bedford, Cambridge.
Eriophorum polystachion	Tonbridge, Cambridge, Lanark.
angustifolium	Oxford, Bedford.
Carex dioica	Devon.
muricata	Berwick.
curta	Bath, Oxford, Bedford.
ovalis	Glasgow.
pendula	Anglesea, Glasgow.
pallescens	Bath, Anglesea.
distans	Tonbridge, Lanark, Glasgow.
pilulifera	Bath.
acuta	Bath.
paludosa	Oxford, Bedford.
vesicaria	Tonbridge, Bath, Bedford.
ampullacea	Tonbridge, Bath.
Nardus stricta	Bath.
Phalaris canariensis*	Bath, Bedford, Cambridge.

* It is somewhat remarkable, that Phalaris canariensis, Sempervivum tectorum, Vinca major, and some other species, which there is

	Absent.
Milium effusum	Berwick.
Agrostis canina	Bath, Berwick.
Catabrosa aquatica	Devon, Lanark.
Aira cristata	Tonbridge, Glasgow.
Poa rigida	Lanark, Glasgow.
compressa	Berwick.
nemoralis	Devon, Berwick.
Festuca Myurus	Bath, Berwick, Lanark.
loliacea	Bedford.
Bromus giganteus	Berwick.
Avena pratensis	Lanark, Glasgow.
pubescens	Devon, Tonbridge, Oxford.
flavescens	Lanark, Glasgow.
Hordeum murinum	Lanark, Glasgow.
Triticum caninum	Bath.

---

no reason to regard as *genuine Britons*, should be so frequently introduced into local Floras, as to take rank with the *common* plants.

APPENDIX. — No. IV.

The nomenclature of plants, throughout this volume, corresponds almost precisely with that followed in *Hooker's British Flora;* but many of the names in *Lindley's Synopsis of the British Flora* differ altogether from such as are used here. It therefore appears desirable to the author, that the synonyms of Dr. Lindley's Flora should be added, since many persons may not possess both Floras, although it is not likely that any British botanist will be without one of them.

SYNONYMS OF LINDLEY.

Lindley's Synopsis.	*Corresponding Names.*
Ranunculus Philonotis	R. hirsutus
pantothrix	*With* R. aquatilis
Caltha radicans	*With* C. palustris
Römeria hybrida	Glaucium violaceum
Chelidonium laciniatum	*With* C. majus
Corydalis bulbosa	C. solida
Arabis thaliana	Sisymbrium thalianum
hispida	A. petræa
Glyce maritima	Koniga maritima
Erophila vulgaris	Draba verna
Teesdalia Iberis	T. nudicaulis
Diplotaxis tenuifolia	Sinapis tenuifolia
muralis	muralis
Helianthemum apenninum	H. polifolium
Androsæmum officinale	Hypericum Androsæmum
Elatine tripetala	E. hexandra
Arenaria hirta	A. rubella
fasciculata	fastigiata
media	marina

Lindley's Synopsis.	*Corresponding Names.*
Cerastium alpinum β	C. latifolium
Larbrea aquatica	Stellaria uliginosa
Tilia rubra	*With* T. grandifolia
Geranium Raii	*With* G. Robertianum
prostratum	*With* G. sanguineum
Umbilicus pendulinus	Cotyledon Umbilicus
Sedum albescens	S. glaucum
Hirculus ranunculoides	Saxifraga ranunculoides
Leiogyne aizoides	aizoides
granulata	granulata
cernua	cernua
rivularis	rivularis
nivalis	nivalis
Robertsonia stellaris	stellaris
umbrosa	umbrosa
Saxifraga pygmæa	? *With* S. muscoides
hirta	
platypetala	*With* S. hypnoides
leptophylla	
Ononis procurrens	O. arvensis
Lotus decumbens	L. tenuis
Trigonella ornithopodioides	Trifolium ornithopodioides
Pisum maritimum	Lathyrus pisiformis
Cerasus avium	Prunus Cerasus
Padus	Padus
Rubus plicatus	Rubus suberectus *
fastigiatus	
affinis	? Koehleri
cordifolius	rhamnifolius *
abruptus	fruticosus *
discolor	
vulgaris	corylifolius †
diversifolius	? leucostachys
fusco-ater	Koehleri*
pallidus	
echinatus	Koehleri ? *
rudis	?

* According to *British Flora.* † According to *Lindley.*

Lindley's Synopsis.	*Corresponding Names.*
Rubus hirtus	?
dumetorum	? *With* R. cæsius
Fragaria moschata	F. elatior
Potentilla Comarum	Comarum palustre
Tormentilla	Tormentilla officinalis
reptans *Dec.*	reptans
Rosa sylvestris	? *With* R. tomentosa.
dumetorum	*With* R. inodora
Pyrus intermedia	*With* P. Aria
Archangelica officinalis	Angelica Archangelica
Physospermum commutatum	P. cornubiense
Galium Witheringii	*With* G. palustris
verrucosum	G. saccharatum
anglicum	parisiense
Oxycoccus palustris	Vaccinium Oxycoccos
Prismatocarpus hybridus	Campanula hybrida
Valerianella olitoria	Fedia olitoria
dentata	dentata
Centranthus latifolius	Valeriana rubra
Limbarda tricuspis	Limbarda crithmoides
Solidago cambrica	*With* S. Virgaurea
Antennaria margaritacea	Gnaphalium margaritaceum
dioica	dioicum
Filago gallica	gallicum
minima	minimum
germanica	germanicum
Senecio lividus	*With* S. sylvaticus
Chrysanthemum Parthenium	Pyrethrum Parthenium
inodorum	inodorum
maritimum	maritimum
Artemisia gallica	*With* A. maritima
Maruta fœtida	Anthemis Cotula
Lappa glabra	} Arctium Lappa
tomentosa	} Arctium Lappa
Silybium marianum	Carduus marianus
Chondrilla muralis	Prenanthes muralis
Hieracium maculatum	*With* H. sylvaticum
villosum	*With* H. Halleri
Myosotis intermedia	? *With* M. arvensis

Lindley's Synopsis.	*Corresponding Names.*
Calystegia sepium	Convolvulus sepium
Soldanella	Soldanella
Armeria maritima	Statice Armeria
Fraxinus heterophylla	*With* F. excelsior
Arctostaphylos alpina	Arbutus alpina
Uva-Ursi	Uva-Ursi
Veronica hybrida	*With* V. spicata
Rumex Nemolapathum	? R. acutus
Salicornia procumbens	*With* S. herbacea
fruticosa	*With* S. radicans
Chenopodium acutifolium	*With* C. polyspermum
Euphorbia segetalis β.	E. portlandica
Betula pendula	*With* B. alba
Salix lanceolata	S. undulata
phylicifolia	?
Wulfeniana	Weigelina
malifolia	hastata
Arbuscula	angustifolia
livida	vacciniifolia
argentea	fusca
fœtida	fusca
repens	fusca
prostrata	fusca
incubacea	fusca
Juniperus nana	*With* J. communis
Potamogeton Proteus	P. lucens and heterophyllus
Alisma Damasonium	Actinocarpus Damasonium
Trichonema Bulbocodium	T. Columnæ
Spiranthes autumnalis	Neottia spiralis
Neottia Nidus-avis	Listera Nidus-avis
Anacamptis pyramidalis	Orchis pyramidalis
Platanthera bifolia	Habenaria bifolia
albida	albida
viridis	viridis
Juncus arcticus	J. balticus
cœnosus	*With* J. compressus
Gesneri	J. tenuis
subverticillatus	*With* J. uliginosus
polycephalus	*With* J. lampocarpus
Luzula congesta	*With* L. campestris

Lindley's Synopsis.	*Corresponding Names.*
Schœnus rufus	Blysmus rufus
Scirpus glaucus	*With* S. lacustris
Holoschœnus vulgaris	Scirpus Holoschœnus
Isolepis setacea	setaceus
Heliogiton fluitans	Eleocharis fluitans
Ophiurus incurvatus	Rottböllia incurvata
Catopodium loliaceum	Triticum loliaceum
Agropyrum junceum	junceum
repens	repens
caninum	caninum
cristatum	cristatum
Achnodon arenarius	Phleum arenarium
Digraphis arundinacea	Phalaris arundinacea
Chamagrostis minima	Knappia agrostidea
Trichodium caninum	Agrostis canina
setaceum	setacea
Anemagrostis Spica-venti	Spica-venti
Arrhenatherum bulbosum	*With* A. avenaceum
Echinochloa Crus-galli	Panicum Crus-galli
Molinia cærulea	M. cærulea
depauperata	M. cærulea
Airochloa cristata	Aira cristata
Corynephorus canescens	canescens
Deschampsia cæspitosa	cæspitosa
Trisetum pubescens	Avena pubescens
flavescens	flavescens
Schedonorus pratensis	Festuca pratensis
elatior	elatior
sylvaticus	Calamaria
loliaceus	loliacea
Vulpia Myurus	Myurus
uniglumis	uniglumis
bromoides	bromoides
Glyceria fluitans	Poa fluitans
Sclerochloa maritima	maritima
procumbens	procumbens
rigida	rigida
Hydrochloa aquatica	aquatica
Poa glauca	*With* P. nemoralis

APPENDIX. — No. V.

LIST OF ORDERS, WITH THE GENERA INCLUDED IN EACH.

Many lovers of Botany make themselves acquainted with plants by means of the Linnean classification, paying little attention to what is usually called the *Natural Arrangement.* As they may hence find this work inconvenient to refer to without some key to its arrangement, the following list is added to remove any such inconvenience. However excellent the Linnean classification may be in the use for which it was particularly designed, it is ill adapted for the object of the present work.

1. Ranunculaceæ — Clematis, Thalictrum, Anemone, Adonis, Myosurus, Ranunculus, Caltha, Trollius, Helleborus, Aquilegia, Delphinium, Aconitum, Actæa, Pœonia.
2. Berberideæ — Berberis.
3. Nymphæaceæ — Nymphæa, Nuphar.
4. Papaveraceæ — Papaver, Mecanopsis, Glaucium, Chelidonium.
5. Fumariaceæ — Corydalis, Fumaria.
6. Cruciferæ — All the genera in *Tetradynamia.*
7. Resedaceæ — Reseda.
8. Cistineæ — Helianthemum.
9. Violarieæ — Viola.
10. Droseraceæ — Drosera, Parnassia.
11. Polygaleæ. — Polygala.
12. Frankeniaceæ — Frankenia.
13. Caryophylleæ — Dianthus, Saponaria, Silene, Agrostemma, Lychnis, Sagina, Mœnchia, Elatine, Holosteum, Spergula, Stellaria, Arenaria, Cerastium, Cherleria.
14. Lineæ — Linum, Radiola.

15. Malvaceæ — Lavatera, Althæa, Malva.
16. Tiliaceæ — Tilia.
17. Hypericineæ — Hypericum.
18. Acerineæ — Acer.
19. Geraniaceæ — Geranium, Erodium.
20. Balsamineæ — Impatiens.
21. Oxalideæ — Oxalis.
22. Celastrineæ — Staphyllea, Euonymus, Ilex.
23. Rhamneæ — Rhamnus.
24. Leguminosæ — All the genera in *Diadelphia Decandria*.
25. Rosaceæ — Sibbaldia, Agrimonia, Alchemilla, Sanguisorba, Poterium, and all the (British) genera in *Icosandria*.
26. Onagrarieæ — Epilobium, Œnothera, Isnardia, Circæa.
27. Haloragеæ — Myriophyllum, Callitriche, Hippuris
28. Ceratophylleæ — Ceratophyllum.
29. Lythrarieæ — Lythrum, Peplis.
30. Tamariscineæ — Tamarix.
31. Cucurbitaceæ — Bryonia.
32. Portulaceæ — Montia.
33. Illecebreæ — Corrigiola, Illecebrum, Herniaria, Polycarpon, Scleranthus.
34. Crassulaceæ — Tillæa, Sedum, Rhodiola, Sempervivum, Cotyledon.
35. Grossularieæ — Ribes.
36. Saxifrageæ — Saxifraga, Chrysosplenium.
37. Umbelliferæ — All the polypetalous genera in *Pentandria Digynia*.
38. Araliaceæ — Hedera, Adoxa.
39. Caprifoliaceæ — Cornus, Sambucus, Lonicera, Viburnum, Linnæa.
40. Loranthеæ — Viscum.
41. Rubiaceæ — Sherardia, Rubia, Asperula, Galium.
42. Valerianeæ — Fedia, Valeriana.
43. Dipsaceæ — Dipsacus, Scabiosa, Knautia.
44. Compositæ — Xanthium, and all the genera in *Syngenesia*.
45. Lobeliaceæ — Lobelia.
46. Campanulaceæ — Campanula, Phyteuma, Jasione.
47. Ericaceæ — Vaccinium, Arbutus, Andromeda, Erica, Menziesia, Calluna, Azalea, Pyrola, Monotropa.
48. Oleinæ — Ligustrum, Fraxinus.
49. Apocyneæ — Vinca.

50. Gentianeæ — Gentiana, Chlora, Erythræa, Exacum, Menyanthes, Villarsia.
51. Polemoniacæ — Polemonium.
52. Convolvulaceæ — Convolvulus, Cuscuta.
53. Boragineæ — Lithospermum, Pulmonaria, Symphytum, Echium, Lycopsis, Asperugo, Anchusa, Myosotis, Cynoglossum, Borago.
54. Solaneæ — Verbascum, Hyoscyamus, Datura, Atropa, Solanum.
55. Scrophularineæ — Veronica, and all the genera in *Didynamia Angiospermia*.
56. Labiatæ — Lycopus, Salvia, and all the genera in *Didynamia Gymnospermia*.
57. Verbenaceæ — Verbena.
58. Orobancheæ — Orobanche, Lathræa.
59. Lentibularieæ — Pinguicula, Utricularia.
60. Primulaceæ — Cyclamen, Primula, Trientalis, Hottonia, Lysimachia, Anagallis, Centunculus, Samolus.
61. Plumbagineæ — Statice.
62. Plantagineæ — Plantago, Littorella, Glaux (?).
63. Amaranthaceæ — Amaranthus.
64. Chenopodeæ — Salsola, Chenopodium, Atriplex, Beta, Salicornia.
65. Polygoneæ — Polygonum, Oxyria, Rumex.
66. Thymeleæ — Daphne.
67. Santalaceæ — Thesium.
68. Eleagneæ — Hippophæ.
69. Asarineæ — Asarum, Aristolochia.
70. Euphorbiaceæ — Euphorbia, Mercurialis, Buxus.
71. Urticeæ — Urtica, Parietaria, Humulus.
72. Ulmaceæ — Ulmus.
73. Amentaceæ. — Quercus, Fagus, Castanea, Corylus, Carpinus, Betula, Alnus, Populus, Salix, Myrica.
74. Coniferæ — Pinus, Taxus, Juniperus.
75. Empetreæ — Empetrum.
76. Hydrocharideæ — Hydrocharis, Stratiotes.
77. Alismaceæ — Sagittaria, Alisma, Actinocarpus, Butomus.
78. Juncagineæ — Scheuchzeria, Triglochin.
79. Orchideæ — All the genera in *Gynandria*, except *Aristolochia*.
80. Irideæ — Iris, Trichonema, Crocus.
81. Amaryllideæ — Narcissus, Leucojum, Galanthus.
82. Tameæ — Tamus.

83. Smilaceæ — Ruscus, Convallaria, Paris, Asparagus.
84. Asphodeleæ — Anthericum, Ornithogalum, Gagea, Scilla, Hyacinthus, Muscari, Allium.
85. Tulipaceæ — Tulipa, Fritillaria.
86. Melanthaceæ — Colchicum, Tofieldia.
87. Typhineæ — Typha, Sparganium.
88. Aroideæ — Acorus, Arum.
89. Fluviales — Potamogeton, Ruppia, Zostera, Zannichellia, Lemna.
90. Junceæ — Narthecium, Luzula, Juncus.
91. Restiaceæ — Eriocaulon.
92. Cyperaceæ — Eriophorum, Elyna, Cyperus, Scirpus, Eleocharis, Cladium, Rhyncospora, Schœnus, Blysmus, Carex.
93 Gramineæ — Anthoxanthum, Nardus, and all the genera of *Triandria Digynia;* that is, all the *Grasses.*

APPENDIX. — No. VI.

INDEX TO THE GENERA IN No. I. AND No. II.

	No. I.	No. II.		No. I.	No. II.
Corylus	165	238	Epilobium	133	205
Cotoneaster *		205	Epipactis	170	244
Cotyledon	136	208	Erica	150	222
Crambe	118	190	Erigeron	147	219
Cratægus	133	205	Eriocaulon	176	258
Crepis	145	217	Eriophorum	177	250
Crithmum	139	211	Erodium	127	198
Crocus	171	215	Ervum	130	202
Cuscuta	152	225	Eryngium	141	213
Cyclamen	159	232	Erysimum	120	192
Cynodon	184	258	Erythræa	151	224
Cynoglossum	153	226	Euonymus	127	199
Cynosurus	182	256	Eupatorium	146	218
Cyperus	176	250	Euphorbia	164	237
Cypripedium	171	244	Euphrasia	155	227
Cytisus	128	200	Exacum	151	224
Dactylis	182	256	Fagus	165	238
Daphne	163	236	Fedia	142	214
Datura	154	226	Festuca	183	256
Daucus	140	212	Fœniculum	139	211
Delphinium	116	188	Fragaria	131	203
Dentaria	119	191	Frankenia	122	194
Dianthus	122	194	Fraxinus	151	223
Digitalis	154	227	Fritillaria	173	247
Digitaria	184	258	Fumaria	118	190
Diotis	146	218	Gagea	172	246
Dipsacus	143	215	Galanthus	172	245
Doronicum	148	220	Galeobdolon	157	230
Draba	119	191	Galeopsis	157	230
Drosera	122	194	Galium	142	214
Dryas	131	203	Gastridium	180	254
Echium	152	225	Genista	128	199
Elatine	124	195	Gentiana	151	223
Eleocharis	177	250	Geranium	126	198
Elymus	184	257	Geum	131	203
Elyna	179	253	Glaucium	117	189
Empetrum	168	242	Glaux	161	234

* See CORRECTIONS.

	No. I.	No. II.		No. I.	No. II.
Matricaria	148	221	Ornithogalum	172	246
Matthiola	120	192	Ornithopus	129	201
Meconopsis	117	189	Orobanche	159	231
Medicago	128	200	Orobus	130	202
Melampyrum	155	228	Oxalis	127	199
Melica	181	255	Oxyria	163	236
Melilotus	128	200	Oxytropis	129	201
Melittis	158	231	Pæonia	117	188
Mentha	156	229	Panicum	182	255
Menyanthes	151	224	Papaver	117	189
Menziesia	150	223	Parietaria	164	237
Mercurialis	164	237	Paris	172	246
Mespilus	133	205	Parnassia	122	194
Meum	139	211	Pastinaca	139	211
Milium	180	254	Pedicularis	155	228
Mœnchia	123	195	Peplis	135	206
Monotropa	150	223	Petasites	147	219
Montia	135	207	Petroselenum	138	209
Muscari	173	246	Peucedanum	139	211
Myosotis	153	225	Phalaris	180	253
Myosurus	115	187	Phleum	180	253
Myrica	168	241	Physospermum	140	212
Myriophyllum	134	206	Phyteuma	149	222
Myrrhis	140	212	Picris	143	215
Narcissus	171	245	Pimpinella	138	210
Nardus	180	253	Pinguicula	159	232
Narthecium	175	249	Pinus	168	242
Nasturtium	120	192	Plantago	160	233
Neottia	170	244	Poa	182	255
Nepeta	158	230	Polemonium	152	224
Nuphar	117	189	Polycarpon	135	207
Nymphæa	117	189	Polygala	122	194
Œnanthe	138	210	Polygonum	162	235
Œnonthera	134	206	Polypogon	180	254
Onobrychis	129	201	Populus	166	238
Ononis	128	200	Potamogeton	174	248
Onopordum	146	218	Potentilla	132	203
Ophrys	170	244	Poterium	132	204
Orchis	169	243	Prenanthes	144	216
Origanum	156	229	Primula	159	232

	No. I.	No. II.		No. I.	No. II.
Taxus	168	242	Tulipa	173	247
Teesdalia	118	190	Turritis	120	192
Teucrium	156	229	Tussilago	147	219
Thalictrum	115	187	Typha	174	247
Thesium	163	236	Ulex	128	199
Thlaspi	118	190	Ulmus	165	237
Thrincia	144	216	Urtica	164	237
Thymus	156	229	Utricularia	159	232
Tilia	125	197	Vaccinium	150	222
Tillæa	136	207	Valeriana	143	215
Tofieldia	173	247	Verbascum	153	226
Tordylium	140	211	Verbena	158	231
Torilis	140	212	Veronica	155	228
Tormentilla	131	203	Viburnum	141	213
Tragopogon	143	215	Vicia	130	201
Trichonema	171	245	Villarsia	151	224
Trientalis	160	232	Vinca	151	223
Trifolium	128	200	Viola	122	193
Triglochin	169	243	Viscum	141	213
Trinia	138	210	Xanthium	149	221
Triodia	182	256	Zanichellia	175	248
Triticum	184	257	Zostera	175	248
Trollius	116	188			

FINIS.

LONDON:
Printed by A. SPOTTISWOODE,
New-Street-Square.

16

Remarks on the geograp
of British plants.

NAME	DATE	