

FLORA
OF THE
COUNTY DONEGAL

OR

LIST OF THE FLOWERING PLANTS AND FERNS
WITH THEIR LOCALITIES AND DISTRIBUTION.

BY

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To the Memory
OF
ALEXANDER GOODMAN MORE,
M.R.I.A, F.L.S, F.R.S.E,
WITH WHOSE ADVICE AND ASSISTANCE
THIS FLORA WAS COMMENCED AND CARRIED OUT,
IT IS NOW DEDICATED
BY
THE AUTHOR.

May, 1898.

INTRODUCTION.

THE collection of the materials for a Flora of Donegal has occupied my attention for a considerable number of years. It was in the year 1865 that I first made out the name of a wildflower from Bentham's *Handbook*, where I now write, and from that time onwards I devoted portions of almost every season to the subject.

By the publication of Messrs. Moore and More's *Cybele Hibernica*, in 1866, a great impetus was given to the study of Field Botany in Ireland, and in 1872, when *Recent Additions to the Flora of Ireland* appeared, I was in a position to give the author a considerable number of Donegal and other habitats for some of the less common Irish species.

By that time, too, I had had the privilege of becoming intimate with the lamented author of the *Recent Additions*, Alexander Goodman More; an intimacy to which any good results I ever accomplished in the domain of Botany is largely due, and without which many would have been my errors, numerous my short-comings. As the years rolled on

each summer's gathering was sifted by him, steady correspondence was maintained, various excursions were undertaken, and down to the period of his death his unfailing and most kindly interest in the preparation of this volume, in the reading of manuscript and of proofs, and in general advice was unceasingly sustained. To him, therefore, I owe my largest debt of gratitude for what has been the happiest pursuit of my lifetime.

In a scarcely less degree have I to thank many others for their sympathy and practical assistance. Some of them are now no more. Many of my brambles and other critical specimens were determined by Professor Babington, whose kindness and skill need no tribute, and have hardly been replaced. To Sir Joseph Hooker I tender my sincerest thanks for constant and flattering encouragement and advice. Without the critical acumen and unequalled knowledge of Mr. Arthur Bennett, various genera (*Carices*, *Potamogetons*, &c.) would have been unsatisfactorily dealt with. His patience and forbearance with my specimens, often in ill condition, make me for ever his debtor. To Mr. Hanbury is due the elucidation of my *Hieracia*, a group of much interest in the North of Ireland, and one for which, on account of its mountaineering associations, I have ever had a special predilection. A tour in Donegal with him in search of these troublesome and lovable plants will always be a bright spot in my memory.

From Mr. Baker, of Kew, I have received assistance at various times; and to Mr Britten, the late Mr. H.C. Watson, the late Rev. Mr. Leefe, and many others, I am indebted for help and advice.

In the present Flora there is a large amount of information with regard to localities which has not been published. Much has found its way into various detached papers printed by the Journal of Botany, the Royal Dublin Society and last, but by no means least, the Royal Irish Academy, whose practical and authoritative assistance I desire here to gratefully acknowledge.

The plan of the work is my own, and if it is somewhat distended by an attempt at a meteorological review of the district, it must at least be remembered that such Appendices have in no way curtailed the real scope of the volume. It was by an accident that this subsidiary matter did not appear in smaller type, and present, thereby, a less obtrusive appearance.

This volume has long been announced and promised. For the length of time it has taken to bring it to a conclusion, I must only plead the size of the County and the difficulties it presents to a thorough exploration. The work has been accomplished single-handed. To the Flora of the County, as it would appear from the *Cybele Hibernica* in 1866, may now be added half as many more species as are therein credited to it, which additions include many of the most interesting plants.

I have to thank a few correspondents for localities. Chief of these are the Rev. Dr. Gwyn, formerly Dean of Raphoe; Mrs. Leebody, of Londonderry; Mr. Hunter, of Buncrana; and some others. And I must not omit to acknowledge here the pleasurable society and the valuable hospitality which I have received from the various resident gentry of the County, without which many a remote district could never have been thrashed, many a weary day could have only had a more weary ending in some of the wretched inns, now happily becoming things of the past in Donegal.

H.C. HART.

CARRAGHBLAGH, CO. DONEGAL,
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DONEGAL FLORA.

TOPOGRAPHY.

Donegal, the most northern county in Ireland, extends from N. Lat. $54^{\circ} 30'$ to $55^{\circ} 24'$, and from W. Long. $6^{\circ} 55'$ to $8^{\circ} 50'$. Its greatest length from Inishowen Head in the N.E. to the Bundrowes River south of Bundoran is 86 miles; and its greatest breadth from the Bloody Foreland in the N.W. to Pettigoe in the S.E. is 46 miles.

Donegal is bounded on the east by Lough Foyle and the River Foyle, which separate Donegal and Derry. South of this the County Tyrone forms the remainder of the eastern boundary. On the south of the county, Donegal adjoins Fermanagh for about forty miles, and for a short distance in the extreme south-west (about ten miles) it abuts upon Leitrim. The Atlantic Ocean surrounds the rest of the county, giving a coast line of nearly 200 miles, with numerous bays, inlets, estuaries, and other indentations.

There are many islands around the coast, lying chiefly abreast of that portion of the mainland from Horn Head to Slieve League. Inistrahull is, however, north of these and north of all Ireland, lying about seven miles north-west from Malin Head. Several of the Islands are inhabited, and the largest of these are Tory and Aran. None of them are of any special botanical interest.

The principal bays are Lough Swilly, Lough Foyle,

Mulroy, Sheephaven, Ballyness, Loughros and Donegal; and the most important headlands with which this beautiful coast is studded are those of Inishowen Head, Glengad Head, Malin Head, Dunaff Head, the Bin, Melmore, Horn Head, Bloody Foreland, Slieve-a-tooy, Glen Head and Slieve League.

The county is a large one, comprising an area of 1,197,154 acres. It is the fourth largest in Ireland, and one of six with over a million acres.* Less than one-half of this area is under cultivation. The remainder is either mountain, bog, or lake surfaces.

Of lakes there is a vast number, but they are all of small size. Lough Derg, celebrated as a pilgrimage station since the Middle Ages, is the largest, with a circumference of, perhaps, ten miles. Others are Lough Eske, Glenbeagh, Gartan and Gweedore, Lough Finn and Glenlough.

The rivers are also for the most part small and unimportant. The largest body of fresh water is that of the River Erne, running for five miles between Lough Erne and the sea. The Foyle is tidal for its whole length, and more properly estuarine. The longest stream is the Finn (the chief tributary of the Foyle), with a length of about thirty-five miles. There are other rivers, the Swilly, the Leannan, and the Gweebarra. Owing to the deep indentations in the coast-line already alluded to, long rivers may be said to have ceased to exist, and the powerful erosion of the Atlantic has converted their valleys into estuaries.

The mountains rise in several places to 2000 feet. The highest point is Errigal, 2466 feet. Slieve Snacht, Muckish,

*Cork, 1,849,686; Galway, 1,569,505; Mayo, 1,360,731; Kerry, 1,185,918; Tipperary, 1,061,731.

Dooish, Slieve Snacht West, Bluestack and Lavaghmore are 2000 feet or upwards, Aghla, Slieve League, and Silver Hill are within a few feet of this height.

Of these Slieve League (1972 feet) is the only one that is actually maritime, and its sea cliffs are amongst the finest in Western Europe.

With the exception of that portion of the county which adjoins Tyrone and Londonderry, Donegal is chiefly mountainous, and it is only in that portion of the county that cultivation is absolutely continuous for any considerable extent. In the rest of the county cultivation lies in patches in the valleys, or along the margins of the streams up to about five hundred feet, and the borders of the ocean. The cultivated district alluded to here is that of Raphoe, or the electoral division of East Donegal. Though this barony is but a fifth its valuation is more than a third of the entire county.

DISTRICT I.—NORTH (OR EAST) INISHOWEN.

The Barony of East Inishowen. This is the extreme north of the county, and includes also its most eastern point at Inishowen Head. The boundary between this barony and that of West (South) Inishowen is a line starting from a point about mid-way between Leenane and Dunree on Lough Swilly, and running thence eastwards, leaving Bulben Mountain to the north (in District I.) and the Mintiaghs to the south (in District II.). Thence the line passes over the summit of Slieve Snacht with a south-easterly trend to meet Lough Foyle a little south of Quigley's Point (in District I.).

This district has a fine range of sea cliffs from Malin Head to Inishowen Head. These are very difficult of examination, and may yet harbour some interesting plants,

such as *Hieracia*. There is a considerable extent of high-lying moorland south-east from Carndonagh. The highest point is Slieve Snacht, 2019 feet, but owing to its rounded form and heather-clad surface it is of little botanical interest. Bulben Mountain, 1650 feet, has a better claim to notice and on it Robert Brown discovered *Saussurea alpina*, *Saxifraga oppositifolia* and *Carex rigida*, just one hundred years ago.

The plants peculiar to this district are*:-

Raphanus maritimus.	Vicia lathyroides.
Crambe maritima.	Filago minima.
Silene acaulis.	Carduus pycnocephalus.

Those which occur in one other district only, are:-

Arenaria trinervia.	Mertensia maritima.
V. angustifolia.	Polygonum viviparum.
Carduus crispus.	P. minus.
Orobanche Hederæ.	

DISTRICT II.—SOUTH INISHOWEN.

The Barony of West Inishowen. This district comprises the rest of Inishowen, also the northern half of the "Liberties." It is bounded by a line running from the head of Blanket Nook (south of Inch on Lough Swilly), which runs east by Castle Forward and Bogay Hill to Londonderry.

South Inishowen is a much more cultivated district than the northern half of the peninsula. The two united include all the land west of Lough Foyle to Lough Swilly. The

*In these illustrations only undoubted natives are admitted.

principal drainage of the whole barony is western, all the larger and longer streams flow into the Swilly, or the ocean north of it. The mountainous portion of South Inishowen is chiefly at its northern end, or a continuation of the highlands of North Inishowen.

The geological position of Inishowen is chiefly in the Cambro-Silurian period. Quartzose and gneiss are the prevalent formations, the latter being held by some geologist to be of Laurentian age. At Dunaff Head, granite occurs in some quantity, while there and at Buncrana trap-dykes form a considerable feature. Limestone is scarce and chiefly impure. Amongst the mountains outcrops of shales and schists (as on Bulben and Dunaff) are occasionally met with. But many of them, as Slieve Snacht, Erris, and Rahtin, are of barren quartzose, a rock which is usually either devoid of vegetation or clad entirely with heather. Being almost purely silicious and devoid of aluminous or alkaline properties, it disintegrates very sparingly, and when it does, it forms a poor sandy soil.*

The plants occurring only in this district are:—

Ononis repens.	Bartsia viscosa.
Myriophyllum verticillatum.	Calamintha clinopodium.
Oenanthe fistulosa.	Euphorbia hyberna.
Leontodon hispidus.	Poa compressa.

DISTRICT III.—EAST KILMACRENAN.

Here we have to depart from electoral divisions, which have added Fanet to Inishowen to suit political exigencies,

* It would be interesting to work out the problem how far quartzite, and “Congested Districts” agree in range in Ireland.

and the baronial territory is of too great an extent for our purpose. Kilmacrenan is sub-divided, therefore, into East and West, the boundary line starting from the head of Sheephaven at Doe Castle, up the Duntally River to Creeslough, thence by the old lower road southwards to Lake Akibbon, which it traverses to meet the Churchill road to Churchill, leaving Gartan Lake to the west. From Churchill the boundary line will be due south to meet the Raphoe Barony line on the Swilly River at Swilly Bridge, thence eastwards down the Swilly to its estuary.

This district is a varied one, with a considerable extent of fertile land, chiefly along the shores of Lough Swilly. It includes all Fanet,* all the coasts of Mulroy, and the well cultivated parts around the towns of Kilmacrenan, Ramelton, Rathmullan and Letterkenny (on its north). The highest mountain is Lough Salt, 1546 feet, which is, however, devoid of botanic interest, owing to its geological structure. There are numerous small lakes, chiefly in Fanet. The larger ones are Loughs Fern, Keel, Kindrum, and Glen. The Swilly and the Leannan, both draining eastwards, are the chief rivers. The Lackagh is a short stream, an Erne on a small scale, from Glen Lough to the sea. Lough Salt Mountain lies in the heart of the largest area of moor and bog in the district.

Owing to the complicated indentations of Mulroy and

* With regard to the spelling of this word, there is an erroneous tendency, due perhaps to the Ordnance Survey maps, to make the final letter 'd.' The pronunciation of the people of Fanet is invariable a final 't,' like 'planet.' The earlier writers, I believe, always spelt the word with a final at, it or et. It was the country of 'MacSwyne A'Fanne,' or 'MacSwyne O'Fanet,' so spelt in a sixteenth century description of Lough Foyle and Fanet. In the *Annals of the Four Masters* the name is spelt Fanat (12th century).

Lough Swilly, but more especially of Mulroy, East Kilmacrenan has an immense extent of coast line—probably not under a hundred and thirty miles. When we consider that we are dealing with an area of only about three hundred square miles, not insular, this is remarkable. The geological structure is for the most part quartzite varied with trap-dykes and intrusions both of shales and schists. A remarkable and valuable vein of limestone runs across Fanet passing under the bed of Mulroy from N.W. to S.E. The north coast of Fanet is granitic for a considerable distance, and on the western base of Knockalla, a highly interesting set of beds of sandstone and conglomerate of a more recent age than the Silurian surroundings occurs. There is no other outcrop of Lower Old Red Sandstone in Donegal. A conspicuous “standing-stone” formed of this conglomerate sufficiently indicates the site.

The vein of limestone mentioned above is noticeable by the manner in which it is shown by absence of heather and presence of furze. I have not, however, observed any special limestone plants due to its occurrence.

The undoubted natives found only in District III. are:—

Ranunculus auricomus.	Euphorbia amygdaloides.
Ulex Gallii.	E. paralias.
Saxifraga hypnoides.	Salix phylicifolia.
Linaria repens.	Typha angustifolia.
Stachys Betonica.	Potamogeton decipiens.
[Scleranthus annuus].	P. filiforme.

Trollius europæus, in Ireland found only in Donegal,

has its headquarters in this district. *Orobanche rubra* is very rare elsewhere.

DISTRICT IV.—WEST KILMACRENAN.

The remainder of the Barony of Kilmacrenan. This district is the extreme north-west of the county. The eastern boundary has already been defined. Elsewhere the boundary is the ocean and that of the barony. Starting at the head or Inisfree Bay, the boundary line follows the Gweedore River for a short distance, and then keeping a south-easterly direction, leaves Lough Anure to the south (in District VI.) and Slieve Snacht West to the north (in District IV.). It then keeps Lough Barra to the north (in District IV.), and after a few more miles in the same direction strikes the Raphoe barony to the east.

The western part of Kilmacrenan contains the highest mountains in Donegal, Errigal, 2466 ft, and Slieve Snacht West, 2240 ft. Muckish, 2197 ft, and Dooish, 2147 ft, are surpassed by those in the south of the county. It is almost exclusively a country of moorland, the cultivated parts lying chiefly along the coast, and bearing a small proportion to the remainder. There are many lakes, or rather tarns, of which the largest are Gartan, Glenveagh, Gweedore Lakes, and Lough Barra. Some of the most beautiful scenery of the county lies in this district, that of Glenveagh and the noble cliffs of Horn Head. The coastline is full of sandy bays, small islets, tidal or otherwise, and many indentations, but there are no deep inlets as in East Kilmacrenan. The rivers are merely mountain torrents. The country is storm-swept and barren, except

where the configuration of the land gives a shelter from the fury of the Atlantic Gales. Tory island belongs to this district, and Mr. Barrington has given us an exhaustive list of its plants.

There are singularly few plants peculiar to this district. All the more interesting species are met with again, their numbers swelled, in the more southern mountains, where the Atlantic storms have not such free play amongst them. *Saxifraga umbrosa*, *Pyrola minor*, and *Zostera nana* may be mentioned. Professor Dickie has, however, given a somewhat unsatisfactory, and as yet unverified locality for "London Pride" from District I. Neither has *Pyrola minor* been re-discovered. *Zostera nana* remains the only unchallenged species.* *Trichomanes radicans* is the most interesting one. *Eriocaulon septangulare* occurs inside the boundary. *Thalictrum minus (dunense)*, the sandhill form, is peculiar. *Myosotis collina* is very rare in Ulster.

DISTRICT V.—THE BARONY OF RAPHOE.

This district includes the southern half of the Derry Liberties. It is bounded by the Foyle and the County of Tyrone on its east. At its south-eastern extremity it is separated from Tirhugh and Banagh by a line S.E. and N.W. across the Gap of Barnesmore, leaving the Bluestack Mountains west and south of it. The line then trends northwards through a desolate region, leaving Lough Finn to the west, till it strikes the boundary of District IV. The northward limit of District V. is determined by District IV,

* Almost all the original records of rare Donegal plants are from this district only. But further research has lowered the botanical flag in the "Donegal Highlands," and placed it in the Barony of Banagh.

and District III, and is co-incident with the Swilly for the chief part of it's length.

This is the most prosperous and cultivated portion of the county, on its eastern side. The chief peculiarities of its physical formation are its rivers, since it almost monopolizes the Finn, Swilly, and Foyle, which are the most important arteries in the county. There are no lakes or mountains of any consequence, and little scenery of interest.

Cardamine amara, *Polygonum Bistorta*, *Trollius europæus*, and *Carex aquatilis*, are the most interesting plants in this district, but, excepting the first, they are not peculiar to it. This part of the county, however, needs further exploration. It is the least inviting to a botanist, and has, therefore, been most neglected.

DISTRICT VI.—BOYLAGH.

This district is bounded on the north by West Kilmacrenan, or District IV; on the east by Raphoe, or district V; and on the south by Banagh (District VIII). The southern boundary starts at the head of Loughrosmore Bay, a little north of Ardara, and runs eastwards, keeping Glenties on the north and the Bluestack Mountains on the south in district VIII, till it meets the Raphoe boundary on the north-east of the Bluestacks at the Reelan River. The western boundary is the ocean, interspersed with numerous islands, including Aran Island, the largest off the coast of Donegal.

In this district lies The Rosses, a singular country, low-lying, full of lakes, and abounding with granite and granitoid boulders or rock *in situ* throughout. There are

many sea-loughs, but none of large size, except that of Gweebarra which forms an important estuary, and is tidal to Doocharry Bridge, some 12 or 15 miles from the open sea. The chief characteristic of this district is the multitude of small lakes. Often, as in The Rosses, it becomes difficult to thread one's way amongst them, and woe to the unfortunate pedestrian who is benighted in their midst.

The plants peculiar to the Boylagh district are:—
Saxifraga Sternbergii. *Eriophorum latifolium.*
Potamogeton prælongus.

A few others of interest, not peculiar, should be mentioned:—

<i>Arabis ciliata.</i>	(<i>Atropa Belladonna.</i>)
<i>Draba incana.</i>	<i>Taxus baccata.</i>
<i>Elatine hexandra.</i>	<i>Eriocaulon septangulare.</i>
<i>Centunculus minimus.</i>	<i>Carex aquatilis.</i>

DISTRICT VII.—TIRHUGH.

The Barony of Tirhugh is a protrusion on the extreme south of Donegal, stretching into Tyrone and Fermanagh, and almost enclosed by them and a short stretch of coast line from Donegal to Ballyshannon. Leitrim forms also a portion of the southern boundary. Tyrone and Fermanagh make up the rest of the south and east limits. Donegal Bay bounds it on the west. There remains therefore but a short bit on the north or neck of the promontory to be mentioned. With this line I have taken a slight liberty. The baronial boundary runs up north-east from the town of Donegal, through the middle of Lough Esk, and thence

into the mountains adjoining Bluestack, to meet the Raphoe barony line. This is a very vague line, and has the additional drawback of cutting up natural features, *i.e.*, Lough Esk and the eastern extension of the Bluestacks. The boundary for our purposes is better defined by the line of the road to Barnesmore Gap from Donegal, south of the barony line, and running directly to the Raphoe line.

In this district we enter for the first time on considerable areas of limestone, and the vegetation is accordingly modified, and more varied than in those already dealt with. This formation forms a broad belt along the coast of Donegal Bay as far north as Killybegs (in District VIII.) It follows the course of the Erne inland to Belleek, and stretches further, in a northerly direction to Pettigo, on the edge of the county in Tirhugh.

The most interesting development of this formation is at Brown Hall, where there are subterranean caverns and tunnels admitting the underground course of a stream. From this point to Cavan Garden is a stretch of broken, rocky, limestone ground where one would expect many more interesting species than I have been able to discover. It is very similar in character to certain districts in Galway and Mayo that have yielded many varieties.

The limestone is of the usual carboniferous system found throughout Ireland.

This district has no high mountain, that on the south side of Barnesmore Gap (1491 feet), being the highest hill.

The moment the limestone is left we are again on the endless heather bogs. From Pettigo to Barnesmore Gap is a dreary wilderness of lakes and bog-holes, often without

any eminences or even rocks to break the monotony for miles. One large lake, the largest in the county, Lough Derg, has antiquarian interest, although there is nothing whatever to bear this out to the disappointed visitor. Botanically it is featureless.

Of much more interest is the River Erne. This fine body of water forms a series of cascades over limestone rocks from Lough Erne to Ballyshannon, a distance of about five miles. For that short distance it is by far the largest body of fresh water in the county, and to it we are indebted for several species not occurring elsewhere. At one point near Pettigo, Donegal can claim a small portion of the shore of Lough Erne.

The following species have not been gathered elsewhere in the county:—

Thalictrum flexuosum.	†Origanum vulgare.
†Aquilegia vulgaris.	Rumex Hydrolapathum.
Helianthemum vulgare.	Potamogeton flabellatus.
Nasturtium amphibium.	Eleocharis pauciflorus.
Cornus sanguinea.	Juncus obtusiflorus.
Hieracium hibernicum.	Trisetum flavescens.
Urticularia neglecta.	Milium effusum.
Gentiana Amarella.	Nephrodium Thelypteris.
‡Verbena officinalis.	

Aquilegia vulgaris is not certainly native in Inishowen. *Verbena* and *Origanum* might be challenged on account of their situation.

Other interesting and rare species of District VII, but not

peculiar, and occurring chiefly on the same limestone in District VIII, are:—

<i>Arenaria trinervia.</i>	<i>Lithospermum officinale.</i>
<i>Geranium sanguineum.</i>	<i>Potamogeton obtusifolius.</i>
<i>G. lucidum.</i>	<i>Scirpus sylvaticus.</i>
<i>Saxifraga aizoides.</i>	<i>Carex riparia.</i>
<i>Galium boreale.</i>	<i>C. vesicaria.</i>
<i>Carduus crispus.</i>	<i>Sesleria cœrulea.</i>

DISTRICT VIII.—BANAGH.

Banagh includes the whole of the promontory which forms the northern wall of Donegal Bay. Boyleagh lies on its north, and to the west of Boyleagh, Raphoe touches it for a short distance till it meets its eastern limit at Tirhugh along the line between Barnesmore and Donegal, as already described.

This district is full of varied interests. The superb cliffs of Slieve League have a world-wide fame. The scenery around Lough Esk is a combination of grandeur and grace rarely to be met with, while the whole coast line of Donegal Bay, as well as the western headland of Glencolumbkille is of so picturesque a nature that botanical exploration is pursued here with greatly increased pleasure.

The limestone formation has been already spoken of in district VII. Suffice to say that it is continuous to Killybegs, where it is replaced with a Silurian limestone along the coast, for a short distance. The Carboniferous limestone reaches inland for some distance between Donegal and Killybegs.

Besides Slieve League (1972 feet) there are several mountains of some height in Banagh. These are Bluestack, 2219 feet; Lavaghmore, 2211 feet, and Silver Hill, 1977. The largest lake is Lough Esk, three or four miles round, but there are many smaller ones.

Slieve League possesses an interesting flora – probably nowhere in Ireland are there more alpines on a single cliff.

The extreme wetness of this district no doubt conduces to the interest of its flora. One has only to scan the list of ferns and sedges to see how this remark is borne out. But the limestone is also favourable, and the result is, that District VIII. has, if not the highest total, certainly far the most interesting set of plants in Donegal. The following are peculiar to it:–

<i>Dryas octopetala.</i>	<i>C. pendula.</i>
<i>Carum verticillatum.</i>	<i>Adiantum capillus-veneris.</i>
<i>Sium angustifolium.</i>	<i>Cryptogramme crispa.</i>
<i>Carlina vulgaris.</i>	<i>Aspidium Lonchitis.</i>
<i>Hieracia.</i>	<i>Nephrodium spinulosum.</i>
<i>Cephalanthera ensifolia.</i>	<i>Equisetum hyemale.</i>
<i>Carex Bœninghausenia.</i>	

And these, of rarity in the county may be mentioned:–

<i>Thalictrum alpinum.</i>	<i>Polygonum viviparum.</i>
<i>Saxifraga aizoides.</i>	<i>Oxyria reniformis.</i>
<i>Geranium sanguineum.</i>	<i>Carex strigosa.</i>
<i>G. lucidum.</i>	<i>C. aquatilis.</i>
<i>Rosa mollis.</i>	<i>C. riparia.</i>
<i>Epilobium angustifolium.</i>	<i>Trichomanes radicans.</i>
<i>Saussurea alpina.</i>	

GEOLOGY.

INISHOWEN.

INISHOWEN was in all probability insular within the historic period. A paper read by Dr. Sigerson before the Royal Irish Academy (*Proc*, 2 Ser, Vol I, p.212, &c.) brings forward historical evidence from the *Annals of the Four Masters* of the dates 1010 and 1211 A.D. Old maps confirm this statement, and show that the Foyle and Swilly were united by a strip of water to the north of the city of Derry. The "twenty-five feet raised beach" forms the narrow neck of eight miles from shore to shore. At the north of Inishowen another narrow strait must have existed at the same period from Culdaff Bay on the east to Trawbreaga Bay on the west, rendering Malin, the outer northern portion of the peninsula, also insular.

The general strike of the Inishowen rocks is from north-east to south-west. They are metamorphic in character and of Silurian age. They are chiefly quartzite, with granite at several points. Overlying the quartzite in places are beds of schists, and bands of hornblendic trap are of frequent occurrence. Another quartzite series is found superimposed upon these schists, culminating in Slieve Snacht, which is a less solid quartzite than the lower one of Raghtinmore and Malin.

A group of beds, stretching from Inishowen Head to Inch, consisting chiefly of fine conglomerates, has been held to be the highest of the metamorphic series in Donegal, and their geological age has given rise to much controversy.

They are probably altered beds of Lower Silurian formation. Crystalline schists and limestone, apparently containing fossils, occur at Culdaff.

NORTH-WEST AND CENTRAL DONEGAL.

The North-west Donegal Highlands consist, roughly speaking, of a double range of granitic mountains separated by a long narrow depression, that of Gweebarra and Glenbeagh valleys. This depression forms a very conspicuous feature in the landscape from many elevated standpoints. It gives one the impression that the whole outer or North-western Donegal was at one period insular. These ranges are flanked by other parallel ranges to the north-west and south-east, formed chiefly of quartzite, schist, and limestone, rising higher occasionally than the granitic range. Dooish, 2417 feet, and Slieve Snacht West, 2240 feet, are the highest summits of the granite in the county. These lie on the northern side of the depression, while the southern granitic portion culminates at Moylelennanav, 1771 feet. The flanking mountains of quartzite to the north and west are the highest in the county, consisting of Errigal, 2462 feet; Muckish, 2197 feet; and Aghlamore, 1916 feet. The southward quartzite line has for its highest eminences Loughsalt Mountain, 1646 feet, and Aghla, 1916 feet. A secondary line to this is that of Knockalla, on the shores of Lough Swilly, which is a geological prolongation of the Erris Hills of Inishowen.

The granitic mountains are, as is usual, of a more rounded and solid form than the quartzite, which tend to sharper outlines, and the formation of peaks.

The chief river system of Donegal is to be explained by a consideration of the watershed in this part of the county. This watershed commences at Muckish Gap and trends then towards the summit of Dooish. It crosses the Dunlewy road near the northern base of Errigal at 800 feet above sea level. From Dooish, past the head of Glenbeagh, it follows the Glendowan ridge to Croaghacullin, 1430 feet, and thence in a S.W. direction, it keeps the summit of the ridge at the head of Lough Muck. Hence it follows the ridge to Cubbin Hill, along the gap at the head of Lough Finn. From Lough Finn it sweeps to south-east across the road between Martin's Bridge and Stranorlar, and between the partings of the Reelan Water and the Owenea. Thence over Lavaghmore and the summits of Croagh Gorm and Croaghbarnes it strikes the head of Barnesmore Pass. This watershed throws the Ray, Tullaghobegly, Owenwee, Clady, Barra, Owenroe, Owenea and other smaller ones west to the Atlantic; while the Faymore, Carrownamaddy, Dunlatty, Owencarrow, Bullaba, Lackagh, Lennan, Swilly, Finn and Reelan Rivers enter Sheephaven, Lough Foyle and Lough Swilly to the northwards and eastwards.

The schistose and quartzite rocks, together with the crystalline limestones and intrusive bosses and dykes of igneous rocks, so prevalent in this large area, form part of the great metamorphic series extending over a large part of Scotland, whose age is still a disputed question; and the granites are, according to the last testimony of the Geological Survey, probably intrusive and of a later date.

Hence the granites are probably of the same, as yet indeterminate, age, but later than the metamorphism of the original quartzite series. No doubt a further foliation and

metamorphism took place owing to the intrusion of the granite masses, which are themselves foliated in schists in many places.

In one place, at the north-western base of the Knockalla Mountains, in Fanet, occurs a series of beds of red sandstone and conglomerate, which are of the Old Red Sandstone, and similar to the Lower Old Red Sandstone conglomerates of Ross-shire and other parts of West Scotland. They are the only representatives of this formation in Donegal, and a good sample is conspicuous and well-known as the Standing Stone of Fanet in the townland of Drumfad.*

Peat deposits, sometimes containing stems and roots of trees *in situ*, occur in many places round the coast below high-water mark, and apparently extend (as on Aranmore) for some distance on the floor of the ocean below low-water mark. There is no satisfactory explanation of these deposits, except that of a recent submergence of the land in such localities. In other places, such as along the golf-links at Portsalon, raised beaches, pointing to an elevation of the coast, are conspicuous.

SOUTH-EASTERN DISTRICT.

This part of the county, owing to the unfrequent exposure of rock surfaces, is less interesting and more obscure to geologists. The rocks about Manorcunningham, Strabane, Raphoe, and St. Johnstone, are usually metamorphic limestones, schists, grits and shales. Quartzite masses often

* These beds were described by me to Dr. Hull many years before the appearance of the Survey.

occurs, and at Raphoe are dykes of fine basalt probably of Tertiary age.

Here, as elsewhere in the county, erratic boulders, glaciated striæ and other evidences of the glacial period are to be met with. Ice-dressed rocks, with the striæ ranging north-eastwards have been observed in many places in the Swilly valley.

Bog iron ore is exported from many parts of this district, also from Inishowen and Fanet. It is used chiefly in the purification of gas, and when its transport can be economically effected, repays well. It forms a singularly barren soil for vegetative purposes, acting indeed like poison to most plants. It is said to be due to the decomposition of iron pyrites, and generally comes to the surface in springs.

Fossilised leaves of alder and hazel are often found in this deposit, near Portsalon.

SOUTH-WEST DONEGAL.

Upon the authority of the Director-General of the Geological Survey we learn, that the chief interest in the geology of this district lies in the variety of crystalline schists and igneous protrusions, and the light thrown by them on problems of metamorphism. Further, a special interest attaches to the band of conglomerate (boulder-bed) at the base of the quartzite.

Another striking geological occurrence in South-west Donegal is the occurrence of two small outliers of Carboniferous sandstone on the summit of Slieve League. The elevated position of these (1900 feet) affords evidence of the vast amount of denudation which North-western

Ireland has undergone. We have here proof that the whole region has been covered with Carboniferous strata, which must have extended some distance to the westward of the present limits of the land.

To the botanist, the most interesting feature in the geological formation of this district is the large area of limestone rocks, which are often deposited in the peculiar fissured slab formation familiar to those who have visited Aran in Galway or Burren in Clare. This limestone is often to outward appearances sterile and forbidding; but, by its absolute freedom from that great monopolist in plant life, heather, it affords a much more varied flora than that of other formations.

We have already described the main watershed of N.W. Donegal. At Lavaghmore in this district, another parting of the waters separates those streams flowing south to Donegal Bay, from those flowing north to Loughross Bay. From Lavaghmore it follows the high central ridge of Banagh, over Silver Hill, Carnaween and Binbane to near Sir Albert's Bridge, and thence northwards by Mulmosog, it crosses the Ardara and Killybegs road at the Nock of the Ballagh. From this by Lough Nalughraman, and the head of Maam Glen, it reaches Glenhead over the summit of Slievetooley.

The Carboniferous formation in S.W. Donegal, to which the limestones belong, has its most important representation to the north of and along the coast of Donegal Bay, over an area of about sixty square miles. The base of the series is formed of conglomerate and sandstone, which rest on those metamorphic rocks that formed the shore of the ancient Carboniferous sea. Next to these beds follow the limestone

group, well represented along the narrow neck of land known as St. John's Point. Over these beds are superimposed others of shale and sandstone, to the eastwards. The limestone beds of St. John's Point (and elsewhere) belong to the Lower Limestone division. Their most westerly occurrence is at Muckross.

The Lower Limestone beds thin out northwards, and are overlain by Lower Carboniferous sandstones and shales, which are well exhibited at Killin Hill, and on the south of Doorin. This Middle Limestone or "Calp" series (which is not nearly so interesting botanically) is especially important, as it produces the famous sandstone beds at Mountcharles, of which the National Museum in Dublin has been constructed. The Middle Limestone is spread over a large area north of Inver Bay and east of Mountcharles. A large portion of the Carboniferous area is covered with boulder clay.

Southwards from the foregoing area, whose crowning glory is Slieve League, we come to the Brownhall, Ballyshannon, Pettigo, and Belleek districts. The most interesting feature in this region, geologically, is an Archæan gneissose tract east of Ballyshannon and north of Pettigo. According to Dr. Geikie (Director-General) these rocks must be assigned to the same series as the ancient gneisses of the Scottish Highlands. Their structure, under the microscope, is parallel with that of the Lewisian gneiss in Sutherland. And they are succeeded by the younger group of slates, schists and quartzites which spread over Donegal, and form the greater part of the Scottish Highlands.

The Lower Limestone is well represented along the west and south of the Archæan tract above mentioned. South of

Ballyshannon, and along the Erne, it forms the surface rock, and again to the north-east of Ballyshannon on the road to Ballintra. The Middle Limestone is conspicuous along the coast at Coolmore and Kildoney Point, north of Ballyshannon, and in many crags inland from these points. The boundary of the Lower Limestone and Middle (or Calp) may be seen at Aughrus Point, north of Bundoran. The Upper Limestone beds, forming the boundary between the Carboniferous and the Old Red Sandstone, occur south of the county at Kesh (Fermanagh), but are not represented in Donegal. Glacial striae may be seen in many places, and numerous Carboniferous fossils have been gathered and identified.

BLUESTACK AND BARNESMORE.

On the east, and partially between the last two areas briefly spoken of, lies the mountainous tract of the Bluestack and Barnesmore ranges. Bedded in the south-western base of these is Lough Esk, and to its north-east Barnesmore gap is an imposing feature. The granitic mountains above Lough Esk reach a height of over 1700 feet. The higher peaks further from the lake are sometimes, as at Gaugin, of mica schist. Binmore, of the Bluestack range, is the highest point of the granite, 2118 feet. On Lavaghmore the granite ceases at about 1200 feet, and joins the surrounding quartzites and schists. Gneiss enters also largely into the composition of these mountains. Dykes of pitchstone, a rock of rare occurrence, penetrate the granite in the neighbourhood of Lough Esk. Felstone forms intrusive sheets amongst the schists, as at Killygordon, a mile to its north, and a couple of miles south of Stranorlar.

East and south-east of Lough Esk, the gneiss shows much intrusive felstone. The granites of the Bluestack are all regarded as intrusive. Basaltic dykes traverse the Croaghbarnes granite. These and dykes of dolerite generally trend north-west.

The age of the granite is probably pre-carboniferous, but more recent than the metamorphic schists into which it has been intruded. The south-western part of this district is occupied by beds of Lower Carboniferous age. "Calp," sandstone and shale form beds of considerable thickness at Banagher Hill.

A large portion of the area is overspread by boulder drift.

GEOLOGICAL STRUCTURE AS AFFECTING THE DISTRIBUTION OF PLANTS.

The consideration of soils, derived from the rock, or subsoil, or detritus of the locality; and how these soils affect the plants they support, causing some to thrive and increase while others become extinct or never obtain a footing in the same area, is a question of the utmost interest, but altogether too complex to deal with here. Indeed very little can be advanced with certainty upon the subject; so many, so vague, and so delicate are the influences at work. Climate, shelter, hostile neighbours, and original distribution (in itself an utterly unsolved problem) have all to be entertained as factors in the subject. There are, however, some facts that may be mentioned, and some suggestions may arise. The broad and well-known line of demarcation among certain species always appears where limestone rocks meet those devoid of calcareous matter.

Trap rocks do not occur in Donegal, or not of any

sufficiently recent and friable formation to modify the soil in the manner they do at Ben Evenagh, in Derry. I have noticed when dealing with the flora of that mountain* that plants well known to affect limestone are equally at home on certain derivative trap soils. Probably highly alkaline zeolites afford the same or similar nutriment.

In a paper by Mr. Foot "On the distribution of Plants in Burren," attention was drawn to the lime-loving plants in that district in the County Clare; † and in 1875, in my *Flora of Aran Islands, Galway*, I made a list of the species showing a decided preference for a limestone soil in that part of Ireland. I mentioned there that, amongst others, *Hieracia* and shield-ferns disliked limestone. This requires modification, but it holds true for the limestone of which Aran and Burren are composed, the lower limestone, the rock of St. John's Point, of the district south of Brown Hall, that described in the foregoing remarks. When we get on the Calp above, or to the metamorphic Silurian limestone below, it is not applicable. Speaking only of the Lower Limestone, I find, in Donegal, that as a rule

(a.) *Hieracia* dislike it, with the exception of *H. iricum*, and a form not yet named.

(b.) *Lastræas* dislike it, with the exception of *L. Thelypteris*. Bracken also rarely occurs.

(c.) *Ericaceæ* avoid it, not absolutely, but very nearly so. This applies to the whole order.

(d.) Many marsh plants, peat-lovers, such as several sedges, *Pinguiculas*, *Droseras* and others are absent, even when marshes occur. Others take their place. In the same

* *Proc. R.I.A.*, 2nd Ser, Vol. iv, p.245.

† *Transactions R.I.A.*, Vol. xxiv.

genus a divergence takes place, as in *Carex*; *C. paniculata*, *teretiusecula*, *disticha*, *riparia*, showing, perhaps, a preference for limestone, and *Hypericum elodes* avoids it, while *H. perforatum* becomes prevalent. So also in Saxifrages, *S. stellaris* appears to be absent from limestone. Others thrive.

But a sufficient bed of peat lying above the limestone, a condition of things not commonly met with owing to the drainage afforded by the bedrock, would, no doubt, eliminate largely the above peculiarities.

Thus few plants are more averse to limestone than Rhododendrons, but they thrive at Ardnamona, on the west shore of Lough Esk, where there is sufficient peaty soil. The rock here is, however, the Middle or Calp limestone, whose peculiarities are by no means so strongly marked.

The flora of a limestone district is always interesting on account of the varied way in which species occur. Instead of acres of grass or acres of heather, we have here large areas of rocky ground in which every species, or clump of species, is distinct from its neighbours. But, on examination, it will be found that a large variety of plants are absent. So that the attractiveness is rather fictitious. But there is always the pleasurable feeling that a real rarity may at any time occur. Some of the rarest Irish plants are found in such situations in Clare and Galway.

The following species represent the bulk of the characteristic flora of the dry rocky places in the Lower Limestone. By characteristic I do not mean those only growing thereon, but those which are more prevalent, more luxuriant and evidently in most cases more thoroughly at home there than elsewhere. Those which, so far as I know, do not occur at all, off this formation, in Donegal, I have marked with

italics. I purposely omit aquatics and marsh plants which afford no certain conclusions:—

<i>Thalictrum flexuosum.</i>	Antennaria dioica.
<i>Aquilegia vulgaris.</i>	Eupatorium cannabinum.
Arabis hirsuta.	<i>Carlina vulgaris.</i>
Alliaria officinalis.	Centaurea nigra.
<i>Helianthemum vulgare.</i>	Solidago virgaurea.
Parnassia palustris.	Hieracium iricum.
Polygala vulgaris.	Thrinchia hirta.
Arenaria trinervia.	Ilex aquifolium.
Hypericum perforatum.	Fraxinus excelsior.
Lychnis diurna.	<i>Gentiana amarella.</i>
Sagina apetala.	Lithospermum officinale.
<i>Geranium sanguineum.</i>	Solanum Dulcamara.
<i>G. lucidum.</i>	Rhinanthus crista-galli.
Linum catharticum.	<i>Origanum vulgare.</i>
Medicago lupulina.	Thymus serpyllum.
Trifolium medium.	<i>Calamintha officinalis.</i>
Anthyllis vulneraria.	Anagallis arvensis.
Prunus communis.	Plantago maritima (inland).
<i>Poterium sanguisorba.</i>	<i>Verbena officinalis.</i>
Rubus saxatilis.	Salix repens.
Rosa spinosissima.	Orchis mascula.
Cratægus Oxyacantha.	Gymnadenia conopsea.
Saxifraga aizoides.	Habernaria viridis.
Pimpinella Saxifraga.	Listera ovata.
Epilobium hirsutum.	Epipactis latifolia.
Hedera Helix.	E. palustris.
<i>Cornus sanguinea.</i>	Allium ursinum.
<i>Galium boreale.</i>	<i>Juncus glaucus.</i>
Scabiosa succisa.	<i>J. obtusiflorus.</i>

<i>Arum maculatum.</i>	<i>Equisetum trachyodon.</i>
<i>Carex pulicaris.</i>	<i>Ceterach officinarum.</i>
<i>C. pallescens.</i>	<i>Cystopteris fragilis.</i>
<i>Arrhenatherum avenaceum.</i>	<i>Asplenium trichomanes.</i>
<i>Sesleria cœrulea.</i>	<i>A. Ruta-muraria.</i>
<i>Kœleria cristata.</i>	<i>A. Adiantum-nigrum.</i>
<i>Milium effusum.</i>	<i>Adiantum Capillus-Veneris.</i>

The above list includes various species, rare and common. But if they were removed from the dry rocky limestone places, there would be very little vegetation left; in many places none. Some omissions have, perhaps, occurred, chiefly amongst grasses.

A few species may be mentioned which seem to affect the Calp also, or it in common with the last:—

<i>Ranunculus bulbosus.</i>	<i>Lithospermum officinale.</i>
<i>Arabis hirsuta.</i>	<i>Parnassia palustris.</i>
<i>Draba incana?</i>	<i>Convolvulus arvensis.</i>
<i>Trifolium medium.</i>	<i>Carex strigosa.</i>
<i>Vicia sylvatica.</i>	<i>C. Bœnninghausenia.</i>
<i>Hypericum perforatum.</i>	<i>Briza media</i> (almost confined to the two limestones).
<i>Pimpinella Saxifraga</i> (almost confined to the two limestones).	<i>Sesleria cœrulea</i> (confined to the two limestones).
<i>Sarothamnus scoparius.</i>	<i>Adiantum Capillus-Veneris.</i>
<i>Pulicaria dysenterica.</i>	

Several of the foregoing, particularly the commoner ones, are to be found on other limestones. Thus *Pimpinella Saxifraga* is almost entirely a limestone plant in Donegal, but it occurs on the older crystalline limestones.

A good many marsh plants might be added. The most interesting are:—

Nasturtium amphibium.	C. prolixa.
Rumex Hydrolapathum.	Eleocharis acicularis.
Cephalanthera ensifolia.	E. uniglumis.
Trichomanes radicans?	Utricularia neglecta.
Lastræa Thelypteris.	Potamogeton flabellatus.
Carex acuta.	

These are confined to watery or marshy places on the limestone. *Vaccinium Oxycoccos* is perhaps an exception to the heather family as non-limestone plants. It is only found in one Donegal locality, on a shaky bog, on the margin of the limestone and siliceous rocks.

The characteristic plants of the *non-limestone* formations are readily obtained from the foregoing remarks. The Donegal rocks are almost entirely siliceous, with the exception of the above-mentioned limestones in the south-west. The crystalline limestones are everywhere in bands or areas of limited extent. Friable sandstones are of very unfrequent occurrence. Where these or schistose rocks form masses in the mountains, the botanical interest at once increases owing to the fertility of the derived soil. Of non-limestone plants, a conspicuous one not mentioned above is *Digitalis purpurea*, the foxglove, although I am not sure that it is absent from the Calp.

Large areas of Donegal have been denuded of their natural covering of peat, by the demand for fuel. In many districts this subject has become of vital importance to the people. The scarcity of the peat has driven the natives to cutting for fuel sods of green sward, which are the only

available grazing ground on the mountain slopes. In other places, the last sods have been removed, and the mountains are bare into the rock. Such a headland as that of Dunaff, where turf and peat and sod are almost finally removed, is a painful spectacle. These pages are not about to be made the vehicle of an economic essay, but the subject can hardly be altogether passed by without reference, when speaking of vegetation. I have little doubt that the stony sterility of many a low-lying valley in Donegal arises, more than is generally supposed, to the depredations of generations of turf-diggers, who are often driven to burning the last covering of the rock which would alone provide subsistence for their successors.

Another devastating influence, often resorted to by the country people, is that of burning the heather to provide room for the grass to grow to feed their flocks. If the peat be dry, these fires are liable to take a deep hold, and burn into the rock. Fortunately the Donegal climate is seldom dry enough to render this cause operative.

Where there is a subsoil lying beneath the peat, and drainage also possible, the land can be reclaimed of course for agricultural purposes. Often, however, there is none.

In a district like that around Glenties, it has an odd effect to notice the belts of poor cultivated soil lying along either side of the road, stolen as it were from the peat beyond. When, as in the place mentioned, a village exists, and a considerable population, the result of cultivation is a far less certain source of income than the original and necessary peat.

THE FLOWERING SEASON OF PLANTS.

IN consequence of the mild seasons, or spells of weather, that occur during the winter months, many plants blossom along the seaboard of Donegal at abnormal periods. The following notes may be of interest. No doubt they could be easily added to. No winter occurs that does not provide its quota.

In flower at Christmas, 1892:—

<i>Ulex europæus.</i>	<i>Senecio Jacobæa.</i>
<i>U. nanus.</i>	<i>S. aquatica.</i>
<i>Corylus Avellana.</i>	<i>Chrysanthemum segetum.</i>
<i>Bellis perennis.</i>	

Third and fourth weeks of January, 1893:—

<i>Cardamine pratensis.</i>	<i>Veronica arvensis.</i>
<i>Potentilla fragariastrum.</i>	<i>Veronica peregrina.</i>
<i>Tussilago Farfara.</i>	<i>Alnus glutinosa.</i>
<i>Lamium purpureum.</i>	

First week of February:—

<i>Geranium Robertianum.</i>	<i>Primula vulgaris.</i>
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Middle of March, 1892:—

Ranunculus Ficaria.	Prunus communis.
Capsella Bursa-pastoris.	Bellis perennis.
Cardamine hirsuta.	Tussilago Farfara.
Viola sylvatica.	Chrysosplenium oppositifolium.
Cochlearia officinalis.	Euphorbia Peplus.
Potentilla fragariastrum.	Poa annua.
Ulex europæus.	Draba verna, etc.
Oxalis Acetosella.	

In flower second and third weeks of November:—

Calluna vulgaris.	Achillea millefolium.
Erica Tetralix.	Sherardia arvensis.
E. cinerea.	Carduus lanceolatus.
Geranium Robertianum.	Polygonum Hydropiper.
Ulex europæus.	Bellis perennis.
U. nanus.	Cardamine Bursa-pastoris.
Taraxacum Dens-Leonis.	Poa pratensis.
Juncus bufonius.	P. annua.
Senecio Jacobæa.	Senecio vulgaris.
Achillea Ptarmica.	Stellaria media.
Potentilla reptans.	Viola tricolor.
Leontodon autumnale.	Veronica arvensis.
Ranunculus Flammula.	Cerastium glomeratum.
R. acris.	Brassica campestris.
Sonchus oleraceus.	Euphorbia Helioscopia.
Rubus carpiniifolius.	E. Peplus.
R. discolor.	Alchemilla arvensis.
Hieracium Pilosella.	Lapsana communis.
Rumex nemorosus.	Myosotis arvensis.
Holcus lanatus.	Centaurea nigra.

Scirpus Savii.	Ranunculus bulbosus.
Sarothamnus Scoparius.	Crepis biennis.
Potentilla Tomentilla.	Juncus effuses.
Lonicera Periclymenum.	Plantago lanceolate.
Geranium molle.	Holcus lanatus.
Scabiosa succisa.	

In flower the second week of December, 1894:—

Achillea millefolium.	Heracleum Sphondylium.
Erica cinerea.	Daucus Caroba.
Erica Tetralix.	And many others.

I made similar notes in other years in Fanet, but the above will suffice. All the above are from the shores of Lough Swilly.

GEOGRAPHICAL DISTRIBUTION.

ANALYSIS OF DONEGAL FLORA.

I PROPOSE here to offer a few remarks upon the geographical distribution of the species composing the flora. This subject may be dealt with from different points of view. We may regard the species as portion

- (1) of the Irish Flora,
- (2) of the Flora of Great Britain.

With regard to their distribution in Ireland, it will be of interest in the first place to call attention to the rarest of the Donegal plants. Very few are found only in Donegal:—

<i>Trollius europæus.</i>	<i>Hieracia.</i>
<i>Helianthemum vulgare.</i>	<i>Carex Bœnninghausenia</i> (believed to be a hybrid).*

Other species which are very local or rare in Ireland are:—

<i>Thalictrum alpinum.</i>	† <i>Linaria repens.</i>
<i>Crambe maritima.</i>	<i>Bartsia viscosa.</i>
<i>Cardamine amara.</i>	‡ <i>Calamintha Clinopodium.</i>
<i>Draba incana.</i>	<i>Stachys Betonica.</i>
<i>Silene acaulis.</i>	† <i>Nepeta Cataria.</i>
<i>Vicia lathyroides.</i>	<i>Oxyria reniformis.</i>
<i>Dryas octopetala.</i>	† <i>Polygonum Bistorta.</i>
<i>Saxifraga aizoides.</i>	<i>P. viviparum.</i>
<i>Ligusticum scoticum.</i>	<i>Euphorbia hyberna.</i>
<i>Carum verticillatum.</i>	† <i>E. amygdaloides.</i>
<i>Hieracia.</i>	<i>Ceratophyllum demersum?</i>
<i>Atropa Belladonna.</i>	<i>Salix phyllicifolia.</i>

* Recently discovered in Kerry by Mr. Scully.

Neottia Nidus-avis.	Sesleria cœrulea.
Cephalanthera ensifolia.	Elymus arenarius.
Eriocaulon septangulare.	Trichomanes radicans.
Typha angustifolia.	Adiantum Capillus-Veneris.
Juncus obtusiflorus.	Cryptogramme crispa.
Potamogeton filiformis.	Polystichum Lonchitis.
Eriophorum latifolium.	Asplenium viride.
Carex aquatilis.	Ophioglossum polyphyllum.

We will now see how the flora is related to that of the rest of Ireland. For this purpose we have the *Cybele Hibernica* of More and Moore to consult.

Of the fifteen species there enumerated as characteristic of the west and south of Europe, which range, under an exceptional climate, to a higher northern latitude than on the Continent, four only reach as far north as Donegal, although at that time only one was believed to occur. These are:—

Saxifraga umbrosa.	Trichomanes radicans.
Euphorbia hyberna.	Adiantum Capillus-Veneris.

While of the four trans-Atlantic species a single one only occurs:—

Eriocaulon septangulare.

There are some peculiarities in the Donegal flora which may as well, at once, be referred to:—

Firstly.—The Alpine species descend to a lower level than elsewhere in Ireland.

Secondly.—The Genus *Hieracium* is, perhaps, better represented than in any other part of Ireland.

Thirdly.—The proportion of marsh and moisture-loving species (Ferns, Sedges, &c.) to the rest of the flora is probably higher than elsewhere in Ireland.

Fourthly.—The number of Alpines is large, and the Northern or Scottish type is well represented.

A comparison of the numbers of the larger natural order brings out one simple fact, that the loss is greater in Dicotyledons than in Monocotyledons. In the Monocotyledons there is a decrease of about one in seven, while in the Dicotyledons it amounts to more than one in five. If we take the whole Flora of Ireland, the figures stand at about

730 Irish Dicotyledons	146 of these not in Donegal
229 „ Monocotyledons	34 „ „

so that there is about one Dicotyledon lost in every five to one Monocotyledon in every seven.

This result may be explained by the consideration that the Monocotyledons include many aquatics, which have an extensive range, and are, of course, adapted for the damper climate. This, however, only affords a partial explanation. The real difference arises from the *loss* in such orders as *Cruciferae*, *Leguminosae*, *Umbelliferae*, and *Compositae*. In these four orders Donegal loses more than a quarter of their Irish total. In *Leguminosae* we fare worst, losing a third. In *Orchideae* very nearly the same failure occurs, and this group is always important. In compiling floras of small islands off the coast of Ireland, I have observed that the orchids diminish more than any other order, except upon the Galway Aran Islands, whose flora is altogether exceptional. It appears to be almost a rule that *Orchis maculata* alone of the family can put up with such banishment as Tory, Saltees, Blasquets, Inishbofin, North Aran, &c.

In a report of the flora of the Blasquets Islands, Mr Barrington drew out an interesting table of the occurrence

of the various species on Tory, North Aran, South Aran, and Blasquets. The proportion of Dicotyledons to Monocotyledons in these groups is close to $2\frac{3}{4}$ to 1 (364 to 131). The proportion in all Ireland is almost exactly $2\frac{1}{2}$ to 1 (734 to 292). But this insular proportion is very much distorted by the wealthy flora of South Aran. If we removed its flora, we should remove 122 Dicotyledons and only 24 Monocotyledons. This would turn the proportion into nearer 2 to 1 (242 to 110). This is much more the usual proportion in these outer islands, with their reduced and impoverished floras, which is in accordance with my previous remark. A curious fact again in connection with Aran is that its exceptional character is well borne out by its *Orchidaceæ*. My Aran list has five in the family, and a couple more spring flowering ones have since been added. All the other islands have but one *Orchis* apiece. This fact points out the continental character of the Aran flora as regards the British Isles. In Mr Watson's *Cybele Britannica*, he shows (iv, 408) that this order is more highly represented in Great Britain as compared with the European flora than any other order. And, on a small scale, this high representation of Orchids is continued into Aran as compared with Ireland. The opposite view is more forcible, *i.e.*, the total reversal of this state of things in a more thoroughly depreciated flora like that of the other smaller islands.

In insular floras *Leguminosæ* diminish most after Orchids.

I have alluded above to another feature in the flora of Donegal as compared with the rest of Ireland, that is the increase in the number of questionable natives, or rather the increased suspicion attached to many species. There are several plants which it seems most unreasonable to

challenge, considering their great abundance. But, if we are to endeavour to realize a condition of things prior to the introduction of our food-crops, or prior to the introduction of cultivation of any sort, I see no reason why we should not consider, in this county at least, a large number of plants, not usually questioned elsewhere, as being followers or attendants upon the arrival or evolution of man. Illustrations occur among Poppies, Fumarias, *Barbarea*, *Sisymbrium*, *Capsella*, *Geranium Robertianum* and *G. dissectum*, *Trifolium repens* and *T. procumbens*, *Spergula arvensis*, *Sherardia*, *Galium Aparine*, *Sonchus arvensis* and *S. oleraceus*, *Anthemis*, *Chrysanthemum segetum*, *Senecio vulgaris*, *Arctium*, *Carduus*, several Labiates, Veronicas, and many Grasses.

I have used the mark of suspicion with as much freedom as I dared. This question is nearly always so much a matter of opinion. On the other hand, it should be borne in mind that these divergences of opinion are often the result of dissimilar observation. To a resident in Dublin or Belfast it would seem unreasonable to attach suspicion to several of the above plants which, in Donegal, never occur except near habitations.

Mr. Watson's divisions of the surface of Great Britain into zones is generally accepted and understood. He imagines an observer to start from the summit of one of the loftiest hills and note the phanerogams as they appear in his descent. From a series of such observations on various hills, the ascents being similarly utilized, a certain order will be discovered in which many species usually occur. Also there will be found to be a number of species which never descend to the bases, and another number of species which

cease very early on their upward ascent. The former will be the typical Highland species. The latter belong to the plains and valleys.

But in addition to this set of observations another series will be found necessary. It will be found that a number of species which reach the lowlands in a northern latitude fail to do so as we travel southwards, and finally become confined to the summits or nearly so in their most southern stations. Another converse set will display themselves as ascending a certain distance upon southern hills, but as the observer goes northward the altitude or upper limit becomes lower and lower, until at length the species becomes altogether lowland or ceases to exist .

In order, therefore, to exhibit all these climatic ranges in one space, we would require a mountain in the extreme south of England, whose base would stand in that region where the most southerly species existed, but whose summit would reach to the height which would provide a climate equivalent to that of the summit of Ben Lawers, or whatever other Scotch mountain provides the most Arctic species. No such mountain exists. Snowdon comes nearest in both directions to containing all Mr. Watson's zones. But by keeping a double entry of latitude and altitude Mr. Watson obtains a series of zones which displays admirably the distribution within Great Britain of its flora with regard to climate.

The first subdivision he makes is the broad one of Agrarian and Arctic, the former including all the spaces lying below the limits of cultivation of the cereal crops, the latter all the spaces above these limits. *Pteris aquilina* is selected by Watson as a plant which marks out naturally the primary division. Its range corresponds in Great Britain to

that of adaptability for cultivation. Above its range oats will not exist. This height in England is about 1600 feet.

The Agrarian region is again subdivided into zones, as is also the Arctic region, and these zones are all defined by containing within their limits a certain set of species which will go no higher, and another set which will go no lower, these forming the upper and lower limits of the zone. Beginning at the summit zone on the highest Scotch mountain (6), there are enumerated several species, none of which occur in Ireland. These descend no lower, and are peculiar to these summits in Britain. But of course a number of species have come up from below also. There are to be found again a number of plants which cease on their approach upwards, at about the same limit as those peculiar ones cease to descend. Of these *Calluna vulgaris*, *Eriophorum vaginatum* and others may be regarded as defining the upper limits of zone 5, and so on downwards.

The zones may be calculated thus by their limits:—

Arctic region.

Zone 6: Super-Arctic zone. - *Calluna vulgaris* has ceased to exist from below up. (This zone is not in Ireland).

Zone 5: Mid-Arctic zone. - *Erica tetralix*, *E. cinerea* have ceased from below up. *Salix herbacea* from above down.

Zone 4: Infer-Arctic zone. - *Pteris aquilina* has ceased from below up. *Saussurea* has ceased from above down.

Zone 3: Super-Agrarian. - *Thalictrum alpinum*, *Oxyria reniformis*, *Alchemilla alpina* have ceased from above downwards. *Convolvulus sepium* and *Rhamnus catharticus* have ceased from below up.

Zone 2: Mid-Agrarian. *Rubia peregrina*, *Juncus acutus*, *Erica vagans* have ceased from below up. *Empetrum*, *Ligusticum*, etc, from above downwards.

Zone 1: Infer-Agrarian. *Meconopsis*, *Comarum*, *Parnassia* have ceased from above. (Scarcely in Ireland except the maritime species.)

I have applied Watson's zones, as far as possible, to the flora of Donegal. It will be found that of these six zones the super-Arctic at one extremity, and the infer-Agrarian at the other, have no existence in this limited space. It may be safely said that zone 6 exists only in Scotland in the British Isles.

To the table exhibiting the distribution of plants in their districts in Donegal, I have appended a column marking the zones. Watson's definition cannot be exactly adopted, as several species have a different mountain range in Ireland from that in Great Britain. But the distinctions are slight, and the body of the flora in my Donegal zones will correspond with his distribution.

The flora of all Ireland will range itself into five zones, the lowest being about half represented only in the south. The lowest Donegal zone, or zone 2 of Watson, is not all included in Donegal. My zone 2, though covered by it, is of scarcely as

wide an extent, and that in the south and south-west of the county. To the north and north-west it hardly extends. His lower limits for *Empetrum*, *Rhodiola*, *Selaginella* do not exist there. None of the upper limit plants for Watson's 1 occur in this county; and several of the upper limit plants of 2 are not found in the north-west, though occurring freely in the south. The following are the zones in Donegal:—

5. 2466 to 1800 feet. No *Erica tetralix*, or (as a rule) *E. cinerea*. *Digitalis*, *Prunella*, have ceased to exist. *Salix herbacea*, *Carex rigida* at a maximum.

4. 1800 to 1100 feet. No *Pteris*, *Myrica*, Fruticose *Rubi*. Most of the Alpines with lower limits confined, or nearly so, to this zone in Donegal.

3. 1100 to 400 feet. Seldom any cultivation higher than this in Donegal and its lower limit may be taken as the limit of cereals. Upper limit defined by 3.

2. 400 feet to sea-level. Region of cultivation.

Keeping these zones in our memory we shall see by comparison how they agree with those of Great Britain. At page 175, Vol. IV, of Watson's *Cybele Britannica* is given a most valuable summary of distribution of British plants. There are no doubt several corrections now to be made in this summary from an increasing knowledge of the distribution of some species, and the addition of a few others. But the main advance in British botany has been in the discrimination and elaboration of varieties which would probably have found no place in the *Cybele*, so that this summary may be probably accepted still as an accurate one.

According to the summary we have in Ireland no species confined to zone 6.

Confined to 5 and 6 there are in Ireland:—

(<i>Saxifraga nivalis</i>).	<i>Carex rigida</i> .
<i>Salix herbacea</i> .	(<i>Aira alpina</i>) if true?

Those included in brackets do not occur in Donegal.

Confined to 4, 5, and 6 (or 4 and 5):—

<i>Silene acaulis</i> .	<i>Saussurea alpina</i> .
<i>Hieracium argenteum</i> .	<i>Juniperus nana</i> .
(<i>H. flocculosum</i>).	(<i>Poa alpina</i>).

Saxifraga Sternbergii should probably come in here.

Confined to 3 with zones above zone 3:—

<i>Draba incana</i> .	<i>Hieracium gothicum</i> .
(<i>Arabis petræa</i>).	<i>Arctostaphylos uva-ursi</i> .
<i>Dryas octopetala</i> .	(<i>Pyrola secunda</i>).
(<i>Rubus Chamæmorus</i>).	(<i>Gentiana verna</i>).
(<i>Alchemilla alpina</i>).	(<i>Ajuga pyramidalis</i>).
(<i>Epilobium alsinifolium</i>).	<i>Polygonum viviparum</i> .
<i>Saxifraga stellaris</i> .	<i>Oxyria reniformis</i> .
<i>S. oppositifolia</i> .	<i>Eriocaulon septangulare</i> .
<i>Hieracium anglicum</i> .	<i>Carex aquatilis</i> .
<i>H. iricum</i> .	<i>Polystichum Lonchitis</i> .
<i>H. pallidum</i> .	<i>Lycopodium alpinum</i> .

The foregoing may be regarded as our most northern or Highland species. All except three (*Pyrola*, *Ajuga*, and *Gentiana*) are classed as “Highland” by Mr Watson. A small group of species, which descend to “2,” are also held

by Mr. Watson to be Highland. These ascend to 6, except those otherwise marked:—

<i>Sedum Rhodiola.</i>	<i>Sesleria cœrulea</i> (to 5).
<i>Saxifraga aizoides.</i>	<i>Allosorus crispus.</i>
<i>Galium boreale</i> (to 5).	<i>Asplenium viride</i> (to 5).
<i>Vaccinium vitis-idæa.</i>	<i>Lycopodium selaginoides.</i>
	<i>Isoetes lacustris</i> (to 4).

And it is interesting to observe that the whole of this mid-Agrarian-reaching group of Highland species, which occurs in Britain, occurs in Ireland and in Donegal. This somewhat anomalously assorted set completes the Highland flora of Ireland, and the above method of grouping them serves to bring out their peculiar requirements. To many people the tenants of our loftiest mountain tops are the most interesting portion of the flora, since it may be fairly assumed that they are the remnants of our earliest flora, and connect us, through the lapse of ages, with that period of geological history which gave our islands their present shape, and that they have a familiar history of higher antiquity than man himself upon these islands.

But it must not be forgotten that these species are not the only inhabitants of the loftiest summits. There is a considerable number of common plants which range up through all zones throughout the Kingdom.

The following are the highest ranging species in Britain not belonging to the Highland division, or already mentioned. All these occur in Donegal:—

<i>Ranunculus acris.</i>	<i>Cardamine pratensis.</i>
<i>Caltha palustris.</i>	<i>Viola palustris.</i>
<i>Cardamine pratensis.</i>	<i>Silene maritima.</i>
<i>Cochlearia officinalis.</i>	<i>Sagina procumbens.</i>

Stellaria uliginosa.	Thymus Serpyllum.
Cerastium triviale.	Armeria maritima.
Oxalis acetosella.	Rumex acetosa.
Potentilla Tormentilla.	Narthecium ossifragum.
Alchemilla vulgaris.	Juncus squarrosus.
Montia fontana.	Luzula sylvatica.
Saxifraga hypnoides.	Eriophorum angustifolium.
Chrysosplenium oppositifolium.	Carex pilulifera.
†(Adoxa moschatellina).	Anthoxanthum odoratum.
Galium saxatile.	Aira flexuosa.
Apargia autumnalis.	Poa annua.
Hieracium vulgatum.	Festuca ovina.
Taraxacum palustre.	Polypodium Phegopteris.
Gnaphalium dioicum.	Lastræa dilatata.
Solidago virgaurea.	Blechnum boreale.
Achillea millefolium.	Lycopodium Selago.
Campanula rotundifolia.	And one Scottish species,
Vaccinium Myrtillus.	<i>Empetrum nigrum</i> , which
Euphrasia officinalis.	does not descend to zone 1.

This list is full of interest, although the species are almost without exception our commonest ones. It comprises all the British species, except the highland ones, and those three others (*Gentiana*, *Ajuga*, *Pyrola*), which attain to the super-Arctic zone. These are the true *summit plants*, and hardest mountaineers. It also comprises, without any exception, all the species which range from the lowest Agrarian to the highest Arctic zone. That is to say, these are our most predominant species which can adapt themselves to every climate the British Isles afford. And it is important to notice that all the British species with these characteristics occur in Ireland, and, with a single exception, in Donegal.

In this group of forty-six robust inhabitants there are, however, it must not be overlooked, two species of a somewhat anomalous nature. One is *Saxifraga hypnoides*. This is by no means an abundant species, in spite of its extreme adaptability. It is the only plant in the list that is not relegated to the “British” or commonest type by Watson, and it is rare in Ireland. The other is *Adoxa moschatellina*. It is the only plant in the list that does not grow in Donegal, and it is one of the very few “British” species which do not occur in Donegal. The “British” type species absent are few. Even in our weakest family (*Leguminosæ*) we escape. The absentees are *Erythræa littoralis*, *Atriplex littoralis*, *Mercurialis perennis*, *Carex paludosa*, and *Pilularia globulifera*, some of which are extremely rare, and there are a few others do not occur at all in Ireland. None of these rarer “British” species range through all zones.

We shall now see how we stand in Donegal, with regard to the species (not Highland) ranging up to zone 5 in Britain from the lowest levels.

The following are the species ranging from the lowest zone to the mid-arctic or zone 5.

<i>Anemona nemorosa</i> .	<i>Sagina subulata</i> , S.
<i>Ranunculus Flammula</i> .	(<i>Arenaria verna</i>).
<i>R. repens</i> .	<i>Stellaria media</i> .
<i>Draba verna</i> .	<i>Linum catharticum</i> .
<i>Cardamine sylvatica</i> .	(<i>Geranium sylvaticum</i>).
<i>Arabis hirsuta</i> .	<i>Anthyllis vulneraria</i> .
<i>Viola sylvatica</i> .	<i>Trifolium repens</i> .
<i>Polygala vulgaris</i> .	<i>T. pratense</i> .
(<i>Viola lutea</i>).	<i>Lotus corniculatus</i> .
<i>Lychnis diurna</i> .	<i>Vicia Cracca</i> .

Spiræa Ulmaria.	Juncus lamprocarpus.
Geum-urbanum.	J. supinus.
Pyrus Aucuparia.	Luzula campestris.
Epilobiun angustifolium.	L. multiflora.
Sedum anglicum, A.	Eriophorum vaginatum.
(Chrysosplenium alternifolium)	Carex dioica.
Angelica sylvestris.	C. pulicaris.
Heracleum Sphondylium.	C. stellulata.
Scabiosa succisa.	C. curta.
Hieracium murorum.	C. vulgaris.
Taraxacum officinale.	C. flava.
Carduus palustris.	C. œderi.
Tussilago Farfara.	C. binervis.
Bellis perennis.	C. panicea.
Calluna vulgaris.	C. sylvatica.
Vaccinium Oxycoccos.	C. præcox.
Gentiana campestris.	C. ampullacea.
Veronica Beccabunga.	Agrostis vulgaris.
V. officinalis.	Aira cæspitosa.
V. Chamædrys.	Avena pratensis?
Rhinanthus Crista-galli.	Molinea cærulea.
Melampyrum pratense.	Poa pratensis.
Pinguicula vulgaris S.	P. trivialis.
Lysimachia nemorum.	Festuca duriuscula.
Rumex acetosella.	(Polypodium Dryopteris).
Urtica dioica.	Cystopteris fragilis.
Betula alba.	Lastræa Oreopteris.
Juniperus communis.	Botrychium Lunaria.
Orchis maculata.	Equisetum sylvaticum.
Habenaria viridis.	E. palustre.
Triglochin palustre.	

This group of second highest ranging lowland species is also almost entirely “British” in type; and all that occur in Great Britain, with a single exception (*Pyrola*), occur in Ireland, with five exceptions in Donegal.

It might have been expected, owing to our much lower altitudes in Donegal, and indeed in all Ireland, that a number of these second highest plants, or all of them, perhaps, would attain our Irish summits. But this is by no means the case. A reference to any list of summit plants in Ireland, such as those in Dickie’s *Flora of Ulster*; in many papers by the author of the present work; in Messrs. Barrington and Vowells’ Ben Bulbin list, or in a recent paper on the Mourne Mountains, by Messrs. Stewart and Praeger, will show the interesting fact that these wiry individuals, as a rule, have the tops to themselves, whether the top is 3000 feet in Kerry, 4000 feet in Scotland, or 2400 feet in Donegal. There are of course discrepancies, but we may pick out a group that can be predicated to inhabit all the tops in the British Islands with considerable certainty. These plants would be *Potentilla Tormentilla*, *Galum saxatile*, *Campanula rotundifolia*, *Vaccinium Myrtillus*, *Luzula sylvatica*, *Carex pilulifera*, *Anthoxanthum odoratum*, *Aira flexuosa*, *Festuca ovina* and *Lastræa dilatata*; and if we wish to add to their number, with lesser confidence, we may take *Cerastium triviale*, *Solidago virgaurea*, *Rumex Acetosa*, *R. Acetosella*, *Thymus Serpyllum*, *Euphrasia officinalis*, *Juncus squarrosus*, *Eriophorum vaginatum*, *Agrostis vulgaris*, *Blechnum boreale*, and *Lycopodium Selago*. They would be accompanied by alpiners and northerners, but these follow no such law with, perhaps, a few exceptions. These are *Empetrum nigrum*, *Salix herbacea*, and *Carex rigida*.

Speaking of summits of 2000 feet and upwards, there are few without these last there also, even where no other alpiners exist.

The cause of this general identity of summit plants is not so easily guessed at. But it is obvious that even the least descent on some side of any mountain will afford a shelter from whatever its most scourging prevailing wind may be. A little bit lower, and conditions of moisture as well as shelter, during the growing season, come in. Hence, the moment we descend, a wholly new set of influences varying with the various climates of the districts appear. Only to a few is it permitted to withstand the rigorous hardship of an actual summit, and these few have, as a rule, more or less undisturbed possession.

A few species range into zone 5 which are not Highland, and yet do not reach the infer-Agrarian zone. These are all "Scotch" in their range, with one exception (*Hymenophyllum*) whose lower limits are doubtful.

There are only two British species that do not occur in Ireland in this selection, and all occurring in Ireland occur in Donegal.

Trollius europæus, S.	(<i>Salix nigricans</i>), S?
Subularia aquatica, S.	<i>S. phylicifolia</i> , S.
Rubus saxatilis, S.	<i>Listera cordata</i> , S.
Galium boreale, S.	<i>Hymenophyllum Wilsoni</i> , A.H.

The remainder of the "Arctic" Flora of Britain that occurs in Ireland is a more complex and less common, and in that respect a more interesting class of plants. They will be those occurring in zone 4, infer-Arctic of Watson, going up from below and going no higher. Those not occurring in

Donegal are included in brackets. I have appended letters marking the types. I.—Intermediate (doubtful, sometimes Scottish in tendency, sometimes Atlantic or Highland).

Ranunculus hederaceus, B.	Crepis paludosa, S.H.
R. Ficaria, B.	Carduus lanceolatus, B.
Helianthemum vulgare.	Senecio Jacobæa, B.
(Meconopsis cambrica, A).	Achillea Ptarmica, B.
Drosera rotundifolia, B.	Lobelia Dortmanna, S.H.
D. anglica, S.	Erica Tetralix, B.
Stellaria Holostea, B.	E. cinerea, B.
Hypericum pulchrum, B.	Pyrola media, S.
Geranium pratense, B.E.	Gentiana Amarella, B.G.
Spartium scoparium, B.	Menyanthes trifoliata, B.
Vicia sepium, B.	Veronica serpyllifolia, B.
Orobus tuberosus, B.	V. scutellata, B.
(Potentilla fruticosa), I.	Pedicularis palustris, B.
P. Fragariastrum, B.E.	P. sylvatica, B.
Fragaria vesca, B.	Digitalis purpurea, B.
Rubus Idæus, B.S.	Ajuga reptans, B.
Rosa spinosissima, B.	Prunella vulgaris, B.
R. mollis, B.	Myosotis repens, B.
Epilobium palustre, B.	Plantago lanceolata, B.
E. montanum, B.	P. maritima, B.
E. tetragonum, B.	(Mercurialis perennis, B).
Callitriche pedunculata, B.	Salix aurita, caprea, repens, B.
Pimpinella Saxifraga, B.	Myrica Gale, B.
Galium verum, B.	(Pinus sylvestris, S).
(G. sylvestre, I.H.).	Gymnadenia conopsea, B.
Valeriana officinalis, B.	Habernaria albida, S.
Hypochoëris radicata, B.	Potamogeton polygonifolius, B.

<i>Juncus effusus</i> , B.	<i>Briza media</i> , B.
<i>Carex ovalis</i> , pallescens, fulva, glauca, B.	<i>Polypodium vulgare</i> , B.
<i>Aira praecox</i> , B.	<i>Lastræa Filix-mas</i> , B, <i>Filix-</i> <i>fœm</i> , B.
<i>Avena pubescens</i> , B.	<i>Asplenium Trichomanes</i> , B.
<i>Holcus lanatus</i> , B.	<i>A. Adiantum nigrum</i> , B.
<i>Triodia decumbens</i> , B.	<i>Lycopodium clavatum</i> , B.
<i>Glyceria fluitans</i> , B.	<i>Equisetum limosum</i> , B.

There have now been enumerated in all 252 species of British plants which occur in Watson's Arctic zones, and are also found in Ireland. Of these 23 have not yet been found in Donegal, which are all more or less scarce in Ireland. Probably no other part of Ireland has as large a proportion of those species reaching Watson's Arctic zone as Donegal, which might have been anticipated from its geographical position.

The absentees are arranged according to zones.

5, 6.	All six zones.
<i>Saxifraga nivalis</i> .	<i>Adoxa Moschatellina</i> .
<i>Aira alpina</i> .	All zones except six.
4, 5, 6 (or 4, 5).	<i>Viola lutea</i> .
<i>Hieracium flocculosum</i> .	<i>Arenaria verna</i> .
<i>Poa alpina</i> .	<i>Geranium sylvaticum</i> .
3 and above 3 with it.	<i>Chrysosplenium alternifolium</i> .
<i>Arabis petræa</i> .	<i>Pyrola rotundifolia</i> .
<i>Rubus Chamæmorus</i> .	<i>Salix nigricans</i> .
<i>Alchemilla alpina</i> .	<i>Polypodium Dryopteris</i> .
<i>Epilobium alsinifolium</i> .	4 and no higher.
<i>Pyrola secunda</i> .	<i>Meconopsis cambrica</i> .
<i>Gentiana verna</i> .	<i>Potentilla fruticosa</i> .
<i>Ajuga pyramidalis</i> .	<i>Galium sylvestre</i> .
	<i>Mercurialis perennis</i> .

Of the lower Agrarian species of Great Britain we can expect only a limited illustration in Donegal. As already stated, the county may be regarded as all above Watson's zone 1, and for the most part above zone 2, or only dipping into it. Any detailed analysis of the Flora in this direction would be misplaced and rather serve to guide one into the knowledge of the Flora of the southern counties of Ireland by enumerating our numerous absentees. A few remarks will therefore suffice.

There are about 200 species in Great Britain (omitting *Rubi*, whose distribution is not conclusively known) which range no higher than Watson's lowest zone. Of these 23 occur in Ireland, and only 3 in Donegal, one of which is perhaps a doubtful native anywhere in Ireland. These 3 are:—

Erodium moschatum. *Euphorbia hyberna.*
Orobanche Hederae.

Of those Irish ones which do not occur in Donegal the majority are Atlantic in type, and the remainder almost entirely English.

Of the species confined to Watson's zone 1 not occurring in Ireland, above 70 belong to the Germanic type, which is very poorly represented in Ireland; a somewhat less number are English in type, and the remainder chiefly Atlantic.

The species of British plants confined to zones 1 and 2, the two lowest agrarian, amount to nearly 300. Of this number 180 are Irish, and here again there is a great falling off in Donegal. It is in this group of plants that our largest number of desiderata occurs. Those that do occur in Donegal are as follows:—

- **Chelidonium majus*.
Aquilegia vulgaris.
Crambe maritima.
 †*Barbarea arcuata*?
Nasturtium amphibium.
 **Brassica campestris*.
Sagina apetala.
 †*Malva moschata*.
 †*Althæa officinalis*.
Euonymus europæus.
Rhamnus catharticus?
Ulex Gallii.
Rosa arvensis.
Epilobium hirsutum.
Cornus sanguinea.
 **Smyonium Olusatrum*.
Apium graveolens.
Helosciadium nodiflorum.
Sium angustifolium.
S. latifolium?
Œnanthe Lachenalii.
Crithmum maritimum, A.
 **Pastinaca sativa*.
Thrinicia hirta.
Carduus tenuiflorus.
Carduus pratensis.
Bidens tripartita.
 **Inua Helenium*.
Pulicaria dysenterica.
Hieracium tridentatum.
Anthemis nobilis.
- Convolvulus Soldanella*.
Atropa Belladonna.
 **Verbascum Thapsus*.
 **Veronica Buxbaumii*.
 **V. polita*.
Bartsia viscosa, A.
 †*Linaria repens*.
 †*Verbena officinalis*.
Calamintha officinalis.
Mentha sativa.
 **Ballota nigra*.
 **Nepeta Cataria*.
Myosotis palustris.
 †*Symphytum officinalis*.
 †*Lysimachia Nummularia*.
Statice occidentalis, A.
S. bahusiensis.
Polygonum minus.
Rumex Hydrolapathum.
Euphorbia portlandica, A.
E. exigua.
E. Paralias, A.
E. amygdaloides.
 †*Salix rubra*.
 †*S. Smithiana*.
Cephalanthera ensifolia.
Orchis pyramidalis, G.E.
Allium vineale.
Potamogeton pectinatus, B.
P. flabellatus.
P. gramineus.

Zostera nana.	G. loliacea.
Arum maculatum.	†Bromus erectus.
Typha angustifolia.	Avena flavescens.
Juncus obtusiflorus.	Lepturus filiformis.
Scirpus Savii, A.	Polystichum angulare.
Eleocharis acicularis.	Lastræa Thelypteris.
Carex stricta.	L. spinulosa.
C. strigosa.	Adiantum Capillus-veneris, A.
Glyceria distans.	Equisetum maximum.

There are several doubtful natives in the foregoing, and several more, probably introduced species, might have been added. It may be mentioned appropriately here that all these lists have a slight uncertainty in their preparation. This arises from: (a) Doubtfully native species; (b) Uncertain records; (c) Differing views as to "varieties." There are also interrogatory marks to several of the zonal distributions in Watson. I do not think, however, these inaccuracies are of much consequence, and I have omitted the species altogether, in which they do occur, as a rule.

In this list of 74 infer and mid-Agrarian species, all with the exception of 8 are of Watson's English type; 6 are Atlantic (marked A.), and 1 each Germanic and British. As there remain but a few English type plants in Donegal it will be well to enumerate them. They are those which range through all the Agrarian zones, since no English type plant extends higher, or into the Arctic region. They are:—

Ranunculus Lingua.	Elatine hexandra.
Nuphar lutea.	Silene anglica.
Senebiera Coronopus.	Trifolium minus.
Drosera intermedia.	Prunus avium.

Potentilla reptans.	Stachys Betonica.
(Pyrus Malus).	Lysimachia vulgaris.
P. Aria.	Centunculus minimus.
Ceratophyllum demersum?	Samolus Valerandi.
Lythrum Salicaria.	Taxus baccata.
Œnanthe fistulosa.	Epipactis palustris.
(Sambucus Ebulus).	Habenaria chlorantha.
(Valerianella dentata).	Potamogeton lucens.
Apargia hispida?	Juncus glaucus.
Bidens cernua.	Cladium Mariscus.
Carlina vulgaris.	Phleum arenarium.
Convolvulus arvensis.	Melica uniflora.
C. sepium.	Ceterach officinarum.

These all range through zones 1, 2, and 3.

We may here dispose of the Germanic type. I do not believe there are above half a dozen native plants out of the 127 in south-east England found in Ireland. One of these is *Carex Bænninghauseniana*. It is believed a hybrid, doubtfully Germanic. Two others occur in Donegal, *Orchis pyramidalis* and *Bromus erectus*, the latter, I believe, not indigenous.

There are a few plants confined in England to the middle and upper Agrarian zones, or to either of these. Very few of these are Irish. They are nearly all northern. Those in Donegal are:—

<i>Circæa alpina</i>	2, 3. S.
<i>Rubus suberectus</i>	2, 3. S.
<i>Callitriche autumnalis</i>	2, 3. S.
<i>Ligusticum scoticum</i>	2, 3. S.

Hieracium crocatum	3.S.
H. corymbosum	3.S.
Eriocaulon septangulare	3. S.
Equisetum umbrosum	2, 3. S.
E. trachyodon	3. S.

This list disposes of the last combination of zones except that to which the bulk of the common British species belongs—the three Agrarian zones within the British type. It also brings forward the residue of the Scottish (and Highland) species. The two *Hieracia* are possibly Scottish. All the remaining species not dealt with are the Agrarian British. The total of these is 304 species, not all, however, undoubtedly native. All the lowland species usually met with only in the lowlands, and all the common maritime plants belong to this group of British Agrarian species. A few are to be here included, not British or English. These are *Pyrola minor*, *Mertensia maritima*, *Orobanche rubra*, *Lamium intermedium*, *Galeopsis versicolor*, *Utricularia intermedia*, *Salix pentandra*, *Blysmus rufus*, *Carex limosa*, *C. filiformis*, *Festuca sylvatica*, *Elymus arenarius*, and *Equisetum hyemale*. These belong to the Scottish type; and three species of the Agrarian zones, *Pinguicula lusitanica*, *Lastræa æmula* and *Hymenophyllum tunbridgense* are Atlantic.

If we summarise these results they will illustrate the distribution. We find there are about 228 species in the Donegal Flora that extend into the Arctic zone, omitting a number of critical forms, and about 455 species which belong to the Agrarian zones; total , 683.

In consequence of the omission in the foregoing calculation of a number a *Rubi*, *Hieracia*, *Potamogetons*, on

account of their distribution being insufficiently ascertained; and of a number of naturalised and probably introduced species which seem to have no place in such estimates, this total of species (683) is unduly small, and not to be accepted as the county record.

A COMPARISON OF THE FLORA OF DONEGAL WITH THE
FLORA OF THE ADJOINING COUNTIES AND DISTRICTS.

The counties which border on Donegal are Derry, Tyrone, and Fermanagh, with Leitrim. For the purposes of comparison we have the admirable *Flora of North-east Ireland*, by Messrs Stewart and Corry, which gives the Derry plants separately. This work affords also a means for a general view of the plants of the north-east of Ireland, alongside those of the north-west, *i.e.* Districts 11 and 12 of *Cybele Hibernica*.

For Tyrone we have but little information apart from that of the *Cybele Hibernica*, and it will be unsatisfactory to deal with Tyrone apart from the whole district, which includes also Fermanagh, Cavan, Armagh, Monaghan.

For Leitrim we have again the *Cybele Hibernica*, but to include all District 9, in which Leitrim is, would be quite unsuitable. District 9 runs south to the latitude of Dublin. The only available and satisfactory comparison here is that of the Ben Bulbin group of mountains, with those of Donegal on the opposite side of Donegal Bay. And for Ben Bulbin and the adjoining range in Sligo and Leitrim we are happily furnished with Messrs Barrington and Vowell's exhaustive Report, published by the R.I.A., 1885. Mr. Barrington has also given us a paper on the Flora of the

shores of Lough Erne, which, coupled with another on the same district by Mr Stewart, enables us to form a fairly complete estimate of Fermanagh.

In the following enumerations of plants belonging to different counties, I have enclosed in brackets those which are probably, or certainly, colonists, and omitted them from the totals. Further, I have here only made mention of what are usually regarded as species. The letters after the plants indicate the types in Watson's *Compendium*.

Species occurring in Derry, but not in Donegal:—

Thalictrum flavum, E.	Pyrola secunda, S?
[Papaver Argemone], B.E.	[Hyoscyamus niger], E.B.
[Thlaspi arvense], B.	Lathræa Squamaria, E.
Nasturtium palustre, E.	Melampyrum sylvaticum, S.
Arenaria verna, S.	Mentha Pulegium, E.
Spergularia rubra, B.E.	Salix nigricans, S. (almost certainly in Donegal).
Erodium maritimum, A?	Spiranthes Romanzoviana. †
[Rhamnus catharticus], E.	Sagittaria sagittifolia, E.
Sanguisorba officinalis, I.E.	Scilla verna, A.S.
Rubus Chamæmorus, H.	Lemna trisulca, E.B.
Rosa involuta, B.	Calamagrostis Epigejos, E.B.
Rosa hibernica, I.	C. Hookeri, L.I.
?Saxifraga granulata, B.*	Poa nemoralis, B?
Cicuta virosa, E.	Pilularia globulifera, B.
Œnanthe phellandrium, E.G.	Chærophyllum temulum, B.E.

*A prefixed query signifies “is it native?” A suffix, “is it truly there at all?”

† Recently discovered by Mrs. Leebody.

Species occurring in Donegal, but not in Derry:—

<i>Thalictrum alpinum</i> , H.	<i>Linaria repens</i> , E.
<i>T. flexuosum</i> , S.	<i>Bartsia viscosa</i> , A.
<i>Trollius europæus</i> , S.	<i>Utricularia neglecta</i> , A.
<i>Aquilegia vulgaris</i> , E.I.	[<i>Verbena officinalis</i>], E.
<i>Crambe maritima</i> , E.	<i>Statice occidentalis</i> , A.E.
<i>Raphanus maritimus</i> , A.	<i>Polygonum bistorta</i> , B.I.
<i>Drosera intermedia</i> , E.	<i>P. viviparum</i> , H.
<i>Helianthemum vulgare</i> , B.E.	<i>Euphorbia amygdaloides</i> , E.
<i>Geranium sanguineum</i> B. (A?)	<i>E. hyberna</i> , A.
<i>Erodium moschatum</i> , A.	<i>Epipactis palustris</i> , E.B.
<i>Ononis arvensis</i> , B.	<i>E. latifolia</i> , E.
<i>Myriophyllum verticillatum</i> , E.	<i>Eriocaulon septangulare</i> , A.
<i>Sedum Rhodiola</i> , H.	<i>Juncus obtusiflorus</i> , E.
<i>Saxifraga aizoides</i> , H.	<i>Typha angustifolia</i> , E.
<i>S. umbrosa</i> , A.	<i>Potamogeton nitens</i> , S.
<i>S. hirta</i> , H.	<i>P. decipiens</i> , E.
<i>Poterium Sanguisorba</i> , E.	<i>P. prælongus</i> , S.I.
<i>Agrimonia odorata</i> , E.	<i>P. flabellatus</i> , B.
<i>Cornus sanguinea</i> , E.	<i>P. filiformis</i> , S.
<i>Saussurea alpina</i> , H.	<i>Zostera nana</i> , E.
<i>Carlina vulgaris</i> , E.B.	<i>Eleocharis uniglumis</i> , B.s.
<i>Hieracium argenteum</i> , H.	<i>Cladium Mariscus</i> , E.B.
<i>H. umbellatum</i> , E.	<i>Eriophorum latifolium</i> , B.E.
<i>H. gothicum</i> , H.	<i>Carex stricta</i> , E.I.
[and other <i>Hieracia</i>].	<i>C. Bœnninghauseniana</i> , G.
<i>Arctostaphylos uva-ursi</i> , H.	<i>C. limosa</i> , S.
<i>Convolvulus soldanella</i> , E.	<i>C. strigosa</i> , E.
<i>Myosotis collina</i> , B.	<i>C. pendula</i> , B.E.
[<i>Atropa Belladonna</i>], E.	<i>C. aquatilis</i> , (2 forms or species), H.
<i>Orobanche Hederæ</i> , E.A.	

<i>C. riparia</i> , B.E.	<i>Equisetum pratense</i> , S.
<i>C. filiformis</i> , S.B.	<i>Lastræa Thelypteris</i> , E.
<i>Milium effusum</i> , B.E.	<i>Polystichum Lonchitis</i> , H.
<i>Trisetum flavescens</i> , E.B.	<i>Asplenium viride</i> , H.
<i>Sclerochloa rigida</i> , B.E.	<i>Adiantum Capillus-veneris</i> , A.
<i>S. loliacea</i> , E.	<i>Trichomanes radicans</i> , A.
<i>S. distans</i> , E.B.	<i>Ceterach officinarum</i> , E.
<i>Bromus commutatus</i> , B.	

If we scrutinize these two lists we learn that Derry has 32 species not in Donegal, Donegal has 71 species not in Derry; or Derry has 11 English, 9 British, 4 Scottish, 2 Highland, 2 Intermediate, 1 Local and 3 Atlantic species not found in Donegal; and Donegal has 29 English, 14 British, 11 Highland, 10 Atlantic, 7 Scottish and 1 Germanic not in Derry.

Donegal gains unexpectedly on Derry in the English type, and the paucity of British species, proportionally, in Donegal makes the flora of the latter all the more interesting in its component parts.

This comparison brings out a peculiarity already noticed. Derry has 8 monocotyledons not in Donegal. Donegal has 34 monocotyledons not in Derry. This is where the increase really comes, that is to say in marsh and aquatic species, of which these 34 are almost entirely made up.

Let us now see how Donegal, or the north-west, fares as compared with the north-east of Ireland. Down might fairly be omitted, but it will be found to contain few non-Donnegal species that do not also occur in the real north-eastern county, *i.e.*, Antrim. It will be unnecessary to re-enumerate the Derry plants.

Species occurring in N.E. Ireland, not in N.W.
(Donegal):—

Ranunculus fluitans, E.	[G. Mollugo, E.B.]
[Papaver hybridum] E.	[Matricaria Chamomilla] E.
(Down only).	Helminthia echioides, E.
Meconopsis cambrica, A.I.	Hieracium flocculosum
Glaucium luteum, E.B.	(Down) S.
(Down only).	Pyrola secunda, S.
[Sisymbrium Sophia] B.E.	Andromeda polifolia, I.S.
Lepidium campestre, B.E.	Cynoglossum officinale, E.B.
Elatine Hydropiper, E.L.	[Lithospermum arvense] B.
(Down only).	[Solanum nigrum] E.
[Silene noctiflora] E.G.	[Hottonia palustris] E.
(Down only).	[Chenopodium rubrum] E.G.
Sagina ciliata, E.B.	Atriplex littoralis, B.
Cerastium arvense, B.E.	A. arenaria, B.L.
Malva rotundifolia, B.E.	A. portulacoides (Down), E.
[Lavatera arborea] A.	Malaxis paludosa (B).
Hypericum dubium, E.B.	Hydrocharis Morsus-ranæ, E.
H. hirsutum, B.E.	Butomus umbellatus, E.
Geranium sylvaticum, S.	Lemna gibba, E.G.
G. pratense.	[Zannichellia polycarpa] L.
Rhamnus catharticus, E.	Carex elongata? E.
R. Frangula, E.	C. muricata, B.E.
Trifolium striatum, E?	C. Buxbaumii, L.
Vicia Orobus, S.I.	C. Pseudo-cyperus, E.
Lathyrus palustris, E.	C. paludosa? (Down only?) B.
Saxifraga Hirculus, S.I.	[Sclerochloa procumbens, E.G.]
Adoxa Moschatellina, B.	Hordeum pratense E.
Galium cruciatum (Down) B.I.	Polypodium Dryopteris? S.

A good number of those species given as occurring in Donegal, but not in Derry, are found in Antrim or Down.

<i>Crambe maritima</i> (Down).	<i>P. prælongus</i> .
<i>Raphanus maritimus</i> .	<i>Eleocharis uniglumis</i> (Down).
<i>Geranium sanguineum</i> (Down only?)	<i>Cladium Mariscus</i> .
<i>Ononis arvensis</i> .	<i>Eriophorum latifolium</i> ?
<i>Myriophyllum verticillatum</i> .	<i>Carex stricta</i> ?
<i>M. spicatum</i> .	<i>C. limosa</i> .
<i>Sedum Rhodiola</i> .	<i>C. pendula</i> .
<i>Saxifraga aizoides</i> .	<i>C. riparia</i> .
<i>Agrimonia odorata</i> .	<i>C. strigosa</i> .
<i>Saussurea alpina</i> (Down).	<i>Milium effusum</i> (Down only?)
<i>Hieracium gothicum</i> .	<i>Trisetum flavescens</i> .
<i>Arctostaphylos Uva-ursi</i> .	<i>Sclerochloa rigida</i> (Down).
<i>Convolvulus Soldanella</i> .	<i>S. loliacea</i> (Down).
<i>Myosotis collina</i> .	<i>S. distans</i> .
<i>Epipactis palustris</i> ?	<i>Bromus commutatus</i> .
<i>Juncus obtusiflorus</i> (Down).	<i>Equisetum pratense</i> .
<i>Typha angustifolia</i> .	<i>Lastræa Thelypteris</i> ?
<i>Potamogeton nitens</i> .	<i>Ceterach officinarum</i> .

Finally, omitting Down plants, and undoubted aliens and colonists, we will exhibit, according to their types, the plants which belong to north-east and north-west Ireland respectively. The greater part of Down is south of Donegal. Antrim and Derry are larger than Donegal.

In North-east (Derry and Antrim) Ireland, but not in
North-west (Donegal):—

ATLANTIC.	
<i>Meconopsis cambrica</i> .	<i>Scilla verna</i> .
<i>Erodium maritimum</i> .	<i>Spiranthes Romanzoviana</i> .

HIGHLAND.

Rubus Chamæmorus.
Hieracium prenanthoides.

SCOTTISH.

Arenaria verna.
Geranium sylvaticum.
Vicia Orobus.
Saxifraga Hirculus.
Pyrola secunda.
Melampyrum sylvaticum.
Polypodium Dryopteris?

INTERMEDIATE.

Sanguisorba officinalis.
Rosa hibernica.

LOCAL.

Carex Buxbaumii.
Calamagrostis Hookeri.

BRITISH.

Lepidium campestre.
L. Smithii (native?).
Cerastium arvense.
Spergularia rubra.
Malva rotundifolia.
Hypericum hirsutum.
Rosa involuta.
Saxifraga granulata (native?)
Adoxa Moschatellina.
Chærophyllum temulum.
Atriplex littoralis.
Malaxis paludosa.

Carex muricata.
Poa nemoralis?
Hieracium euprepes, Heb.
H. stenolepis, Lundeb.
H. flocculosum, Backh.
H. bifidum, Tausch.

ENGLISH.

Thalictrum flavum.
Ranunculus fluitans.
Nasturtium palustre.
Hypericum dubium.
Rhamnus catharticus.
R. Frangula.
Lathyrus palustris.
Cicuta virosa.
Œnanthe Phellandrium.
Galium Mollugo (native?).
Helmimthia echioides.
Cynoglossum officinale.
Mentha Pulegium.
Atriplex laciniata.
Obione portulacoides.
Hydrocharis Morsus-ranæ.
Sagittaria sagittifolia.
Butomus umbellatus.
Lemna gibba.
L. trisulca.
C. Pseudo-cyperus.
Hordeum pratense.
Calamagrostis Epigejos.

In North-west but not in North-east:—

ATLANTIC.	<i>Utricularia neglecta.</i>
<i>Saxifraga umbrosa</i>	<i>Polygonum Bistorta.</i>
<i>Bartsia viscosa.</i>	<i>Potamogeton flabellatus.</i>
<i>Statice occidentalis.</i>	<i>Eleocharis uniglumis.</i>
<i>Euphorbia hyberna.</i>	<i>Sclerochloa rigida.</i>
<i>Eriocaulon septangulare.</i>	SCOTTISH.
<i>Adiantum Capillus-veneris.</i>	<i>Trollius europæus.</i>
<i>Trichomanes radicans.</i>	<i>Hieracium hibernicum.</i>
HIGHLAND.	<i>H. scoticum.</i>
<i>Thalictrum alpinum.</i>	<i>Potamogeton filiformis.</i>
<i>Saxifraga hirta.</i>	<i>Carex filiformis.</i>
<i>Hieracium argenteum.</i>	GERMANIC.
<i>H. pallidum.</i>	<i>Carex Bœnninghausenia.</i>
<i>H. crinigerum.</i>	ENGLISH.
<i>H. Schmidtii.</i>	<i>Aquilegia vulgaris.</i>
<i>H. sparsifolium.</i>	<i>Drosera intermedia.</i>
<i>H. gothicum.</i>	<i>Poterium Sanguisorba.</i>
<i>H. proximum.</i>	<i>Cornus sanguinea.</i>
<i>H. Somerfeltii.</i>	<i>Carlina vulgaris.</i>
<i>Oxyria reniformis.</i>	<i>Hieracium tridentatum.</i>
<i>Polygonum viviparum.</i>	<i>Orobanche Hederæ.</i>
<i>Sesleria cærulea.</i>	† <i>Linaria repens.</i>
<i>Polystichum Lonchitis.</i>	<i>Potamogeton decipiens.</i>
<i>Asplenium viride.</i>	<i>Zostera nana.</i>
BRITISH.	<i>Sclerochloa loliacea.</i>
<i>Helianthemum vulgare.</i>	

There are about fifty-five native species in Antrim and Derry not found in Donegal, against thirty-seven species, excluding some hawkweeds, in Donegal not in the north-eastern counties. The hawkweeds are about twelve well-marked forms, most of which will be regarded as species.

Amongst the species credited to the north-east, there are, however, not a few that are either extinct or nearly so, or not for a long time observed. It will be useful to point those out.

Draba incana—"Perhaps becoming extinct" in Derry. Rediscovered; "small and scarce." *Ir. Nat.*, Jan. '94.

Crambe maritima—Extinct on Rathlin; the only Antrim station. This rare plant has not been observed for many years in Donegal.

Geranium sanguineum – Not recently seen?

Rhamnus catharticus and *R. Frangula* – "Extinct or nearly so; not seen in recent years." *R. Frangula* – Rediscovered, 1890. *Ir. Nat.*, Jan. '94.

Lathyrus palustris – "Probably now lost in Antrim."

Pyrus Aria – "Almost extinct."

Saxifraga granulata – Is it native?

S. oppositifolia – Almost extinct in its one station.

Adoxa Moschatellina – "Soon destined to be extinct."

Galium Mollugo – Not native.

Leontodon hispidus – Not rediscovered and likely wrong.

Hieracium umbellatum – Not rediscovered and unlikely on Benevenagh.

Pyrola secunda – Seems doubtful. No one can find it.

Gentiana Amarella –Not recently found.

Mertensia maritima – "Refound, Co. Derry, 1893." *Ir. Nat.*, March, 1894.

Utricularia intermedia – Not recently found.

Rumex Hydrolapathum – Not recently found.

Salix nigricans and *S. phylicifolia* – Neither of these seen recently?

Epipactis palustris – "Cannot now be found."

Cephalanthera ensifolia – “Not found recently, though diligently sought for.”

Potamogeton nitens – “Antrim.” *Ir. Nat*, March '94.

Cladium Mariscus – “A few plants still linger.” *Ir. Nat*, March '94.

Eriophorum latifolium – “Very rare, if not extinct.”

Carex teretiuscula – “Very rare, possibly extinct.”

C. stricta – “Antrim,” 1893. *Ir. Nat*, March '94.

C. limosa – “Derry,” 1892. *Ir. Nat*, March '94.

C. paludosa – “Extremely rare,” and not found recently.
A critical species.

Millium effusum – Not in Antrim?

Poa nemoralis – “Very rare; not seen by us.”

Triticum caninum – Only “doubtfully noted” recently.

Hordeum pratense – Very rare and becoming extinct?

Polypodium Dryopteris – “Most probably extinct.”

Osmunda regalis – Very rare, almost extinct.

Lastræa Thelypteris – Very rare and not found recently.

Pilularia globulifera – “Extremely rare,” and not found recently.

Of the above thirty-seven important species, twenty are undoubted and in most cases frequent Donegal plants. The remainder are a portion of the north-east majority. The discrepancy between the two Floras is, therefore, more nominal than real. On the other hand, a few species could be picked out, whose claims to a place in the Donegal Flora were much more slender than to that of the north-east. But no such list, nor anything approaching to it, as that above could be produced. And it is chiefly, as it ought to be, in aquatic species that this proportionate improvement in the Western Flora is made apparent.

But we will first regard the difference from the point of view of Watson's types.

In the previous page I have given the lists of Atlantic, Highland, Scotch, and English type plants in Donegal. From these we learn that the north-west is numerically stronger than the north-east (1) in Highland species by about eight species, exclusive of *Hieracia*, which would perhaps still further strengthen the north-west; and numerically stronger in Atlantic type species by about four species. But in Scottish type species the north-east has a slight advantage of three or four, which may be increased by two of the intermediate type. In English and British the north-east is decidedly stronger, the numbers being about 25 English and 14 British, against 14 English and 5 British respectively. Considering the two districts as reliable dwelling places, for the species (more especially the rare ones) belonging to them, I think I have shown, however, that this predominance does not really exist.

As I have already mentioned, Donegal is strong in marsh-loving plants. Pondweeds, Sedges and Ferns may be selected as the strongest groups of plants which will predominate in places with a damp climate. In each of these groups Donegal is stronger than the north-east.

I will now endeavour to make some comparison between the Floras of Donegal and that of the adjoining county of Fermanagh, the only other neighbouring county which has been the subject of special and exhaustive attention. As it is, however, impossible to separate Ben Bulbin from the other mountains (Glenade, Truskmore, &c.) of this group, some of which are in Leitrim, this whole group will be included. The area thus dealt with is that part of Ireland

adjoining Donegal on its extreme south and south-west, lying opposite our county on the other side of Donegal Bay, and to a large extent continuous in its formation with the limestone forming so conspicuous a feature from Killybegs to Belleek.

For the purpose of this comparison, in addition of the *Cybele Hibernica*, we have Mr. Stewart's report on the Botany of the West of Lough Erne (extending into Cavan).* Mr. Barrington's Report on the Flora of the shores of Lough Erne,† and Messrs Barrington and Vowell's Report on the Flora of Ben Bulbin and adjoining mountain range, &c.‡ The area under consideration is partly in District 9 and partly in District 10 of the *Cybele Hibernica*.

Mr. Stewart's list is singularly meagre. In addition to a bramble and a hawkweed, there is, I think, but one species not occurring in the other Reports, and that is *Vaccinium Vitis-Idæa*. The hawkweed is *H. cinarescens*, called in the London catalogue, *pallidum crinigerum*, and occurring in Donegal in several places. *Dryas octopetala* is common on Ben Bulbin. The others are all common plants.

In the Flora of Ben Bulbin and adjoining mountains in Sligo and Leitrim, the non-Donegal plants are:—

Meconopsis cambrica.	Galium sylvestre.
Arabis petraea.	Lemna trisulca.
Arenaria ciliata.	?Sagittaria sagittifolia.
Epilobium alsinifolium.	Poa alpina.
Saxifraga nivalis.	

* *Proc. R.I.A.*, 2nd Ser, Vol. iii.

† *Proc. R.I.A.*, 2nd Ser, Vol. iv.

‡ *Proc. R.I.A.*, 2nd Ser, Vol. iv.

In Mr Barrington's Lough Erne Flora the following plants not found in Donegal occur:—

Thalictrum flavum.	Geum intermedium (var?)
Caltha radicans (var?)	Cicuta virosa.
Nasturtium sylvestre.	Ænanthe Phellandrium.
N. palustre.	Lemna trisulca.
Stellaria glauca.	L. gibba.
Rhamnus catharticus.	Carex elongata.
Lathyrus palustris.	

Against this short list of species, it is of course out of reason to set down a total of Donegal plants not occurring in Fermanagh or in the Ben Bulbin group. The number would be large and perhaps run to three figures. I have not even attempted to make it out, but many names occur to my memory.

One comparison and one only can be made with utility. Ben Bulbin has been long famous as the home of some of the rarest Highland (alpine) plants in Ireland. Two are not found elsewhere in Ireland, *Saxifraga nivalis* and *Epilobium alsinifolium*; and one, *Arenaria ciliata*, has no other habitat in Great Britain. Against such rarities as these Donegal has nothing similarly interesting to offer. The number of species, will, however, be found to be in favour of Donegal. *Arenaria ciliata* is perhaps not Highland.

Highland species not in Donegal:—

Arabis petræa.	Saxifraga nivalis.
Arenaria ciliata.	Poa alpina.
Epilobium alsinifolium.	

Highland species not in Ben Bulben district:—

Saxifraga stellaris.	Arctostaphylos Uva-ursi.
S. hirta.	Carex aquatilis (two forms).
Saussurea alpina.	Cryptogramme crispa.
Hieracia (about twelve, some Scotch?).	Lycopodium alpinum.
	Isoetes lacustris.

Galium boreale and *Vaccinium Vitis-idaea*, which do not occur on the Ben Bulben range, are found elsewhere in Fermanagh.

The Donegal *Hieracia* are especially interesting, and several forms are, so far, peculiar to Ireland.

There are only two Highland species in Ireland, which do not occur either in the Ben Bulben district or in Donegal.

One of these is *Alchemilla alpina*, which grows in Kerry and Wicklow. Possibly it has a dislike to limestone, but its absence from Donegal is very singular, seeing how abundant it is down to the margin of the sea at Skye and elsewhere in western Scotland.

The other is *Rubus Chamæmorus*, found only in the Sperrin Mountains on the boundary of two counties (and districts) Tyrone and Derry. Having re-discovered this in 1891, with the greatest difficulty, owing to the minute and almost hidden state in which it occurs, I do not think that it is at all impossible that it may yet be found in Donegal. No species that I am acquainted with needs more careful seeking for.

The materials for a comparison of the Floras of Donegal and Tyrone are too scanty, or too scattered, with regard to the latter county, to afford any correct results. There appear to be very few native Tyrone plants that do not occur in Donegal. With the exception of *Rubus Chamæmorus*, and a

few aquatics found also in Fermanagh, I think the number must be very small. Donegal is rich compared with Tyrone.

A few remarks upon the Northern (Scottish) type plants of Ireland generally will be useful, in order to see how far Ulster holds the predominance.

Of the Scottish type species, Messrs Barrington and Vowell record nineteen species from the Ben Bulbin district, all of which occur in Donegal. The Intermediate type plant *Galium sylvestre*, should, however, be added to this list (as it is "Intermediate," inclining to Highland, not to Atlantic or English). One other, *Alsine verna*, is believed to occur, but was not seen. The Flora of Lough Erne adds another Scottish, *Potamogeton filiformis*, also a Donegal plant. The total appears to be twenty-two species, against about twice that number in Donegal.

Of the Northern (Scottish) type species found in Ireland, the following are those which are either doubtful natives or absentees in Donegal and N.E. Ireland.

Viola lutea?

Ajuga pyramidalis (Aran, Galway).

Polypodium Dryopteris?

With these may be mentioned the Intermediate type plants:—

Helianthemum canum, Interm. Atlant, Clare and Galway.

Potentilla fruticosa, Interm. Scott, Clare and Galway.

Gentiana verna, Intermed, Clare and Galway.

Allium Scorodoprasum, Intermed. Scott, Kerry and Cork.

In Atlantic species Ireland is well represented. The *Cybele Hibernica* enumerates forty-one out of the seventy

British as Irish. Those which are absent from the north of Ireland are as follows:—

Senebiera didyma (reaches Galway; not native).	Inula crithmoides.
Mathiola sinuata.	Campanula hederacea.
Linum angustifolium.	Sibthorpia europæa.
Lavatera arborea (as a native).	Euphorbia Peplis.
Rubia peregrina (reaches Mayo).	Asparagus officinalis.
	Rhynchospora fusca (reaches Mayo).
	Asplenium lanceolatum.

And here may be mentioned the south-western and western Irish species of an extreme Atlantic or Hibernian type. Those in italics are not in Great Britain:—

<i>Helianthemum guttatum.</i>	<i>Pinguicula grandiflora.</i>
Saxifraga Geum et hirsuta.	<i>Neotinea intacta.</i>
<i>Inula salicina.</i>	Sisyrinchium anceps.
<i>Erica mediterranea.</i>	<i>Potamogeton longifolius?</i>
<i>Arbutus unedo.</i>	<i>Naias flexilis.</i>
<i>Dabeocia polifolia.</i>	Carex punctata.

Of those not found in Great Britain which do reach the north of Ireland there are only:—

Arenaria ciliata (not in Donegal).	Spiranthes Romanzoviana (not in Donegal).
Saxifraga umbrosa.	Carex Buxbaumii (not in Donegal).

Mr More enumerates “twenty-four scarcest British plants occurring in Ireland.” Of these the following only occur in the north:—

Adiantum Capillus-veneris.	Equisetum trachyodon.
Hieracium caesium? (Viola Curtisii.)	Eriocaulon septangulare.
Elatine Hydropiper (not in Donegal).	Arundo stricta (not in Donegal).
	Euphorbia hyberna.

To these may be added:—

Hieracium Somerfeldtii.	Carex aquatilis.
H. hibernicum.	Trichomanes radicans.

As a set-off against the Atlantic and Hibernian plants which do not reach the north of Ireland we might enumerate the species, chiefly Highland and Scottish, which in Ireland are confined to the north. Chief amongst these are:—

Trollius europæus.	Adoxa moschatellina (British).
Silene acaulis.	Hieracia.
Arenaria ciliata.	Pyrola secunda.
Geranium sylvaticum (British).	Melampyrum sylvaticum.
G. pratense (British).	Ulmus montana (native).
Helianthemum vulgare (British).	Salix nigricans.
Rubus Chamæmorus.	Typha angustifolia (extinct near Dublin; English).
Rosa Hibernica.	Carex elongata.
Epilobium alsinifolium.	C. Buxbaumii.
Saxifraga aizoides.	C. aquatilis.
S. nivalis.	Calamagrostis stricta.
Ligusticum scoticum.	Equisetum umbrosum.
	Cryptogramme crispa.

It is in the ordinary British type, in the English type, and to a small extent in the Germanic type, that the midland and eastern counties obtain species not found in the north.

With regard to Donegal, I have already mentioned some points in which the Flora is favoured in comparison with the north-east of Ireland. The groups which illustrate this best in the natural orders are Hawkweeds, Sedges, Ferns, and perhaps Pondweeds. In the Hawkweeds no doubt research has effected much. I have, however, collected in this genus all over Ireland, and I feel certain that Donegal will compare favourably with any other county for varieties in this intricate group.

The following forms have already been collected:—

Hieracium Pilosella.	H. eupatorium.
H. anglicum.	H. buglossoides?
H. anglicum, var. longi- bracteatum.	H. proximum.
H. anglicum.	H. auratum.
H. cerinthiforme.	H. Somerfeltii.
H. cerinthiforme var. Hartii.	H. Scoticum.
H. iricum.	H. Scoticum, var. occidentale.
H. Schmidtii.	H. strictum, var. opsianthum.
H. Schmidtii, var. crinigerum.	H. rigidum, var. pullatum.
H. argenteum.	H. " " acrifolium.
H. hibernicum.	H. " " scabresceus.
H. rubicundum.	" tridentatum.
H. cæsium.	H. saxifragum, var. orimeles.
H. vulgatum.	H. umbellatum.
H. gothicum.	H. crocatum.
H. sparsifolium.	H. boreale?

and several others as yet undetermined.

With the exception of *H. flocculosum*, in Down, and some forms of *murorum* occurring in the Wicklow

Mountains, there are few Irish forms not met with in Donegal. The nomenclature is that given by Mr. Hanbury, *Jour. of Bot.*, July 1894.

The *Cybele Hibernica* enumerates forty-five sedges as Irish. To these, three have to be added – *C. aquatilis*, *C. Bænningshauseniana* (a hybrid?), and *C. rhynchophysa* (a var.), making the total forty-eight. *C. acuta*, var. *prolixa*, and *C. aquatilis*, var. *virescens*, as well as *C. Bænningshauseniana*, are, so far, peculiar to Donegal.

Of these forty-eight, Donegal has thirty-nine. District 12 claims forty, but several of these are extinct, or nearly so, in that district, though frequent in Donegal. District 1 (Kerry and Cork) are rich in Sedges, but, pending Mr. Scully's Flora of Kerry, there are several doubtful plants.

In Ferns, District 1 is the only rival. *Aspleium lanceolatum* occurs only there. The Oak fern, I believe, does not occur there, and neither does it in Donegal. Against *Asplenium lanceolatum* we can set the Parsely Fern in Donegal. And the variety *polyphyllum* of the Adder's Tongue belongs to Kerry and Donegal. So that Donegal stands bracketted with Kerry and Cork, each having all Irish ferns except two, the total being thirty-two.

In Pondweeds the information is too doubtful to pronounce an opinion. All except three that I am aware of as Irish, occur in Donegal. The three absentees are *P. plantagineus*, *P. lanceolatus*, and *P. densus*. Against these, however, are some forms in Donegal which Mr. Bennett does not seem to have met with from Ireland elsewhere. Kerry again would probably be the only rival with Donegal.

Frequent reference has been made to Watson's types of distribution of species. In this method he regards them as

belonging to one or other of six different types, and I have appended the initial letters of these types to each species in my table as given by Watson. But it must be remembered that these letters refer to their distribution in *Britain*, and not in Donegal, nor yet in Ireland; and sometimes a species regarded, for instance, as western from a British point of view, will not be western from an Irish point of view. The types are:—

1. British type – Species widely spread through South, Middle and North Britain.

2. English type – Species chiefly seen in South or in S.M. Britain.

3. Scottish – Species chiefly seen in North or in N.M. Britain.

Intermediate type – Species chiefly in Mid. Britain.

4. Highland type – Species chiefly seen about the mountains.

5. Germanic type – Species chiefly seen in East England.

6. Atlantic type – Species chiefly seen in West England.

Local Species – restricted to single, or few provinces.

It will now be seen how readily the species in Donegal range themselves into these types, especially if they be taken, as I now propose to do, in conjunction with the zonal distribution.

Although it would be easy to pick out from the foregoing lists the total number of plants belonging to Watson's different types in Donegal, I will append here lists of these that are English, Highland, Scotch, and Atlantic.

Highland species in Donegal:—

Thalictrum alpinum.

Draba incana.

Subularia aquatica.

Silene acaulis.

Dryas octopetala.	Vaccinium Vitis-idaea.
Sedum Rhodiola.	Polygonum viviparum.
Saxifraga stellaris.	Oxyria reniformis.
" aizoides.	Salix herbacea.
" oppositifolia.	Juniperus nana.
Galium boreale.	Carex rigida.
Hieracium anglicum.	C. aquatilis.
" iricum.	Sesleria caerulea.
" argenteum.	Allosorus crispus
" gothicum.	Polystichum Lonchitis.
? " crocatum.	Asplenium viride.
? " corymbosum.	Lycopodium alpinum.
Saussurea alpina.	L. selaginoides.
Arbutus Uva-ursi.	Isoetes lacustris.

The total of this group in Britain is 113, and in Ireland 40. To these may be added *Cochlearia officinalis*, var. *alpina* and *Saxifraga Sternbergii*. The *Hieracia* that I have attached queries to appear to me to belong to the Scottish division, since according to Watson they do not range into any of the Arctic zones. Other *Hieracia* should be included here.

Scottish species occurring in Donegal:—

Thalictrum minus.	Circaea alpina.
Trollius europaeus.	Callitriche autumnalis.
Drosera anglica.	Saxifraga hypnoides.
Sagina subulata.	Parnassia palustris.
Vicia sylvatica.	Ligusticum scoticum.
Prunus Padus.	Hieracium pallidum (and
Rubus saxatilis.	others).
R. suberectus.	Crepis paludosa.

<i>Gnaphalium dioicum</i> .	<i>Potamogeton nitens</i> .
<i>Lobelia Dortmanna</i> .	<i>P. prœlongus</i> .
<i>Pyrola media</i> .	<i>P. filiformis</i> .
<i>P. minor</i> ?	<i>Eriocaulon septangulare</i> .
<i>Orobanche rubra</i> .	<i>Blysmus rufus</i> .
<i>Lamium intermedium</i> .	<i>Carex divica</i> .
<i>Galeopsis versicolor</i> .	<i>C. limosa</i> .
<i>Mertensia maritima</i> .	<i>C. filiformis</i> .
<i>Pinguicula vulgaris</i> .	<i>Festuca sylvatica</i> .
<i>Empetrum nigrum</i> .	<i>Elymus arenarius</i> .
<i>Salix pentandra</i> .	<i>Polypodium Phegopteris</i> .
<i>S. phyllicifolia</i> .	<i>Equisetum umbrosum</i> .
<i>Listera cordata</i> .	<i>E. trachyodon</i> .
<i>Habenaria albida</i> .	<i>E. hyemale</i> .

The total of this group in Britain is 117 species, and in Ireland, 66.

Atlantic species occurring in Donegal:—

<i>Raphanus maritimus</i> .	<i>Utricularia neglecta</i> .
<i>Arabis ciliata</i> .	<i>Pinguicula lusitanica</i> .
<i>Viola Curtisii</i> .	<i>Statice occidentalis</i> .
<i>Hypericum Androsœmum</i> .	<i>Euphorbia hiberna</i> .
<i>H. Elodes</i> .	<i>E. Paralias</i> .
<i>Sedum anglicum</i> .	<i>E. portlandica</i> .
<i>Cotyledon umbilicus</i> .	<i>Scirpus Savii</i> .
<i>Erodium moschatum</i> .	<i>Lastrœa æmula</i> .
<i>Carum verticillatum</i> .	<i>Adiantum Capillus-veneris</i> .
<i>Crithmum maritimum</i> .	<i>Hymenophyllum Tun-</i>
<i>Bartsia viscosa</i> .	<i>bridgense</i> .
<i>Orobanche hederæ</i> .	<i>H. Wilsoni</i> .

And with these may be properly included –

Saxifraga umbrosa. *Trichomanes radicans.*

The total for this group in England is 70 species, and in Ireland, 41.

English type species occurring in Donegal:–

<i>Ranunculus tricophyllos.</i>	<i>Rosa arvensis.</i>
<i>R. Lingua.</i>	<i>Agrimonia odorata.</i>
<i>Aquilegia vulgaris.</i>	<i>Poterium Sanguisorba.</i>
<i>Nuphar lutea.</i>	[<i>Pyrus Malus</i>].
<i>Crambe maritima.</i>	<i>P. Aria.</i>
<i>Senebiera Coronopus.</i>	<i>Epilobium hirsutum.</i>
<i>Nasturtium amphibium.</i>	<i>Myriophyllum verticillatum.</i>
[<i>Brassica campestris</i>].	? <i>Ceratophyllum demersum.</i>
[<i>Sinapis alba</i>].	<i>Lythrum Salicaria.</i>
[<i>S. nigra</i>].	[<i>Sedum Telephium</i>].
<i>Drosera intermedia.</i>	<i>Cornus sanguinea.</i>
<i>Eletine hexandra.</i>	<i>Eryngium maritimum.</i>
[<i>Saponaria officinalis</i>].	[<i>Smyrniolum Olusatrum</i>].
[<i>Silene anglica</i>].	<i>Apium graveolens.</i>
<i>Sagina apetala.</i>	<i>Helosciadium nodiflorum.</i>
[<i>Malva moschata</i>].	? <i>Sium latifolium.</i>
[<i>Althæa officinalis</i>].	<i>S. angustifolium.</i>
<i>Euonymus europæus.</i>	<i>Œnanthe fistulosa.</i>
<i>Ulex Nanus.</i>	Œ. <i>Lachenalii</i>
[<i>Trifolium filiforme</i>].	[<i>Pastinaca sativa</i>].
[<i>Prunus insititia</i>].	[<i>Torilis nodosa</i>].
[<i>Prunus cerasus</i>].	[<i>Sambucus ebulus</i>].
<i>P. avium.</i>	[<i>Valerianella dentata</i>].
<i>Potentilla reptans.</i>	[<i>Dipsacus sylvestris</i>].
<i>Rubus cæsius.</i>	<i>Thrinchia hirta.</i>

- ? *Leontodon hispidus*.
Hieracium tridentatum.
H. umbellatum.
 [*Cichorium Intybus*].
Carduus pycnocephalus.
C. pratensis.
Carlina vulgaris.
Bidens cernua.
B. tripartita.
 [*Inula Helenium*].
I. dysenterica.
Anthemis nobilis.
 [*A. Cotula*].
 [*Ligustrum vulgare*].
Convolvulus arvensis.
C. Soldanella.
 [*Atropa Belladonna*].
 [*Verbascum Thapsus*].
 [*Veronica Buxbaumii*].
Scrophularia aquatica.
Linaria repens.
Orobanche hederæ.
 [*Verbena officinalis*].
 [*Calamintha officinalis*].
 [*Ballota nigra*].
Stachys Betonica.
 [*Nepeta Cataria*].
 [*Symphytum officinale*].
 [*Anchusa sempervirens*].
Lysimachia vulgaris.
 [*L. Nummularia*].
- Centunculus minimus*.
Samolus Valerandi.
Statice bahusiensis.
 [*Plantago media*].
Polygonus minus.
Rumex Hydrolapathum.
 [*Euphorbia exigua*].
E. amygdaloides.
 [*Salix rubra*].
 [*S. Smithiana*].
Taxus baccata.
Epipactis palustris.
Cephalanthera ensifolia.
 [*Iris foetidissima*].
Allium vineale.
Potamogeton gramineus.
P. lucens.
Zostera nana.
Arum maculatum.
Typha angustifolia.
Juncus glaucus.
J. obtusiflorus.
Cladium Mariscus.
Scirpus Tabernæmontana.
S. acicularis.
Carex disticha.
C. stricta.
C. strigosa.
Phleum arenarium.
Avena flavescens.
Melica uniflora.

<i>Sclerochloa distans.</i>	<i>Lastræa Thelypteris.</i>
<i>S. loliacea.</i>	<i>L. spinulosa.</i>
<i>Lepturus filiformis.</i>	<i>Equisetum maximum.</i>
<i>Ceterach officinarum.</i>	INTERMEDIATE TYPE.
<i>Polystichum angulare.</i>	[<i>Myrrhis odorata</i>].

Watson's types adopted for Great Britain are not suitable to Ireland. A much simpler and more obvious classification would suit the smaller island. I have drawn out several schemes, and that which appeared most useful was Northern, Southern, Eastern, Western and General. Each of these would have an Inner or Limited set of extreme cases, within a confined range. Northern would thus contain an inner circle of alpine, and all those growing commoner northwards. Southern, or rather South-western, would contain "Hibernian" and all those commoner southward. General would have two divisions, "Widespread Agrarian" and widespread, ascending the mountains. Eastern would include most of the English and Germanic species which barely reach Ireland, having their headquarters from Louth to Wexford. Western would be debateable in a few cases with southern, but forms a well-marked and large group. These divisions will, to a certain extent, agree with the climatic condition, which are the causes perhaps of the present distribution of many species.

In the above groups of Watson's type species there are some points to be noticed. In the English groups I have included all colonists and doubtful natives, as there are so many of these about which different views prevail. Also all those of Watson's English-British, English-Atlantic, that are included, as long as "English" predominates. I made

out, however, a separate list of those purely English type species occurring in Ireland and also undoubted natives. This list contains over eighty species, and less than half of these occur in Donegal. Of the native English type species that do occur in Donegal about a third are confined to the south-west of the county.

In the smaller Atlantic type there is also a considerable loss, but not, proportionately, so large as compared with the rest of Ireland. This group is at its maximum in Ireland, on the south-east coasts of Wexford and Waterford. Of the forty native Atlantic type species in Ireland, sixteen are absent from Donegal. To this type should be added the so-called "Hibernian" species, which will place the majority upon the west coasts.

In the Highland type species Donegal is much better represented. Omitting *Hieracia*, as their distribution is not sufficiently understood, there are thirty-one species in Ireland. Of these all, except six, occur in Donegal. If *Hieracia* be considered, there are several more to be added; probably the total number of Highland *Hieracia* in Ireland occurs in Donegal.

In Watson's Intermediate type, which is a "sub-division of the boreal and montane group regarded as a whole," Ireland is very weak. There are seven native species out of a British total of thirty-seven of this type, and there are none in Donegal. In Watson's *Compendium* (1870, p27), he associates this group with his Scottish, although his arguments seems to me to be sufficiently opposed to this course. They are species of restricted area, which run out northwards and have a tendency to the hilly districts of England and the lowlands. The very fact of their extreme

scarceness in Ireland, and their entire absence from Donegal, where the true Scottish type is well represented, points to the correctness of Watson's earlier views (Vol. iv, p.501) in keeping the plants of the Intermediate type in a separate group. It will be as well, here, to mention those that occur in Ireland, and it will be apparent, considering their Irish range, that they are better regarded as not Scottish type.

Helianthemum canum, Aran (Galway) and Clare.

Potentilla fruticosa, Clare and Galway.

Sanguisorba officinalis. In Mayo; very rare, N.E. Ireland.

Galium sylvestre, Kerry, Clare, Galway, Leitrim.

Andromeda polifolia, middle, south and west of Ireland; very rare or extinct, N.E. Ireland.

Gentiana verna, Mayo, Clare, Galway.

†*Allium Scorodoprasum*, Kerry and Cork.

All these Intermediate type would incline more naturally to "Atlantic" than "Scottish."

In the Scottish type, as compared with the rest of Ireland, Donegal is, naturally, well supplied. Out of about 56 species in Ireland, all except eight occur in Donegal. Another species, *Utricularia intermedia*, may no doubt be counted as Scottish.

**Plants arranged in Descending Order as they
occur on the Mountains.**

2460 feet.	2200
Potentilla Tormentilla.	Melampyrum pratense.
Galium saxatile.	Juncus supinus.
Calluna vulgaris.	Eriophorum polystachyon.
Vaccinium Myrtillus.	Carex pilulifera.
Armeria maritima.	Hymenophyllum unilaterale.
Rumex Acetosa.	2150
R. Acetosella.	Thalictrum alpinum to 900.
Luzula sylvatica.	Cardamine pratensis.
Agrostis vulgaris.	Pedicularis sylvatica.
Festuca ovina.	Empetrum nigrum.
2400	Juncus effusus.
Euphrasia officinalis.	J. squarrosus.
Salix herbacea, to 870.	Carex stellulata.
Carex rigida, to 1000.	Lastræa dilatata.
Aira flexuosa.	Blechnum boreale.
Lycopodium Selago.	2100
2300	Solidago Virgaurea.
Scirpus cæspitosus.	Sparganium natans (alpinum)
2219	Polypodium Phegopteris.
Campanula rotundifolia.	2050
Lycopodium alpinum.	Stellaria uliginosa.
2210	Montia fontana.
Taraxacum officinale.	Veronica officinalis.

2000	
Ranunculus Flammula.	H. auratum.
Viola palustris.	Scabiosa succisa.
V. sylvatica.	Antennaria dioica.
Epilobium palustre.	Erica Tetralix.
Saxifraga umbrosa to 800.	Thymus Serpyllum.
Saussurea alpina to 1000.	Oxyria reniformis to 900.
Menyanthes trifoliata.	Carex flava.
Luzula multiflora.	Triodia decumbens.
Carex binervis.	Lastræa Filix-mas.
1970	Cystopteris fragilis.
Erica cinerea.	Asplenium Trichomanes.
1950	Lycopodium selaginoides.
Orchis maculata.	1750
1900	Juniperus nana.
Sedum Rhodiola.	1700
Arctostaphylos Uva-ursi.	Drosera rotundifolia.
Vaccinium Vitis-idæa.	Lychnis Flos-cuculi.
Listera cordata.	Sagnia procumbens.
1880	Hieracium anglicum.
Plantago maritima.	Carex pulicaris.
1850	Molinia cærulea.
Saxifraga oppositifolia.	1650
Chrysosplenium oppositifolium.	Pyrus Aucuparia.
Nardus stricta.	Pinguicula vulgaris.
Polystichum Lonchitis to 1470.	1600
1800	Ranunculus acris.
Rubus saxatilis.	R. repens.
Hieracium rubecundum.	Stellaria media.
	Cerastium triviale.
	Hieracium pallidum.
	Oxalis Acetosella.

<i>Primula vulgaris.</i>	<i>Alchemilla vulgaris.</i>
<i>Poa annua.</i>	<i>Valeriana officinalis.</i>
<i>Glyceria fluitans.</i>	<i>Narthecium Ossifragum.</i>
<i>Athyrium Filix-foemina.</i>	1350
<i>Asplenium viride, to 700.</i>	<i>Bellis perennis.</i>
1550	<i>Glyceria fluitans.</i>
<i>Lathyrus macrorrhizus.</i>	1310
<i>Saxifraga aizoides.</i>	<i>Dryas octopetala.</i>
<i>Digitalis purpurea.</i>	1300
<i>Lysimachia nemorum.</i>	<i>Leontodon autumnalis.</i>
<i>Prunella vulgaris.</i>	<i>Pedicularis palustris.</i>
<i>Agrostis pumila.</i>	<i>Rhinanthus Crista-galli.</i>
1500	<i>Carex glauca.</i>
<i>Ranunculus Ficaria.</i>	1280
<i>Silene maritima.</i>	<i>Salix aurita.</i>
<i>Hieracium caesium, to 700.</i>	<i>Carex praecox.</i>
<i>H. Harti, to 1400.</i>	1180
<i>H. Schmidtii, to 500.</i>	<i>Montia fontana.</i>
<i>Polygonum viviparum.</i>	<i>Lobelia Dortmanna.</i>
<i>Carex ampullacea.</i>	<i>Potamogeton natans.</i>
<i>Kœleria cristata.</i>	<i>Carex panicea.</i>
<i>Isoetes lacustris.</i>	<i>Myriophyllum alterniflorum.</i>
1470	1100
<i>Listera ovata.</i>	<i>Nymphæa alba.</i>
1450	<i>Hypericum pulchrum.</i>
<i>Angelica sylvestris.</i>	<i>Epilobium angustifolium.</i>
<i>Crepis paludosa.</i>	<i>Teucrium Scorodonia.</i>
<i>Jasione montana.</i>	<i>Potamogeton polygonifolius.</i>
<i>Eriophorum vaginatum.</i>	<i>Juncus bufonius.</i>
1400	<i>Schœnus nigricans.</i>
<i>Hypericum Androsæmum.</i>	<i>Carex limosa.</i>

<i>C. filiformis.</i>	900
<i>Aira cæspitosa.</i>	<i>Anthemis nobilis.</i>
<i>Polypodium vulgare.</i>	<i>Carduus pratensis.</i>
<i>Asplenium Adiantum-nigrum.</i>	<i>Polygonum Hydropiper.</i>
1050	<i>Asplenium Ruta-muraria.</i>
<i>Lonicera Periclymenum.</i>	<i>Pteris aquilina.</i>
<i>Littorella lacustris.</i>	<i>Lycopodium clavatum.</i>
<i>Juncus acutiflorus.</i>	850
1000	<i>Nasturtium officinale.</i>
<i>Ranunculus hederaceus.</i>	<i>Sedum anglicum.</i>
<i>Comarum palustre.</i>	<i>Ilex aquifolium.</i>
<i>Galium palustre.</i>	<i>Centaurea nigra.</i>
<i>Hieracium argenteum.</i>	<i>Carduus palustris.</i>
<i>H. iricum.</i>	<i>Utricularia minor.</i>
<i>H. crinigerum.</i>	<i>Betula alba.</i>
<i>H. scoticum.</i>	800
<i>Pinguicula lusitanica.</i>	<i>Subularia aquatica.</i>
<i>Callitriche hamulata.</i>	<i>Prunus spinosa.</i>
<i>Myrica Gale.</i>	<i>Rubus idæus.</i>
<i>Triglochin palustre.</i>	<i>Rosa canina.</i>
<i>Rhynchospora alba.</i>	<i>R. spinosissima.</i>
<i>Agrostis alba.</i>	<i>R. tomentosa.</i>
950	<i>Epilobium montanum.</i>
<i>Fragaria vesca.</i>	<i>Fraxinus excelsior.</i>
<i>Rubus fruticosus.</i>	<i>Myosotis repens.</i>
<i>Sanicula europæa.</i>	<i>Stachys palustris.</i>
<i>Polystichum aculeatum.</i>	<i>Salix repens.</i>
925	<i>S. cinerea.</i>
<i>Polygala vulgaris.</i>	<i>Corylus Avellana.</i>
<i>Eleocharis multicaulis.</i>	<i>Gymnadenia conopsea.</i>

G. albida.	Anthyllis Vulneraria, 600.
Arundo Phragmites.	Vicia sepium.
Lastræa Oreopteris.	Epilobium obscurum.
L. æmula.	Spiræa Ulmaria.
750	Cirçea intermedia.
Drosera anglica.	Hedera Helix.
Trifolium medium.	Achillæa Ptarmica.
Alchemilla arvensis.	Filago germanica, 650.
Iris pseudoacorus.	Senecio aquaticus, 600.
Carex dioica.	Gnaphalium sylvaticum.
Cryptogramme crispa.	Pyrola media.
700	Anagallis tenella.
Caltha palustris.	Plantago Coronopus.
Nuphar lutea.	Populus tremula.
Cochlearia officinalis, 600.	Quercus Robur.
Drosera intermedia, 600.	Luzula pilosa, 600.
Sagina subulata, 600.	Sparganium ramosum.
Geranium Robertianum, 600.	Equisetum sylvaticum.
Linum catharticum.	E. limosum.
Sarothamnus scoparius.	Ophioglossum polyphyllum.

For further information concerning the altitudinal range of flowering plants and ferns on the Irish mountains, the reader is referred to a paper by the author in *Proceedings Royal Irish Academy*, 3rd Ser, Vol. i, No. 4. I quote from it a remark bearing upon the Donegal Flora: "With regard to the Alpine species – those which cannot exist at low levels, and descend towards the plains only a limited distance – these appear to be more constant and present a wider degree of contrast. The mean height at which the Alpine plants which

occur in Kerry, occur also in Donegal, will be found to be about eight hundred and fifty feet higher in the former district than in the latter. ... The mean height in Kerry at which *all* Kerry Alpines occur is about two thousand two hundred feet. ... A similar mean in Donegal is under eleven hundred feet. A few Alpines, such as *Salix herbacea*, *Carex rigida*, *Saxifraga stellaris*, and one or two others are less Alpine and descend to lower levels than they do in Great Britain unless in much more northern latitudes.”

DISTRIBUTION IN THE DISTRICTS.

EXPLANATIONS.

The Latin names are, in general, those used in the *Cybele Hibernica*. In the *Hieracia*, Mr. F.J. Hanbury's classification and nomenclature has been adopted; in the Pondweeds, that of Mr. Bennett. The *Rubi* are mainly due to Professor Babington, but Mr. Baker and Rev. E. Moyle Rogers have named some of them.

The signs prefixed to names of plants are:

- † Plants probably native, but possibly introduced, Denizens.
- ‡ Plants probably introduced, but perhaps native, Colonists.
- * Plants certainly introduced, and propagating themselves in wild-looking places, but now established, Aliens.
- [Plants not certainly established beyond the influence of man.

(Pages 90 to 108, "Distribution in the Districts"
have been omitted.)

PHANEROGAMIA

DICOTTYLEDONES

Ranunculacæ

Thalictrum *Linn.* MEADOW-RUE.

1. **T. alpinum** *Linn.*

Wet alpine rocks and by spongy rills. At a considerable height on mountains in the west and south west. Rare. Fl. July, August.

IV. Poisoned Glen, at 1200 to 910 feet; in a gully on Slieve Snacht Beg at 1800 feet, (see under *Oxyria reniformis*); Breaghy, above Lough Altan, at about 900 feet.

VIII. At 1900 feet a mile west of Lough Belshade; north and south sides of Lavaghmore, and on Silver Hill, 1250 to 1400 feet in the Bluestack Mountains; Slieve League, 1550 to 1310 feet; at 1400 feet on Alt Mountain, south of Ardara; Croaghnacleragh at 1200 feet, south of Ardara; Croaghorm, near Martin's Bridge, at 900 feet and above. From 2150 to 900 feet above sea level. Forming the sod on Croaghorm in many places.

First record; Hart, 1879. (*Jour. of Bot.*)

2. **T. minus** *Linn.*

Broken limestone, rocky ground, in one small area. Very rare. Fl. June to August.

VII. Abundant on broken limestone ground south of Brown Hall, near Ballintra. Typical.

First record; Hart (*Flora*).

T. dunense *Dum.*

Sandhills and thickets on sandy soil near the sea. Very rare.

IV. Sandhills at the mouth of the Ray River, near Falcarragh, an unusually small, condensed form, with the florets of the normal size. I have not seen anything like it in Ireland before. This is the only locality in Donegal for the sandhill *Thalictrum*. July, 1894.

First record; Hart (*Flora*).

3. **T. flexuosum** *Reichb. (T. majus Sm.)*

Rocky places and thickets on limestone.

VII. Broken limestone ground near Brown Hall, Donegal, where it was pointed out to me by Major Hamilton. With the previous species (from which it is scarcely sufficiently distinct), but much less common.

First record; Hart, 1886. (*Proc. R.I.A.*)

Anemone *Linn.* WOOD ANEMONE.

4. **A. nemorosa** *Linn.*

Woods, damp meadows and by rocky streams. Chiefly at low levels. Frequent. Fl. April to June.

From 1000 feet on Knockalla (probably higher elsewhere) to sea level.

Ranunculus *Linn.* CROWFOOT. BUTTERCUP.

5. **R. heterophyllus** *Fries.*

Lakes, rivers, ditches and ponds. Frequent. Fl. May to July.

R. floribundus *Bab.*

Slow stream. Fl. June, July.

VII. Bundrowes River, above Bundoran. Named by Mr. Bennett.

R. truncatus *Hiern.*

V. Near Lifford in the Finn river, and elsewhere in the Finn and Foyle rivers. Specimen from Lifford named by Mr. Bennett.

6. **R. peltatus** *Fries.*

Pools and streams. Local. Fl. June to September.

II. Marshes from Inch Road to Fahan, and about Bridge-end and Burt.

VII. River Erne.

7. **R. pseudo-fluitans** *Newb.*

Rare; only in rivers in the south-west. Fl. early summer.

VII. River Eske above Donegal; River Erne. Flowers very large on the Erne, and forming dense patches like snow on the water, June, 1893.

8. **R. marinus** *Fries.*

Var. baudotii *Godron.*

Salt marshes and ditches or pools near the sea. Frequent. Fl. May to August.

II. Between Fahan and Bridge-end.

III. Drimnacraig, Fanet.

IV. Tory Island, R.M. Barrington.

VII. Kildoney Point, N.W. from Ballyshannon; muddy holes by Ballyshannon estuary.

9. **R. tricophyllus** *Chaix*.

Lakes and ditches. Local. Fl. early summer.

III. Kinnylough and Kindrum Lake, Fanet; ditches at Tamney Lake; Ballyhork Lake, Between Waters, Fanet. Identified by Mr. Bennett.

Mr. Bennett writes to me that the Kinnylough plant is "a very peculiar form, with the fruiting peduncles arched and reflexed."

R. Drouetii *Godr.*

Muddy margin of a shallow lake near the sea. Fl. June, July.

VI. On mud at Kiltooris Lake, near Ardara, to the north-west. Identified by Mr. Arthur Bennett.

First record; Hart (*Flora*).

10. **R. hederaceus** *Linn.* IVY-LEAVED CROWFOOT.

Wet, muddy places. Common. Fl. May to August.

From 1000 feet to sea level.

12. **R. flammula** *Linn.* LESSER SPEARWORT.

Wet places. Very common. Fl. June to September.

From 2000 feet to sea level.

Var. pseudo-reptans *Syme.*

Wet, peaty places by the coast, north-west of Rosapenna. A neat, glaucous little plant, closely procumbent, and with narrow linear leaves. Mr. Bennett named specimens. I have seen it elsewhere in Donegal.

13. **R. bulbosus** *Linn.*

Sandy pastures near the sea; locally abundant. Fl. June to October, but chiefly in early summer.

I. About Leenane; Merville; Glennagiveny; Greencastle.

II. Dunree Head; Buncrana and Fahan.

III. Sandy pastures at Ballinastocker, Fanet; abundant at Rosapenna; at Killydonnelly Abbey, near Ramelton (Miss L. Kinahan).

IV. Sandhills west of the mouth of Ray River, below Falcarragh.

VI. Aranmore; abundant in many places round the coast from Anagry to Cruit; shores of Mullagher Lake (Rosses), abundant.

VII. Abundant on sandhills, near Ballyshannon; also on bare limestone pastures on the north side of Ballyshannon estuary, abundant.

No doubt occurs right round the coast of Donegal. I have been careful to examine its range, as the *Cybele Hibernica* believed it to be "rare or wanting in the extreme north-west."

First record; Hart, 1879. (*Jour. of Bot.*)

14. **R. auricomus** *Linn.* GOLDLOCKS.

Native; margin of a wood; very rare. Fl. April, June.

III. In two different places in Drummonaghan Wood, near Rathmelton. The addition of this species to the flora of Donegal is due to the Misses Kinahan.

[VII. Mr. Allingham, of Ballyshannon, states that he has found this species in woods near Ballyshannon; he thinks at Laputa.]

[First record; Allingham, *Hist. Ballyshannon*, 1879.]

15. **R. sceleratus** *Linn.*

Muddy places along estuaries and tidal rivers; local and rarely occurring away from the vicinity of salt water. Fl. June to September.

I. Malin Estuary; Trabreaga Bay at the western end.

II. Marshes between the two embankments at Inch Road and at Blanket Nook; by the Foyle, north of Derry.

III. Doaghbeg and Drimnacraig, Fanet; by the Swilly, about Letterkenny; several places near Ramelton.

IV. Doe Estuary, near Creeslough; between Burton Port and Keadew Strand; Templecrouney, west of Dunglow.

V. East side of the Swilly near Manorcunningham and at Letterkenny.

VII. Shore S.W. from Donegal.

A form with floating, quinate, radical leaves occurs in standing brackish water at Thorn embankment near Letterkenny.

16. **R. acris** *Linn.* BUTTERCUP.

Banks, borders of fields, meadows, and grassy bluffs in mountainous districts. Common. Fl. June to September.

From 1600 feet to sea level.

17. **R. repens** *Linn.* BUTTERCUP.

Ditch banks, meadows, and grassy thickets or declivities. Very common. Fl. June to September.

From 1600 feet to sea level.

18. **R. Ficaria** *Linn.* PILEWORT, LESSER CELANDINE.

Shady and damp places. Very common. Fl. May to July.
From 1500 feet to sea level.

19. **R. lingua** *Linn.* GREAT SPEARWORT.

Deep ditches and lake shores. Very rare. Fl. June to August.

VII. "Grows, or did grow, on the south side of the estuary at Ballyshannon, between Portnason and the sand." – H. Allingham (in letter to me).

VIII. Lough Eske, near Donegal. (*Flora Hib.*)

First record; Mackay, 1836. (*Flora Hib.*)

I have neither seen specimens from Donegal, nor been able to find the plant growing. Nevertheless, in deference to Mackay's distinct assertion, I hesitate to exclude it.

Caltha *Linn.* MARSH MARIGOLD.

20. **C. palustris** *Linn.*

Marshy places and ditches. Rather local in peaty districts; frequent elsewhere. Fl. March to July.

From 700 feet to sea level.

Trollius *Linn.* GLOBE FLOWER.

21. **T. europæus** *Linn.* GOLDEN BALL.

Margins of lakes and rivers, islands in them, and wet meadows adjoining. Rare. Fl. June, July.

III. On an island in Lough Fern, and by the Lennan between that lake and Ramelton, in several places, to Ballyarr; shores of Lough Fern below Moyle, Very Rev. Dean Gwynn; shores of Lough Gartan at the north end; in hazel thickets on the east side of Lake Akibbon; south end of Lake Gartan, abundant, just above flood water level; on an island in Lake Gartan.

N.B. – These localities all belong to one system, since Lough Gartan furnishes the Lennan River to Lough Fern, and the same water runs from Lough Fern to the sea at Ramelton, and is known as the Lennan again.

V. By the Deel River between Convoy and Raphoe; in several places along the River Finn, between Drumbo and Cloghaun Bridge; by the Reelan Water, Mrs Leebody.

First record; "Convoy and Lough Gartan," E. Murphy, *Mag. Nat. Hist.*, i., p. 436, 1829.

Confined to Donegal in Ireland.

Aquilegia *Linn.* COLUMBINE.

22. **A. vulgaris** *Linn.*

Thickets and rocky places on limestone. Very rare. Fl. June, July.

I. In steep, natural thickets by Lough Foyle, a couple of miles south of Moville. There is neither cottage nor garden near, but the locality is not so satisfactory as that in the west of the county.

VII. Limestone thickets, about half a mile south of Patterson's Lake, in the townland of Carrigahorna, between Cliff and Brown Hall; and again nearer to Brown Hall. These station in a wild district, quite removed from cultivation, and the plant seems certainly native.

Found wild in similar situations in Mayo, Clare, and Galway.

First record; Hart, 1886. (*Proc.R.I.A.*)

[*Helleborus viridis*, *Linn.* By the roadside a mile from Donegal, on the way to Mount Charles, near Killymard. This observation is due to the Rev. T. Doran Falkiner. Not native in Ireland, and no doubt thrown out from cultivation here.]

[**Berberideæ**

Berberis *Linn.* BARBERRY.

B. vulgaris *Linn.*

Alien; hedgerows and thickets near the sea. Rarely established. Fl. May, June.

III. Hedgerows at Greenfort, Fanet.

IV. Abundantly established by the coast at Ards.

V. Shore of Lough Swilly at Craigawherry, West of Derry, and in old hedgerows adjacent. In this locality the barberry has assumed a thoroughly wild appearance, and its introduction must belong to a remote period.

No doubt it will be found established in other hedges and plantations.]

Nymphæaceæ

Nuphar *Sm.* YELLOW WATERLILY.

23. **N. luteum** *Sm.*

Still waters, especially where the soil is peaty. Frequent. Fl. June to August.

From 700 feet to sea level.

(It is proper to mention that I have introduced *N. pumilum* in a mountain lake about a mile from Carrablagh, and there is every likelihood of its establishing itself there. I had to transfer it from an artificial pond reserved for choicer sorts, as it would have speedily overrun them.)

Nymphæa *Linn.* WHITE WATERLILY.

24. **N. alba** *Linn.*

Still waters. Common. Fl. June to August.

This is commoner than the last in most parts of Donegal.

From 1100 feet (L. Napaste, Barnesmore) and 1000 to sea level.

Papaveraceæ

Papaver *Linn.* POPPY.

[**P. rhœas** *Linn.*

Casual; cultivated fields. Very rare, and nowhere established. Fl. July, August.

III. Fields by the road between Ray and Rathmullan, a few plants occasionally.]

25 ‡ **P. dubium** *Linn.*

Colonist; cultivated fields and along their borders, rare and uncertain in its appearances. Fl. July, August.

I. Not unfrequent about Stroove and Greencastle; Doagh Isd.; coast of Trabreaga Bay below Carndonagh.

II. Ned's point, near Buncrana; Fahan.

III. Fields by Kindrum, Kinnylough, and Shannagh Lakes in Fanet; about Lough Fern; between Whale Head and Ball Green, Lough Swilly; on a new road near Meevagh, Rossgull (Miss Kinahan); about Drimnacraig, Fanet.

V. Between Ballybegly and Craigawherry on the east shore of Lough Swilly, west of Derry.

VII. Innisfad, on the coast south-west from Donegal; about Belleek and Bundoran; Wardtown, near Ballyshannon, and elsewhere.

[26. **P. somniferum** *Linn.* OPIUM POPPY.

Alien; established in waste places about villages. Rare. Fl. July, August.

II. Buncrana.

VII. Bundoran.]

Chelidonium *Linn.* CELANDINE.

27. * **C. majus** *Linn.*

Alien; roadsides and waste places. Rare. Fl. May to July.

II. Culmore, W.E.H.

III. Roadside, near Drumalla and Fort Royal, Rathmullan; about Ramelton in two or three places.

IV. Horn Head, near the house.

V. Convoy, the Misses Kinahan; Urney, on the Donegal side of the Finn by the roadside.

Fumariaceæ

Fumaria *Linn.* FUMITORY.

28. ‡ **F. capreolata** *Linn.*

Colonist or denizen; cultivated fields. Frequent. Fl. July to September. The form met with in Donegal is *T. pallidiflora*, (*Jord*). But *F. confusa* occurs in Inishowen (*A.G.M.*)

29. ‡ **F. officinalis** *Linn.*

Denizen; cultivated ground. Common. Fl. July to September.

Corydalis *D.C.*

30. **C. claviculata** *D.C.*

Dry gravelly places and thatched roofs. Very rare. Fl. July, August.

II. Abundant on banks by a roadside and on a thatched roof near Culmore, W.E.H.

First record; W.E. Hart

[*C. Lutea* *D.C.* Alien. Established on old walls and stony places at Greenford Fanet, and at Castlewray, Letterkenny.]

Cruciferæ

Cheiranthus *Linn.* WALL-FLOWER.

[***C. Cheiri** *Linn.*

Alien; ruins and old walls; very local. Fl. April to June.

I. Redcastle and Redcastle bridge, between Moville and Derry, by Lough Foyle; perhaps naturalized here.

III. Rathmullan Abbey.

IV. Doe Castle.

VIII. Donegal Castle.]

Nasturtium *R. Br.* WATERCRESS.

31. **N. officinale** *R. Br.*

Wide ditches and shallow streams. Thinly distributed in the peaty districts, frequent elsewhere, or locally abundant. Fl. June to August.

From 850 feet to sea level.

32. **N. amphibium** *R. Br.*

Margins of a river; very rare. Fl. June to August.

VII. By the Erne, above Ballyshannon, in several places.

Recorded without locality (D.M.) in *Cybele Hibernica*.

First record with locality; Hart, 1885. (*Proc. R.I.A.*)

Barbarea *R. Br.* WINTERCRESS.

33. **B. vulgaris** *R. Br.* YELLOW ROCKET.

Colonist, except, perhaps, in the southern district; borders of fields and banks of streams; not common. Fl. June to August.

II. By the stream between Bridge-end and Burnfoot.

III. By the Lennan above Kilmacrenan; waste ground at Glenalla.

IV. Marble Hill.

V. By the Swilly river above Letterkenny; by the Finn below Stranorlar.

VII. By the Erne.

VIII. About Donegal, but scarce.

Probably occurs in the omitted districts.

Var. arcuata. *Reich.*

Banks of the Erne, by the ruined mill, about a mile below Cliff. A very rare form.

Arabis *Linn.* ROCK CRESS.

34. **A. hirsuta** *R. Br.* (*A. Sagittata*, *D.C.*)

Sandy pastures by the sea and on limestone. Local. Fl. June to August.

I. Sandy ground about Greencastle; Stroove, by the Lighthouse.

II. Between Fahan and Buncrana, and on Dunree hill.

III. Pastures between Doaghmore and Glinsk, Fanet; Carrigart and Rosapenna; Macamish Pt.; near the coastguard station on Rossgull, the Misses Kinahan.

IV. Horn Head.

VI. Sandhills north-west of Adara; Sandhills near Kincashla, Rosses.

VII. Right bank of the Erne near Ballyshannon; at Cliff; limestone bluffs about three miles north of Ballyshannon.

VIII. St. John's Point. Not unfrequent on the limestone in districts VII. And VIII.

Var. glabrata. Syme.

I received specimens of this form from the Misses Kinahan, gathered on the sandhills of Carrigart, where the type is common.

35. **A. ciliata** R. Br.

Sandy, rocky places near the sea; very rare.

VI. Sandy, rocky hillocks near the eastern base of Kincashla Pt., Rosses. Mr Bennett writes: - "This seems to be really the *ciliata-genuina* of Eng. Bot. The seeds are hardly ripe enough to compare exactly, but it is the *best ciliata* I have yet seen. A.B."

Whether the plant is entitled to specific rank or not is another question. Mr More thinks it is not. On account of its distinct appearance, and the decisive nature of Mr. Bennett's note, I prefer to give it a prominent position. Discovered in July, 1894.

I omitted to mention above that there is another patch of this *Arabis* on the west side of Kincashla, near the shore, by the channel between Cruit Island and the mainland.

First record, Hart (*Flora.*)

Cardamine Linn. BITTER CRESS.

36. **C. hirsuta** Linn.

Roadsides, waste ground, and shady places. Common. Fl. all the year round.

As a garden weed this species may be found in flower almost at any time during mild weather. It seeds itself throughout the summer, and

these seedlings flower and seed the same year. Another species which is even more exuberantly prolific is *Veronica peregrina*, under similar circumstances. The latter seems to perfect several generations in a year. The common forms of chickweed have, I think, the same power.

37. **C. pratensis** *Linn.* LADY'S SMOCK. CUCKOO FLOWER.

Marshes and damp meadows, common. Fl. April, June. There is always an abundant and beautiful display of this pretty wild flower along the Foyle by the railway between Strabane and Derry in May.

From 2150 feet to sea level.

38. **C. flexuosa** *With.*

Damp woods and shady places. Frequent where suitable places occur. Fl. May to July.

Hardly sufficiently distinct from the last.

39. **C. amara** *Linn.*

In a deep ditch. Very rare. Fl. April to June.

V. In a deep ditch running to south side of the Deel river (near Drumboy), about three-quarters way between the Foyle and Ballindrait.

This plant was out of blossom when I gathered it on the 5th of June, 1893. I had already found it in the neighbouring county of Tyrone, so that its appearance was not novel to me. There were several seed pods, and the long style was unmistakable. Mr. Arthur Bennett determined the specimens for me to be *C. amara*. It is a very rare species in Ireland.

First record, Hart. (*Flora*.)

Draba *Linn.*

40. **D. incana** *Linn.*

Pastures and sandy wastes near the sea. Rare. Fl. June, July.

II. Sandy ground near the sea between Buncrana and Fahan.

III. Sparingly on the shores of Mulroy by the side of an old road above Fanny's Bay. Discovered here by the Misses Kinahan, who sent me specimens for identification.

VI. Sandhills south of Boylagh Bay, and on the hill of the "Standing-stone" in the sandhills north-west of Ardara; abundant on sandy pastures S.E. from Kincashla Signal Tower, in the same locality as *Arabis ciliata*; shores of Mullaghderg Lake, Rosses (very large here).

VII. On a limestone bluff near a lake, about three miles north of Ballyshannon.

First record; Hart, 1883. (*Jour. of Bot.*)

Erophila *D.C.* WHITLOW GRASS.

41. **E. vulgaris** *D.C.*

Sandy pastures near the sea, and dry walls and banks. Common in some of the districts, and probably occurs in all. Fl. April, May.

I. Local about Greencastle, W.E.H.

II. Between Buncrana and Fahan.

III. About Rathmullan; Rosapenna, near Carrigart; Macamish; Drinnacraig; Bottom Shore.

IV. Marble Hill, Dunfanaghy; Horn Head.

VI. Aranmore, near the Lighthouse.

VII. Between Bundoran and Ballyshannon – amongst sandhills.

This species has occasionally a second flowering season, or more probably, seedlings self-sown in April, flower the same year. I have found it in blossom at Rathmullan in August, and at Carrigart in September. It is one of the usual sandhill species round the coast, and may be found in May in company with *Saxifraga tridactylites*, *Cerastium semidecandrum*, *C. tetrandrum* and *Valerianella olitoria*.

Cochlearia *Linn.* SCURVY GRASS.

42. **C. officinalis** *Linn.*

Rocky and wet places by the sea. Very Common. Fl April to July.

Sub sp. C. alpina, Wats.

IV. Poisoned Glen, at 600 feet.

43. **C. danica** *Linn.*

Stony places by the sea. Rare? Fl. May, July.

III. Rosapenna.

IV. Dunfanaghy.

VIII. Amongst the shingle at the point of Ballyvoyle, near Donegal.

[*C. Armoracia* *Linn.* HORSE RADISH

Alien: has established itself in many places – about Donegal and Bundoran may be quoted. Once planted anywhere it takes a firm hold and is very difficult to banish.]

Sisymbrium *Linn.*

44. **S. thaliana** *Hook* THALE CRESS.

Dry walls in one place only. Very rare. Fl. April and May.

II. Walls at Pennyburn, near Derry. W.E.H.

First record; Hart, 1885. (*Proc.R.I.A.*)

45. † **S. officinale** Scop. HEDGE MUSTARD.

Denizen? ; by roadside and rubbish heaps, usually near dwellings.

Frequent.

I. Knockglass, west of Malin; Carndonagh.

II. Railway banks between Farland Pt. and Blanket Nook; about Buncrana not unfrequent.

III. Arryheernabin and Greenford, Fanet – not unfrequent in Fanet.

IV. About Bunbeg and Dunfanaghy. Scarce in this district.

V. and VI. Near villages and towns.

VII. and VIII. Thinly scattered and not looking native.

46. **S. Alliaria** Scop. JACK BY THE HEDGE. GARLIC-MUSTARD.

Thickets and hedge-banks. Very rare. Fl. June to August.

III. Abundant along the west shore of Lough Swilly above Fort Steward Ferry.

VII. Thickets by the Erne, at Cliff near Belleek; elsewhere along the Erne.

Recorded without locality in *Cybele Hibernica*.

First record with locality; Hart, 1885. (*Proc. R.I.A.*)

[*Erysimm cheiranthoides* Linn, has been for many years an established and abundant garden weed at Mulroy, the seat of the Earl of Leitrim.]

Subularia Linn.

47. **S. aquatica** Linn. AWL WORT.

Margin of lake shores in mountainous districts with a sandy or gravelly bottom. Very rare. Fl. July, August.

VIII. In Lough Carban, a little north-west of the gap of Barnesmore, E. Murphy, *Mag. Nat. Hist.*, vol. i., p.436, 1829. I have not verified this record. A careful search in numerous Donegal lakes has not enabled me to quote another locality.

At 800? feet above sea-level.

First record; E. Murphy, 1829 (as above).

Brassica Linn. CABBAGE, &C.

‡ **B. Campestris** Linn.

A colonist; borders of cultivated grounds, banks of rivers and fields and waste places. Uncertain, and occasionally abundant, as after

manure and in recently cropped fields of potatoes or turnips. Fl. July to September.

48. ‡ **B. nigra** *Koch.* BLACK MUSTARD.

Colonist; banks by the sea and borders of cultivated fields. Very rare. Fl. summer.

VIII. By the shore on the edge of cultivated fields between Killymard Rectory and The Hall, Mount Charles. Probably introduced.

49. ‡ **B. alba** *Boiss.* WHITE MUSTARD.

Colonist; cultivated fields. Very rare. Fl. June, July.

IV. Cultivated fields, west of the Glebe House, Churchill; sparingly.

V. Potato fields by the Finn, near Glenmore. Thinly introduced.

VII. Fields above Moynait, near Laghy.

50. † **B. Sinapistrum** *Bissois.* CHARLOCK.

Denizen; cultivated fields and waste places. Common. Fl. May to September.

Capsella *Vent.*

51. **C. Bursa-pastoris** *D.C.* SHEPHERD'S PURSE.

Denizen? ; roadsides, waste places, and borders of fields. Common in the cultivated districts, and near villages or houses. Decreasing westwards. Fl. March to November.

This familiar species is hardly to be found away from the influence of man, and may have originally been an introduced species. I have not observed it anywhere in Ireland free from this suspicion. It does not ascend mountains, nor is it found along the wild sea coast, the uncultivated river-course, nor in the indigenously wooded places. Even on turf banks I have only seen it where the peats have been cut. It is a free and rapid seeder.

Senebiera *Pers.*

52. ‡ **S. Coronopus** *Poiret.* SWINE'S CRESS.

Colonist; waste ground near the seaside. Very rare. Fl. July to September.

I. Plentiful at Carrickabrahy Castle, on Doagh Island; Moville and Greencastle Pier; by fishermen's cottages on the Foyle between Moville and Redcastle.

Lepidium *Linn.*

[* **L. Smithii** *Hook.* PEPPER-WORT.

Casual; banks by a roadside. Very rare. Fl. July, August.

III. By the side of a new road at Manor Vaughan, 1879. Probably introduced by some accident, and I have not seen it here since, nor anywhere else in the county.]

Crambe *Linn.*

53. **C. maritima** *Linn.* SEA KALE.

On one sandy, gravelly beach. Very rare, and now perhaps extinct. Fl. July, August.

I. "At Nonvany Point, in the parish of Clonmary," *Cyb. Hib.* This should be Norway Point, Clonmany. I have searched this point, and fear *Crambe* has been exterminated, being in use as a food-plant. The authority for the original record is Mr. Charles Moore, of the Botanic Gardens at Sydney. Mr More has enabled me to go through Moore's specimens, collected in Inishowen in 1839. *Crambe* is correctly named, and labelled, "On the strand, Point of Norway, parish of Clonmanny." This Point is a great headquarters for the industry of kelp-burning, and the traffic thus produced would be another exterminating agency. *Crambe* is, however, disappearing all over Ireland. I have seen it wild at Killiney in Dublin, Kilcoole in Wicklow, and Aran in Galway, since about 1868. But it survives now in only the last of these localities.

? IV. Tory Island, Mr. Hyndman (*Cyb. Hib.*) Extinct there, if it ever occurred.

First record; 1866, C. Moore in *Cyb. Hib.*

Cakile *Gaert.*

54. **C. maritima** *Scop.* SEA ROCKET.

Sandy and gravelly sea shores. Rather local, and not always constant to the same station, as it gets smothered by shifting sands. Fl. June to August.

I. and II. Frequent on the Lough Swilly side; Culdaff on the Foyle coast, sparingly.

III. Carrablagh, Doaghbeg, Bottom Shore, &c, Fanet.

IV. Ballyness Bay and Tramore Strand.

VI. Aranmore.

VII. and VIII. Frequent.

Raphanus *Linn.* RADISH.

55. † **R. Raphanistrum** *Linn.*

Denizen; cultivated fields. Frequent. Fl. July to September.

56. **R. maritimus** *Sm.*

Stony sea shores; very rare. Fl. July to September.

I. Sea shore east of Dunaff Head; Inishowen Head, and between that and Stroove.

Cistaceæ

Helianthemum *Gaert.* ROCK-ROSE.

57. **H. vulgare** *Gaert.*

On bare, limestone rocky ground. Very rare, and not found elsewhere in Ireland. Fl. June.

VII. Bare limestone rocks, south of Ballintra, sparingly. Discovered here on the 6th of June, 1893.

This species was, with one exception, the commonest British plant supposed to be absent from Ireland, the exception being *Gensta anglica*. It will probably be found elsewhere in the same district, which is of a similar nature for many miles. The plant must be sought for early, as after flowering it is very difficult to distinguish. The foliage bears a close resemblance at a little distance to a form of *Salix repens* common here.

First record; Hart, 1893. (*Jour. of Bot.*)

Resedaceæ

Reseda *Linn.* MIGNONETTE.

58. ‡ **R. Luteola** *Linn.* DYER'S WEED.

Colonist; waste places. Rare Fl. June to August.

I. About Malin where it was noticed by Professor Dickie (*Flora of Ulster*).

II. Fahan, Inch Road, and Buncrana, chiefly by the railway.

V. By the Deel River below Ballindrait.

VII. At Wastepool, near a flax dam, Ballyshannon. (Mr. H. Allingham.)

VIII. Killybegs. (A.G.M.)

[*R. Lutea* *Linn.* Apparently established near the New Hotel, at Rosapenna.

Not native in Ireland, but has assumed a wild appearance in many places.]

Violaceæ

Viola *Linn.* VIOLET.

59. **V. palustris** *Linn.*

Marshes and bog-holes; common. Fl. May to July.

From 2000 feet to low levels.

60. **V. odorata** *Linn.*

Not native, but established in some places, as at the mouth of the River Letter, into Lough Erne, near Pettigo. (VII.)

61. **V. canina** *Linn.* DOG-VIOLET.

Wet, stony places. Very rare. Fl. April, June.

VII. By the Termon River above Pettigo. I had no doubt about the species in 1888, but in 1893 I was unable to rediscover it.

62. **V. sylvatica** *Fries.*

Dry and shady situations; common. Fl. March to August.

From 2000 feet to sea level.

63. **V. tricolor** *Linn.* HEARTSEASE, PANSY.

Cultivated fields on a light soil; frequent. Fl. May to September.

64. **V. Curtisii** *Forster.*

Sandhills along the coast; local. Fl. June to September.

I. Malin, *Flor. Ulst.*; sandy shore at Culdaff; Doagh Island and on the opposite side of Malin Estuary; shore at Moville (with var. *V. Mackaii*).

III. Bottom Shore, and Ballyvicstocker, Fanet

IV. Dunfanaghy; Marble Hill Strand (with var. *V. Mackaii*).

VI. Burton Port; Kincashla.

VII. Bell's Isle, S.W. from Donegal, between Bundoran and Ballyshannon.

VIII. Fintragh Bay.

Polygalaceæ

Polygala *Linn.*

65. **P. vulgaris** *Linn.* MILK-WORT.

Dry banks and heathy places, frequent. Fl. June to September.

Sub species, P. serpyllacea, Weihe.

The commonest form on heathy places.

A large variety grows above the Termon River above Pettigo. Mr. Bennett writes:—"So far as flowers go, *Polygala grandiflora*, but wanting the box-like leaves and almost excurrent apex to the fruiting sepals."

From about 1000 feet to sea-level.

Caryophyllaceæ

Saponaria *Linn.*

* [**S. officinalis** *Linn.* SOAPWORT.

Alien; on a railway bank in one place in the south-west. Very rare. Fl. July, August.

VII. By the railway between Belleek and Ballyshannon, near the bridge at Rowan Tree Hill.

This species is recorded without locality in *Cybele Hibernica* from Donegal.

First record with locality; Hart, 1886. (*Proc. R.I.A.*)

Silene *Linn.* CATCHFLY.

66. **S. inflata** *Sm.* *S. Cucubalus*, *Weihe.* BLADDER CAMPION.

A weed of cultivation. Not common in most parts of the country. Fl. June to September.

II. Culmore, W.E.H.

III. Kindrum and fields on the Between Waters along Mulroy; about Magherdromin and Ballylar, Fanet; Rossgull (the Misses Kinahan); Rosapenna.

V. East shore of Lough Swilly at the edge of cultivated fields a little north of Craigawherry; Farland Point; Great Northern railway banks, near Derry; banks of Finn railway, about Castlefinn, plentiful.

VII. Right bank of the Erne, about two miles above Ballyshannon; about Cliff, Belleek; fields near Bundoran and Ballyshannon in several places. Probably native in this district.

VIII. About Lough Eske.

67. **S. maritima** *With.* SEA CAMPION.

Rocky and stony shores, and alpine cliffs. Not common. Fl. July to September.

I. and II. Dunaff Head, along the margin of the cliffs, and elsewhere around the coast.

III. Bottom Shore, sparingly, and the Bin, Fanet; Fort Steward, near Ramelton; Carraleena and Ray, between Rathmullan and Ramelton. Not rare on Lough Swilly.

IV. Horn Head; Tory Island, R.M. Barrington.

VI. Aranmore etc.

VII. Shores below Ballyshannon.

VIII. At 1500 feet above sea level on Lavagh More; Slieve League, sea cliffs.

From 1500 feet to sea level.

68. ‡ **S. gallica** *Linn.*

Colonist; sandy and gravelly fields. Very rare. Fl. July to October.

I. Between Greencastle and Stroove, W.E.H.; about Stroove, and between that and Inishowen Head; in a field a mile south of Greencastle, by the shore.

VI. Sparingly in lea-fields on the north side of Gweebarra estuary about half-way between Russell's Ferry and Doochary Bridge.

69. **S. acaulis** *Linn.* CUSHION PINK.

Lofty sea cliffs in one locality only. Very rare. Fl. June, July.

I. Dunaff Head, at about 550 feet. It occurs here in several isolated patches, which are not always easily accessible. I climbed the cliffs in several parts, and by one gully from base to summit, but failed to discover any great quantity anywhere.

First record; Mr. C. Moore, in *Cyb. Hib.*, 1866.

Lychnis *Linn.*

70. † **L. vespertina** *Sibth.* WHITE CAMPION.

Colonist; cultivated ground and borders of fields. Rare. Fl. June, July.

II. Coneyburr at Buncrana Castle, Mr. J. Hunter; near Ned's Point, Buncrana; Inch Island, Mrs. Leebody.

III. About Kinnylough, Fanet.

IV. Near Horn Head House; near Lough-an-Ure, in the Rosses.

VII. Near the road between Ballyshannon, at Bundoran (white and pink); Wardtown, Ballyshannon.

VIII. Fintragh Bay (white and pink).

71. **L. diurna** *Sibth.* RED CAMPION.

Hedges and woods. Local. Fl. June to August.

I. Steep, natural thickets by Lough Foyle, a couple of miles south of Moville.

II. Railway between Fahan and Londonderry; thickets by the Foyle, a mile or two south of Moville; coast at Ardmalin South, and near Malin estuary; wood at Ned's Point, Buncrana, Mr. J. Hunter.

III. About Kindrum Lake, Fanet.

IV. Woods at Doe Castle.

V. By the Swilly, above Letterkenny; Ballindrait.

VI. By Kiltorris Lake, and elsewhere on Boylagh Promontory.

VII. Cliff near Belleek; sandhills near Ballyshannon.

VIII. Bell Island, near Donegal; St. John's Point; Doorin Point, near the old coast-guard watch-house.

72. **L. Flos-cuculi** *Linn.* RAGGED ROBIN.

Damp meadows and boggy places. Frequent. Fl. May to July.

From 1700 feet to sea level.

Githago *Desf.* CORNCOCKLE.

73. ‡ **G. segetum** *Desf.*

Colonist, appearing occasionally in cornfields, more often in vetches. Fl. July, August.

I. and II. Frequent about Greencastle and Moville, chiefly in rye.

III. Carrowkeel and Glinsk etc.; frequent in Fanet.

IV. Horn Head, frequent; Creeslough.

VII. About Laghy and Moynalt.

VIII. Killybegs, and between Dunkineely and Killybegs.

Cerastium *Linn.* MOUSE-EAR CHICKWEED.

74. **C. tetrandrum** *Curt.*

Sandy ground near the sea. Frequent. Fl. May to July.

I. Malin Head; sands at Ballyliffin.

II. Dunree; Between Fahan and Buncrana.

III. Bottom Shore and Ballyvicstocker Strand, Fanet; Macamish Point; Rathmullan to Horn Head round the coast generally.

IV. Aranmore; Marble Hill; Horn Head, etc, see under *Erophila vulgaris*.

VI. Kincashla.

VIII. Glen Bay; Maghera Bay.

75. **C. semidecandrum** *Linn.*

Sandhills along the coast. Local. Fl. April to June.

I. Malin Head; Greencastle, etc.

II. Buncrana, Dunree, etc.

III. and IV. Occurs in the same localities as the last species, but not so commonly.

VI. Kincashla.

VIII. Inver Bay.

76. **C. glomeratum** *Thuil.*

Banks, fields, and waysides, common. Fl. May to August.

77. **C. triviale** *Linn.*

Fields, banks, waste places, abundant. Fl. May to September.

From 1600 feet to sea level.

Stellaria *Linn.* CHICKWEED.78. **S. media** *Linn.* COMMON CHICKWEED.

Cultivated and waste ground, very common. Fl. March to November.

From 1600 feet to sea-level.

79. **S. Holostea** *Linn.* GREATER STITCH-WORT.

Hedges and thickets, and amongst underwood, frequent. Fl. May to July.

80. **S. graminea** *Linn.* LESSER STITCH-WORT.

Hedges and thickets. Usually in damper situations than the last species; not unfrequent and locally abundant, as along the banks of the larger rivers and lakes. Fl. June to August.

81. **S. uliginosa** *Murr.* BOG STITCH-WORT.

Watery places, very common. Fl. May to August.

From 2050 feet to sea level.

Arenaria *Linn.* SANDWORT.82. **A. trinervia** *Linn.*

Moist woods. Very rare. Fl. June, July.

I. "In shady natural wood of Townland of Ballygrattan, Parish of Upper Movice." This record is attached to specimens collected by Mr. Charles Moore, in 1839.

VII. At the foot of an old wall by the Erne (left bank) below Camlin; Abundant at Camlin in dense hazel thickets, and on limestone bluffs.

First record; Hart, 1883. (*Jour. of Bot.*)

83. **A. serpyllifolia** Linn.

Sandy and gravelly ground; not unfrequent. Fl. June to August.

I. and II. Greencastle, Buncrana, and elsewhere. Frequent.

III. Bottom Shore and Ballyvicstocker strand, Fanet; Drimmacraig; Rosapenna.

IV. Dunfanaghy.

VII. and VIII. St. John's Point; Bell's Isle, between Ballyshannon and Bundoran, &c. More frequent on the limestone in these districts.

Var. A. leptoclados Guss.

Carrablagh, &c, a garden weed. Frequent.

84. **A. peploides** Linn. SEA PURSLANE.

Sandy sea shores, frequent. Fl. June to August.

Round the coast of the whole county, omitting District V.

Sagina Linn. PEARLWORT.

85. **S. maritima** Don.

Rocky and stony sea shores. Frequent, occurs all round the coast of the county. Fl. June to August.

Var. S. debilis Ford.

Bloody Foreland and Horn Head.

"First, I believe, detected in Ireland by Mr. R. Brown." (Hooker, *Brit. Flora*, 1830.)

On some of the outer headlands of Fanet, Inishowen, &c, this species occurs close to high water mark where no other phanerogam could exist.

86. **S. apetala** Linn.

Dry walls and sandy places. Rare. Fl. May, June.

I. Malin Head?

II. Walls by the roadside near Buncrana.

III. Carrablagh.

IV. Aranmore and Horn Head?

V. By the Finn railway, near Clady Bridge. This locality extends into District 10 (Tyrone). It is at Ballyboggan, Urney.

VII. Walls of Bridge, and elsewhere, about Ballyshannon.

87. **S. procumbens** Linn.

Wet pastures, moors or waste grounds; very common. Fl. June to September.

From 1700 feet to sea-level.

88. **S. subulata** *Presl.*

Bare, rocky places along the coast, and on the mountains and precipices adjoining. Very local. Fl. July to September.

I. Dunaff Head; headlands on the west side of Malin Head at about 600 feet.

VI. By the Barra River in rocky places, about a mile and a half above Doocharry Bridge.

VIII. Shore of Lough Eske at the south-east corner, Glen Head, Muckcross Point; abundant on the sea cliffs about Carrigan Head, Leahan, and Slieve League, from 300 to 600 feet above sea-level. One of the few species that seems to be at home on bare granite.

From 800 feet to sea level, or near it.

First record; Hart, 1872. (*Recent additions.*)

89. **S. nodosa** *E. Meyer.* KNOTTED SPURREY.

Wet sandy places and lake shores. Frequent. Fl. July, August.

I. Malin and at Ardmalin South, Doagh Island and Leenane, Trawbreaga Bay, west end.

II. Fahan; by Port Lough, Bogay, west of Derry.

III. Ballyvicstocker and Bottom Shore, Doaghmore, Fanet, and by Mulroy in many places; Drimnacraig Strand, Fanet.

VI. Sandhills N.W. of Ar dara.

VII. Sandhills near Ballyshannon, Glen Bay.

VIII. Shores of Lough Eske.

[*S. ciliata*. Roadside wall from Bun crana to Mintiagh s (left side), about two miles from Bun crana. Apparently this, but no specimens collected.]

Sp ergula *Linn.* SPURREY.

90. † **S. arvensis** *Linn.*

Cultivated fields on a light or peaty soil and in dug-out turf banks. Very common in suitable places. Fl. July to September.

Often appears in the greatest abundance upon the first breaking up and reclamation of a turf bog.

The var. *sativa* *Bænn*, is the form about Slieve League.

Sp ergularia *Persoon.* SANDWORT SPURREY.

91. **S. salina** *Presl.*

Wet, sandy shores and banks by the sea. Local, but occurs all round the coast.

I. and II. Frequent in Inishowen, but less so than the next species.

III. Mulroy, near Rossnakill.

IV. Tory Island, R.N. Barrington.

VI. Burton Port and Aranmore.

VII. and VIII. Donegal Bay in various places.

92. **S. media** Pers. (*Lepigonum marinum* Wahlb.)

Muddy sea shores and estuaries. Common. Fl. July to September.

Occurs as a submerged plant in deep, brackish dykes, about Inch road and Burnfoot.

93. **S. rupestris** Lebel.

Cliffs and rocky sea shores. Frequent. Fl. June to September.

This is a bright ornament of many of the noble headlands with which the Donegal coast is studded. Dunaff Head, Horn Head, The Bin in Fanet, Glen Head, &c, may be mentioned.

Portulacæ

Montia Linn.

94. **M. fontana** Linn. BLINKS.

Watery places, rills and wet ground. Very common. Fl. May to October.

This plant and *Veronica beccabunga* are troublesome weeds in many gardens in Donegal. The present one is easily got rid of, but both afford evidence of the moisture of our climate when they can make themselves at home in thoroughly well-drained soil in many places.

From 2050 feet to sea-level.

Elatinacæ

Elatine Linn. WATERWORT.

95. **E. hexandra** D.C.

Lakes and slow rivers. Very rare. Fl. July, August.

IV. In the river Clady at the Gweedore Hotel; western shore of Upper Lough Nacung, near 'The Cung.'

VI. In Lough Erigh, between Doocharry Bridge and Glenties, Dr. Dickie.

VII. Plentiful at Bannus Lough, 2½ miles south-west of Pettigo, at the roots of *Equisetum limosum* and *Carex ampullacea* in mossy mud.

VIII. Lough Eske, south-west margin, a little north of the Castle, Miss Young. I observed it there several years.

First record; 1864, Dickie. (*Flora of Ulster.*)

Hypericaceæ

Hypericum *Linn.* ST. JOHN'S WORT.

96. **H. androsæmum** *Linn.* TUTSAN.

Thickets, especially on steep banks by the sea side, and on the margin of woods. Frequent, but nowhere plentiful. Fl. July to September.

From 1400 feet to sea-level.

97. **H. perforatum** *Linn.*

Waste places and banks. Very local. Fl. June to Sept.

V. Foyle above Derry; between Porthall and St. Johnston's, Mrs Leebody; banks of the Foyle above Lifford, and along the Deel River.

VI. About a mile above Russell's Ferry on the south side of Gweedore Estuary, and on the opposite side also; by the Finn Valley railway at Liscooly.

VII. and VIII. Not unfrequent, especially along the banks of rivers.

This species is quite a local plant in Donegal, and hardly found except on the banks of rivers and railways.

98. **H. tetrapterum** *Fries.*

Wet ditches, borders of woods and damp shady places. Common. Fl. July and August.

99. **H. humifusum** *Linn.*

Dry banks and stony roadsides. Frequent. Fl. July to September.

100. **H. pulchrum** *Linn.*

Dry banks and heathy places. Common. Fl. June to August.

From 1100 feet to sea level.

101. **H. Elodes** *Linn.*

Spongy peat bogs and bog-holes. Frequent in the mountainous districts. Fl. July, August.

Malvaceæ

Althæa *Linn.* MARSH MALLOW.

[**A. officinalis** *Linn.*

Alien. Marshy places by the sea. Very rare. Fl. July to September.

IV. Plentiful in a marshy pool on Carrickfinn Island, west of Bunbeg. The owner of a cabin close by told me it had always grown there. It looks native, but is open to reasonable suspicion.

VII. Near Bundoran.

VIII. Established at Kiln Bay, near Dunkineely; at the north-east corner of Glen Bay, by the margin of the sea.

This plant is still held in the highest repute for its medicinal qualities, and was formerly grown in many cottage gardens.

First record; Hart, 1866. (*Recent additions, etc.*)

Malva *Linn.* COMMON MALLOW.

102. ‡ **M. sylvestris** *Linn.*

Roadsides and waste ground; rarely away from cottages in Donegal, where it is often cultivated, and not common.

103. ‡ **M. moschata** *Linn.* MUSK MALLOW.

V. By the Foyle above Derry. "Growing in a wild place, not near either house or garden, about half a mile from Carrigans (on the Derry side), in a hedge on the Foyle side of the railway." For this record I am indebted to Mrs. Leebody, who sent me specimens in 1892, the first from the county.

VII. Field north-east of Lough Eske. – T.H. Corry.

Lineæ

Radiola *Gmel.* ALL-SEED.

104. **R. linoides** *Gmel.*

Damp, peaty or sandy pastures, especially near the sea. Not unfrequent, but local.

I. By the signal tower, Malin Head, and near Ardmalin Cottage.

III. Frequent in Fanet.

IV. Horn Head and Tory Island, frequent; Doe Castle; Breaghy Head.

VI. Gweebarra, about Doocharry Bridge; Dunglow and Aranmore; Kincashla, upon the Cruit side.

VII. Coast at Port, near Tormore; Glen Head; Eagle's Nest; near Malinmore; between Slieve-a-Tooley and Magheragh.

A peat-loving species.

First record; E. Murphy, 1829. (*Mag. Nat. Hist.*, Vol I, p. 436.)

Linum *Linn.* FLAX

105. **L. catharticum** *Linn.* PURGING FLAX.

Pastures, heaths, and sandy, grassy places. Abundant. Fl. June to September.

From 700 feet to sea level.

Geraniaceæ

Geranium *Linn.* CRANE'S-BILL.

106. **G. sanguineum** *Linn.*

Limestone bluffs and banks by the sea. Very rare. Fl. June to August.

VII. Limestone bluffs near Ballyshannon, a little way from the Erne, and behind the Workhouse.

VIII. Abundant at St. John's Point on limestone.

Only on limestone in Donegal.

First record; Hart, 1885. (*Proc. R.I.A.*)

[**G. pratense** *Linn.*

Banks on a limestone soil. Very rare. Fl. June to August.

VII. Casual in a meadow by the river at Temple Carn Glebe, near Pettigo, Miss Young.]

107. **G. molle** *Linn.*

Dry banks, roadsides, and fields. Common. Fl. May to August.

108. **G. dissectum** *Linn.*

Thickets, roadside banks and waste places; frequent in the more southern and better cultivated districts, but local and only near houses or in gardens in the wilder parts of the county. Perhaps a denizen. Fl. June to September.

109. **G. Robertianum** *Linn.* HERB ROBERT.

Rocky shady places and hedge banks, also on shingly beaches by the sea, frequent. Fl. June to September.

From about 700 feet to sea level.

110. **G. lucidum** *Linn.*

Dry banks, walls, and rocky places on limestone. Local and rare. Fl. May to July.

VII. By the Erne, about a quarter of a mile above Ballyshannon, on the left bank, sparingly; in a thicket below Cliff, near Belleek, on the right bank; by the Termon River, Pettigo, and in several places between Brown Hall and Carrigahorna.

VIII. Sparingly at St. John's Point.

Only on limestone in Donegal.

First record; Hart, 1885. (*Proc. R.I.A.*)

(*G. phæum*, *Linn.*, is established at Templecarn, near Pettigo.)

Erodium *L'Hérit.* STORK'S-BILL.

111. **E. cicutarium** *L'Hérit.*

Sandy pastures and waste places, always near the sea. Frequent. Fl. June to September.

112. ‡ **E. moschatum** *Sm.*

Colonist. Waste places and roadside banks near the sea. Very rare. Fl. July, August.

III. In two or three places at Rathmullan.

VII. "In the rabbit warren, south side of the river, near Ballyshannon." – Mr. H. Allingham. I could not find it there.

First record; Allin, 1886. (*Recent additions, &c.*)

Oxalis *Linn.* WOOD SORREL.

113. **O. Acetosella** *Linn.*

Woods and thickets, also shady rocky places in the mountains. Common. Fl. April to July.

From 1600 feet to sea level.

Aquifoliaceæ

Ilex *Linn.* HOLLY.

114. **I. aquifolium** *Linn.*

Not unfrequent in natural thickets in mountainous situations. No doubt native in many places, but often planted and increasing freely by seed. Fl. May to July.

850 feet (Croaghanacleragh, Ardara) to sea level.

Celastraceæ

Euonymus *Linn.* SPINDLE-TREE.

115. **E. europæus** *Linn.*

Bushy and rocky places near water. Very local. Fl. May, June.

VII. Coast, a mile west of Ballyshannon; by the Erne, in several places; Lake Gorman; banks of Bundrowes river; thickets by the Letter river, 10 to 15 feet high.

VIII. Rooney's Island, near Donegal; steep banks above the sea, near Inver; near Salthill; Doorin Point; plentiful at St. John's Point, where it fills the vertical chinks in the limestone.

Only on limestone in Donegal. A variety with narrow, almost linear leaves occurs by the Erne, a little below Cliff.

First record; Hart, 1885. (*Proc. R.I.A.*)

Rhamnus catharticus has been reported to me by Miss Young from near Temple Carn Glebe, Pettigo, but the locality appears to belong to Fermanagh.

Leguminosæ

Ulex *Linn.* FURZE. WHIN. GORSE.

116. **U. europæus** *Linn.*

Stony hills and banks. Locally abundant. Fl. Spring and autumn, and again in mild winters.

It would be impossible to state and difficult to guess now where this plant is native. Like the holly, it seeds itself into the wildest situations, though it is a much more dominant species. In the islands, such as Aranmore, Tory, &c, gorse is certainly not native. It carefully avoids limestone, and is not particular partial to peat in Donegal. It occurs in all the districts.

117. **U. gallii** *Planch.* DWARF FURZE.

Dry banks and hillsides. Very local. Fl. from end of August throughout the winter.

III. Hills and roadsides from Carrowkeel to Portsalon, and about Carrowkeel and Portsalon; hills between Ballymagahy Lake and Rathgory, Fanet; hill on the north side of the road between Rosskirk and Upper Carrablugh; slopes of Murren..

Apparently confined to Fanet, in Donegal.

Both species of furze were in good blossom at Christmas, 1892, and this is not unusual in Fanet. After severe frost in January, both were still in bloom the second week of the month; the common furze sparingly, the dwarf freely.

First record; Hart, 1879. (*J. of Bot.*)

Cytisus *Linn.* BROOM.

118. **C. scoparius** *Linn.*

Rough ground and heathy places. Frequent. Fl. May to July.

The broom does not increase freely in the natural state, nor is it very readily established. In some places, such as near Church Hill, by the old road between that and Letterkenny, where a considerable stretch of broom occurs, it outstrips the gorse in brilliancy of colour.

From 700 feet to sea-level.

Ononis *Linn.* REST HARROW.

119. **O. repens** *Linn.*

Sandy pastures near the sea in two places in the east of the county. Very rare. Fl. June to September.

II. By Lough Swilly, at the nine-mile stone on the road to Buncrana from Derry, Mr. W.E. Hart; at Ture Point, north of Kilderry, in Muff Parish, by Lough Foyle.

Recorded without locality (D.M.) in *Cybele Hibernica*.

First record, with locality; Hart, 1886. (*Proc. R.I.A.*)

Medicago *Linn.* BLACK MEDICK.

120. **M. lupulina** *Linn.*

Dry waste places, banks and sandy soil. Very local. Fl. June to September.

I. and II. Rather scarce.

III. Carrablagh and Glenalla; Rathmelton.

VII. Common about Ballyshannon.

[**Melilotus** *Linn.* MELILOT.

M. alba *Desr.* A casual. Very rare. Fl. July, August.

I. Introduced and perhaps established amongst sown grasses near Greencastle, Inishowen. W.E. Hart.]

Trifolium *Linn.* CLOVER, TREFOIL.121. **T. pratense** *Linn.* PURPLE CLOVER.

Pastures, meadows, and dry banks by the seaside. Common in cultivated neighbourhoods. Fl. June to September.

Possibly a denizen.

122. **T. medium** *Huds.*

Dry, exposed bluffs and stony ground. Local, but frequent in some districts. Fl. June to September.

This handsome clover especially prefers the neighbourhood of the sea, and limestone soil. Thus it occurs in gaudy profusion at Leenane on Lough Swilly, and along St. John's Point (limestone) by Killybegs. Like many other lime-loving species it is equally at home upon basaltic soils, as at Ben Evenagh in Derry.

I. Dunaff Head and Leenane; in several places about Malin Head and Ardmalin.

II. By Buncrana river.

III. Glenoory, Crocknaglagh Mt. and Meevagh, in several places, all in Rossgull, the Misses Kinahan.

IV. North side of the Estuary of Gweedore (Crolley) River.

VI. Aranmore, along the east shore, plentiful; shores of Gweebarra Bay, on both sides; above Russell's Ferry; Kincashla Point, Rosses.

VII. and VIII. Banks of rivers and bluffs by the sea in many places, especially on limestone. A very ornamental species sometimes, as at St. John's Point. At Wardtown, west of Ballyshannon, it is abundant.

From 750 feet to sea level.

123. **T. arvense** *Linn.* HARE'S FOOT TREFOIL.

Sandy banks and fields. Very local and rare. Fl. July to September.

I. Sandy fields at Stroove, a little south of Inishowen Head, W.E.H.; at Ardmalin South, on the west side of Malin Head.

VII. Old pasture land at Wardtown, Ballyshannon. – Mr. H. Allingham. I did not meet with it.

First record; Hart, 1881. (*Jour. of Bot.*)

124. **T. repens** *Linn.* SHAMROCK, DUTCH CLOVER.

Meadows, damp pastures, and wet or stony places on hillsides. Common. Fl. June to October.

[*T. agrarium* *Linn.* Casual. Unbroken grassy hillocks in one place.

Very rare and no doubt an escape from some adjacent cultivation, Fl. July to September.

II. By the Foyle in the parish of Muff, a little north of Kilderry. Perhaps sown with *T. repens* in neighbouring pasture.]

125. **T. procumbens** *Linn.* HOP TREFOIL.

Roadsides, sandy or gravelly pastures and dry waste places. Frequent in cultivated districts. Fl. June to September.

126. **T. minus** *Sibth.*

Pastures, banks and roadsides. Very common. Fl. May to August.

127. ‡ **T. filiforme** *Linn.*

Denizen. Pastures. Very rare. Fl. July to September.

III. Short green sward by the house at Glen Alla.

I have met this minute species only a few times in Ireland, and it was always in a similar situation – short, well-kept sward, which is continually trimmed. Its habit – closely addressed to the ground – renders such treatment beneficial to its growth, by removing coarser, interfering herbage, which would smother it.

Probably in all cases originally sown with grass seed.

First record; Hart, 1879. (*Jour. of Bot.*)

Anthyllis *Linn.* KIDNEY VETCH.

128. **A. vulneraria** *Linn.* LADY'S FINGER.

Dry banks and stony or sandy pastures, especially near the sea. Frequent, and often abundant. Fl. June to August.

Common inland on the limestone rocky district between Ballyshannon and Ballintra in District VII.

From 600 feet to sea level.

Lotus *Linn.* BIRD'S FOOT TREFOIL.

129. **L. corniculatus** *Linn.*

Dry banks, pastures and waste places. Common. Fl. May to September.

130. **L. uliginosus** *Schk.*

Marshy meadows, thickets and wet ditch banks. Rather local, but common in the wet, peaty, cultivated districts. Fl. July, August.

I. Common about the Mintiaghs, Carndonagh, and in glens leading to Moville, etc.

II. Bogay, near Derry; Fahan and Inch.

III. By the Lennan, above Lough Fern; Lough Swilly shore at Castle Wray.

V. Finn Valley.

VI. Ray River, etc.

VII. and VIII. Common and characteristic in the lowlands of the south and west of Donegal.

Vicia *Linn.* VETCH. TARE.

131. ‡ **V. hirsuta** *Koch.* COMMON TARE.

Colonist. Cultivated fields on a light soil. Local, but occasionally abundant. Fl. June to September.

I. and II. Frequent in Inishowen.

III. Croaghross and Rosskirk, Fanet; about Ramelton and Rathmullan, frequent.

Surely occurs elsewhere, but I have no note of it.

132. **V. Cracca** *Linn.*

Hedges and thickets. Common. Fl. July to September.

133. **V. sepium** *Linn.*

Hedge banks, bushy places, and borders of woods. Common. Fl. May to August.

A small prostrate form occurs on sandhills at Kincashla Point, in the Rosses. The stems creep under the sand. The flowers are as blue as those of *V. cracca*, and the plant looks well away from the type. Mr. Bennett informs me it occurs in Surrey with *yellow* flowers (var. *ochroleuca*), and Mr. More has met a similar form to mine in Scotland.

From 700 feet to sea level.

134. **V. sylvatica** *Linn.*

Banks and bushy places near the sea. Rare. Fl. July, August.

I. In a glen behind Moville, W.E.H.; steep natural thickets by Lough Foyle, a couple of miles south of Moville.

III. Green Bins, Carrablugh; Glenovry and Crocknaglagh, on Rossgull, the Misses Kinahan; Lerrig-a-Cloghan, Between Waters, Fanet, Rev. A. Delap.

IV. Horn Head, Mr. C. Moore. (*Cyb. Hib.*)

VI. South side of Gweebarra Estuary in natural copses, about a mile above Russell's Ferry, in great plenty and very ornamental.

VII. Near Donegal by the coast.

VIII. Near the town of Donegal, *Flor. Ulst.* Quite a characteristic species of Donegal Bay. Muckcross Point, Inver Estuary, Killybegs to Fintragh, Fintragh Bay, and onto Largy; and Killymard may be quoted as localities.

135. **V. *angustifolia*** *Roth.*

Sandy pastures and banks by the sea. Very rare. Fl. May to July.

I. Leenane, Lough Swilly.

V. By the Finn railway, on both sides of Clady Bridge. This locality extends into Tyrone (district 10). It is at Ballyboggan, near Urney.

First record; Hart, 1879. (*J. of Bot.*)

136. **V. *lathyroides*** *Linn.*

Sandy pastures and banks by the sea. Very rare. Fl. May to July.

I. Dunaff Head, on the inland face in several places; sandy ground at Stroove.

First record; Hart, 1872. (*Recent additions, &c.*)

Lathyrus *Linn.* EVERLASTING PEA.

137. **L. *pratensis*** *Linn.*

Moist ditch banks, hedges and meadows. Local in the wilder districts; common elsewhere. Fl. June to August.

138. **L. *macrorrhizus*** *Wimm.* HEATH PEA.

Heaths, dry banks and bushy places. Frequent. May to July.

From 1550 feet to sea level.

Rosaceæ

Prunus *Linn.* BLACKTHORN. SLOE.

139. **P. *communis*** *Huds.*

Mountain glens and stony slopes at low elevations, banks by the sea, and waste places. Common. Fl. April, May. Seems to perfect a very small proportion of fruit.

From 800 feet to sea level.

[* **P. *insititia*** *Linn.* BULLACE.

Alien; in hedge-rows, thickets and corners of fields or edges of woods.

Locally established.

II. Ned's Point, Buncrana.

III. Hedgerows about Rossnakill and Ballymacgowan in Fanet.

VII. and VIII. Roadsides and hedgerows about Donegal and Ballyshannon.]

140. † **P. avium** *Linn.* WILD CHERRY.

Thickets and hedges. Frequent in old hedgerows. Fl. May.

I. Roadside between Carndonagh and Moville; Long Glen above Glennagiveny.

II. Linsfort.

III. Roadside near Croaghross, Tamney, and Kilmacrenan; about Loughs Fern and Lough Gartan, and on an island in Lough Fern. Looking native about Lough Fern.

IV. Roadside near Marble Hill, Dunfanaghy.

V. Hedges, north of Raphoe.

VII. and VIII. Frequent in these districts and occurring in natural stations, as along the river at Carrick.

[*P. cerasus* *Linn.* Occasionally met with in hedgerows, but no doubt an escape.]

141. **P. padus** *Linn.* BIRD CHERRY.

Thickets, especially on the banks of rivers. Not common. Fl. May, June.

I. and II. Mintiagh Glen and Inishowen, Donegal, *Cyb. Hib.* "Still maintains its habitat in Mintiagh Glen, alongside the main road." Mr. Hunter.

III. By the River Lennan, above and below Lough Fern.

IV. Glenlack, running into Glenveagh, abundant; by a stream from Muckish toward Creeslough.

V. Common along the river Finn and the Reelan Water; by the Swilly River, above Letterkenny, from Drumanaght Bridge upwards, abundant.

VI. River between Ardara and Glenties.

VIII. Sparingly in Ardnamona Woods; Termon River, above Pettigo.

Fruit greedily eaten by birds, as tomtits, &c.

From 500 feet to sea level.

Spiræa *Linn.* MEADOW SWEET.

142. **S. Ulmaria** *Linn.*

Wet meadows, hedges, and bushy places. Frequent. Fl. July, August.

From 700 feet to sea level.

[*Spiræa Salicifolia*, Linn. A colony of this plant occurs along the Finn River, about fifteen yards in length, a quarter of a mile above Castletinn Bridge. Probably transported thither by a flood long since from some garden, but now a portion of the fixed vegetation.]

Poterium Linn. LESSER BURNET.

143. **P. Sanguisorba** Linn.

Limestone banks. Very rare. Fl. July.

VII. Ballyshannon, Admiral Jones. (*Cyb. Hib.*)

First record, 1866. (*Cyb. Hib.*)

Rubus Linn. BRAMBLE.

144. **R. idæus** Linn. RASPBERRY.

Thickets and stony places, at low levels, by glens and streams. Frequent. Fl. July, August.

From 800 feet to sea level.

R. suberectus Anders. BLACKBERRY.

I, II, and III. Frequent, and probably in all districts.

V. By the Finn River. (Mr. Baker.)

VII. and VIII. Frequent.

R. fissus Lindl.

V. By the Finn River.

VII. Near Pettigo (determined from here by Mr. Baker).

R. plicatus W. & N.

I. and II. Not unfrequent.

III. Specimens from Glen Lough shores were determined by Mr. Baker. Not uncommon.

R. rhamnifolius W. & N.

I, II, and III. Not rare.

II. and V. About Derry, Dr. Moore. (*Ord. Sur. Rept.*)

R. incurvatus Bab.

I. From Glengad Head northwards along the coast.

145. **R. rusticanus** Merc. (*R. discolor* W. & N.)

Common. Determined from St. John's Point, Killybegs, and Pettigo by Mr. Baker.

R. leucostachys Sm.

Probably frequent.

VIII. Carrick.

R. calvatus Blox. (*R. salteri* Bab., in part.)

VII. Pettigo. Determined by Mr. Baker.

R. carpinifolius W. & N.

I, II. and III. Frequent.

IV. By the Owencarrow River. Determined by Mr. Baker.

R. villicaulis Koehl.

I. From Glengad Head northwards along the coast.

VIII. Killybegs, "apparently," Rev. E.S. Marshall; Carrick, determined by Rev. Moyle-Rogers from Mr. Hanbury's specimens of 1891.

R. macrophyllus W. & N.

I. Glengad Head.

VIII. Killybegs, Rev. E.S. Marshall.

R. Koehleri Weihe.

Frequent about Derry, Dr. Moore, *Ord. Sur. Rept.*

R. histrix Weihe. (*R. rosaceus*)

VIII. Killybegs, apparently, Rev. E.S. Marshall.

R. corylifolius Sm.

VIII. Killybegs, Rev. E.S. Marshall; River Eglis, gathered by Mr. Hanbury, '91, and determined by Rev. Moyle-Rogers.

146. **R. caesius** Linn.

II. Banks by the side of the Foyle, above Derry, Dr. Moore, *Ord. Sur. Rept.*

III. and IV. Shores of Lake Akibbon, near Churchill.

VIII. Limestone rocks on the margin of Lough Eske, at the northern end.

R. leucostachys x villicaulis

VIII. Carrick river. Determined from Mr. Hanbury's specimens (1891) by Rev. Moyle-Rogers.

R. pyramidalis Kalt. — "forma eglandulosa."

VIII. Carrick. Determined from Mr. Hanbury's specimens (1891) by Rev. Moyle-Rogers.

147. **R. saxatilis** Linn. STONE BRAMBLE.

Mountain screes, stony places by rivers, and on limestone bluffs. Local. Fl. June to August.

I. Bulben Mt.; headland on the west side of Malin Head, south from Ardmalin South; Crockaughrim.

III. Bunlinn, between Mulroy and Lough Keel; by Lough Keel; near Drinnacraig, Fanet.

IV. Thickets near the Back Strand, Ards; gullies looking north-west on Slieve Snaght Beg at 1800 feet. (See under *Oxyria reniformis*.)

VII. By the Erne, on the left bank near Ballyshannon. Abundant and characteristic on the limestone country south of Brown Hall, and west of Ballintra.

VIII. St. John's Point; Eanymore Water.

From 1800 feet to sea level.

First record; E. Murphy, 1829, *Mag. Nat. Hist*, i, 436.

Dryas *Linn.*

148. **D. octopetala** *Linn.*

Alpine ledges. Very rare. Fl. May to August.

VIII. Slieve League, at about 1300 feet above sea level, very sparingly.

This species has not been found elsewhere in Donegal. The locality in *Flora Ulster* (Ballyshannon) was a mistake, as A.G. More informs me, in transcription from Templeton MS.

First record; Hart, 1885. (*Proc. R.I.A.*)

Geum *Linn.* AVENS.

149. **G. urbanum** *Linn.* HERB BENNET.

Hedgerows, thickets, and borders of damp woods. Frequent. Fl. June to August.

From 500 feet to sea level.

150. **G. rivale** *Linn.*

Banks of streams, shady wet places, and in mountain glens. Not common. F. May to July.

III. Glen Alla; Coravady Burn, near Letterkenny, Miss Kinahan.

IV. Poisoned Glen to 1000 feet; stream from Muckish, near Creeslough.

V. By the Foyle, below Clonleigh; Swilly River, a mile above Letterkenny; River Finn, at Killygordon.

VII. Letter River, near Lough Erne; River Erne, at Camlin; Termon River, above Pettigo.

VIII. Lough Head River, near Killybegs; Eanymore Water; Eske River.

Fragaria *Linn.* STRAWBERRY.

151. **F. vesca** *Linn.*

Banks and thickets, frequent. Fl. May to July.

From 950 feet to sea level.

Potentilla *Linn.* CINQUEFOIL.

152. **P. Comarum** *Nestl.*

Marshes, margins of lakes, and bog-holes. Frequent. Fl. June to August.

From 1000 feet to sea level.

153. **P. Tormentilla** *Scop.* TORMENTIL.

Dry, bare, uncultivated places of all sorts. Very common. Fl. June to October.

From 2460 feet to sea level. A summit plant.

154. **P. reptans** *Linn.*

Stony banks and waste places. Probably frequent. Fl. July, August.

More common along railway banks than elsewhere, and in the southern parts of the country. About Derry, Fahan, Belleek, Donegal, it is not scarce, but in the mountainous districts it is rare. It occurs, however, on Aranmore Island. I have observed it in II, III, V, VII, and VIII.

155. **P. anserina** *Linn.* SILVER WEED.

Wet places by roadsides, and a weed in cultivated land. Common. Fl. June to August.

156. **P. Fragariastrum** *Linn.*

Dry banks and waste places. Common. Fl. March to May.

Alchemilla *Linn.*

157. **A. arvensis** *Linn.*

Borders of fields, tops of walls and banks, and dry, peaty waste places. Common. Fl. May to August.

From 750 feet to sea level.

158. **A. vulgaris** *Linn.* LADY'S MANTLE.

By streams, mountain pastures, and in shady places. Frequent. Fl. May to August.

Var. A. montana Willd.

Grassy and stony mountain pastures. Frequent.

From 1400 feet to sea level (the montane form). The lowland form ascends not so high usually.

Agrimonia *Linn.* AGRIMONY.159. **A. Eupatoria** *Linn.*

Thickets, rough pastures and roadsides. Rather rare. Fl. June to September.

I. Glengad Head; Knockglass, west of Malin.

III. Drimnacraig and Kindrum, Fanet; between Rathmullan and Knockalla; Bunlinn and Milford; Rowross Ferry on Mulroy; Carrigart; Fort Steward and Brown Knowe, near Ramelton; Macamish Pt, Whale Head; near Clontallagh, on Ross gull, and elsewhere.

IV. Dunfanaghy; Burton Port; Lettermacaward, near Russell's Ferry.

V. Ballabegly, along the east shore of Lough Swilly, at Fort Stewart Ferry.

VI. A mile above Russell's Ferry, south side of Gweebarra Estuary; north coast of Boylegh promontory, near Lough Keil Island; Kincashla Point, Rosses.

VII. By the Erne and Termon rivers.

VIII. St. John's Pt.; Eanymore Water below Drumagra Bridge; Lowerymore at Tawnawilly.

160. **A. odorata** *Mill.*

Thickets and banks. Very rare. Fl. June to August.

I. Glennagiveny Bay, north-west of Moville.

VIII. By the Eanymore Water, at the bridge on the road leading up to Srule. Mr. Hanbury gathered this with me, and recognised it at once, in July, 1891.

First record; Hart, *Flora*.

Rosa *Linn.* ROSE.161. **R. spinosissima** *Linn.* BURNET ROSE, SCOTCH ROSE.

Heathy banks and sandy pastures by the sea. Not unfrequent. Fl. June and July.

Rare inland:

V. Banks of the Reelan a mile below Reelan Bridge.

VII. On the bare limestone, rocky district between Brown Hall and Cavangarden, where it is commonly pink and dwarf.

From 800 feet to sea level.

162. **R. mollis** Linn.

Bushy places, very rare. Fl. June to August.

III. Roadside hedges and bushy places by Lough Gartan. This species was determined by Mr. Baker, of Kew, from specimens sent to him in 1885.

VIII. Killybegs. Rev. E.S. Marshall (1891).

First record; Hart, *Flora*.

163. **R. tomentosa** Sm.

Bushy places, hedges and banks of streams; frequent. Fl. June to August.

In the more rainy and peaty mountainous parts of the county, this appears to be the commonest rose. In the west of the county it is the commonest rose inland.

From 800 feet to sea level.

Var. subglobosa Sm.

River Eglis, near Donegal. Determined by Mr. Moyle Rogers for Mr. Hanbury who gathered it with me, July, 1891.

164. ***R. rubiginosa** Linn. EGLANTINE.

Colonist; hedges and thickets. Very rarely established. Fl. July.

II. Near Derry, W.E.H. "Probably introduced."

165. **R. canina** Linn. DOG ROSE.

Hedges, thickets and waste places, frequent. Fl. End of May to August. I have not observed varieties of the Dog Rose often in Donegal. In the west of the county *R. canina* is the commonest rose by the sea.

Var. dumalis occurs along the Gweebarra Estuary, near Russell's Ferry. It was determined for me by Mr. Baker.

Var. cæsia. Eglis River. Mr. Hanbury.

Var. Sphærica Gren. By the Owentogher river, a mile above Ardara, on the left bank. Determined by Mr. Bennett.

Var. lutetiana, Finn River, near Killygordon. Named by Mr.

Bennett.

From 800 feet to sea level.

166. **R. arvensis** Huds.

Hedges and thickets, rare. Fl. July, August.

III. Banks by the roadside, near Croaghross, on the Glen Alla road; by an old road on the Swilly shore below the Thorn, near Letterkenny.

IV. By a small lake near Bedlam, about six miles north of Gweedore.

VII. Roadside, near Termon McGrath's castle, below Pettigo; by the Termon River above Pettigo; by the roadside towards Laghy, a mile from Donegal.

First record; Hart, 1880. (*Jour. of Bot.*)

Pyrus *Linn.* APPLE, PEAR.

167. **P. aria** *Sm.* WHITE BEAM.

Mountain woods, rare. Fl. June, July.

IV. Mountain thickets at Glenveagh.

VII. Near Brown Hall in several places.

First record; Hart, 1881. (*Jour. of Bot.*)

168. † **P. malus** *Linn.* CRAB APPLE.

Hedges and thickets. Very local. Fl. May.

III. In several places about Aughnagaddy and Ramelton, seemingly native; near Kilmacrenan, and between that and Lough Fern.

VII. Roadsides about Pettigo.

VIII. Roadsides and hedges about Donegal, Killybegs and elsewhere.

Perhaps a denizen.

169. **P. Aucuparia** *Gaert.* MOUNTAIN ASH, ROWAN.

Frequent in the mountainous districts. Fl. May, June.

A clump of these trees occurs at about 700 feet above sea level in the Poisoned Glen. It is usually met with singly, or scattered through native thickets. Seedlings are often seen high up on the mountains, as at 2000 feet on Errigal (1888). The berries are carried much by the mistle thrush.

From 1900 feet to sea level.

Cratægus *Linn.* HAWTHORN, WHITETHORN.

170. **C. Oxyacantha** *Linn.*

Sub sp. *C. monogyna* *Jacq.*

River banks, roadsides, and hedges, frequent. Fl. May, June.

Probably a colonist in most parts of the county, but, no doubt, native in some of the lowland districts. Berries of Hawthorn, Holly and Mountain Ash are greedily eaten by the mistle thrushes and others of the tribe, and by them the seeds are widely disseminated.

C. Oxyacantha (proper) = *C. oxyacanthoides* *Thuill.*

A native form by the sea coast at Culdaff in Inishowen and

Drimnacraig in Fanet, with remarkably large leaves and stipules. A handsomer bush than the common species. Also about Ballyshannon and along the Finn river. Named by Mr. Bennett. The leaves are less divided and larger, the fruit is glabrous, and larger as are also the flowers than the hedge-row form. Very well marked specimens occur on the limestone at Carrickboy, near Ballyshannon.

Saxifrageæ

Saxifraga Linn. SAXIFRAGE.

171. **S. oppositifolia** Linn.

Wet rocky places on mountains in alpine situations, and on their steepest declivities to sea level. Rare. Fl. April to June.

I. Bulben Mt., from 1300 to 1580 feet above sea level. Abundant. "At the summit of Bulben Mountain, Ennis Owen, Mr. Browne, who very kindly gave me a specimen from that place." – Wade, *Plantæ rariores*.

IV. Poisoned Glen; cliffs looking north above Lough Alton from 1000 to 1200 feet, in three different places.

VIII. Slieve League, from 1850 to 400 feet, and also at sea level; Leahan Cliffs (north of Slieve League), from 600 to 350 feet; forming the sward in some places close to sea level, between Slieve-a-Tooey and Magheragh; cliffs looking north at Maum (near Magheragh).

From 1850 feet to sea level.

First record, R. Brown, 1804. (Wade, *Plantæ rariores*, etc.)

172. **S. stellaris** Linn.

Wet rocks, spongy places and rills in mountainous districts. Frequent. Fl. June to August.

Occurs in all the districts. Like several other mountain plants it descends to low levels occasionally, but only in the neighbourhood of the higher mountains.

From 2200 feet to 500 feet above sea level (probably lower).

173. **S. umbrosa** Linn. LONDON PRIDE.

Stony places on mountains. Locally abundant. Fl. June, July.

I. At Knockglass, Malin, close by the sea, and not more than 100 feet

above its level; rare and barren. (Dickie, *Flor. of Ulst.*) I have not found it here.

IV. Errigal, Muckish, Poisoned Glen and Slieve Snacht West. Descends to about by streams out of gullies in the Poisoned Glen.

[VII. and VIII. Naturalized by the Letter river (near Pettigo) and the Lough Head River (near Killybegs). Not native in the south-west of Donegal.]

From 2000 to 500 feet above sea level; or to 100 feet.

First record, Templeton, 1830 (?) "On Croagh Patrick in Mayo (A.B. Lambert, Esq.), and Muckish in Donegal (Mr. Templeton), on both which lofty mountains I have gathered the plant abundantly." Hooker, *Brit. Flora*, 1830.

174. **S. aizoides** Linn.

Mountain rills and gullies in alpine situations. Rare. Fl. July, August.

VII. North shore of Ballyward Lake, about eight miles north-east of Ballyshannon, on flat limestone rock. I discovered this patch in full bloom on June 24, 1893. It was exceedingly showy and well grown, and attracted my attention quite a hundred yards away. This lake lies quite low, probably not 200 feet above sea level, and was a very unexpected locality for an alpine species.

VIII. Slieve League, from 1550 to 1140 feet above sea level. Alt Mountain, near Ardara, abundant, from 1400 to 650 feet.

From 1550 feet to low level.

First record, Dunlop, 1872. (*Recent additions, &c.*)

175. **S. tridactylites** Linn.

Sandhills and dry walls or waste stony places, chiefly near the sea. Frequent. Fl. April to June.

I. About Greencastle, W.E.H.; Moville.

II. Between Fahan and Buncrana.

III. Sandhills round the coast of Fanet, and dry walls near Rathmullan and Ray; sandhills at Rosapenna; old walls at Drumalla, north of Rathmullan.

IV. Sandhills of Sheephaven, Horn Head, and Ballyness Bay, and probably elsewhere.

VI. Sandhills at Ardara, *Cyb. Hib*; sandy coasts at Kincashla and Cruit, Rosses.

VII. Sandhills between Bundoran and Ballyshannon; limestone ledges, &c, by the Erne, below Cliff, on the opposite bank.

176. **S. Sternbergii** Willd. (*S. hirta* Sm.)

Wet rocks in a shady gully near the sea. Very rare. Fl. May to July.

VI. In a gully above the sea, called Polldoo, on Aranmore at about 200 feet above sea level. An unusual situation. This plant is identical with *S. hirta*, from alpine heights in Kerry and Galway, approaching closely to *S. cærpitosa*.

First record, Hart, 1881, as *S. hirta*. (*Jour. of Bot.*)

177. † **S. hypnoides** Linn. MOSSY SAXIFRAGE.

Rocky bluffs near the sea. Very rare. Fl. May to July.

III. Low rocky bluffs, known as the Little Binns, Ballyvicstocker Strand, Fanet.

As one or two introduced species (lilac, elecampane) occur close by, it is possible that Saxifrage may also have been planted or cast out from a garden here. It is not far from Greenford, the residence of the Barton family. The species is, however, so thoroughly at home and identified with the situation that I believe it native. It forms the sward and clothes the rocks in a manner that point to a far more ancient tenancy than the one or two struggling aliens present would indicate. [Since I wrote the above, elecampane has disappeared.]

First record; Hart, 1872. (*Recent additions, &c.*)

Chrysosplenium Linn.

178. **C. oppositifolium** Linn. GOLDEN SAXIFRAGE.

Damp, shady places; also in spongy rills high up on mountains. Frequent. Fl. April, July.

This species, though not met with universally, is usually abundant where it occurs. In some places, as at Glenalla, it is an ornamental feature along shady ditches by woods and roadsides.

From 1850 feet to sea level.

Parnassia Linn. GRASS OF PARNASSUS.

179. **P. palustris** Linn.

Wet, sandy ground and on limestone. Very local. Fl. July, August.

I. Glennagivney, W.E.H. Plentiful here, the only locality I know in Inishowen.

VI. Sandhills about a mile to the south-east of Kincashla Tower, and along the northern shores of Mullaghderg Lake; on Carrick Finn Island, to the west of Bunbeg.

VII. and VIII. Frequent on the limestone from Bundoran to St. John's Point.

Ribes *Linn.* CURRANT, GOOSEBERRY.

[**R. Grossularia** *Linn.* GOOSEBERRY.

Thickets and copses. Not native, but thoroughly established in several wild places. Fl. April, May.

II. Coast near Bunrana in thickets.

III. Coast between Fort Royal and Drumalla in thickets.]

[**R. nigrum** *Linn.* WILD CURRANT.

Damp thickets by a stream. Not native, but thoroughly established. Fl. April, May.

V. On an island formed by a deep ditch on the north bank of the Finn, amongst blackthorns, and apart from any cultivation. Abundantly established. The locality is about a mile above Killygordon.]

Crassulaceæ

Cotyledon *Linn.* PENNYWORT. NAVELWORT.

180. **C. Umbilicus** *Linn.*

Dry walls, rocks, and stony places in upland situations. Common. Fl. June to August.

Sedum *Linn.* STONE-CROP.

181. **S. Rhodiola** *D.C.* ROSE-ROOT.

Cliffs by the sea, and also alpine rocks and gullies on the mountains. Common. Fl. June and July. Not in district V?

Occurs wherever the coast is precipitous. In some places, as at Breaghy Head (Sheephaven), this species is of great beauty in the later summer months, on account of the brilliant reddish hues its leaves then assume. The species increases in abundance to the westward; and is profusely common on Aranmore (District VI.), etc.

From 1900 feet to sea level.

181. ‡ **S. Telephium** *Linn.* ORPINE.

Banks and stony places. Very rare. Fl. July, August.

IV. Rooskey, in the parish of Clondahorkey, in shelter of a low wall

in a lea field, far removed from any garden or likely source of introduction, and appearing native. It was discovered here in 1883 by the Rev. Alexander Stuart, then Rector of Mable Hill, who kindly sent me specimens for identification.

First record; Hart, 1885. (*Proc. R.I.A.*)

182. **S. anglicum** *Huds.*

Low, rocky and stony places, or walls by the coast, and occasionally on mountains. Common. Fl. June to August.

From 850 feet to sea level.

183. **S. acre** *Linn.*

Sand-hills, dry banks, and walls. Frequent. Fl. June to August.

184. ***S. reflexum** *Linn.*

Alien. Old walls and roofs. Rare. Fl. July, August.

Occurs at Ray and Ramelton thoroughly established, and in many other similar situations.

III. Ray and Ramelton.

V. On the railway embankment above the Foyle, near Carrigans.

[*Sempervivum tectorum* *Linn.* (Houseleek), is frequent in many parts of Donegal, especially in the south-west of the county, on cottages and old walls close by. It is planted for its medicinal properties, and also as bringing luck to the house.]

Droseraceæ

Drosera *Linn.* SUNDEW.

185. **D. rotundifolia** *Linn.*

Damp peaty places. Common. Fl. July, August.

From 1700 feet to sea level.

186. **D. intermedia** *Hayne.*

Wet peaty bogs. Locally common. Fl. July, August. Not nearly so common as the last except in certain districts, and requires wetter bogs. Increasing to the westward of the county.

I. In a bog north of Slieve Snacht; between Stoolary and Lough Inn.

II. Culmore, Dr. Moore. (*Flor. Ulst.*)

III. In a small marsh called Campbell Lake, west of Murren, Fanet; bogs round Glen Lough; between Kindrum and Rinboy Lakes.

IV. Glenveagh and the Poisoned Glen; common in the Rosses and about Gweedore.

V. Between Lough Mourne and Mournebeg River.

VI. By the Barra River above Doochary Bridge.

VII. By Laree Lake near Ballyshannon; bogs about Cliff, etc.

VIII. Wet bog north of Lough Unshagh, near Slieve League.

From 1100 feet (bog south of Barnesmore Summit) to sea level.

187. **D. anglica** *Huds.*

Peaty bogs. Locally common. Fl. July, August. Usually with the last and somewhat commoner. Increasing westwards.

I. Between Stoolary and Lough Inn; bog to the north of Slieve League.

II. Culmore, Dr. Moore. (*Flor. Ulst.*)

III. Glendowan.

IV. Gweedore, Glenveagh, &c.

V. Bogs between Lough Mourne and Mournebeg River.

VI. Rosses.

VII. Marshes between Ballyshannon and Breezy Hill; bogs about Cliff.

VIII. East side of Lough Eske; Lough Unshagh.

From 750 feet to sea level.

Halorageæ

Hippuris MARE'S-TAIL.

188. **H. vulgaris** *Linn.*

Margins of lakes and in stagnant ditches. Not common. Fl. June to August.

I. Marshy places on Doagh Island.

II. Port Lough, Bogay, west of Londonderry; about Burnfoot.

III. Ballyhooriskey Lake and Lough Furnegan, Fanet; frequent near Carrigart, Miss Kinahan; Milford Lake; Ballyhork Lake, Between Waters, Fanet; Rosapenna, etc.

IV. Between Falcarragh and the sea.

V. Apparently scarce. Deep holes near Clonleigh by the Foyle.

VI. Sheshkinmore, north of Ardara; Owengarve River, in a marsh at its source, near Martin's Bridge, Glenties.

VII. In many lakes about Cliff, Brown Hall, Cavan Garden, stream from Carrickahorna to Ballyshannon Estuary, etc.

VIII. Lake Unshagh, near Slieve League.

Myriophyllum *Linn.* WATER-MILFOIL.

189. **M. verticillatum** *Linn.*

Deep ditches and bog-holes. Very rare. Fl. June, July.

II. Bog-holes on the north side of the Railway between Derry and Fahan, at Gallagher Road.

First record, Hart, *Flora*.

190. **M. alterniflorum** *D.C.*

Lakes, ditches and slow streams. Common. Fl. June to August.

From 1180 feet to sea level.

191. **M. spicatum** *Linn.*

Lakes and wet mud by lake shores, and deep ditches near the sea. Rare. Fl. July and August.

III. Kindrum Lake, Fanet; Lough Conny, near Milford, and near Lough Keel; Kinnylough, Fanet.

IV. Swampy place near the sea on the north shore of Boylagh promontory, north of Cloonea Lake.

VII. Bundrowes River, near Bundoran; muddy swamp near Bell's Isle, Donegal; deep ditches by Carrickahorna Lake.

VIII. In a muddy pool by the Owentogher River, left bank, a short way above Ardara.

Callitriche *Linn.* WATER STARWORT.

192. **C. verna** *Linn.*

Muddy places and in still water. Common. Fl. May to October.

Sub sp. *C. platycarpa* *Kuntz.*

Ditches, muddy places and ponds. Probably common. Aranmore; about Bunbeg and Gweedore in roadside ditches; Tory Island (R.M. Barrington).

Sub sp. *C. hamulata* *Kuntz.*

Still water. Appears to be scarce. In the stream below Gweedore Hotel.

193. **C. autumnalis** *Linn.*

Lakes. Rare. Fl. June to September.

III. Kindrum Lake, near Ballyhernan Lodge; in a ditch by the roadside near Dunfanaghy, C. Moore; Ballymagahy Lake, Ballyhork Lake, and Kinnylough, all in Fanet.

VI. Cloonea Lake, near the coast, north-west from Ardara.

This species may be commoner than it appears to be, as I have sometimes gathered it from the bottom with a dredge in peaty water two to four feet deep, where it was invisible from the surface.

First record; C. Moore, 1866. (*Cyb. Hib.*)

Lythraceæ

Lythrum PURPLE LOOSESTRIFE.

194. **L. Salicaria** *Linn.*

Margins of badly drained fields, ditch-banks, and borders of streams and lakes. Abundant. Fl. June to September.

Peplis *Linn.* WATER PURSLANE.

195. **P. portula** *Linn.*

Marshes and borders of lakes and ditches, on sandy or gravelly bottom. Not common. Fl. July and August.

I. Plentiful about Ardmalin South, on the west side of Malin Head; about Culdaff, Dickie; at Loughinn River near the lake, floating and submerged; Carrowmena, near Moville, W.E. Hart.

II. Ditch by the Clonmany Road, a mile north of Rockhill Chapel, J. Hunter.

III. Glenalla; Leatbeg, Fanet; near Aughnish by Ardromin road, Miss Kinahan; Aughnagaddy.

IV. Tory Island, R.M. Barrington.

VI. Aranmore.

VII. Ditches on the coast a little north of Wardtown, Ballyshannon.

VIII. Lake Unshagh, near Slieve League.

Onagraceæ

Epilobium *Linn.* WILLOW HERB.

196. **E. angustifolium** ROSE-BAY.

Wet banks amongst rocks. Very rare. Fl. July, August.

I. Ravine at Glennagivney, Dickie. Very abundant on steep banks above the sea over a bay, westward from Glennagivney, about half a mile.

[III. Near Ballyconnell Bridge, Glenalla; between Ramelton and Letterkenny, and near Letterkenny. Introduced, or an escape from gardens in all these places.]

IV. "Errigal, near Gweedore," *Flora of Ulster*. (I have not verified this record, though very familiar with Errigal).

[V. Abundantly established along a sunk fence near Killygordon. Probably an escape here.]

VIII. Cliffs about half a mile west from the Gray Mare's Tail, in the Bluestack Mountains, at 1100 feet above sea level.

From 1100 feet to near sea level.

First record; Dickie, 1864. (*Flor. of Ulster.*)

197. **E. hirsutum** *Linn.*

Borders of streams and ditches. Scarce. Fl. July and August.

I. Leenane, on Lough Swilly.

III. Doaghmore stream, in "The Between Waters," Fanet; in a stream out of Melmore Lough, and at Larginreagh, Rossgull, Miss Kinahan; by a small stream to the Bottom Shore near Ballyhernan Lodge; Rosapenna.

IV. Horn Head.

V. By the Foyle, between Port Hall and St. Johnston's, Mrs. Leebody.

VII. By a small stream at Kildoney Point, west of Ballyshannon, and again in a ditch nearer Ballyshannon; roadside between Donegal and Ballyshannon.

VIII. By the shore at The Doon, Malinbeg.

198. **E. parviflorum** *Linn.*

In marshes, and borders of streams and ditches. Not common. Fl. June to August.

I. Sparingly at Glennagivney, W.E.H.; by a pond at Carrickabraghy, Doagh Island.

II. Plentiful about Fahan, Inch Road, Bridge-end, Burnfoot and Burt.

III. Kinnylough, Tamney lake and Doaghmore, Fanet; Glenalla; with the last in Rossgull, Miss Kinahan; with the last in several localities.

V. and VI. Finn and Foyle riverbanks.

VII. Two feet high by the Erne, near Ballyshannon.

VIII. About Donegal, etc.

This willowherb is stunted and scarce in the more northern and bleaker districts. It is normal in the south of the county.

199. **E. montanum** *Linn.*

Shady banks and rocky places and woods. Common. Fl. June to August. From 800 feet to sea level.

200. **E. obscurum** *Schreb.*

Marshy places and bog-holes, frequent? Fl. July and August.

I, II. and III. Not frequent in Fanet and Inishowen; about Glen, etc.

IV. Muckish Gap.

201. **E. palustre** *Linn.*

Bogs, marshes, and wet peaty places. Common. Fl. July, August. From 2000 feet to sea level.

Circaea *Linn.* ENCHANTER'S NIGHT SHADE.

202. **C. lutetiana** *Linn.*

Woods, thickets and stony banks. Fl. June to September.

203. **C. alpina** *Linn.*

Mountain glens and stony thickets in subalpine situations. Rare. Fl. July to September.

I. Inishowen Head. *Flor. Ulst.*

III. By Lough Gartan, near Churchill; in thickets on the east shore of Lake Akkibon, near Churchill, (the form *C. intermedia* *Ehrh.*)

IV. Hills behind Sessiagh Lake, Dunfanaghy.

From 600 feet to lower levels.

First record; Dickie, 1864. (*Flor. of Ulst.*)

Umbelliferæ

Hydrocotyle *Linn.* WHITEROT, PENNYWORT.

204. **H. vulgaris** *Linn.*

Wet pastures and marshy places. Common. Fl. May to July.

Eryngium *Linn.* SEA HOLLY.

205. **E. maritimum** *Linn.*

Sandy shores. Local. Fl. July to September.

I. Dunaff and Leenane; south side of Inishowen Head; Culdaff.

II. Dunree; Buncrana.

III. Ballyvicstocker, Drumnacraig, Doaghbeg, and Bottom Shores, Fanet; Melmore Head.

IV. Horn Head; Ballyness Bay.

VIII. Glen Bay; between Glen and Malinmore.

Sanicula *Linn.* WOOD SANICLE.

206. **S. europæa** *Linn.*

Thickets, borders of woods, and shady places. Frequent. Fl. June to August.

From 950 feet to sea level.

Conium *Linn.* HEMLOCK.

207. ‡ **C. maculatum** *Linn.*

Colonist. Waste places by houses and roadsides. Not common, but widely spread. Fl. June to September.

I. Ballyliffin, Culdaff, and elsewhere.

II. Seaside between Linsfort and Buncrana; Clonmanny, Rockstown, etc, J. Hunter.

III. Kindrum, Lower Ballyheerin, etc, in Fanet.

VII. and VIII. Not unfrequent by villages and waste places near houses.

Smyrniium *Linn.* ALEXANDERS.

208. ‡ **S. Olusatrum** *Linn.*

Colonist. Waste places in villages and by ruins and roadside. Local. Fl. May to July.

I. Merville, Greencastle, etc.

II. Between Fahan and Inch; about Buncrana.

III. Rathmullan and Ray, on Lough Swilly.

IV. Doe Castle.

VII. and VIII. Not common.

Apium *Linn.* (including *HELOSCIADIUM Koch.*)

209. **A. graveolens** *Linn.* CELERY.

Salt marshes. Local. Fl. June to August.

I. Western end of Trabreaga Bay.

II. Culmore, W.E.H.; Bunrana.

III. By Lough Swilly, near Ray, and below Letterkenny.

IV. Port-na-blagh, near Dunfanaghy; abundant at Doe Estuary, near Creeslough.

V. By the River Swilly about Letterkenny, Pluck, etc; by the Foyle above Derry.

VII. Shores near Ballyshannon.

VIII. Shores near Donegal; Inver Bay; near Dunkineely and in several places between Dunkineely and St. John's Point.

First record; Hart, 1880 (*Jour. of Bot.*)

21. **A. inundatum** *Reichb.*

Muddy ditches, pools, and slow streams. Perhaps frequent. Fl. June to September.

I. and II. Frequent, W.E.H. In a pond near the hotel at Bunrana, and about Inch Road.

III. Kindrum, Tamney, and Fallaneass Lakes, Fanet; river Lennan above Tully Bridge.

IV. North shore of Lough Gartan.

VII. Right bank of the Erne above Ballyshannon; near the mouth of the Bundrowes River, near Bundoran.

A. Moorei *Syme.*

In a small marsh at Kildoney Point, north-west of Ballyshannon. It grows with *Sium augustifolium*, in the only locality for either of these umbellifers so far observed in Donegal.

211. **A. nodiflorum** *Reichb.* WATER-PARSNEP.

Stagnant ditches and muddy pools. Local. Fl. June to September.

I. Stroove, W.E. Hart. (now exterminated); in a pond near Carrickabrahy Castle, Doagh Island.

II. Blanket Nook, Lough Swilly; Burnfoot, J. Hunter.

III. Tamney Lake, Fanet; by Lough Swilly at Ramelton; Rosapenna.

IV. Lake at Creeslough; Tory Island, R.M. Barrington.

VII. Kildoney Point; shore at Wardtown, Ballyshannon; common north of Ballyshannon.

VIII. Malinmore; roadside near Inver on Killybegs road; Croaghlinn Lake, near Killybegs; St. John's Point.

Var. ocreatum Bab.

III. Ramelton, with the type (named by Prof. Babington).

IV. Marshy ground at Kincashla, Rosses (named by Mr. Bennett).

Var. repens Hook.

Right bank of the Erne, above Ballyshannon.

Carum Linn. CARAWAY.

212. **C. verticillatum** Koch.

Wet pasture. Very rare. Fl. July and August.

VIII. By Lough Eske, at the north-east corner, at the mouth of a rivulet, in some quantity.

First record; Hart, 1885. (*Proc. R.I.A.*)

C. Carui is sometimes met with by roadsides, but is not native, and nowhere established. Mr. C. Moore had specimens labelled "Townland of Ballyliffin, Clonmanny." The Misses Kinahan sent me a specimen from Carrigart. In a valley at the foot of Beltany Mountain, between Errigal and Gweedore, there is a quaint hamlet buried in the mountains, and several hundred feet above sea-level. There is an abundance of *Carum Carui* at the corner of a field, and an old man told me "it was always there, and that they put it in bread and it was very wholesome." He called it "Charvey." It was fully developed, about a foot high, in flower and fruit, July, '94.

Sium Linn. WATER-PARSNEP.

213. **S. augustifolium** Linn.

Marshy places and deep ditches on clay. Very rare. Fl. July, August.

VII. In a ditch with *Epilobium hirsutum*, north-west from Ballyshannon, at Kildoney Point. Abundant here 1893, and extending to several marshy spots.

? VIII. Mount Charles and town of Donegal, G.D. (*Flora of Ulster*).

I have not been successful in verifying either of these localities; they most likely should have been appended to *Æ. Lachenalii*, which does not appear in *Flora of Ulster*.

Recorded without locality in the *Cybele Hibernica*.

First record with locality; Hart, 1885 (*Proc. R.I.A.*)

[**S. latifolium** Linn. WATER PARSNEP.

Marsh. Very rare. Fl. July, August.

? II. Marsh at Culmore point, near Derry. Dr. Moore, *Flora Ulster*.

Apparently extinct, and there is also some doubt about the locality.

First record; 1886, *Flora Ulster*.]

Ægopodium Linn. GOUT WEED, BISHOP'S WEED.

214. ‡ **Æ. podagraria** Linn.

Colonist. Hedge banks, river banks, waste places and gardens. Common near dwellings in the better cultivated districts, and an ineradicable weed. Fl. June to August.

In all probability introduced originally and not occurring in the wilder districts. Sometimes, as along the banks of the Lennan, it has been transported to wild situations.

Pimpinella Linn. BURNET SAXIFRAGE.

215. **P. saxifraga** Linn.

Sandy pastures and in the limestone districts. Local. Fl. July to September.

VI. Sandy pastures between Burton Port and Keadew Strand; about three miles west of Dunglow, by the sea; about Mullaghderg, and between that and Kincashla, Rosses.

VII. Shores near Donegal; by the Erne near Ballyshannon; limestone bluffs and pastures north of Ballyshannon. Frequent on the limestone in this district.

VIII. Shores near Donegal; Glen Bay.

A plant approaching *P. magna* very closely was gathered by me near Ballyshannon. Mr. Bennett gives it the name of *P. Sax. v. major Wallroth*.

Conopodium Koch. PIGNUT, EARTHNUT.

216. **C. denudatum** Koch.

Plantations, bushy places, banks and light pastures. Common. Fl. May to July.

Myrrhis *Scop.* SWEET CICELY.217. * **M. odorata** *Scop.*

Colonist. Waste ground. Occasionally thoroughly established. Fl. May to July.

II. Buncrana.

III. Tully churchyard; Ramelton churchyard, where it was shown to me by the Very Rev. Dean Gwynn; Ray.

V. Ditches at Rylands, east of Manorcunningham, between the railway and Dooish mountain.

VIII. Donegal; old walls at Loughhead, near Killybegs, at the mouth of the river. Looking native in the last locality.

Scandix *Linn.* SHEPHERD'S NEEDLE.218. ‡ **S. pecten-veneris** *Linn.*

Colonist. Not unfrequent. Fl. June, July.

I. and II. Rare, W.E.H. An uncertain colonist.

III. Not unfrequent in Fanet.

V. Railway banks above Derry by the Foyle.

VII. Fields about Ballyshannon.

VIII. Doorin Point.

Anthriscus *Hoffm.* BEAKED PARSLEY.[**A. vulgaris** *Pers.*

Waysides and waste places. Very rare and hardly established. Fl. May to July.

I. Casually and sparingly at Culmore, W.E.H.]

219. **A. sylvestris** *Hoffm.* COW PARSLEY.

Woods, thickets and hedges. Common. Fl. April to July.

Crithmum *Linn.* SAMPHIRE.220. **C. maritimum** *Linn.*

Sea cliffs. Local. Fl. July, August.

I. Cliffs at Knockglass, Malin, *Dickie*; at Malin Head, a little west of signal tower, in a couple of places.

III. Fanet Point.

IV. Hornhead, near the gap of Doon, and at Pollquill Bay; near Tramore Strand; Rossgull from Rinnafaghla Point southwards; Tory Island, R.M. Barrington

VIII. Malinbeg; Mucross Point; St. John's Point (south side); Slieve League.

This species does not occur on the coast of north-east Ireland.

Ænanthe *Linn.* WATER-DROPWORT.

221. **Æ. fistulosa** *Linn.*

Wet meadows and marshy places. Very rare. Fl. July, August.

(I. Beside the Presbyterian church at Malin. *Dickie*. This should be referred to the next species which grows in the locality indicated).

II. Marshy ground on the east side of the railway between Inch and Bridgetown.

First record; Hart, *Flora*.

222. **Æ. Lachenalii** *Gmel.*

Marshy places near the sea, and salt marshes. Scarce. Fl. July to September.

I. Frequent in Malin estuary; shores of Trabreaga Bay.

III. On the west side of the bridge over the stream at the middle of Ballyvicstocker Bay, near the shore, Fanet; marshy ground between Creeslough and the sea.

IV. Near the bridge between Dunfanaghy and Horn Head.

VII. Shores near Donegal; Ballyshannon.

VIII. Shores near Donegal; Glen Bay; Fintragh.

223. **Æ. crocata** *Linn.*

Ditches, river banks, and damp places by the sea shore. Not common. Fl. July, August.

I. Glentogher; Greencastle; Moville, etc, frequent, W.E.H.

II. Coast between Fahan and Inch; Blanket Nook; Dunree to Linsfort, Burnfoot, and Buncrana.

III. Not unfrequent along the shores of Lough Swilly; by the River Lennan at Ballyarr (one of the few inland localities), and between Ramelton and Letterkenny; Rosapenna.

IV. By the coast at Burtonport; seaside near Dunglow.

V. By the Foyle, near Lifford and Clonleigh, and near Derry; by the Swilly above Letterkenny.

VII. By the Erne; roadside between Largy and Fintragh.

VIII. Lough Eske.

Chiefly maritime in Donegal.

[*Enanthe Phellandrium*, Linn, is mentioned as a Donegal plant by D.M., without locality, in the *Cybele Hibernica*. The river Erne is the only likely locality, and I do not think it occurs there. I am, therefore, constrained to exclude it, till some evidence is forthcoming.]

Æthusa Linn. FOOL'S PARSLEY.

224. ‡ **Æ. cynapium** Linn.

Colonist. Waste ground about houses, ruins, and a garden weed. Apparently rare. Fl. July, August.

II. About ruins of old mill, Westbrook, Bunrana, J. Hunter.

III. Abundant at the Abbey ruins at Rathmullan.

VII. About Ballyshannon.

No doubt occurs elsewhere as a garden weed in the county, but it must be very rare.

Ligusticum Linn. SCOTTISH LOVAGE.

225. **L. scoticum** Linn.

Sea cliffs. Local. Fl. July to August.

I. Dunaff Head and cliffs of Erris; Leenane, and shore between Leenane and Dunaff; Norway Point, *Cyb. Hib.*; Inishowen Head, Culdaff and Glennagivney, *Dickie*; Greencastle.

III. Fanet Point, close to the lighthouse; shores of Mulroy at Glink and Ballyhooriskey; Melmore Head, at Gortnaloghogue; Downing's Bay, near Carrigart.

IV. Horn Head, and to the east of Dunfanaghy; Tory Island.

First record; *Dickie*, 1864 (*Flora of Ulster*).

Tory Island appears to be the western limit of this species in Ireland. It is very rare in the north-east, and finds its headquarters in our county.

Angelica Linn.

226. **A. sylvestris** Linn.

Damp ground in all sorts of situations. Common. Fl. July, August.

This umbellifer occurs high up in the mountains, by inland marshes and ditches, or along sea cliffs. Frequently, however, it is represented by a single or a couple of specimens. This odd distribution has often been to me a subject of consideration, but I cannot offer any explanation. It

appears to combine longevity and sterility in a remarkable degree.

From 1500 feet to sea-level.

Peucedanum *Linn.* PARSNEP.

227. ‡ **P. sativum** *Benth.*

Colonist. Very rare. Fl. August.

III. Abundant at Rathmullan Abbey ruins; on an old ditch bank between Drimnacraig and the shore, in Fanet. (It has held this station for upwards of thirty years, to my knowledge.)

VII. Donegal Abbey ruins.

Heracleum *Linn.* COW-PARSNEP.

228. **H. Sphondylium** *Linn.*

Shady places, river banks, and damp meadows. Common. Fl. June to September.

A maritime variety occurs in the Gweebarra estuary, and at Kincashla, on sandhills, in the Rosses. The plant is small; the leaves are of a pale yellowish hue, somewhat coriaceous and glabrous. It is a refined looking plant compared with the usual coarse weed.

Daucus *Linn.* CARROT.

229. **D. Carota** *Linn.*

Dry banks and waste places, especially near the sea. Common. Fl. July to September.

Caucalis *Linn.* HEDGE PARSLEY.

230. **C. Anthriscus** *Huds.*

Hedge banks and waste places, in cultivated districts. Local. Fl. July to September.

I. and II. Frequent in the cultivated districts.

III. About Ray, Rathmullan, Ramelton, and Glenalla; Carrigart; near Drumfad Schoolhouse in Fanet.

V. Bogay, Raphoe, etc, frequent in this district.

VII. and VIII. Roadsides about Belleek, Ballyshannon and Donegal; frequent.

231. ‡ **C. nodosa** *Scop.*

Colonist. Waste places and borders of cultivated fields. Very rare. Fl. May to August.

I. Sparingly at Greencastle (W.E. Hart).

Araliaceæ

Hedera *Linn.* IVY.

232. **H. helix** *Linn.*

Rocks, woods and walls; common. Fl. October to December.
From 700 feet to sea level. Probably occurs higher.

Cornaceæ

Cornus *Linn.* DOGWOOD.

233. **C. sanguinea** *Linn.*

Rocky places and thickets on a limestone soil. Very rare. Fl. June, July.

VII. Sparingly on the right bank of the Erne, and on the left bank of the Bundrowes river; amongst limestone thickets about a mile from Ballyshannon on the south side of the Erne, and near a low hill called Carrig-na-braghy, a fine patch here in full blossom, June 10th, 1893.

First record; Hart, 1885. (*Proc. R.I.A.*)

Caprifoliaceæ

Viburnum *Linn.* GUELDER-ROSE.

234. **V. Opulus** *Linn.*

Hedges and thickets in damp situations and banks of rivers and lakes. Rather scarce. Fl. June to August.

I. Thickets by the Foyle a little south of Moville.

II. Portlaw Glen, Ned's Point, etc.; Buncrana, Mr. J. Hunter.

III. Glenalla; Auchterlinn; by the Lennan; south-east end of Lough Fern; roadside near Ardromin; Claragh; Swilly above Letterkenny; Lake Akkibon, near Churchill; Glen Lough.

V. Swilly River above Letterkenny; by the Finn, abundant.

VI. River Barra at Doochary Bridge; shores of Lough Anure, Rosses.

VII. By the Erne, Bundrowes and Letter rivers. Very showy both in flower and fruit about the Letter River, near Termon McGrath's Castle.

VIII. By the Eske and Eany rivers; Damp thickets about Mount Charles; Tawnawilly by Lough Eske.

Sambucus *Linn.* ELDER.

235. ‡ **S. Ebulus** *Linn.* DWARF ELDER, DANEWORT.

Colonist. Roadsides and waste places near houses. Rare, Fl. July to September.

I. Roadsides at Carnmore between Moville and Carndonagh.

II. At Desertegney church, near Linsfort, Rev. T. Doran Falkiner.

III. Roadside banks, near Losset, between Kilmacrenan and Church-hill; established by an old wall north-east of Rosapenna, a mile from Hotel.

VII. Waste ground by a farm-house south of the Erne in the southern corner of the county.

VIII. Roadside near Donegal, on the way to Lough Eske.

236. † **S. nigra** *Linn.*

Denizen. Hedges and thickets; frequent. Fl. June and July.

A questionable native in Donegal, as well as many other parts of Ireland. It was largely planted formerly, and is seldom seen in uncultivated districts.

Lonicera *Linn.* WOODBINE, HONEYSUCKLE.

237. **L. Periclymenum** *Linn.*

Woods, thickets and hedges, common. Fl. June to September.

From 1050 feet to sea level.

Lonicera Xylosteum is established in the woods at Bunrana Castle, and also at Brown Hall, near Donegal. Major Hamilton informs me that there is evidence of its having grown in Brown Hall woods over a century, and there is no tradition that it was ever introduced.

Rubiaceæ

TRIBE STELLATÆ

Galium *Linn.* BEDSTRAW.

238. **G. verum** *Linn.* OUR LADY'S BEDSTRAW.

Sandhills by the sea and dry banks, common. Fl. July to September.

239. **G. palustre** *Linn.*

Marshy places and ditches, common. Fl. June to September. The form *elongatum* *Presl.* Occurs in a bog on Melmore Head and in Inishowen, near Culdaff, etc.

From 1000 feet to sea level.

240. **G. saxatile** *Linn.* HEATH BEDSTRAW.

Peaty and stony places in mountain districts, common. Fl. July and August.

From 2460 feet to sea level. A summit plant.

241. **G. boreale** *Linn.*

Wet, rocky places, usually near lakes and on limestone. Very rare. Fl. July to September.

VII. Broken limestone ground, opposite Ballyshannon, on the south side of the river, in the townland of Carrickboy; right bank of Erne river below St. Mullan's; by the stream from Carrigahorna to Ballyshannon estuary, several places.

VIII. Plentiful at the extremity of St. John's Point; near Glen where a stream passes under the main road, where I gathered it many years ago, but have not rediscovered the exact spot.

First record; Admiral Jones, 1866. (*Cyb. Hib.*)

242. † **G. aparine** *Linn.* ROBIN-RUN-THE-HEDGE, GOOSE-GRASS.

Denizen? Hedges, gardens, waste ground and shingly banks by the sea. Common in cultivated districts. Fl. May to September.

In heavy shingle along old raised beaches this weed sometimes looks wild, but this is not a native situation, and occurs only in the neighbourhood of towns or fishing places.

Asperula *Linn.* SWEET WOODRUFF.243. **A. odorata** *Linn.*

Damp thickets and shady banks, frequent. Fl. June, July.

Sherardia *Linn.* FIELD MADDER.244. † **S. arvensis** *Linn.*

Colonist? Light cultivated soil, frequent. Fl. May to September.

Valerianaceæ

Valeriana *Linn.* VALERIAN.

245. **V. officinalis** *Linn.*

Damp woods, hedges and borders of streams. Frequent. Fl. June to August.

Var. sambucifolia, Mikan.

VII. On limestone shingle by the Erne below the bridge at Belleek.

VIII. On limestone shingle by the sea near Mucross Point. Pronounced by Mr. Baker “clearly var. *sambucifolia*,” a well marked form as it occurs here.

Valerianella *Tournef.* LAMB’S LETTUCE.

246. **V. olitoria** *Moench.*

Sandy pastures by the sea, light cultivated land and roadsides. Not common, except by the seacoast. Fl. April to June.

I. Sandy shores at Greencastle and Inishowen Head.

II. Between Fahan and Buncrana; on Inch Island.

III. About Ray and sandy pastures at Macamish Pt.; Rosapenna; sandhills round the coasts of the whole district.

IV. Sandhills round the coast of Sheephaven and Horn Head.

VII. Abundant on sandhills near Ballyshannon.

This is almost entirely a sandhill plant in Donegal, rarely appearing in cultivated land. As a native it is a dainty, compact little species, seldom more than an inch or two in height, much branched and very floriferous. It keeps company with *Draba verna* and *Saxifraga tridactylites*, and flowers with them.

247. ‡ **V. dentata** *Poll.*

Colonist. Light cultivated land. Very rare. Fl. June, July.

III. Banks near the sea by cornfields, between Whale Head and Ball Green, near Ramelton.

Centranthus ruber (*D. C.*) Established on an old wall at Castlehill, Buncrana – Mr. J. Hunter.

Dipsacaceæ

Dipsacus *Tournef.* TEASEL.

[**D. sylvestris** *Linn.*

Dry banks and waste ground. Very rare and introduced. Fl. July, August.

V. Roadside near Lifford, Very Rev. Dean Gwynn.]

Scabiosa *Linn.* SCABIOUS.

248. **S. succisa** *Linn.* DEVIL'S BIT.

Pastures, banks and moors. Very common. Fl. August to October. From 1800 feet to sea level.

249. **S. arvensis** *Coult.*

Banks and borders of cultivated fields. Rare. Fl. July to September.

III. Browneknowe, near Ramelton, Very Rev. Dean Gwynn; near Portsalon, Mrs Leebody.

V. Railway banks on the Great Northern, above Derry.

VII. Fields on the east side of the Donegal road, about two miles from Ballyshannon; near Ballintra, Miss Sinclair.

VIII. Fields near Lough Eske Castle.

Compositæ

Eupatorium *Linn.* HEMP AGRIMONY.

250. **E. cannabinum** *Linn.*

Wet banks and damp rocky places. Scarce. Fl. July and August.

I. Inishowen Head, Glennagiveny, and Knockglass, Dickie; at Goorey, west of Malin; Ballyliffin, and Binnion.

II. Near Dunree on seabanks about half a mile south.

III. In a gully at Binnionea, north of Carrablagh House, Fanet; at the foot of The Binn, Fanet.

IV. Thickets between Sesiagh Lake and Dunfanaghy.

VII. By the Erne; Bradagh river near Bundoran; ditch near the sea at Wardtown near Ballyshannon; stream from Carrigahorna to Ballyshannon Estuary.

VIII. Eske river; Strabane strand near Malinbeg; Glen Bay; St. John's Point.

Solidago *Linn.* GOLDEN ROD.251. **S. Virgaurea** *Linn.*

Rocky places by the coast and on mountains, frequent. Fl. July to September.

Var. angustifolia, *Gaud.*

V. By the Reelan river.

From 2100 feet to sea-level.

Bellis *Linn.* DAISY.252. **B. perennis** *Linn.*

Meadows, pastures and banks. Common. Fl. February to November.

From 1350 feet to sea level.

Aster *Linn.*253. **A. Tripolium** *Linn.*

Salt marshes, rocks or wet places by the sea. Common. Fl. July to September.

Aster sp.? (*A. laevis?*) Naturalized (from a garden) at the mouth of Bundrowes River, near Bundoran. I have met the same plant by the Nore, thoroughly established in two or three places. One of the North American *Asters*, but apparently not flowering under these circumstances. A narrow-leaved glabrous form.

Filago *Linn.*254. **F. germanica** *Linn.*

Dry banks and sandy places. Rare. Fl. July and August.

I. Inishowen Head, Dickie; about Greencastle, W.E. Hart; in a field by the shore a mile south of Greencastle.

II. Burnfoot Junction, very scarce. J. Hunter.

III. Between Kindrum and Ballyhooriskey, on the sandhills of the Bottom Shore, Fanet; sandhills between Larginreagh and Carrigart, the Misses Kinahan.

VI. On the north side of Gweebarra Estuary, above Russell's Ferry, in lea fields.

VII. Sandhills south of Carrickfad, between Donegal and Ballyshannon.

VIII. Sandhills at Magheragh.

From 650 feet to sea level.

255. **F. minima** *Fr.*

Dry sandy waste places. Very rare. Fl. July, August.
I. Sandy warren at Greencastle, W.E. Hart.
First record; Hart, *Flora*.

Antennaria *R. Br.*256. **A. dioica** *Br.*

Dry, stony pastures and heaths, and sandhills by the sea. Frequent. Fl. June to August.

Especially common on the mountains and on the limestone in Districts VII. and VIII.

From 1800 feet to sea level.

Gnaphalium *Linn.* CUDWEED.257. **G. sylvaticum** *Linn.*

Hillsides, mountain pastures and light sandy fields. Local. Fl. July to September.

I. Carndonagh, Merville, Glennagivney and elsewhere.

II. South side of Scalp, Inishowen; south side of Mintiagh.

III. The Bin, Doaghbeg, fields on south side Murren, Mulroy, near Kindrum, and elsewhere, in Fanet; Augherlinn, near Glenalla; Swilly Bridge; Carrigart; Hills about Milford; about Glen.

IV. Burtonport.

V. Finn Valley, above Drumbo, etc.; Bogay.

VI. North side of Gweebarra Estuary, above Russell's Ferry, in great abundance; between Glenties and Russell's Ferry; between Glenties and Lough Finn.

VII. Between Ballyshannon and Bundoran; Pettigo.

VIII. North-east shore of Lough Eske.

From 650 feet to sea level.

258. **G. uliginosum** *Linn.*

Damp places by roadsides and in light soils. Common. Fl. July to September.

Inula *Linn.* ELECAMPANE.259. * **I. Helenium** *Linn.*

Alien. Hedge banks and waste places. Rare. Fl. July and August.

III. The Little Bins, Ballyvicstocker, and at Ballymagahy Lake, Fanet; "Knox's Hole," Rossgull, the Misses Kinahan.

VII. Near Ballyshannon; Donegal to Laghy.

VIII. Near the roadside between Donegal and Lough Esk; Inver to Dunkineely; Dunlucky Bridge, near Dunkineely; a large patch at St. John's Point.

Pulicaria *Gaertn.*

260. **P. dysenterica** *Gaertn.*

Damp pastures and banks. Rare. Fl. July to September.

I. Leenane, on Lough Swilly, Ned's Point, in swampy ground, near the Fort, Buncrana, Mr. J. Hunter.

VII. Shores near Donegal.

VIII. Shores near Donegal; St. John's Point; Inver Bay; Doorin Point.

Recorded in *Cybele Hibernica* without locality, on the authority of D.M. (A.G.M.)

Bidens *Linn.* BUR-MARIGOLD.

261. **B. cernua** *Linn.*

Marshy places by lakes. Rare. Fl. August to October.

III. Lough Finnegan, Fanet.

IV. Kiltorris Lake and Seskinmore Lake, north-west of Ardara.

V. Roadside between Stranorlar and Barnesmore Gap; by the Foyle, near Lifford, in railway ditches; Port Lough, Bogay, west of Londonderry.

VII. Near Bundrowes Bridge, Bundoran; shores of a lake by the roadside between Ballintra and Ballyshannon.

262. **B. tripartita** *Linn.*

Bog holes, ditches and marshy shores of lakes. Not common. Fl. August, September.

I. Malin well, Dickie; muddy ground by the shore at Ardmalin Cottage.

III. South end of Lough Fern; bog at Carn, near Ramelton; Glen; Tamney Lake; Bran Lough and Ballymagahy Lake in Fanet.

VII. Belleek.

VIII. Roadside between Carrick and Lake Unna; Glen bay.

Achillea *Linn.* SNEEZEWORD.263. **A. Ptarmica** *Linn.*

Cultivated fields, waste places and banks of streams. Common. Fl. July to September.

A characteristic and abundant plant in the poor and badly cultivated fields in many parts of the county. It has also a decided tendency to a riparian existence.

From 700 feet to sea level.

264. **A. Millefolium** *Linn.* YARROW.

Roadsides and dry banks or pastures. Not unfrequent. Fl. June to October.

Not by any means so abundant as the last species.

Anthemis *Linn.* STINKING MAYWEED.[264a. **A. Cotula** *Linn.*

Waysides and waste places. Very rare and not native. Fl. July to September.

II. Waste ground at St. Muria's, Fahan.]

265. **A. nobilis** *Linn.* CHAMOMILE.

Dry pastures or gravelly places. Rare. Fl. July to October.

III. Lower Carrablagh, by the roadside, Fanet; Louhsalt Mountain, by the old road, from about 500 feet above sea level up to the lakes; near Clontallagh in Rossgull.

VII. By the Erne on the right bank below Cliff.

VIII. By the stream a little above Killybegs.

The Louhsalt station is perhaps the only native one, but even here the chamomile is only found along the margin of the old road, and not on the open mountain.

From 900 feet to sea-level.

First record; Hart, 1879 (*Jour. of Bot.*)

Matricaria *Linn.*266. **M. inodora** *Linn.*

Cultivated fields. Not unfrequent, except in the wilder districts, where it is no doubt a colonist. Fl. June to August.

Var. M. maritima.

Maritime cliffs. Frequent.

This is perhaps the only native form in the north-west.

[*Matricaria parthenium*, Linn., is abundantly established on the bridge at Belleek and in other places about dwelling-houses &c.]

Chrysanthemum Linn.

267. † **C. segetum** Linn. CORN MARIGOLD.

Colonist. Cultivated fields. Fl. July to October.

This very handsome weed is one of the most conspicuous and characteristic of the poorer tilled land in most parts of the county.

268. **C. Leucanthemum** Linn. OX-EYE DAISY.

Meadows, pastures and dry banks. Common in the better districts, scarcer in the wilder parts of the county.

Artemisia Linn. MUGWORT.

269. **A. vulgaris** Linn.

Borders of fields and waste ground. Common. Fl. July to October.

A bad weed in corn fields in many places. Its conspicuous size and unexpected appearance in these circumstances arrests the attentions of strangers.

[**A. Absinthium** Linn. WORMWOOD.

Alien. Waysides and waste places near houses. Fl. July, August.

III. Kindrum, Fanet, and Ray; established from gardens.]

Tanacetum Linn. TANSY.

270. ‡ **T. vulgare** Linn.

Colonist or alien. Roadsides and waste ground near houses. Rare. Fl. August and September.

I. Knockglass at Malin, Dickie; Long Glen above Glennagivney.

II. Fahan; Carrowkeel.

III. Kindrum and Glenalla; Meevagh, Rossgull, apparently wild, the Misses Kinahan; Inch, J. Hunter.

VII. Ballyshannon, etc.

VIII. Inver; St. John's Point, &c. Not rare in these two districts, and well established.

Tussilago Linn. COLTSFOOT.

271. **T. farfara** Linn.

Damp fields and banks. Common. Fl. February to May.

Petasites *Tournef.* BUTTER BUR.272. **P. vulgaris** *Desf.*

By streams and wet places, by woods and borders of fields. Not unfrequent and locally abundant. Fl. March to May.

I. Shore at south end of Pollan Bay; about Carndonagh; at Ardmalin north.

II. Abundant on the south-west side of Inch Island and by the railway between Fahan and Inch station.

III. Greenfort and Lower Ballyheerin, Fanet.

IV. Abundant by the Faymore river, north side of Muckish.

V. Finn river, abundant in many places; Foyle and Deel rivers.

VII. Pettigo; Erne river; Letter river; Termon river.

VIII. Inver; Dunkineely; Fintragh.

[**P. fragrans** *Pres.* WINTER HELIOTROPE.

Alien, but thoroughly established and quite ineradicable in many places by roadsides and about houses and gardens. Fl. January to April.

Fort Steward, Aughnagaddy, Rathmullan House, Greenfort and others may be quoted from the neighbourhood of Lough Swilly. Fahan and Inch, Inishowen.]

Senecio *Linn.* GROUNDSEL.273. **S. vulgaris** *Linn.*

Cultivated ground and waste places near houses. Fl. January to December.

Chiefly found as a weed amongst green crops and in flower-gardens.

274. **S. sylvaticus** *Linn.*

Dry banks and waste places. Not unfrequent. Fl. July to September.

I. and II. Not unfrequent.

III. Kindrum, near the well, Fanet; Ballydowan bridge over the Lennan, and Curragh between Doagh and Glenoory in Rossgull, Miss Kinahan; Croaghross; Aughterlinn; Carrowkeel; Moylehill; Glen, etc.

IV. Calabber bridge near Muckish, etc. Tory Island.

VIII. Killybegs.

Probably not so scarce as would appear from the above, especially in the south-west.

275. **S. Jacobæa** Linn. RAGWEED.

Roadsides, pastures and waste places. Very common. Fl. July to November.

The rayless variety (*flosculosus*), occurs occasionally as along the north-western shore of Trawenagh Bay in the Rosses, by the Finn river near Lifford, and elsewhere.

276. **S. aquaticus** Huds.

Wet places and by streams and ditches. Common. Fl. July to August.

[**S. saracenicus** Linn.

Banks of a stream in south-west of county. Very rare. Fl. July, August?

VII. By the river between Pettigo and Lough Erne, thoroughly established, apparently.]

Arctium Linn. BURDOCK.277. **A. lappa** Schk.

Roadsides and waste places. Frequent. Fl. July, August. Seems to be the form *A. intermedium*, Lange, in Donegal.

Carlina Linn.278. **C. vulgaris** Linn.

Dry banks and gravelly places. Very rare. Fl. July to September.

VIII. Sparingly at St. John's Point.

First record; Hart, 1885 (*Proc. R.I.A.*)

Saussurea D.C.279. **S. alpina** D.C.

Damp alpine cliffs and stony steep slopes. Rare. Fl. July to September.

I. Bulbein Mountain. Probably this locality is that referred to in Templeton's MS. "Inishowen, Co. Donegal, Mr. Brown," mentioned to me by A.G. More. (See under *Saxifraga oppositifolia*.)

IV. In gullies on Slieve Snacht Beg at 1800 feet (see under *Oxyria reniformis*); from 1980 feet to 2100 feet on Slieve Snacht in two different localities on the north aspect, facing Errigal. The latter station was first discovered by Mr. Colgan. At 1200 feet on cliffs with a northern aspect above Lough Alton, near Errigal; from 900 to 950 feet on the north face of Muckish in company with *Asplenium viride*.

Saussurea is very abundant in this last locality at an unexpectedly low altitude.

VIII. Slieve League, 1600 to 1330 feet above sea level; Alt mountain near Ardara, Croaghanacleragh, at 1350 to 1400 feet; north-west side of Lavagh More, at 2100 feet, very sparingly, and on the adjoining mountain, Croagh Orm, nearer to Martin's Bridge.

From 2100 to 900 feet above sea-level.

First record; Robert Brown, 1796.

Centaurea *Linn.* KNAPWEED.

280. **C. nigra** *Linn.*

Banks and fields. Common. Fl. July to September.

From 850 feet to sea-level.

281. † **C. Cyanus** *Linn.* BLUEBOTTLE. CORN FLOWER.

Colonist. Frequent in flax, and occasionally with other crops. Fl. July and August.

No where an abundant or even common species, but to be met with wherever there is cultivation.

Carduus *Linn.* THISTLE.

282. **C. crispus** *Linn.*

Roadsides and waste places. Very rare. Fl. July, August.

I. At Knockglass, Malin, Dickie; roadsides near Culdaff, Mr. C. Moore; near Carndonagh.

VIII. By the Erne at Belleek.

First record; Dickie, 1864 (*Flora of Ulster*).

283. **C. pycnocephalus** *Jacq.*

Roadsides, dry banks and waste places. Very rare. Fl. June to August.

I. Between Greencastle and Stroove, W.E. Hart; from a little south of Greencastle to Inishowen Head in several places; by the shore road north of Quigley's Point, on Lough Foyle, and again near Redcastle.

The record for this species in my paper in *J. of Bot.* for 1879 was erroneous.

Recorded without locality in *Cybele Hibernica*. Mr. More informs me that C. Moore was the authority who had probably seen it near Moville. It does not appear to cross the county, or come up from the southward inland.

284. **C. lanceolatus** *Linn.* SPEAR-THISTLE.

Roadsides and dry waste places. Common. Fl. July to September.

285. **C. arvensis** *Curt.*

Fields and waste places. Very common. Fl. July to September.

Var. C. setosus. *Boiss.*

Borders of fields and tilled land in peaty wet districts. Not unfrequent. Fl. August, September.

I. About Carndonagh in several places.

III. Near Kilmacrenan, Rev. T. Allen; Glen Alla; Carrablagh and elsewhere in Fanet.

VIII. About Carrick, and roadside to Donegal.

286. **C. palustris**

Damp places. Very common. Fl. June to October.

From 850 feet to sea-level.

287. **C. pratensis** *Huds.*

Wet pastures, river banks and boggy places on the lower mountain slopes. Common. Fl. June to August.

From 900 feet to sea-level.

Cichorium *Linn.* CHICORY.

[287a. **C. Intybus** *Linn.*

Alien. Appears occasionally in cultivated neighbourhoods. Very rare. Fl. August.

III. Between Ramelton and Fort Stewart, Very Rev. Dean Gwynn; in a field near the south shore of Inch Island, Lough Swilly, where it was found by Mrs. Bohen's gardener, of Burt.]

Lapsana *Linn.* NIPPLEWORT.

288. **L. communis** *Linn.*

Waste ground, borders of fields and shady places. Common. Fl. July to September.

Crepis *Linn.* HAWK'S BEARD.

289. **C. virens** *Linn.*

Banks, walls and waste places. Locally distributed, but occasionally abundant. Fl. June to September.

I. and II. Not unfrequent.

II. Railway banks, Great Northern Railway, and Derry to Buncrana.

III. Not uncommon in Fanet and this district generally.

IV. Horn Head.

VII. and VIII. Frequent.

290. **C. paludosa** *Mænoch*.

By streams, and in damp glens and meadows and mountainous districts. Common. Fl. July to September.

I. Bulbein Mt.; Glennagivney; Glentogher and glens leading into it.

III. Glenalla; Carrablagh; Glenvar; River Lennan above Lough Fern. River Swilly, above Letterkenny; Creeslough; swamps at Lough Fern.

IV. Breaghy Mt. above L. Alton; Poisoned Glen, etc.

V. Finn valley.

VI, VII, VIII. Frequent along the river banks and bases of cliffs in these districts.

From 1450 feet to sea level.

Hieracium *Linn.* HAWKWEED.

291. **H. Pilosella** *Linn.* MOUSE EAR HAWKWEED.

Dry banks, pastures and roadsides. Common. Fl. June to August.

A very white shaggy-leaved form occurs on sand hills near Kincashla, and on the shores of Mullaghderg Lough, in the Rosses.

Note. – The following somewhat formidable list of *Hieracia* is entirely derived from specimens gathered by me, and, with one or two exceptions, they have been all determined by my friend, Mr. F.J. Hanbury, whose painstaking kindness and unrivalled knowledge, I beg here to especially acknowledge. His classification and nomenclature, here adopted, will be found in the *Journal of Botany*, July and August, 1894. Donegal, as already mentioned, is rich in hawkweeds. I would particularly call attention to the banks of the Carrick River near Slieve League, and to a stream above Martin's Bridge, Glenties. It is known as the Owen Garve River, and locally as the Stuckawn River. This stream is on the boundary of Districts VI. and VIII, so that all its Flora may be credited to both. It is merely a mountain torrent.

292. **H. anglicum** *Fries.*

Rocky places in mountains. Frequent where suitable places occur. Fl. July, August.

I. Bulbein Mt; Coolcross (F.J.H.)

II. Lower Mintiagh (F.J.H.)

III. Hills above Drimnacraig, and on Knockalla, Fanet; old mill on the Lennan above Kilmacrenan; north shore of Lough Gartan and by Lake Inshagh near Churchill; Lough Conny near Milford; Kinnalurgy and Melmore on Rossgull, the Misses Kinahan.

IV. Ards; Breaghy Head; north face of Muckish at 950 feet (F.J.H.)

VI. Between Glenties and Silver Hill; Doochary Bridge.

VIII. Bluestack Mountains, in several places; Slieve League; Ardara. Chiefly determined by Mr. Backhouse.

From 1700 feet to low-level.

Var. longibracteatum—Hanbury.

Limestone cliffs at low-levels.

III. On limestone bluffs between Mulroy water and Ballyhork, Fanet. “An interesting addition to the Irish Flora,” F.J.H. (who named the specimens).

First record; Hart, *Flora*.

293. **H. cerinthiforme** *Backh.*

VIII. Banks of the river Eglis, F.J.H, 1891.

Var. Hartii—Hanbury.

VIII. Alpine cliffs at Slieve League.

This form, which Mr. Hanbury has described as new, has been known to me since 1884-5. I had always considered it very distinct, and when Mr. Backhouse referred it to *H. cerinthoides*, I was much puzzled. However, Mr. Backhouse had not the opportunity of seeing it growing as Mr. Hanbury had.

From 1500 to 1400 feet.

First record; Hanbury, 1892 (*J. of Bot*, xxx, p. 169.)

294. **H. iricum** *Fries.*

Damp rocky places in mountain valleys at low levels. Not common. Fl. July, August.

III. Limestone bluffs between Ballyhork Lake and Mulroy water, Fanet (F.J.H.); rocks by Lennan, above Kilmacrenan (F.J.H.)

IV. Tullaghobegly River and up to the Breaghy Mt.

V. By the River Finn (Mr. Backhouse); on shingle at the mouth of Corlacky Burn into the Finn River above Stranorlar (F.J.H.); Mournebeg River.

VI. Doocharry Bridge, Gweebarra; Lough Anure in the Rosses, on stony margin; Owengarve River, near Martin's Bridge, Glenties. (All determined by F.J.H.)

VII. On limestone by the Erne at Ballyshannon (F.J.H.), and elsewhere on the limestone. Frequent.

VIII. St. John's Point (Mr. Backhouse); Killybegs river; on Croaghanacleragh, near the roadside between Ardara and Killybegs, at 1000 feet (F.J.H.)

The only Donegal hawkweed that appears to be at home on limestone. From 800 feet to sea-level.

To the best of my identification I gathered *H. flocculosum* (Backh.) along the Mournebeg River, but my specimens were damaged or mislaid.

295. **H. Schmidtii** *Tausch.*

Alpine cliffs. Rare. Fl. July, August.

I. Bulbin Mt. (F.J.H.)

II. Lower Mintiagh, Inishowen (F.J.H.)

VI. Stream near Martin's Bridge, Glenties. (F.J.H.)

VIII. Slieve League. "Typical *Schmidtii*," according to Mr. Hanbury, who gathered this plant with me in 1891.

At about 1500 feet and 500 feet.

First record; Hart, *Flora*.

H. Schmidtii, var. CRINIGERUM. FR.

Mountain cliffs. Local. Fl. July, August.

VIII. Abundant on cliffs near the Grey Mare's Tail, in the Bluestack Mountain, where I had the pleasure of showing the plant to Mr. Hanbury, 1891.

This hawkweed has a remarkably dominant growth. It would probably be very difficult to find another range of cliffs so profusely overgrown with one sort of hawkweed as this is. The linear lanceolate spreading teeth on the leaves are very characteristic.

From 1000 to 700 feet.

First record; Hart, *Flora*.

296. **H. proximum** *Hanbury*.

Old walls and stony margin of a river. Very rare. Fl. June, July.

V. Old wall above the River Finn, by the roadside, a little above Stranorlar on the right bank (F.J. Hanbury); on the opposite side of the river, higher up, near the mouth of the Corlacky Burn (F.J. Hanbury), 1893.

First record; Hart, *Flora*.

297. **H. rubicundum** *s. Hanbury*.

Rocky hills and mountain cliffs. Fl. July, August.

II. Mintiaghs. See *Journal of Bot.* July, 1892.

III. Right bank of the Lennan river near Kilmacrenan. (F.J.H.)

VIII. At 1100 feet on Croagh Gorm about two miles from Martin's Bridge, Glenties; and again from 1600 to 1800 feet (F.J.H., 1893).

IV. Breaghy Mt, above Lake Alton. (F.J.H.)

From 1800 to 1000 feet.

First record; Hanbury, 1892. (*J. of Bot.*)

298. **H. argenteum** *Fr.*

Mountain cliffs and streams. Rare. Fl. July, August.

II. Mintiaghs. (F.J.H.)

IV. Poisoned Glen. (F.J.H.)

V. On a furzy islet at the mouth of Corlacky Burn above Stranorlar (F.J.H., 1893, '*H. argenteum*, good.')

To about 1000 feet.

First record; Hart, *Flora*.

Obs. I have gathered this species typical, on Muckanaght in the Twelve Bens; and at Maumeen, Maam, Turk, both in Galway, in 1882. These seem to be the only Irish localities outside Donegal. (Since discovered on Mourne Mts. by Mr. Stewart.)

299. **H. Somerfeldtii** *Lindeb.*

Mountain cliffs. Very local. Fl. July to September.

III. Plentiful along cliffs facing west nearly at the summit of the Knockalla Mountains, Fanet.

300. **H. scoticum** *Hanbury*.

Mountain cliffs and streams. Very rare. Fl. July, August.

VIII. Carrick River. Determined by Mr. Hanbury from specimens brought home by him from here and placed under cultivation (1891); at 1000 feet on Croagh Gorm about two miles from Martin's Bridge, Glenties (F.J.H, 1893).

Var. occidentale, Hanbury.

VIII. Grassy banks of Carrick River. (F.J.H, 1893).

From 1000 feet to low levels.

301. **H. Saxifragum** *Fr.*

Var. orimeles, Hanbury.

Rocky places, and by mountain streams.

I. The Mintiaghs, July, 1891.

VI. Martin's Bridge, near Glenties.

Mr. Hanbury informs me that these specimens were identified as above by Dr. Elfstrand.

First record; Hart, *Flora*.

302. **H. hibernicum** *Hanbury*.

Glens, or on mountain streams. Very rare. Fl. June to August.

VII. In two glens at Moynalt, near Laghy on the Moyne River above Moyne Bridge.

This species has been described by Mr. Hanbury in *Journal of Botany* for September, 1892. It was originally recorded by me from the Mourne Mountains as a form of *vulgatum*. Subsequently Mr. Backhouse and Prof. Babington referred it, but with many doubts, to *argenteum*. Mr. Hanbury gathered it in 1891 at my original station in the Mourne Mountains, and described therefrom. It is his intention to figure the plant in his forthcoming Monograph. The Moynalt plant is identical with that of Broughnamaddy River on the Mourne Mountains. Mr. Hanbury has had specimens of it also from me.

First record; Hanbury, 1892 (*Jour. of Bot.*)

303. **H. caesium** *Fr.*

Mountain cliffs. Very rare. Fl. August.

I. Coolcross, in the north of Inishowen (Mr. Backhouse).

VI. Aghla Mountain, between the summit and Glenties, at about 1600 feet on exposed rocky bluffs, Mr. Backhouse (*var. pallidum*).

From 1600 to 700 feet.

First record; Hart, 1886 (*Proc. R.I.A.*)

304. **H. vulgatum** *Fries.*

Rocky places in mountains. Scarce. Fl. July, August.

III. A large *vulgatum* form grows by the Lennan River below Kilmacrenan Abbey, in thickets. Mr. Hanbury is inclined to refer it to "*sciaphilum*," *Uechtritz*.

V. At the mouth of the Corlacky Burn into the Finn River, above Stranorlar, "*H. vulgatum forma*," F.J. Hanbury, 1893. A different form from the last.

[N.B. – I am doubtful if any true *murorum* forms have been gathered in Donegal.]

305. **H. gothicum** *Fries.*

Banks of mountain streams. Rare. Fl. July to September.

VIII. By the Eanymore Water, at the bridge leading to Shrulc, "a form of *gothicum*." Mr. Hanbury originally believed this to be *Dewari* when we gathered it.

True *gothicum* appears to be scarce in Donegal. All those localities previously referred by me to *gothicum* belong undoubtedly to *corymbosum* (F.J.H.)

First record; Hart, *Flora*.

306. **H. sparsifolium** *Lindeb.*

Banks of streams in mountain districts. Very rare. Fl. July, August.

V. Mournebeg River, below Croagh Bridge (occurs also in Tyrone), F.J.H.

VIII. Carrick River, close to the hotel. Determined by Mr. Hanbury on the spot, 16/7/'91.

[N.B. – A form intermediate between these two occurs in the woods at Buncrana Castle. Dr. Elfstrand considers it identical with an undescribed form from the English Lakes. (F.J.H.)]

First record; Hart, *Flora*.

307. **H. rigidum** Hartm.

By streams in mountain districts.

Var. pullatum Dahlst.

IV. River into Dunlewy lake, above the bridge.

Var. acrifolium Dahlst.

VI. and VIII. Owengarve River, near Martin's Bridge, Glenties.

Var. scabrescens Johannson.

VI. and VIII. Owengarve River, above Martin's Bridge; Doocharry Bridge, Gweebarra.

Var. tridentatum Fr.

VI. Banks of the Owenea River, immediately below Martin's bridge, F.J.H.

First record; Hart, *Flora*.

308. **H. strictum** Dahlst.

Var. opsianthum Fr.

Banks of streams in mountain districts.

IV. Tullaghobegly River, near Falcarragh (F.J.H.); Ray River (F.J.H.)

VI. and VIII. Owenroe River, above Ivy Bridge and under Carnaween; Owengarve River, near Martin's Bridge (F.J.H.)

VII. River Eglis (F.J.H.)

First record; Hart, *Flora*.

309. **H. corymbosum** Fr. *H. Eupatorium* Griseb.

Shores of rivers and lakes at low levels. Local. Fl. July to September.

III. Right bank of the Lackagh River, between Glen Lough and the sea.

V. Finn River.

VI. River at Glenties; Owenea River; Kiltorris Lake, north-west of Ardara; by the Barra River at Doocharry Bridge.

VIII. Killybegs River; river at Ardara; Carrick River.

The above were determined by Mr. Hanbury. Some specimens were originally referred to *gothicum*, *q.v.*

First record; Hart, *Flora*.

310. **H. auratum**

By mountain streams. Very rare. Fl. July to September.

V. Mournebeg river at Croagh Bridge (F.J.H.)

VI. Banks of Owenroe River, above Ivy Bridge, east of Ardara. This locality extends to VIII. (F.J. Hanbury, 1893). It occurs in several parts of the river; at 1800 feet on the north side of Croagh Gorm, two miles from Martin's Bridge, Glenties (F.J.H, 1893). This is the only alpine locality that I have met with for any of this section of hawkweeds.

VIII. Carrick River. "Almost certainly this species, but a little too young," F.J. Hanbury, 17/7/'91; Owentogher River, above Ardara (F.J.H, 1893).

At 1800 feet and at low levels.

First record; Hart, *Flora*.

311. **H. crocatum** *Fries.*

Steep grassy slopes or river banks. Very rare. Fl. July to September.

I. Steep banks above the sea at Glennagivney, Inishowen. Originally determined by Mr. Baker, and subsequently corroborated by Messrs. Babington, Backhouse and Hanbury.

A well marked species.

First record; Hart, 1885 (*Proc. R.I.A.*)

312. **H. umbellatum** *Linn.*

Banks of streams (and occasionally lakes) in mountain districts. Locally frequent. Fl. middle of August to October.

III. By the east shore of Lake Akibbon, near Churchill; Swilly River.

IV. Ray River.

V. Finn River; Mournebeg River by the Swilly River from Drumanaght Bridge upwards; Swilly on right bank about a mile below Swilly Bridge.

VI. Glenties; Gweebarra river; above Ardara.

VII. and VIII. Frequent along the banks of rivers in these districts, with the exception of the River Erne. Shores of Lough Eske.

This handsome hawkweed is very characteristic of the lower reaches of the western streams in Donegal. It generally appears about 350 feet above sea level. But it usually disappears before the lower cultivation

has been reached. It is in its prime about the first fortnight of September, and last of August. It is our latest flowering plant.

Var. filifolium.

VI. By the river at Glenties.

VIII. By Lough Eske.

First record; Hart, 1885 (*Proc. R.I.A.*)

N.B.—Many botanists would refuse to sub-divide the *Hieracia* into so many *species* as the foregoing. On the other hand the “lumping” process in *Cyb. Hib.* is carried much too far. About five in the above list might, perhaps, be united to their neighbours. *H. boreale*, Fr, formerly recorded from the county by me was, I think, an error.

Hypochæris *Linn.* CAT’S EAR.

313. **H. radicata** *Linn.*

Meadows, borders of fields and stony places. Common. Fl. July and August.

Leontodon *Linn.* HAWKBIT.

314. **L. hirtus** *Linn.*

Pastures. Very rare. Fl. July, August.

II. Plentiful on the embankment along the Foyle below Kilderry.

VII. Sea coast on grassy limestone bluffs a couple of miles south-west from Donegal.

VIII. Shore of Lough Eske at the south-east end.

First record; Hart, 1885 (*Proc. R.I.A.*)

[**L. hispidus** *Linn.*

Meadows and borders of fields. Very rare. Fl. July to September.

I. Malin, &c, Dickie. (This record is probably erroneous.) Slobland, Burnfoot. J. Hunter.

I have not seen specimens and am very doubtful of its occurrence.]

315. **L. autumnalis** *Linn.*

Pastures, heaths and waste places. Common. Fl. July to September.

Var. pratensis. *Koch.*

IV. Summit of Muckish.

VIII. Summit of Lavaghmore in the Bluestack range; summit of Slieve League, etc.

From 2200 feet (*pratensis*) to sea-level.

Taraxacum *Juss.* DANDELION.316. **T. officinale** *Web.*

Meadows, ditch-banks and road-sides. Common. Fl. April to October.

Var. palustre. *Smith.*

Wetter places than the type and chiefly by mountain streams and lakes.

III. Lough Golagh, Fanet; Lake Columbkil near Milford (and many other lakes, as in the Rosses).

From 2210 feet to sea-level.

Sonchus *Linn.* SOW-THISTLE.317. † **S. arvensis** *Linn.*

Denizen. Cornfields and waste places along the coast. Common. Fl. June to September.

Perhaps native as it occasionally occurs on remote gravelly shores as at Ards, Bloody Foreland, Aranmore, etc, but it has usually all the appearance of a colonist.

318. **S. oleraceus** *Linn.*

Banks, waste places, ditches and cultivated land. Common. Fl. June to October or November.

319. **S. asper** *Hoffm.*

Banks and waste places, also amongst sandhills. Frequent. Fl. June to September.

The type is best represented by the form found amongst sandhills.

Campanulaceæ**Lobelia** *Linn.*320. **L. Dortmanna** *Linn.*

Margins of mountain lakes. Frequent. Fl. July to September.

I. and II. Lough Naminn and Lough Fad in the Mintiagh.

III. Kindrum and other lakes in Fanet; Loughs Keel, Fern and Columbkil; Glenveagh and Gartan Lakes.

IV. Glenveagh; Lough Attirive on Slieve Snacht; Gweedore Lakes.

V. Lough Mourne.

VI. Many lakes in the Rosses; lake in Aranmore.

VII. Lough Aveyh and other lakes between Pettigo and Ballyshannon; lakes about seven miles north-west of Pettigo.

VIII. Lough Agh, Slieve League; Lough Esk and other lakes.

From 1180 feet to sea-level.

Jasione *Linn.* SHEEP'S SCABIOUS.

321. **J. montana** *Linn.*

Dry, sandy or stony places near the sea, and also high up on the mountains. Common. Fl. June to September.

From 1450 feet to sea-level.

A very interesting and pretty form was gathered on Croaghanacleragh (Alt. Mt.) near Ardara. The flowers were creamy white and the plant densely tufted and very floriferous, the pedicels slender and long, and the flower heads from half to two-thirds normal size. Mr. Bennett believes it to be *Var. caespitosa*, Reich.

Campanula *Linn.*

322. **C. rotundifolia** *Linn.* HAIR BELL.

Sand banks near the sea and dry places on cliffs and mountain summits. Frequent. Fl. July, August.

From 2219 feet to sea-level. A summit plant as well as a sand hill plant. It is curious that the two widely different habitats affected by this species have not caused divergence into representative forms.

[**Campanula latifolia** *Linn.*

Apparently established in dense thickets by the Waterfoot river, a little above Lough Erne towards Pettigo, left bank, but an escape from a neighbouring garden.]

Ericaceæ

Vaccinium *Linn.* BILBERRY. WHORTLEBERRY.

323. **V. Myrtillus** *Linn.*

Heaths, bogs, peaty woods and mountains. Common. Fl. April to June.
From 2460 feet to sea-level.

324. **V. Vitis-idaea** *Linn.* COWBERRY.

Stony, peaty slopes amongst heather in the mountains. Local. Fl. June and July.

I. Bulbein Mt.

II. Slieve Snacht and Slieve Main from 1420 to 1550 feet. This locality is on the boundary of the baronies.

III. Loughsalt Mountain near the summit on the north-east side and by a small lake about two miles eastwards at about 700 feet; by the larger of the two Black Lakes on Knock Alla.

IV. Errigal; by Derrybeg stream, from Dooish to Lough Veagh; in Glenveagh; Muckish at 2050 feet; Poisoned Glen near the gap.

VI. Aghla Mountain above Lough Finn, near Glenties.

VIII. Frequent in the Bluestack Mountains; Banagher Mountain; west of Lough Eske, at 1100 feet; Slieve League on the north side from 1400 feet upwards.

From 2050 to about 700 feet.

325. **V. Oxycoccus** *Linn.* CRANBERRY.

In a spongy bog on the margin of a lake. Very rare. Fl. July.

VII. At the north-west corner of Lough Keenaghan, about 2½ miles east of Belleek. The greater part of this lake lies in the county Fermanagh, but this particular portion belongs to Donegal. The cranberry occurs here profusely.

The cranberry is much rarer in Ireland than is generally supposed, or than the *Cybele Hibernica* would lead us to believe. There is no plant that I had searched for so long without success in Donegal, partly because it is one of our very daintiest wildflowers but chiefly since it had been accredited (erroneously, I believe) to the county by the above mentioned work.

First record (with locality); Hart, *Flora*.

Arctostaphylos *Adans.* BEARBERRY.326. **A. Uva-ursi** *Spr.*

Rocky or stony banks on the coast and in the mountains. Local. Fl. May, June.

II. Southern extremity of the Erris Mountains, between Dunree and the two lakes.

III. Lerrig-a-cloghan, Murren, and Knockalla, Fanet.

IV. Horn Head; Muckish and Errigal.

VI. By the Barra River two miles below Lough Barra; very abundant on Aranmore about some of the small lakes.

VIII. Abundant on the sea-face of Slieve League from the sea to the summit; abundant on the sea-face of Slieve-a-Tooev.

From 1900 feet to sea-level.

Erica *Linn.* HEATH.327. **E. Tetralix** *Linn.*

Damp peaty places. Common. Fl. July, August.

From 1800 feet to sea-level.

328. **E. cinerea** *Linn.*

Peaty places. Abundant. Fl. July, August.

From 1970 feet to sea-level.

Calluna *Salisb.* LING. HEATHER.329. **C. vulgaris** *Salisb.*

Peaty places. Abundant. Fl. July to September.

From 2460 feet to sea-level.

Pyrola *Linn.* WINTER-GREEN.? **P. minor** *Linn.*

Bushy or heathy places; very rare. Fl. June, July.

?IV. "Ards-house, near Dunfanaghy, Donegal (Prof. E. Murphy), *Flor. Hib.*" *Cyb. Hib.*

I have failed to re-discover this species; nor am I aware that anyone else has been more successful. Prof. Murphy's record is now over fifty years old.

I have always had suspicions about several of the *Pyrola minor* records in the *Flora Hibernica*, since the author of that work states that it is “the most common species in Ireland.” Irish field botanists will agree that *P. media* is far commoner. It seems possible, therefore, that there is confusion of species. Further, Mr. More informed me that the various records of Murphy’s *Pyrolas* in the north show that he did not sufficiently understand the species. I have, therefore, placed a mark of interrogation.

First record; *Flor. Hib*, 1836.

330. **P. media** *Sm.*

Heathy places, rare. Fl. June to August.

I. Glen near Carrowkeel, W.E.H.

II. Mintiagh Glen, *Mr. C. Moore*; Portlaw Glen, Buncrana and Ballynagarry Hill, near Linsfort; Mr. J. Hunter.

III. Carrablagh, Lerrig-a-cloghan, Murren and Leatbeg in Fanet; shore of Mulroy between Rosnakill and Milford; Craig Madher-rhu, between Ray and Glenalla; Croghan Island, Mulroy, Rev. A. Delap; Ranny Mt, by the roadside, three miles from Milford.

IV. Marble Hill; Ards, Co. Donegal, E. Murphy, 1829.

[The common Rhododendron (*R. ponticum*, introduced 1763) is a very thoroughly established shrub at Glenalla, where it spreads itself both by seed and natural layering. I have not seen such large or such old growths of it anywhere else.]

Plumbaginaceæ

Armeria *Willd.* THRIFT. SEA-PINK.

331. **A. maritima** *Willd.*

Sea-coasts and tops of mountains. Common on the coast. Fl. June to September.

At 2400 feet on Errigal, 2200 on Muckish, 1900 on Slieve League, 1500 feet on Little Errigal, and Aghla summit, and at sea-level.

Statice Linn. SEA LAVENDER.332. **S. bahusiensis** Fr. (*S. rariflora*, Drej.)

Wet, brackish, muddy or stony sea shores. Very rare. Fl. July, August.

III. Shore of Mulroy at Dundoan, the Misses Kinahan; shore of Mulroy, close to Mulroy House. Mr Bennett writes of those specimens "no doubt *S. rariflora* (*danica*)"; west shore of inlet running south on east side of Fegart Pt. near Carrigart, 1893.

VIII. Rocky wet ground on the strand at the north-east corner of Fintragh Bay. This locality was discovered by Miss Brooke of Killybegs; in one place between Rossylongan and Donegal along the shore.

S. bahusiensis, Fr. *Var. borealis*, Fr.

III. Abundant on the shore of Mulroy, by the avenue of Mulroy House, and by an enclosed inlet close by. Mr Bennett writes, "the transition from this to *S. bahusiensis*, *Var. danica*, Fr. = *S. rariflora*, Drej, is so gradual that it is difficult to find a resting place." (1894).

The commoner and larger form in England belongs to *var. borealis*, Fr. That of the Irish salt-marshes, with the above exception, appears to be all, *rariflora*, Drej.

First record; Hart, *Proc. R.I.A.* (1886).

333. **S. auriculæfolia** Vahl. (*S. binervosa* G.E. Sm.)

Rocky places and cliffs near the sea. Rare. Fl. July and August.

Var. intermedia, Syme.

I. "On the rocks of Dunargas, Mr. C. Moore," *Cyb. Hib.* Probably this form.

IV. Near MacSwyne's Gun, Horn Head. Mr. Bennett determined this plant from here. This is the form from Howth, Killiney, etc.— and apparently the commonest in Ireland.

VIII. Rocks at the signal tower abreast of Rathlin O'Beirne's Island on the mainland.

Var. occidentalis, Lloyd.

III. On cliffs at Boyeagher Bay, Rossgull, the Misses Kinahan; of the Rossgull plant, Mr. Bennett writes, "there is no doubt your specimen is *S. binervosa* G.E. Sm. = *S. occidentalis*, Lloyd, and not the *Var. intermedia*, of Syme. In England nearly all the western *Statice*

is *intermedia*, the eastern *occidentalis*." It is strange that *S. Limonium* (*pyramidalis*) has not been found in Ireland. It is commoner than any of these in England. Since writing the above, Mr. Bennett has determined a specimen I sent him from Portrane, Dublin, to be *occidentalis*.

First record; 1866, *Cyb. Hib.*

Primulaceæ

Primula *Linn.* PRIMROSE.

334. **P. vulgaris** *Huds.*

Banks, woods and shady places. Common. Fl. March to June.

From 1650 feet to sea-level.

335. **P. veris** *Linn.* COWSLIP.

Meadows and pastures. Very rare. Fl. May, June.

III. Shore of Lough Swilly by the Kinnegar strand and at Rathmullan House. Originally introduced here by Mr. Batt, but has established itself and spread.

IV. In two fields near Marble Hill on Sheephaven Bay. It was shown to me here by the Rev. Alexander Stuart when rector of the parish. He considered it native there.

First record; Hart, 1881 (*Jour. of Bot.*)

Lysimachia *Linn.* LOOSESTRIFE.

336. **L. vulgaris** *Linn.* YELLOW LOOSESTRIFE.

Margins of rivers and lakes. Very local. Fl. July and August.

III. By the river Lennan, immediately above and below Lough Fern, sparingly.

V. In a hedge by the railway along the Foyle between Port Hall and St. Johnston's, Mrs. Leebody.

VII. Frequent along the river Erne; at the point where Donegal county touches Lough Erne; by the Bundrowes River, near Bundoran.

First record; Hart, 1885 (*Proc. R.I.A.*)

337. **L. nemorum** *Linn.* YELLOW PIMPERNEL.

Damp shady places, woods and wet mountain slopes. Common. Fl. June to August.

From 1550 feet to sea-level.

338. * **L. Nummularia** *Linn.* MONEYWORT.

Damp grassy places and borders of water. Very rare. Fl. July, August.

III. Hedge banks at Aughnagaddy and on a bank by the roadside between that and Ramelton. Observed here, looking native, for many years by my friend Dean Gwynn who pointed it out to me. The species has been always, however, a cottage garden favourite and readily establishes itself wherever planted.

V. Roadside, near Guystown, between Convoy and Raphoe.

First record; Hart, 1880 (*J. of Bot.*)

Glaux *Linn.* SEA MILKWORT.

339. **G. maritima** *Linn.*

Salt marshes. Common. Fl. June, July.

Centunculus *Linn.* BASTARD PIMPERNEL.

340. **C. minimus** *Linn.*

Damp, gravelly, peaty places by lake shores. Rare and difficult to observe. Fl. June to August.

III. Kindrum Lake, near the boatslip, and Lough Finnegan, Fanet; by Gortlough, Rathmullan; by the enclosed lake at Mulroy House, (see under District VI.); by the shore at an inlet at Doagh on north-west side of Rossgull.

VI. "Rosses and Fanet." E. Murphy, *Mag. Nat. Hist.*, I, p.436, 1829. 'Near Dunglow, between the village and the ferry; Admiral Jones,' *Cyb. Hib.*

No doubt occurs elsewhere in the county, but I have failed to discover it.

First record; 1829, E. Murphy (as above).

Anagallis *Linn.* PIMPERNEL.

341. **A. arvensis** *Linn.*

Colonist? Cultivated ground and waste places on a light dry soil; also on sandy sea coasts where it is, perhaps, native. Fl. June, July.

Var. *cærulea*. Very rare. Has appeared as a garden weed at Horn Head.

342. **A. tenella** *Linn.* BOG PIMPERNEL.

Wet, sandy or peaty places and bogs. Frequent. Fl. July, August.

This beautiful little species is very common along rills and drains through the peat in sheltered valleys such as that of Carrablagh in Fanet. It is one of the most perfectly formed of all our wild flowers, and we ought to rejoice that it is so much commoner in Ireland than in most other parts of the British Isles, or Europe.

Samolus *Linn.* BROOKWEED.

343. **S. Valerandi** *Linn.*

Wet, muddy and stony places, chiefly near the coast. Frequent. Fl. July and August.

Oleaceæ

Ligustrum *Tournef.* PRIVET.

[**L. vulgare** *Linn.*

Thickets and hedges. Occasionally established and looking wild, but not native. Fl. June, July.

Thoroughly established in many places in the county as along the railway between Fahan and Inch; about Donegal.]

Fraxinus *Linn.* ASH.

344. **F. excelsior** *Linn.*

Rocky glens, woods and banks of streams. Rare as a native. Fl. May, June.

I. About Goorey, west of Malin.

II. Wild in many places, Mr. J. Hunter.

III. Steep slopes between Carrablagh and Rosskirk, Fanet; Ballyhork, Between Waters.

VI. Natural woods on the south side of Gweebarra estuary above Russell's Ferry.

VII. and VIII. Frequent.

Seems to seed itself most freely on limestone.

The ash is not very common in indisputably wild stations in Co. Donegal. The general trees of natural copses, are oak, birch, black willow, holly, hazel, and less commonly alder. Ash seems to seed itself and be more at home generally on limestone, or at any rate away from peat.

From 800 feet to sea-level.

Gentianaceæ

Erythræa *Ren.* CENTAURY.

345. **E. Centaurium** *Pers.*

Pastures and sandy fields or banks, chiefly near the sea. Common. Fl. July, August.

Var. E. pseudo-latifolia.

Ballyvicstocker, Fanet; near Mulroy house.

Gentiana *Linn.* GENTIAN.

346. **G. campestris** *Linn.*

Pastures in hilly districts and near the sea. Frequent. Fl. July to September.

This gentian increases in quantity westwards and is especially common about Burton Port, etc. I gathered it in blossom at Rosapenna, on May 20, 1893.

From 700 feet to sea-level.

347. **G. amarella** *Linn.*

Dry pastures and sandy downs. Very rare. Fl. July to September.

VII. Plentiful on the sandy downs, between Bundoran and Ballyshannon.

First record; Hart, 1885 (*Proc. R.I.A.*)

Menyanthes *Tournef.* BUCKBEAN.

348. **M. trifoliata** *Linn.*

Marshes, margins of lakes and bog-holes. Common. Fl. May to July.

This species is more effective than any other bog plant in overgrowing and filling up shallow boggy lakes. Growing from the

margin outwards it speedily spreads a mat over the surface of the water or soft mud, which in time harbours other species and at length converts to peat. Its great power of root spreading enables it to act thus, and also, perhaps, renders it less dependent for its existence upon seed reproduction. The quantity of buckbean to be seen flowering bears a very small proportion to that occurring barren.¹

From 2000 feet to sea level.

Boraginaceæ

Echium *Tournef.* BUGLOSS.

[**E. vulgare** *Linn.* VIPER'S BUGLOSS.

III. In a field on the south side of Inch Island, where it was gathered by Mrs. Bohen's gardener, of Burt. The specimen was sent to me.]

Symphytum *Tournef.* COMFREY.

349. ‡ **S. officinale** *Linn.*

Banks of roadsides and waste places near cottages, also by slow streams. Scarce. Fl. June and July.

I. Glennagiveny and Malin Well, Dickie; Glentogher.

II. About Derry, Bunrana, and elsewhere.

III. Drimnacraig, Fanet; near Lough Fullarton; between Fort Royal and Macamish Pt.

IV. Bullaba River, above Lough Gartan.

VII. Chiefly near cottage gardens; by the Termon River above Pettigo; by the Erne.

VIII. Eanymore Water, above Drumagraa; Tawnawilly by Lough Eske.

Very much in use as a fodder plant.

Anchusa *Linn.* BUGLOSS.

350. ‡ **A. arvensis** *Linn.*

¹ Bearing these remarks in mind it will be seen that I do not agree with these florists who recommend Bogbean as an ornament for ponds, etc. I have seen it advertised at a shilling a plant!

Colonist. Cultivated fields on a light sandy soil. Chiefly near the sea. Rare. Fl. June to September.

I. Leenane, and between Leenane and Dunaff Head; between Inishowen Head and Greencastle; Culdaff; Ardmalin; about Malin and Ardmalin south; Doagh Island; Ballyliffin.

III. Near the Lighthouse, Fanet; Kinnalargy, and Rossgull, Miss Kinahan; near Magherdromin, Fanet.

VI. Sandy fields near Ardara, in Boylagh, very sparingly.

First record; Hart, 1872. (*Recent Additions*, etc.)

351. * **A. sempervirens** *Linn.* EVERGREEN ALKANET.

Alien. Banks and waste ground. Naturalized. Fl. June to August.

I. "Near the church at Churchtown, Mr C. Moore;" *Cyb. Hib.* (near Carndonagh?)

II. Balleeghan Abbey, by Lough Swilly, west of Bogay; Fahan roadside.

III. Clondevaddock church-yard, Fanet; Glen Alla.

Lithospermum *Linn.* T

352. **L. officinale** *Linn.*

Dry banks, chiefly near the sea. Rare. Fl. June to August.

III. Near Rathmullan, Lough Swilly; Fanny's Bay on Mulroy Lake, near Carrigart.

VII. Railway banks between Ballyshannon and Bundoran; by the shore at Woodtown, near Ballyshannon; limestone bluffs at Knockroe, three miles north of Ballyshannon.

First record; Hart, 1872. (*Recent Additions*, etc.)

L. avense has appeared as a casual, but has no claim to a place in the Flora. I met it once near the town of Donegal.

Mertensia *Roth.* SEA GROMWELL.

353. **M. maritima** *Don.*

Gravelly sea shores. Very rare. Fl. June to August.

I. Dunaff Head, on the Leenane side, Mr. T. Batt (I could not find it here); on the strand below Ardmalin cottage, and plentiful on the stony beech below the Coastguard station on the north-east face of Malin

Head; about a mile and a half from the Signal Tower on the west side of Malin Head; Norway Point, Mr C. Moore. [I fear it is extinct here.]

III. In a gravelly inlet on the coast of Rossgull, south of Rinnafaghla Pt, and about two miles north-west of Ganiamore.

First record; C. Moore, 1866. (*Cyb. Hib.*)

Myosotis *Linn.* SCORPION GRASS.

354. **M. palustris** *With.* FORGET-ME-NOT.

By still water in deep soil. Appears to be scarce in Donegal; Fl. June to September.

III. River Lennan at Ballyare; Milford Lake.

V. Finn River, and Foyle River; by the Deel River a tributary of the Foyle.

VII. and VIII. By several of the larger rivers. Abundant along the Erne.

356. **M. repens** *Don.*

Boggy ditches and wet places. Frequent? Fl. June to August.

Appears to occur in all districts and takes the place of *M. palustris* as an inhabitant of wet places on peat.

From 850 feet to sea-level.

357. **M. caespitosa** *Schultz.*

Marshes and wet drains. Frequent. Fl. June to August.

358. **M. arvensis** *Hoffm.*

Sandy waste places and cultivated fields on a light soil. Common. Fl. June to August.

359. **M. collina** *Linn.*

Sandy warrens and pastures, very rare. Fl. May, June.

?I. Glennagiveny Bay. The specimens were withered, but I think *M. collina*.

III. Sandhills at Rosapenna, in a rabbit warren, not far from the Coastguard Station. I gathered undoubted specimens here on May 20, 1893.

IV. Sandy fields below Falcarragh. Of the specimens from here Mr. Bennett writes, "I suspect this is *M. collina*, var. *umbrosa* (sub. *hispida*) Bisch. *Fl. Batavia*, p. 159, but I have not seen specimens."

First record; Hart, *Flora*.

360. **M. versicolor** *Linn.*

Pastures near the sea, sandy banks and waste places. Frequent. Fl. April to June.

Convolvulaceæ

Convolvulus *Linn.* BINDWEED.

361. **C. arvensis** *Linn.*

Sandy banks and waste ground. Local. Fl. July and August.

I. Leenane Head; between Moville and Greencastle and at Stroove, *W.E. Hart*.

II. Inch road; Buncrana golf-links, Mrs Leebody.

III. Roadside near Croghan, Fanet; banks near the sea below Rathmullan House; very abundant in slopes at the north-east end of Kinnylough; at Larginreagh, and on sandhills a mile from Melmore Point, Rossgull, the Misses Kinahan; shore of Lough Swilly at Ardromin.

IV. Near Horn Head House, Dunfanaghy.

VI. Sandhills near Kincashla, to the south-east, abundant. Bright rose coloured here and very pretty.

VII. Railway banks between Ballyshannon and Bundoran; north side of Ballyshannon estuary, by an old road.

VIII. Abundant in fields between the old Coastguard Watch-house and the Blind Rock, on the eastern shore of Doorin Promontory. Very rare in West Donegal.

First record; Hart, 1872. (*Recent Additions*, etc.)

362. **C. sepium** *Linn.*

Hedges, banks and thickets, in cultivated districts, especially near the sea. Locally abundant. Fl. July, August.

The pink variety occurs about Kindrum, Fanet; and Moville, Inishowen. Bindweed is a most difficult weed to eradicate. It is no doubt a colonist, except, perhaps, along the coast in some districts.

363. **C. soldanella** *Linn.*

Sandhills by the sea. Very rare. Fl. July, August.

?III. Carrigat sandhills. I have an old note of having seen it there,

but I have not found it recently, and the Misses Kinahan who botanized this neighbourhood well, do not report it.

IV. Tramore strand, where it meets Horn Head.

?VII. On the shore at "Fox's," Wardtown, Ballyshannon. Mr. H. Allingham. Not observed by me.

Recorded without locality in *Cyb. Hib.*

First record with locality; Hart, 1880. (*Jour. of Bot.*)

Cuscuta *Linn.* DODDER.

364. ‡ **C. epilinum** *Weihe.* FLAX DODDER.

Parasitical on flax, and introduced with the seed. Very rare. Fl. July, August.

III. About Churchill, sparingly.

VII. Sparingly on flax in a field by the lower river into Laghy about two miles above the village.

Solanaceæ

Solanum *Tournef.* NIGHTSHADE.

365. † **S. Dulcamara** *Linn.*

Old walls, ruins and limestone thickets. Rare. Fl. June to August.

II. Walls of Londonderry, *Cyb. Hib.*; at Leck, N. Moore. (*Recent Additions.*)

V. Hedges at Ballybegley on the east side of Lough Swilly at Fort Stewart Ferry; at Leck, on the farmyard wall, and in a hedge a mile towards Stranorlar, N. Moore. (*Recent Additions*, etc. 1872.)

VII. By an inlet along the coast a couple of miles south-west from Donegal, but near a cottage. At Ballyshannon this plant may be seen trailed over cottages as an ornamental plant; appears native in limestone thickets by the Erne; roadsides on the Ballyshannon road near Donegal; near Laghy; Termon River below Pettigo.

VIII. Roadside by the Workhouse, near Donegal.

[**Lycium barbarum** *Linn.*

An established species at Ned's Point, Buncrana, on Lough Swilly and also on the Bundrowes River, near Bundoran.

There is probably nothing harder to exterminate than this species,

once it gets a footing. There is a fine establishment of it by the roadside at Sutton or Howth, and in many places on the south-east coast. I have spent several years endeavouring to get rid of the tea-plant from the walls of my house on Lough Swilly. The last place it appeared was behind an oak bookcase in the hall, having worked its way through foundation-wall, flooring, etc.]

Atropa *Linn.* DEADLY NIGHTSHADE.

366. * **A. Belladonna** *Linn.*

Waste places. Very rare. Fl. July to September.

II. In a hedge near the graveyard on the east side of Inch Island, Mr. J. Hunter (1893).

VI. Rocky limestone coast, near the tide, on the south side of Gweebarra Bay, east of Inishkeel Island. The surroundings are the sea and an unbroken, wild sheep-pasture. There are no houses or signs of ancient or recent cultivation nearer than a cabin half a mile away. Nothing but the Laws of Phyto-geography would lead one to see the possibility of the plant being other than a native here.

Mr. Arthur Brooke of Killybegs, was with me when I found the *Atropa* in 1885. He has written to me that he has re-visited the spot in the Autumn of 1893, and that the colony has increased largely in the interim. No doubt the famous season just over has largely benefited it.

First record; Hart, 1886 (*Proc. R.I.A.*)

Scrophulariaceæ

Verbascum *Linn.* MULLEIN.

367. ‡ **V. Thapsus** *Linn.* POOR MAN'S BLANKET.

Colonist. Roadsides and waste places near gardens or houses. Rare, and no doubt everywhere introduced. Fl. July, August.

II. Near Fahan Railway Station, and between that and Derry along the line.

Linaria *Tournef.* TOAD-FLAX.

368. * **L. Cymbalaria** *Mill.*

Alien. Old walls and ruins. Local. Fl. May to November.

III. Rathmullan and Ramelton; Killydonnelly Abbey; sea wall at Shellfield, Fort Stewart Ferry; walls at Bogay.

VII. Roadside walls about Ballyshannon; ruined mill by the Erne.

VIII. About Donegal.

369. * **L. vulgaris** *Mill.*

Borders of fields and broken waste ground. Very rare and probably not native. Fl. July, August.

III. Near Lough Thorn, between Ramelton and Glenalla.

IV. Tory Island, R.M. Barrington; thoroughly established at Leckbeg near Burton Port. This port is much used by the Tory Islanders, and doubtless the yellow ornamental flowers attracted notice and were thence introduced. Once started anywhere few species are harder to extirpate.

N.B.—Since writing the above, Mr. Barrington has informed me that his identification may have been erroneous, the plant not having blossoms.

370. † **L. repens** *Ait.*

Banks and roadsides. Very rare. Fl. July to September.

III. On a low dry wall, by the roadside, about three quarters of a mile from Ramelton on the upper road to Glenalla, and on adjoining bank. Plentiful in this locality where it was first observed by my friend, the Very Rev. Dean Gwynn.

First record; Hart, 1879 (*Jour. of Bot.*)

Scrophularia *Linn.* FIGWORT.

371. **S. nodosa** *Linn.*

Borders of woods, banks of ditches and hedges. Frequent. Fl. July, August.

372. **S. aquatica** *Linn.*

Wet places by roadsides, ditches and banks of streams. Very local. Fl. July, August.

II. Plentiful in ditches by the railway and near it about Inch road, Burnfoot, Bridgend, etc, along the river.

III. Near the gate of Greenfort, by the roadside, Fanet; by the old road from Ballyboe near Rathmullan to Glenalla, about half a mile from Ballyboe; at Rathmullan in plenty by roadsides; at the Little Bins, Ballyvicstocker, Fanet; Killygarvan, Rathmullan; Ards.

IV. Horn Head near the House.

VII. By the Pettigo River close to its mouth at Lough Erne; roadside

from Pettigo to Lough Derg, about a mile and a half from Pettigo; Termon River below Pettigo abundant.

VIII. By the Eske River near Donegal Workhouse.

Rarer than the last species, though from its profusion in certain familiar localities I thought at one time it was the commoner of the two.

373. * **Mimulus luteus** *Linn.*

Alien. Wet places by lakes and streams. Locally abundant. Fl. June to September.

III. By a stream near Tamny in Fanet and by the Glenalla River; in several places on the shores of Lough Gartan; by the River Lennan at Ramelton; by the roadside from Letterkenny to Kilmacrenan, Miss Kinahan; east shore of Lough Fern, very luxuriant.

IV. In great profusion on ditchbanks at the upper end of Glenveagh.

V. Very abundant and ornamental along the Foyle from Lifford to Carrigans, where it holds its own with the coarsest marsh plants in saline soil.

VII. Erne River, Pettigo; close to the tide-mark in muddy sand below Ballyshannon; Termon River, Pettigo.

VIII. Malinmore; about Carrick.

A very conspicuous member of our flora now. I doubt if any alien is better able to hold its own. Paxton records its introduction from Chili in 1826, but it was probably a good many years later that it reached Donegal. It is about twenty years since I first saw it at Glenveagh, but it was well established then.

Digitalis *Linn.* FAIRY THIMBLE. FOX-GLOVE.

374. **D. purpurea** *Linn.*

Stony banks and borders of woods in hilly districts, frequent, and also on southern side of mountains. Fl. June to September.

From 1560 feet to sea-level.

The white variety when naturalized in woods etc., reverts to pink. Flowers on the same root-stock may be white one year and pink or red the next. Foxglove avoids limestone, and sometimes (as in Fanet) is thinly distributed or absent for a considerable area. It often appears most abundantly where storms have effected a clearing in woods. This occurred at Glenalla and Churchill (Gartan) after the memorable "Sunday storm" of October, 1881, and at Carrablagh, after the Christmas storm of 1894.

Veronica *Linn.* SPEEDWELL.

375. ‡ **V. agrestis** *Linn.*

Cultivated fields, roadsides and ditches. Frequent. Fl. April to September.

[* **V. polita** *Fr.*

Cultivated fields. A casual.

III. Occasionally at Glenalla and Rossnakill, and probably elsewhere.

VII. Near Ballyshannon.]

376. ‡ **V. Buxbaumii** *Ten.* V. PERSICA, *Poir.*

Casual. Cultivated fields.

II. Wayside near Buncrana, Rev. W.E. Fox, 1894.

III. Carrablagh; fields by Mulroy, south of Moross Ferry on the west side; Rathmullan.

VII. About Ballyshannon.

A colonist since 1825, Watson.

377. **V. hederifolia** *Linn.*

Borders of cultivated fields, hedge banks and waste places. Not unfrequent. Fl. April to July.

378. **V. arvensis** *Linn.*

Dry cultivated ground, banks and sandy places near the sea. Frequent. Fl. May to August.

379. **V. serpyllifolia** *Linn.*

Damp, cultivated and waste ground. Common. Fl. May to July. A common garden weed.

380. **V. officinalis** *Linn.*

Dry banks, heaths and pastures. Common. Fl. June to August.

From 2050 feet to sea-level.

381. **V. Chamædris** *Linn.*

Hedge banks, thickets and borders of woods. Common, Fl. May to July.

382. **V. montana** *Linn.*

Woods and shady places and districts. Rare. Fl. May, July.

I. "Along shore, Ballylannon, Upper Merville," Mr. C. Moore. (Specimen.)

III. Woods at Glenalla.

VII. Thickets on an island immediately below Cliff House by the Erne River; Brown Hall; by the Erne at Camlin.

First record; C. Moore, 1866 (*Cyb. Hib.*)

383. **V. scutellata** *Linn.*

Marshes, bogs and borders of lakes. Rather local. Fl. June to August.

II. Galagh Road near Derry, by the railway; Port Lough, Bogay, west of Derry.

III. Kindrum, Tamney, Ballyhernan, Rinboy and Finnegan Lakes in Fanet; Lake-a-Kibbon near Churchill; Lough Columbkil near Glenalla; marsh by Ardronin Road near Ramelton, Miss Kinahan; Ballyhork Lake, Between Waters, Fanet; Milford Lake and Lough Fern; Rosapenna.

VII. By the Erne River; Trumman Lough, near Ballintra.

VIII. By the Eske River and woods at Ardnamona, Lough Eske; Crumlin Lough, near Killybegs.

384. **V. Beccabunga** *Linn.*

Shallow streams, springs and wet clay fields. Common. Fl. June to August.

An annoying garden weed in Donegal, where the damp climate enables it to thrive in well-drained ground. This applies to another aquatic species, *Montia fontana*.

835. **V. anagallis** *Linn.*

Standing water in marshes, deep drains and bog holes. Frequent. Fl. June to August.

[**V. peregrina** *Linn.*

Alien. Locally abundant as a garden weed. Fl. May to August.

Abundant as a garden weed at Carrablagh; Glenalla; Kilderry; White House, Killybegs; Lough Eske; Horn Head; Bogay, near Londonderry; Mount Charles; and no doubt in numerous other places. As yet, apparently confined to gardens. Like many other garden annuals, this ripens and sows its seeds, which germinate and repeat the process successively during the summer. But none of them seem enabled to produce their grand-children and with such rapidity as the present species. First observed by me over twenty years ago at Mount Charles.]

Bartsia *Linn.*386. **B. viscosa** *Benth.*

Wet pastures near the sea. Very local, but occurring abundantly in one locality. Fl. August, September.

II. Between Burnfoot Station and Inch, on reclaimed land, over an area of about one square mile (*see Journal of Botany, 1883*); in a pasture field at the top of Castle Hill, Buncrana, Mr. J. Hunter (1891). This extends the range from the reclaimed locality. (*J. of B.*, Nov, 1891.)

First record; Hart, 1881. (*Jour. of Bot.*)

387. **B. odontites** *Linn.*

Damp pastures and wet stony waste places. Frequent. Fl. July to September.

Euphrasia *Tournef.* EYE-BRIGHT.388. **B. officinalis** *Linn.*

Pastures, banks, heaths and sandy places. Abundant. Fl. June to October.

From 2400 feet to sea-level. A summit plant.

Interesting, stunted, somewhat fleshy, rigid, and highly floriferous forms occur at Malin Head and other outer exposed headlands.

Rhinanthus *Linn.*389. **R. Crista-galli** *Linn.*

Meadows, banks and pastures. Very common. Fl. June to August.

From 1300 feet to sea-level.

Pedicularis *Linn.* LOUSEWORT.390. **P. palustris** *Linn.*

Bogs, marshes and spongy places. Frequent.

From 1300 feet to sea-level.

390. **P. sylvatica** *Linn.* RED RATTLE.

Damp pastures and heaths. Very common, especially on the mountainous districts. Fl. June to September.

From 2150 feet to sea-level.

Melampyrum *Linn.* COW-WHEAT.392. **M. pratense** *Linn.*

Woods and steep, broken, heathy places on mountains. Frequent. Fl. June to September.

Var. *ericetorum*, *D. Oliv.* Steep, rocky, heathy places, with *Hieracium*, near the north-eastern summit of Knockalla, on the Fanet side; Bluestack Mountains, and about Lough Eske.

It was, perhaps, this variety that was mistaken for the following species by Mr. Corry.

From 2200 feet to sea-level.

[*M. sylvaticum*, *Linn.* has been recorded by the late Mr. Corry, in *Journ. of Bot.*, from Lough Eske, but there is reason to fear his identification was erroneous, and that a variety of *pratense* was really gathered.]

[*Antirrhinum majus*, *Linn.* Established many years on old walls at White House, Killybegs.]

Orobancheæ**Orobanche** *Linn.* BROOMRAPE.

p

393. **O. rubra** *Sm.*

On wild thyme on rocky bluffs near the sea. Rare. Fl. June to August.

III. Fanet Point; on thyme at Tramore sandhills, near Carrigart, near Rosapenna Lough, and at the small bay behind the pier at Downing's and at Crocknaglagh Mt. These last localities, all on Rossgull, for this rare plant are due to the Misses Kinahan. (Plentiful near Downing's, H.C.H., 1893.)

IV. Ards, E. Murphy, *Mag. Nat. Hist.*, I, p.436, 1829.

First record; Murphy, 1829 (as above).

394. **O. Hederæ** *Duby.*

On ivy. Very rare. Fl. July, August.

I. Ivy rocks above Goorey schoolhouse, west of Malin.

III. Shore of Lough Swilly near Drumalla, about a mile and a half from Rathmullan; Brown Knowe Island, about half way between Rae and Ramelton, and on the shore close by, upon ivy; on ivy between old Fort Stewart and the Ferry, the Misses Kinahan.

First record; Sawers, 1864 (*Flor. Ulst.*)

Lentibulariaceæ

Pinguicula *Linn.* BUTTERWORT.

395. **P. vulgaris** *Linn.*

Bogs, wet pastures, heaths and stony places in the mountains. Common.
Fl. June, July.

From 1650 feet to sea-level.

396. **P. lusitanica** *Linn.*

Wet, stony and heathy places in mountain districts. Frequent. Fl. June to August.

From 1000 feet to sea-level.

[*P. grandiflora* has established itself thoroughly in peat-bogs at Carrablagh.]

Utricularia *Linn.* BLADDERWORT.

397. **U. vulgaris** *Linn.*

Marshy lakes, ponds and bogholes. Scarce. Fl. July, August.

I. Bogs at Culdaff, *Flor. Ulst.*

II. Race-course bog, near Derry, *Flor. Ulst*; Craigbog, between Muff and Derry, W.E.H.; bogholes on the east side of the railway near Bridge End, and heavy dykes below Burnfoot.

III. Kindrum.

IV. Lake at Kincashla Point in the Rosses; near Burton port.

V. Railway dykes by the Foyle, between Lifford and Clonleigh; Port Lough, Bogay, west of Londonderry, abundant.

VII. In deep holes by the stream at Bunlin Bar, between Donegal and Ballyshannon; lakes between Cavan Garden and Brown Hall.

VIII. Crumlin Lough, near Killybegs; stream above Killybegs.

398. **U. neglecta** *Lehm.*

VII. In a deep drain on the north side of Carrickahorna Lake, to the north-east of Ballyshannon. Growing with *Myriophyllum verticillatum*. The locality is at the north-west corner of the lake not far from an old house. This specimen was named by Mr. Bennett. The *Myriophyllum* was too young, but appeared to be *verticillatum*.

First record; Hart, *Flora*.

This species has only very recently been discovered in Ireland by Mr. Scully, in the Co. Kerry. Its distribution appears to be western in Europe.

399. **U. intermedia** *Hayne.*

Bogholes, muddy ditches, and very wet peat at low levels. Local. I have never found it in flower.

IV. Lake at Kincashla Point in the Rosses; abundant in the river between Gweedore and Lower Lough Nacung.

VI. By the Gweebarra River below Lough Barra; Sandhill Lakes, north-west from Ardara and in Kiltooris Lake; "Abundant in many spots by the roadside between Gweedore and Glenties," *Flor. Ulst.*; shores of Mullaghderg Lake, Rosses, with *Eriocaulon*.

VII. Bogholes about Lake Unshin, Lake Golagh, etc, west of Ballyshannon, abundant; Brown Hall; Lake Gorman.

VIII. Holes by the River Eske; bogholes between Carrick and Glen on both sides of the road.

I have observed this species for several years in Ireland, but not yet seen the flowers. The buds, or hybernacula, are always to be found in August and September.

From 500 feet to sea-level.

First record; *Flor. Ulst.*, 1864.

400. **U. minor** *Linn.*

Wet, peaty places and bogholes. Frequent. Fl. June to August. Inhabits more exposed, mountainous situations, than the last.

I. Bogholes east of Lough Fadin the Mintiaghs; between Stoolary and Lough Inn, East Inishowen; between Lough Inn and Lough Fad. Abundant.

II. With *U. vulgaris*, near Bridgetown and on the Race-course bog.

III. Lough Golagh and Campbell's Lough, Fanet; Kindrum; Glen Lough, etc. Frequent in the extensive moors. Ballyhork Lake, Fanet.

IV. Bogholes on the shoulders and around the bases of Errigal. Aghla, Muckish and Slieve Snacht west. Common in the Rosses.

V. Port Lough, Bogay, west of Londonderry.

VI. By Gweebarra River below Lough Barra; Kiltooris Lake and lakes near it, north-west from Ardara.

VII. Gap of Barnesmore; bogholes about Breesy Hill, west of Ballyshannon; Lakes between Cavan Garden and Brown Hall; cliff on the River Erne, etc.

VIII. Bogholes between Carrick and Glen on both sides of the road.

From 850 feet to sea-level.

Verbenaceæ

Verbena *Linn.* VERVAIN.

401. ‡ **V. officinalis** *Linn.*

Dry roadsides and waste places. Very rare. Fl. July to September.

VII. Near Termon McGrath's Castle, Pettigo, in one place by the roadside. It has been known in this locality for a number of years by Miss Young, formerly of Lough Eske. There was a compact little colony there, at the time of my visit (1885). On limestone.

The only other record from Ulster is that of a single plant near Belfast. First record; Hart, 1885 (*Proc. R.I.A.*)

Labiatae

Mentha *Linn.* MINT.

402. * **M. piperita** *Sm.* PEPPERMINT.

Roadsides, river banks and damp waste places. Usually near cottages, and not native. Fl. July to September.

II. By the old road between the Scalp, and Inch Road Station; by a cottage near Dunree River mouth, thoroughly established.

III. Roadside between Kindrum and Rawros Ferry, Fanet.

VII. Between Ballyshannon and Donegal and by the Bundrowes bridge, Bundoran.

VIII. Roadside waste places between Tawnawilly Bridge and Lough Eske.

In all cases established from cottage gardens.

403. **M. aquatica** *Linn.*

Watery places. Common. Fl. July to September.

404. **M. sativa** *Linn.*

Wet places. Probably not unfrequent. Fl. July to September.

I became convinced several years ago that this form is undistinguishable from the last species and ceased to record it. It occurs in Fanet at Croghan and elsewhere, usually in drier places, than *M. aquatica*. Unfortunately, I cannot describe its range with accuracy. I have also gathered it near Ballyshannon.

405. ‡ **M. arvensis** *Linn.*

Colonist. Cultivated fields. Frequent. Fl. August, September.

* **M. viridis** *Linn.*

Wet places. Very rare. An escape from cultivation.

V. On the left bank of the Finn, a short distance above Liscooley Bridge. Thoroughly established and apart from cultivation, but probably floated here by a flood. In a marsh by a small pond on the left bank of the Finn River, a hundred yards below Corlacky Burn, above Stranorlar, looking quite wild.

VII. Established by the roadside near Laghy.

Lycopus *Tournef.* GIPSY-WORT.406. **L. europæus** *Linn.*

Ditches and margins of rivers and lakes. Rare. Fl. July, August.

I. Marshy ground close to Greencastle. W.E.H. The locality is between Stroove and Greencastle by the roadside.

III. By the roadside near St. Columbkille's Well, Carrablagh; near Magherawarden, on the western base of Knockalla, in Fanet; roadside ditch between Ballyconnell Bridge and Glentidaly, Glenalla.

VIII. Croaghlinn Lake, and Brockagh Lake, near Killybegs.

Recorded without locality in *Cybele Hibernica*, on the authority of E. Murphy (A.G.M.)

First record with locality; Hart, 1879 (*Jour. of Bot.*)

Origanum *Linn.* MARJORAM.407. † **O. vulgare** *Linn.*

Old walls and stony banks on a limestone soil. Very rare. Fl. July to September.

VII. Limestone ledges of rock near a ruined mill on the right bank of the Erne about a mile below cliff; on an old wall at Brown Hall.

The mill mentioned above was never completed or brought into use, nor was there any cultivation near it. The marjoram has all the appearance of being an older inhabitant than the building, and is probably native.

First record; Hart, 1886 (*Proc. R.I.A.*)

Thymus *Linn.* THYME.408. **T. serpyllum** *Linn.*

Heaths, dry banks, rocky and sandy places. Abundant. Fl. June to August.

The white variety occurs occasionally, usually by the coast.
From 1800 feet to sea-level.

Calamintha *Moench.* CALAMINT.

409. ‡ **C. officinalis** *Moench.*

Limestone banks and waysides. Very rare. Fl. July to September.

VII. Plentiful at a limestone quarry, close to Abbey Assaroe, near Ballyshannon. First recorded by Mr. Allingham.

First record; H. Allingham, 1879? (*Hist. of Ballyshannon.*)

410. **C. Clinopodium** *Benth.* WILD BASIL.

Dry banks or bushy places. Very rare. Fl. July to September.

II. "On the west bank of the Foyle near Londonderry. Sparingly." D.M. *Cyb. Hib.* Mr. More gave me a more accurate version of this record – "by the side of a footpath leading from the road to the River Foyle, at Major Hill's Demesne." After careful enquiries in Derry, I concluded the path here meant was that one which still exists, and leads to the Foyle, between Mr. Watt's and Mr. Gilligan's grounds, to "Hill's Old Pier." I searched this pathway without success for the plant on July 20, 1892.

First record; D. Moore, 1866 (*Cyb. Hib.*)

Nepeta *Linn.* CAT MINT.

411. * **N. cataria** *Linn.*

Waste places. Very rare. Fl. July, August.

III. Thoroughly established about Lower Ballyheerin, Mulroy, Fanet.

IV. Waste ground about ruined cottages near Port-na-blagh, Dunfanaghy.

First record; Hart, 1872. (*Recent Additions*, etc.)

412. **N. glechoma** *Benth.* GROUND IVY.

Woods and hedges. Rare. Fl. April to June.

I. and II. Local. W.E.H. Near Buncrana in two places, Mrs. Leebody; in Inishowen in the Liberties of Derry, Mrs Leebody.

III. Old road to Ardromin near Ramelton, Miss Kinahan; plentiful at Ray, between the bridge and the post office.

?V. Roadside between Lifford and Letterkenny (seen but not gathered, out of blow.)

VII. Very sparingly near Ballyshannon by a lane close to the railway station.

Unexpectedly rare in Donegal, especially in the south-west.

Prunella *Linn.*

413. **P. vulgaris** *Linn.* SELF-HEAL.

Damp pastures, banks and woods. Common. Fl. July, August.

From 1600 feet to sea-level.

Scutellaria *Linn.* SKULL-CAP.

414. **S. galericulata** *Linn.*

Shingly shores of lakes, rivers and bays. Very rare. Fl. July and August.

III. Sparingly by Mulroy lake near Carrowkeel; by a deep drain at the west side of Milford Lake.

V. Near the marsh on the river side of the railway between Port Hall and St. Johnston's, Mrs. Leebody.

VII. Right bank of the Erne about a mile above Ballyshannon; at the point on the margin of Lough Erne where it forms the county boundary; near Ballyshannon by a small stream at an old mill (Pound Bridge).

VIII. Limestone shingle in a little bay between Killybegs and Fintragh.

This somewhat unexpected maritime situation is repeated in Kerry, by the coast between Castletown Bere and Adrigoole.

First record; Hart, 1872 (*Recent Additions*, etc.)

Stachys *Linn.* WOUNDWORT.

415. **S. sylvatica** *Linn.*

Bushy and shady places, and amongst ruins. Frequent. Fl. July to September.

415. **S. palustris** *Linn.*

Cultivated land, ditches, and wet waste places. Very common. Fl. July to September.

A very bad weed throughout the poorer districts and most difficult to get out of the land.

A hybrid between this and the last species occurs at Dunlewy, but it is distinct from *S. ambigua*.

From 800 feet to sea-level.

417. ‡ **S. arvensis** *Linn.*

Colonist. Light or sandy cultivated land. Local. Fl. July to September.

I. Leenane; Glengad Head; Ardmalin and Ardmalin South on the west side of Malin Head.

III. Ballyhooriskey, Croaghross, Drumnacraig, Ballyhork, &c, Fanet; Horn Head.

418. **S. Betonica** *Benth.*

Dry bushy places. Very rare. Fl. July to September.

III. Hilly ground amongst hazel, about 100 yards above Lough Fern shore on the east side. This interesting discovery was made by Mrs. Leebody in July, 1889. I did not hear of it till 1892, and in September of that year I found a considerable patch of Betony in the site indicated. See *J. of Bot.*, Oct, 1892.

In a paper in the *Journal of Botany*, August 1881, I have recorded this species from the shores of the lake near Gweedore below Dunlewy House. But on re-examining my specimens this proved to be erroneous. I forwarded them to Mr. Bennett, and he pronounced them "a hybrid between *palustris* and *sylvatica* but not the typical *ambigua*."

First record; Hart, 1892 (*Jour. of Bot.*)

Galeopsis *Linn.* HEMP-NETTLE.

419. ‡ **G. tetrahit** *Linn.*

Cultivated land on a light soil. Common. Fl. July to September.

420. ‡ **G. speciosa** *Linn.*

Cultivated land. Frequent. Fl. July to September.

I. Common about Carndonagh, Ballyliffin, Clonmany, etc.; Leenane and between that and Bulbein Mt.

II. Buncrana; between Inch road and the Scalp.

III. Arryheernabin and Knockbrack, Fanet; Church Hill.

IV. Horn Head; Tory Island, Mr. Barrington.

V. South bank of the Swilly in several places.

VII. Fields between Ballyshannon and Ballintra.

VIII. In several places, chiefly lowlying fields.

Lamium *Linn.* DEAD-NETTLE.421. **L. purpureum** *Linn.*

Fields and waste places. Common. Fl. May to October.

422. **L. hybridum** *Vill. (L. incisum, Willd.)*

Cultivated fields and waste places. Local. Fl. June to September.

I. Stroove; about Malin and Ardmalin.

III. About Kindrum and Magheradromin, Fanet.

IV. Tory Island, Mr. Barrington; Port-na-blagh, near Dunfanaghy.

Hardly distinct from the last.

423. † **L. intermedium** *Fries.*

Sandy fields and waste places. Local. Fl. June to October.

I. Doagh Island; Ardmalin South; Stroove.

III. Glenalla, farm yard; Ball Green, by Lough Swilly, east of Ramelton.

IV. Port-na-blagh, near Dunfanaghy; Tory Island, R.M. Barrington.

V. Foreland Point on the east side of Lough Swilly, south of Inch Island.

424. † **L. amplexicaule** *Linn.*

Waste ground, borders of fields and roadsides in sandy places. Rare. Fl. May to August.

I. Ardmalin; Doagh Island.

II. Inch Island.

III. Near the Fanet lighthouse in cultivated ground; near Kindrum and elsewhere in Fanet.

IV. Tory Island, Mr. Barrington. Dunfanaghy.

425. * **L. album** *Linn.*

Roadside banks and waste places. Very rare. Fl. May to September.

II. Kilderry, *W.E.H.*

Ballota *Linn.*426. * **B. nigra** *Linn.*

Waste places near houses, &c. Very rare and not native. Fl. July to September.

II. Waste ground at Fahan Railway Station on the Lough Swilly line.

VIII. Between Salthill and Ardnamona by the roadside.

Teucrium *Linn.*427. **T. Scorodonia** *Linn.*

Rocks, bushy places, woods and heaths. Very common. Fl. July, August.

From 1100 feet to sea-level.

Ajuga *Linn.* BUGLE.428. **A. reptans** *Linn.*

Shady damp places and woods. Common. Fl. May, June.

Plantaginaceæ**Plantago** *Plantain.*429. **P. major** *Linn.*

Pastures, waysides and waste places. Common. Fl. June to August.

429. * **P. media** *Linn.*

Very rare. Fl. June to August.

III. Meadow ground at Glenalla near the house; in a similar situation at St. Helen's, Ramelton, the Misses Kinahan. The Glenalla locality dates back probably very many years, but the St. Helen's grass is recent.

[VII. Bell's Isle, Donegal Bay? An old record, which was not positively given to me, and I have not confirmed.]

This plant has held its own amongst the grass for many years at Glenalla. The grass is generally kept cut short, but the plant occurs amongst long grass also, outside the shaven border.

Plantago media occurs in shaven grass amongst shrubs in exactly similar conditions at Baskin Hill, near Malahide, the residence of my friend, the late Rev. F. Tymons, and at Tullymore Lodge, Ballymena, County Antrim, the residence of Dowager Lady O'Neill. In both cases, perhaps, it was originally introduced with English grass-seed. It has been reported from Hollymount House, Mayo; and from Straffan, Kildare, but nowhere else recently.

431. **P. lanceolata** *Linn.* RIB-GRASS.

Meadows, pastures and waste places. Common. Fl. May to July.

A coarse, shaggy form, large in all its parts, grows on grassy sea-cliffs.

A stunted almost minute plant grows on thoroughly exposed slopes facing the West Atlantic (as on Rossgull) where it is often submerged

in heavy volumes of spray. This species, the following, and *P. coronopus* form almost the total sward in such places immediately over the naked rocks. Sheep's Fescue is fourth in importance, but the three Plantains are often the sole tenants and form a compact green turf.

432. ***P. maritima*** Linn.

Salt marshes and lake-shores. Common. Also in dry grassy places at low levels and on the mountains occasionally. Fl. June to August.

Common inland on the limestone district south of Brown Hall, in District VII. (See note at last species); at about 1100 feet on Breaghy, above Lough Altan, with *Saxifraga oppositifolia*.

From 1900 feet (on Slieve League) to sea-level.

433. ***P. coronopus*** Linn.

Pastures, banks and waste places near the sea. Common. Fl. June to August.

From 650 feet on maritime cliffs to sea-level.

Littorella Linn.

434. ***L. lacustris*** Linn. SHORE-WEED.

Margins of mountain lakes. Common. Fl. June to July.

Forms a close sward under the water at a depth of from about two feet to the edge in many lakes.

From 1050 feet to sea-level.

Illecebraceæ

Scleranthus Linn. KNAWEL.

435. ***S. annuus*** Linn.

Sandy waste ground by a roadside. Very rare. Fl. May to September.

I have twice gathered this species by a roadside, upwards of twenty years ago, in Fanet, near Croaghross and near Docrabeen. Since then it never came under my observation in Donegal until the autumn of 1895, when I found it abundant in a stubble on Campbell's farm at Rosskirk, Fanet, about 800 yards north of his house.

First record; 1892, Hart (*Rec. Addit, &c.*)

Chenopodiaceæ

Chenopodium *Linn.* GOOSEFOOT.

436. † **C. album** *Linn.*

Cultivated fields and waste places. Common. Fl. July to September.

437. * **C. Bonus-Henricus** *Linn.* WILD SPINACH.

Roadsides and waste places near houses. Scarce. Fl. June to August.

I. Culdaff, Prof. Dickie; plentiful by the roadside south of Culdaff, and in the village.

II. Shore Lane, Buncrana, J. Hunter.

III. Roadsides at Ramelton.

V. Balleeghan Abbey, on the east shore of Lough Swilly, opposite Castle Wray, and not far from Manor Cunningham; at Pluck, between Lifford and Letterkenny.

VII. Near Belleek by the Erne river; near Ballintra.

VIII. Killybegs.

Beta *Linn.* BEET.

438. **B. maritima** *Linn.*

Cliffs, banks, and rocky or gravelly places along the coast. Frequent. Fl. July to September.

Characteristic of most of the outer headlands from Malin Head westwards. The leaves form an excellent Spinach.

This, like *Jasione montana* and other coast-loving plants, is seldom content with an Estuary, or Lough.

Atriplex *Linn.* ORACHE.

439. **A. patula** *Linn.*

Fields, shingly beaches, yards, and waste places. Common. Fl. June to October.

The varieties *A. augustifolia*, Sm, and *A. erecta*, Huds, are not unfrequent. The former occurs along the coast in various places, as at Fanet lighthouse and on the east shore of Aranmore Island; at Stroove; Ardmalin South; and by the Foyle below Kilderry and Thornhill; on the shore at Donegal, and at Rooney's Island; Inver; St. John's Point.

The latter at Aranmore also.

Sub. sp. A. deltoidea Bab.

Occurs on Aranmore; at Glennagivney; at St. John's Point near Killybegs; and at Fanet Point.

Sub. sp. A. hastata Linn.

Frequent, especially in waste places and along shingly beaches.

440. **A. Babingtonii** Woods.

Abundant by roadsides, stony and waste places along the coast.

The beaches of Aranmore Island are favoured places for *Atriplices*. Silicious or granitic shingle appears to be preferred to limestone.

Salicornia Linn. GLASSWORT.441. **S. herbacea** Linn.

Muddy sea-shores and estuaries. Frequent. Fl. August and September.

Formerly I considered this plant scarce in Donegal, but I find it occurs in most of the suitable localities – so many that it is needless to specify. On an ocean-washed, cliff-bound coast like that of Donegal, there will be wide spaces totally unsuitable for the majority of muddy shore plants.

Suaeda Forsk. SEA BLITE.442. **S. maritima** Dum.

Muddy sea shores. Not common. Fl. July to September.

I. Mouth of Loughinn river, near Carndonagh.

II. Shore at Fahan.

III. Near Rossnakill on Mulroy Lake and between the two ferries; not rare on Mulroy Lake; from Ray upwards on Lough Swilly occasionally; Carrigart.

IV. Burton Port; Ballyness Bay; Dunfanaghy.

V. Balleaghan Abbey on the east shore of Lough Swilly.

VII. and VIII. Shores about Killybegs, Inver, Donegal, etc.

The remark made to last species applies to this also.

Salsola Linn.443. **S. Kali** Linn. PRICKLY SALTWORT.

Sandy sea shores. Local. Fl. August.

I. Culdaff and Malin, Dickie; Malin Estuary; Ardmalin South.

II. Dunree.

III. Bottom Shore, Fanad; Horn Head.

IV. Keadew Strand, near Burton Port; Tramore Strand between Glen and Carrigart.

VIII. Trabane Strand, near Malinbeg; Tawny Bay, near Carrick.

Polygonaceæ

Polygonum *Linn.*

444. † **P. Bistorta** *Linn.* BISTORT.

Wet meadows and pastures. Very rare, and perhaps introduced. Fl. July to September.

III. Meadow by Lough Swilly at Castlewray, Letterkenny. This habitat was given me by the Very Rev. Dean Gwynn, who informs me that the species has grown there as long as can be remembered.

V. By the Reelan water above Reelan bridge in profusion, Mrs. Leebody. Appears native in this station where it was discovered by Mrs. Leebody in 1889; by the Finn river below Killygordon, looking thoroughly wild.

First record; Hart, 1881. (*Jour. of Bot.*)

445. **P. viviparum** *Linn.*

Ledges of cliffs and damp soil in alpine situations. Very rare. Fl. June to August.

I. Bulbein Mt, at 1500 feet in several places.

VIII. Slieve League at about 1300 feet above sea-level, sparingly.

From 1500 feet to 1310 feet.

First record; Hart, 1880. (*Jour. of Bot.*)

446. **P. amphibium** *Linn.*

Still water, slow streams and marshy places. Common. Fl. June to August.

447. **P. lapathifolium** *Linn.*

Cultivated fields in sandy or peaty soil. Frequent in the poorer districts. Fl. July and August.

448. **P. Persicaria** *Linn.*

Cultivated fields, roadsides and waste places. Very common. Fl. June to September.

449. **P. Hydropiper** *Linn.* WATER PEPPER.

Watery or damp places. Common. Fl. August and September.

450. **P. minus** *Huds.*

Damp, sandy or gravelly places. Very rare. Fl. July to September
(*Fl. of N.E. Ireland*).

I. Near Malin well, Flora of Ulster.

IV. Between Gweedore and Dunglow. Flora of Ulster.

First record; *Flor. Ulst*, 1864.

I have not succeeded in verifying either of these stations, nor have I found the plant elsewhere in the county. But as the records quoted above are both due to Dr. Dickie, I have little doubt they are correct.

451. **P. aviculare** *Linn.* KNOTGRASS.

Waysides and waste ground. Common. Fl. June to September.

The var. *P. littorale*, *Link* occurs.

452. **P. Raii** *Bab.* (P. ROBERTII, LOISEL.)

Sandy sea-shores. Scarce. Fl. July to September.

I. Malin, Dickie; between Dunargas and Malin Estuary.

III. Between Carrigart and Sheephaven Bay.

IV. Near Dunfanaghy.

VI. Coast of Boyleagh promontory, north-west of Ardara, in several places.

VII. Shore near Bundoran.

VIII. Trabane strand, near Malinbeg; coast of Iner Bay, below Dunkineely.

453. ‡ **P. Convolvulus** *Linn.* BLACK BINDWEED.

Cultivated fields and waste places in sandy or peaty soil. Common. Fl. July to September.

Rumex *Linn.* DOCK.

454. **R. obtusifolius** *Linn.*

Damp fields, waste ground and by water. Common. Fl. July to September.

455. **R. crispus** *Linn.*

Roadsides, waste places and by the sea-shore. Frequent. Fl. June to August.

456. **R. sanguineus** *Linn.*

Hedges, borders of woods and damp shady places. Frequent. Fl. July, August.

Only with green, not red nerves.

457. **R. conglomeratus** *Murr.*

Fields, borders of water and waste places. Frequent. Fl. July and August.

458. **R. Hydrolapathum** *Huds.*

Margin of a river. Very rare. Fl. June to August.

[II. The record given for Fahan (*Jour. Bot*, August 1881), was erroneous.]

VII. In several places from one to two miles up the right bank of the Erne from Ballyshannon, and again at Cliff, nearer to Belleek.

First record (correct); Hart, 1885 (*Proc. R.I.A.*)

459. **R. Acetosa** *Linn.* SORREL DOCK.

Meadows, pastures, mountains and damp shady places. Common. Fl. May, June.

From 2460 feet to sea-level. A summit plant.

460. **R. Acetosella** *Linn.*

Sandy, peaty or stony places, especially in the mountain districts. Very common. Fl. June to September.

From 2460 feet to sea-level. A summit plant.

Oxyria *Hill.*461. **O. digyna** *Hill.* **O. reniformis** *Hook.* KIDNEY SORREL.

Gullies, rocks and rivulets in alpine situations. Rare. Fl. July, August.

IV. Poisoned Glen, Dunlewy; in gullies on the north-west side of the mountain east of Slieve Snacht west at about 1800 feet, in company with *Saussurea alpina*, *Saxifraga oppositifolia*, *Thalictrum alpinum*, and near to *Lycopodium alpinum*, *Salix herbacea*, and *Carex rigida*.

VIII. Slieve League from 1550 feet to 1000 feet above sea-level.

From 1800 feet to 900 feet.

First record; Hart, 1879 (*Jour. of Bot.*)

[*Fagopyrum esculentum* (Buckwheat). Occurs occasionally as an introduced species. In a field with vetches, Moynalt, Laghy.]

Euphorbiaceæ

Euphorbia *Linn.* SPURGE.

462. ‡ **E. Helioscopia** *Linn.*

Colonist. Roadsides and cultivated land. Frequent. Fl. June to September.

Increasing in the inland and the richer districts, and common westwards.

463. † **E. amygdaloides** *Linn.*

Shady woods. Very rare. Fl. April to June.

III. Woods at Glenalla, where it has been known to exist for fifty years or thereabouts. It occurs in small quantities in two or three places and does not seem to increase. In recent years these places look more open to suspicion than they did formerly since rhododendrons and other exotics have been planted along newly made paths close by.

First record; Hart, 1879 (*Jour. of Bot.*)

464. ‡ **E. Peplus** *Linn.*

Colonist. Cultivated fields and waste places. Fl. July to September. More frequent than *E. Helioscopia* in the poorer districts.

465. ‡ **E. exigua** *Linn.*

Colonist. Cultivated fields. Rare. Fl. June to August.

I. By a ditch near Greencastle, W.E. Hart.

II. Fields on Inch Island, near the old castle.

III. Carrablagh, Fanet; fields between Lough Fern and Lough Keel; waste ground near the sea between Aughnish Island and Ramelton.

Uncertain and casual in its appearance, but always sparingly to be found in some of the better cultivated neighbourhoods, as about Ramelton.

466. **E. portlandica** *Linn.*

Sandy and rocky sea shores. Rare. Fl. May to August.

I. Base of cliffs westwards of Knockglass, Malin. *Dickie.*

II. Sandy ground, Clonmanny, J.H.

III. Bottom Shore, Fanet; Melmore Head, Rossgull; very abundant at the north-east corner of Tranarossan Bay, in Rossgull.

IV. Horn Head, near Horn Head House, and at Tramore strand in several places; Breaghy Head.

VII. Sandhills south of Carrickfad, between Donegal and

Ballyshannon; near Ballyshannon to the north-west; between Ballyshannon and Bundoran.

First record; Dickie, 1864 (*Flor. Ulst.*)

467. **E. Paralias** Linn.

Sandhills by the sea. Very rare. Fl. June to August.

III. Bottom Shore, Fanet, in one place only. (1891.)

First record; Hart, 1891 (*Jour. of Bot.*)

468. **E. hiberna** Linn.

Thickets and bushy places. Very rare. Fl. June to August.

II. Near the mouth of the Dunree river, where it was found by R. Brown about 1796, and rediscovered in 1891 Mr Hunter. (*Jour. of Bot*, Nov. 1891.)

Abundant for a couple of miles up this river, August 1893.

The rediscovery of this highly interesting plant in Robert Brown's old locality is most satisfactory. It has eluded the search of all subsequent botanists for a century, which is all the more strange since it occurs here plentifully. The locality is, however, a remote and somewhat unexpected one. Mr. Hunter sent me some withered remains in September, 1891, but was doubtful of the species, never having before seen it. However I had no doubt of the plant, and in the course of a few days visited the spot (in October) to find abundant and unmistakable remains. I have since examined its whole range.

First record; R. Brown, *circa* 1796.

Urticaceæ

Ulmus Linn. ELM.

469. **U. montana** With. WYCHELM.

Woods and glens. Very rare where native. Fl March to May.

III. Woods at Ray, Glenalla and elsewhere. Probably planted.

VII. Apparently native about Brown Hall and in the limestone glens of Moynalt, near Laghy.

VIII. Lowerymore Glen, a couple of miles above Lough Eske. Growing here in native thickets of oak, holly, birch, mountain ash, hazel, ash, and alder.

Urtica *Linn.* NETTLE.470. † **U. urens** *Linn.*

Waste places about houses in a light soil. Frequent. Fl. June to September.

471. † **U. dioica** *Linn.*

Hedges, roadsides and waste places. Chiefly near houses. Common. Fl. June to August.

Neither of the nettles appear to me to be indubitable natives. They are never met with except in connection with human operations.

In the south-west the common nettle has the strongest claim.

Parietaria *Tournef.* PELLITORY.472. ‡ **P. officinalis** *Linn.*

Old walls and ruins. Very local. Fl. June to September.

I. Redcastle, near Moville, and Redcastle bridge; at Moville on walls by a little stream.

II. Walls of Londonderry; Culmore Fort; walls on the shore of the river Foyle, north of Derry.

Humulus *Linn.* HOP.473. * **H. Lupulus** *Linn.*

Waste, stony places. Rare and not native. Fl. June, July.

III. Carrablagh.

VIII. Near Carrick, below the bridge over the Aughra River; quite at home in a wild-looking situation; near Ballybogan, Donegal, Admiral Jones, *Cyb. Hib.*

Myricaceæ**Myrica** *Linn.*474. **M. Gale** *Linn.* GALE. BOG MYRTLE.

Bogs and moors. Common. Fl. May to July.

From 1000 feet to sea-level.

Cupuliferæ

Betula *Linn.* BIRCH.

475. **B. alba** *Linn.* (**B. glutinosa** *Fries.*)

Glens, banks of streams and native woods in mountainous districts. Frequent. Fl. April, May.

From 850 feet to sea-level.

Alnus *Tournef.* ALDER.

476. **A. glutinosa** *Gaert.*

Damp woods and thickets and by streams and lakes. Common, but much planted and at once establishing itself. Fl. March, April.

Quercus *Linn.* OAK.

477. **Q. Robur** *Linn.*

Mountain glens, native woods and steep banks above the sea. Common. Fl. April, May.

A stunted form occurs along the rocky coasts of Lough Swilly in Fanet in several places, and also in Inishowen by Lough Foyle. Patches of oak forest occur at Carradoan near Rathmullan; in Glenveagh; about the south end of Mulroy; near Carndonagh; near Magheragh, Ardara, etc.

‡ *Var. sessiliflora*, Salisb.

Cliff, by the Erne, near Belleek.

From 850 feet to sea-level. Croaghanacleragh, Ardara, 850 feet.

Corylus *Tournef.*

478. **C. Avellana** *Linn.* HAZEL.

Thickets, woods and rocky banks. Common. Fl. March, April; and occasionally in December, January, in a mild winter.

Hazel-nuts are not unfrequently found in deep turf-bogs. I have several that were dug up at Greenfort, Fanet, in 1888. They are all blind. A great quantity occur on the shores of a partially drained lake in Ballyhork, Between Waters, Fanet.

From 850 feet to sea-level.

Salicineæ

Populus *Tournef.* POPLAR.

479. **P. tremula** *Linn.* ASPEN.

Mountain glens and rocky woods, and along the coast. Frequent. Fl. March, April.

I. Inishowen Head; Glennagivney; Malin; Binnion, etc.

III. Sea-banks at Carrablagh and elsewhere, Fanet; Bunlinn, near Milford; Ardromin, Ramelton; Glenlough.

IV. Barra River and Glenlough.

VI. Barra River.

Usually a scrubby bush, but at Glenlough it grows as a tree to over twenty feet.

Salix *Linn.* WILLOW.

480. **S. pentandra** *Linn.*

Spongy, marshy places by streams and ditch banks. Local. Fl. May, June. Appears to be native in the south-western districts.

I. By the stream above Moville; between Carndonagh and Moville.

III. Glenalla.

VII. and VIII. Abundant in upland districts, especially about Pettigo, Donegal, and Ballyshannon. It is much used for holding bog-ditches together and along roadsides, and has all the appearance of being native. Along the streams between Pettigo and Lough Erne this willow forms a tree 25 to 30 feet in height, with a stem 15 inches in diameter.

From 500 feet to low-levels.

481. ‡ **S. fragilis** *Linn.* BEDFORD WILLOW. CRACK WILLOW. WITHY.

Hedges and marshy ground, much planted. Fl. April to June.

I. Glentogher River; between Moville and Carndonagh.

III. Looking wild and thoroughly established on the shores of Glenlough; about Carrowkeel in Fanet.

VII. By the Termon River above Pettigo.

482. ‡ **S. alba** *Linn.*

Marshy places and by streams. Not common, and perhaps everywhere planted. Fl. April to June.

I. Glentogher River; Long Glen above Glennagivney.

II. Gallagher Road, Inishowen.

III. About Rathmullan.

IV. By a stream from Muckish towards Creeslough.

483. * **S. purpurea** Linn.

Hedges and wet banks. Frequent in some districts. Fl. May.

I. Mintiagh to Carndonagh; Long Glen above Glennagiveny. The specimens from Glennagiveny (which I submitted to Mr. Bennett) came from a wild locality.

III. About Drumfad, Fanet.

V. By the Finn below Reelan Bridge.

VIII. Mouth of Loughhead River, near Killybegs.

VII. and VIII. In many places about roadsides in Donegal and Killybegs. Probably always planted.

484. ‡ **S. rubra** Huds.

River banks, hedges and roadsides. Local and hardly native. Fl. March, April.

III. Near Lough Gartan; about Lough Fern and between Ray and Rathmullan.

IV. By the Bullaba River above Lough Gartan, looking quite native; Owenwee River and at Glendowan.

VII. Roadsides between Donegal and Laghy.

VIII. By the Eske River below Lough Eske.

Occasionally elsewhere where planted, and certainly introduced in most of the above stations, but has established itself.

485. ‡ **S. viminalis** Linn. OSIER.

Ditches, by streams and in wet places. Frequent, but much planted, and a doubtful native. Fl. April and May.

486. † **S. Smithiana** Willd.

Hedges and river banks. Frequent. Fl. April, May.

487. **S. cinerea** Linn. BLACK SALLOW.

Wet places and natural woods. Very common. Fl. March to May.

Far the commonest willow.

From 800 feet to sea-level.

A willow with sharply-toothed leaves, gathered by the Owengarve River, near Martin's Bridge, is referred by Mr. Bennett to *S. cinerea* x *S. aquatica*.

488. **S. aurita** Linn.

Wet thickets, heaths and moors. Very common. Fl. April, May.

From 1250 feet to sea-level.

489. † **S. Capraea** Linn. COMMON SALLOW. GOAT WILLOW.

Steep banks, roadsides and woods. Local and rare as a native. Fl. April, May.

I. Steep banks by the Foyle a couple of miles south of Moville; Ballyliffin; Carndonagh to Moville.

II. Between the Mintiaghs and Bunrana (a hybrid between this and *S. cinerea* apparently, occurs here).

III. Bunlinn Bridge and Cratlaugh wood at the head of Mulroy.

VII. and VIII. Along roadsides near Donegal, Killybegs, Belleek, etc, along the Eanymore Water; by the Erne and the Eske. Often planted.

From 700 feet to sea-level.

A willow by the roadside in a mountain glen at the base of Croghanacleragh near Ardara (on the way to Killybegs) is apparently a hybrid *S. capraea* x *nigricans*, according to Mr. Bennett. This is the only direct evidence I have obtained of *S. nigricans* in Donegal.

490. **S. repens** Linn.

Dry banks and sandy or peaty ground near the sea; and on mountain moors. Very common near the sea. Much less so inland. Fl. April, May.

The forms *prostrata* and *argentea* are frequent. The latter carpets a large area amongst the wide extent of sandhills between Ballyshannon and Bundoran. The var. *parvifolia* occurs in Fanet (Rosskirk) and along the Erne River, etc.

From 800 feet (higher on Muckish?) to sea-level.

491. **S. phylicifolia** Linn.

Glens and rocky places in mountain districts. Very rare. Fl. April, May.

III. Shore of Glen Lough between the Lackagh River and Glen.

Probably occurs elsewhere, but although continually on the watch for it, I have not found this willow except at Glen Lough. Mr. Bennett, to whom I sent specimens, pronounced it "*S. phylicifolia*, for certain." I have gathered it but once before in Ireland, on Mweelrea, in Mayo.

Some of the localities given for this plant (and *S. nigricans*) in Ireland need confirmation.

First record; Hart, *Flora*.

492. **S. herbacea** *Linn.*

Bare crevices, peaty places and ledges of rocks at the summits of mountains and in alpine situations. Not rare in suitable places. Fl. June, July.

I. Bulbein Mt; Erris Mts; Coolcross at 870 feet.

II. Slieve Main.

III. Knockalla on the Fanet side, close to the summit (1200 feet).

IV. Errigal. Muckish, Dooish, Slieve Snacht West, Slieve Snacht Beg, etc.

VI. Aghla mountain, near Lough Finn.

VIII. Slieve League, from near the summit (1900) to 1500 feet above sea-level; Slieve-a-Tooeey; Alt mountain, near Ardara; Binbane and Carnaween between Donegal and Glenties; Croaghnacarkfree near Martin's Bridge (see under *Lycopodium alpinum*).

From 2400 feet to 870 feet above sea-level.

Ceratophylleæ

Ceratophyllum *Linn.* HORNWORT.

493. [**C. demersum** *Linn.*

V. "Marsh by the side of the Foyle above Derry, Dr. Moore." *Flor. Ulst.*

I have not found out whether this record refers to the Donegal or Derry side of the Foyle. Nor have I rediscovered the species, which is very rare in Ireland. The evidence is, perhaps, in favour of the Donegal side since there is (or was) much more marshy ground on the west side of the Foyle than on the east, above Derry].

Empetraceæ

Empetrum *Linn.*

494. **E. nigrum** *Linn.* CROWBERRY.

Mountains, moors and peaty rocky places by the sea. Common. Fl. April to June.

From 2150 feet to sea-level.

Coniferæ

Juniperus *Linn.* JUNIPER.

495. **J. communis** *Linn.*

Mountain glens, and sheltered copses near the sea. Very rare. Fl. May.

III. Greenfort, Fanet.

IV. Glenveagh, reaching 10 to 15 feet in height.

VII. Right bank of the Erne between Ballyshannon and Belleek; in a mountain glen running southwest from Barnesmore about a mile from the summit.

496. **J. nana** *Willd.*

Rocky hillsides, dry banks by the sea and barren stony situations, and on sandhills.

Frequent, especially westwards in the county. Fl. May, June.

From 1750 feet to sea-level.

Commonest in the dry rocky hills, and in the Donegal Highlands. In the south-west of the county *J. nana* occurs on Bulbin Mt, near Ballyshannon; sea cliffs at Slieve League, Malinbeg, and Killybegs to Fintragh; and on limestone hills from Ballyshannon to Brown Hall.

I had thought at one time the prostrate habit was due to exposure, but if it be so it has become inherent. There is native Juniper in places now well sheltered at Carrablagh, but it refuses to quit its procumbent habit.

[**Pinus** *Linn.* PINE.]

P. sylvestris *Linn.* SCOTCH FIR.

Although now extinct, the Scotch fir was very abundant during the formation of the peat in Donegal, as elsewhere in Ireland.

I have several times obtained the cones in dug-out bogs after a diligent search, in Fanet and at Glenalla. They always occurred rather freely where they did occur, and belonged to this species only.]

Taxus *Linn.* YEW.

497. **T. baccata** *Linn.*

Wooded glens and mountainous situations. Very rare. Fl. March.

IV. East side of Glenveagh; formerly abundant here. Thick logs are often dug out of the peat.

VI. On an island in a lake in the Rosses, to which it gives its name, Lough-an-Ure – the Lake of the Yew. No doubt it was originally plentiful about this lake which is of some extent. In 1878 I swam to the island to make certain of the species.

MONOCOTYLEDONES

Hydrocharideæ

Elodea *Mich.*

498. * **E. canadensis** *Mich.* WATER THYME.

Still waters, canals or slow-running streams. Recently introduced. Fl. July to October.

VII. Plentiful in the Erne, between Ballyshannon and Belleek, in still reaches; at the mouth of the Termon River into Lough Erne below Pettigo; Bundrowes River near Bundoran.

Orchideæ

Neottia *Linn.*

499. **N. Nidus-avis** *Rich.* BIRDSNEST ORCHIS.

Parasitic on the roots of various trees. Very rare. Fl. June and July.

IV. "Ards wood, Donegal, M. Murphy." Grows here under beech trees by the avenue near the garden wall.

VII. Brown Hall, the residence of Major Hamilton.

First record; M. Murphy, 1872 (*Recent additions*, etc.)

Listera *R. Br.* TWAYBLADE.

500. **L. ovata** *R. Br.*

Thickets, woods and damp pastures. Frequent. Fl. June to August.

I. Leenane; Glennagiveny Bay.

II. Buncrana, etc.

III. Glinsk, Leerig-a-cloghan and Kindrum, Fanet; Rossgull, frequent, Miss Kinahan; River Lennan above Lough Fern; Fort Royal, Rathmullan; Ramelton; Macamish Pt.

IV. Near Creeslough; Horn Head; Ards; Bullaba River.

VI. Kincashla Point, Rosses.

VII. Rooney's Island, near Donegal; Brown Hall; Cliff, on the Erne.

VIII. Glen Bay and Fintragh Bay in wet sandy pasture ground;

amongst alpine plants at Slieve League, at 1470 feet; Lowerymore Glen, above Lough Eske.

From 1470 feet to sea-level.

501. **L. cordata** *R. Br.*

Under heather on mountains. Not rare but easily overlooked. Fl. May to July.

I. "Bulbein Mountain, County Donegal, R. Brown, Esq." *Flor. Ulster*; Erris Mountains near Dunree; above Lough Naminn at the south-east corner; Stoolary, south of Carndonagh, etc.

II. Kilderry and Fahan, W.E. Hart.

III. Summits of Knockalla and Murren, Fanet; Croghanmore and other mountains, near Rathmullan; Aughterlinn; summit of Lough Salt Mountain; Glenalla.

IV. Muckish in many places, ranging up to 1900 feet above sea-level; Horn Head, *Flor. Ulst.*

VIII. Slieve League, in several places; Slieve-a-Tooev. Recorded from Slieve League by Professor Dickie, *Flor. Ulst.* It occurs here close to the summit, 1900 feet above the sea.

From 1900 feet to sea-level or near it.

Epipactis *Rich.* HELLEBORINE.

502. **E. latifolia** *Sw.*

Woods and thickets. Rare. Fl. July to September.

II. Castle Woods, Buncrana, Mr. J. Hunter.

III. Sparingly in Cottian Wood, near Kilmacrenan.

IV. Woods at Ards.

VII. Brown Hall.

VIII. The Hall, Mount Charles; Ardnamona and Lough Eske Castle Woods, where it is three feet high.

First record; Hart, 1872 (*Recent Additions*, etc.)

503. **E. palustris** *Linn.*

Boggy glades and wet sandy ground. Very rare. Fl. July.

IV. Eastern side of Horn Head, near the Islands.

VI. Wet, sandy ground near a shallow lake below the "Standing Stone" in Boyleagh, north-west of Ardara.

VII. Meadow lands of Wardtown, 1½ miles west of Ballyshannon, close to where a road runs down to the sea.

VIII. Plentiful in a glade at Ardnamona, Lough Eske.

First record; Prof. E. Murphy, 1866 (*Cyb. Hib.*)

Cephalanthera *Rich.*

504. **C. ensifolia** *Rich.*

Damp woods at low levels in mountain districts. Extremely rare. Fl. June, July.

VIII. Ardnamona Wood, where it was originally discovered by Mrs. Brooke, of Lough Eske. I gathered it here in 1885, '86.

First record; Mrs Brooke, 1866 (*Cyb. Hib.*)

Orchidaceæ

Orchis *Linn.*

505. **O. mascula** *Linn.*

Damp pastures, thickets, banks and borders of woods. Common. Fl. April to June.

506. **O. latifolia** *Linn.*

Marshes, wet fields and meadows. Common. Fl. June to August.

Comes into flower later and lasts later than the next species.

507. **O. incarnata** *Linn.*

Marshy meadows and wet sandy pastures, chiefly near the sea. Frequent. Fl. end of May to July.

508. **O. maculata** *Linn.*

Moors, meadows and wet pastures. Very common. Fl. June, July.

From 1950 feet to sea-level.

509. **O. pyramidalis** *Linn.*

Sandhills, sandy pastures near the sea and meadows on limestone. Local and rare. Fl. July, August.

I. Sandhills at Greencastle, W.E. Hart.

III. In several places on the Bottom Shore sandhills, and between Kindrum and Ballyhernan, Fanet; near Rosapenna Lough, Carrigart,

Miss Kinahan; Fort Royal, near Rathmullan; Port Salon Golf Links, close to the Twelfth Hole.

IV. Marble Hill, near Dunfanaghy; near Horn Head House.

VI. Sandhills north-west of Ardara.

VII. Meadows by the Erne a little below Cliff; limestone bluffs across the Erne opposite Ballyshannon.

VIII. Between Magheragh and Slieve-a-Tooev on sandhills by the sea.

Habenaria *R. Br.*

510. **H. conopsea** *Benth.*

Peaty pastures and thickets, and in sandy grassy places near the sea. Local. Fl. June to August.

I. Glennagiveny; Glentogher; Leenane.

II. A little north of Ned's Point, Buncrana.

III. Glinsk and in fields under Lerrig-a-cloghan, opposite Kindrum, Fanet; several places in Ross Gull, Miss Kinahan; Macamish Pt; Ballyhork and Lerrig-a-cloghan, Mulroy.

IV. Horn Head; Marble Hill, near Dunfanaghy.

V. By the Deel River between the Foyle and Ballindrait.

VI. Kincashla Point, Rosses.

VII. By the Erne; between Cavan Garden and Brown Hall; by the Termon River above Pettigo; Wardtown, west of Ballyshannon.

VIII. Tawny Bay near Carrick.

From 800 feet to sea-level.

511. **H. albida** *R. Br.*

Mountain pastures at low levels. Scarce. Fl. June to July.

I. Near Greencastle, W.E. Hart.

II. Near Buncrana, J. Hunter.

III. Carrablagh, Seven Arches, rare in Fanet; Glen Lough, Croaghroe, Carn Hill near Ramelton, near Leck, and in Rossgull, Miss Kinahan; east side of Lough Fern a little above the lake.

IV. At 950 feet above sea-level in the Poisoned Glen in company with *Oxyria*, *Saxifraga oppositifolia*, etc.

VI. Sandy hillocks near Kincashla Signal Tower, to the south-east.

VII. At Cliff, near the Erne, below the house; on slopes of the hill crossing from Templecarn to Ballyshannon road, Miss Young.

VIII. By the Eske River, left bank, above "Thrushbank Bridge".

From 800 feet to sea-level.

512. **H. viridis** *R. Br.*

Sandy and heathy pastures, chiefly near the sea; also in spongy rills. Local, but common in several districts. Fl. June to August.

I. and II. Not rare.

III. Common along bluffs above Lough Swilly and elsewhere in Fanet; Ardromin, Miss Kinahan; common on Rossgull.

IV. Base of Muckish, south and east sides; shore near Templecrone, three miles west of Dunglow.

V. By the Swilly, above Swilly Bridge.

VI, VII, VIII. Frequent, especially on grassy headlands and pastures near the sea; and in spongy places by rivers.

513. **H. bifolia** *R.Br.*

Heathy and wet pastures. Scarce. Fl. June, July.

I. Glentogher.

III. About Ardromin, in several places; near Doaghbeg, Fanet; by Milford Lake on the east side; east side of Lough Fern.

V. By the Reelan Water.

VII. Cliff on the Erne.

VIII. Glen Bay.

514. **H. chlorantha** *Bab.*

Wet places, by woods and thickets, in mountain districts, and in meadows. Frequent. Fl. July, August.

Irideæ

Iris *Linn.*

515. **I. Pseud-acorus** *Linn.*

Marshy places. Common. Fl. June, July.

From 730 feet to sea-level.

516. * **I. fœtidissima** *Linn.* STINKING IRIS.

Banks and thickets. Rare and not native. Fl. June, July.

III. Abundantly established, and assuming a native appearance by the shore, at Rathmullan House.

VII. Abundantly established at Brown Hall.

Liliaceæ

Allium *Linn.*

517. **A. vineale** *Linn.* CROWGARLIC.

Meadows, pastures and banks. Very rare, Fl. May, June.

V. Four miles south of Derry, by the Foyle, near the railway.

First record; Hart, *Flora*.

518. * **A. ampeloprasum** *Linn.*

Stony banks and waste places. Rare. An escape from cultivation. Fl. July to September.

III. Near Doaghbeg, Fanet; between Ray and Rathmullan; between Kilmacrenan and Paddy Murray's Inn. Thoroughly established, and looking wild in Fanet.

VI. Near Burton Port.

VIII. North side of Inver Bay, on the coast.

This may be the outcome of a native form.

519. **A. ursinum** *Linn.* RAMSONS.

Woods and thickets. Very local. Fl. May, June.

II. Ned's Point, near Buncrana; Glengollen, Fanet.

III. Woods at Rathmullan and Glenalla; woods between Ray and Rathmullan.

IV. Sparingly in Glenlack, a tributary of Glenveagh; by a stream from Muckish, near Creeslough.

VI. In a natural wood, about a mile above Russell's Ferry, on the south side of Gweebarra Bay.

VII. Woods at Brown Hall; woods, hedges and thickets about Camlin, near the Erne.

VIII. Lough Eske Castle Woods; Eanymore Water, below Drumagraa Bridge, on the left bank; Lowerymore Glen, above Lough Eske; by the Owentogher River, below Ivy Bridge.

Scilla *Linn.* WILD HYACINTH.

520. **S. nutans** *Sm.* BLUE-BELL.

Woods, thickets and steep grassy banks by the sea. Common. Fl. May, June.

Narthecium *Huds.*

521. **N. ossifragum** *Huds.* BOG ASPHODEL.

Wet places on peat. Very common. Fl. June to August.

The red capsules of this pretty species are very attractive in autumn.
From 1400 feet to sea-level.

Junceæ**Juncus** *Linn.* RUSH.

522. **J. bufonius** *Linn.*

Wet places by roadsides, and in damp sandy ground. Common. Fl. July and August.

From 1100 feet to sea-level.

523. **J. squarrosus** *Linn.*

Heaths and moors. Very common. Fl. June to August.

From 2150 feet to sea-level.

524. **J. compressus** *Jacq.*

Wet places near the sea. Frequent, but usually the following form, from which it is hardly distinct. Fl. July, August.

525. **J. Gerardi** *Loisel.*

Frequent by the sea-coast. Fl. June to August.

526. **J. glaucus** *Ehrh.*

Damp grassy places on a sandy soil, especially on limestone near the sea. Very local. Fl. July and August.

VII. About Ballyshannon and Bundoran; along the River Erne; by the Termon River, near Lough Erne.

VIII. About Donegal, Dunkineely, and Killybegs; along the River Eske.

First record; 1866 (*Cyb. Hib.*)

527. **J. effusus** *Linn.*

Moist places. Common. Fl. July, August.

From 2150 feet to sea-level.

528. **J. maritimus** *Linn.*

Salt marshes. Frequent in suitable places, round the coast, and abundant in muddy estuaries. Fl. July and August.

529. **J. supinus** Moench. (*J. uliginosus* and *J. fluitans*)

Bog holes, bogs and in water. Very common. Fl. all summer.

From 2200 feet to sea-level.

530. **J. lamprocarpus** Ehrh.

Wet places, especially on a sandy soil, and amongst sandhills by the coast. Frequent. Fl. July to September.

Var. J. nigritellus. (Not of Don.)

On the sands near Ballyliffin, north of Carndonagh, Inishowen. Mr. Bennett decided this form for me.

531. **J. obtusiflorus** Ehrh.

Wet places on limestone. Very rare. Fl. July, August.

VII. By "Washpool" Stream, a little north of Ballyshannon; edges of lake north of Cavan Garden; lakes between Brown Hall and Cliff; by a small pond in rocky limestone ground near Ballyshannon; on the south side of the River Erne; Wardtown, and plentiful by the stream from Carricknahorna to Ballyshannon Estuary; Camlin, along the Erne; Lough Keenaghan, 2½ miles east by north from Belleek. This locality extends to District X. (Fermanagh). Roshin Lough, about four miles east by north from Ballyshannon.

Only on limestone.

First record; Hart, 1886 (*Proc. R.I.A.*)

532. **J. acutiflorus** Ehrh.

Marshy places, low-lying bogs, and by rivers. Common. Fl. June to August.

Especially abundant in the south-west.

From 1050 feet to sea-level.

Luzula D.C. WOODRUSH.

533. **L. maxima** D.C.

Hilly woods, heathy banks or precipices by the sea, and rocky bluffs on mountains. Common where suitable places occur. Fl. May, June.

From 2460 feet to sea-level.

534. **L. pilosa** Willd.

Wooded places, glens and thickets. Rather scarce. Fl. April, May.

II. Kilderry, W.E. Hart; Thorn Hill, north of Derry.

III. Glenalla; woods by the Lennan above Ramelton; glen above Carrowkeel; Bunlinn; Cottian wood near Kilmacrenan; Ardromin near Ramelton.

V. Bogay, near Londonderry, W.E. Hart.

VII. Woods at Cliff, by the Erne.

VIII. Lough Eske woods.

From 600 feet to sea-level.

535. **L. campestris** *Willd.*

Pastures, heaths, moors and bogs. Common. Fl. April to June.

From 2460 feet to sea-level.

536. **L. multiflora** *Lej.*

Bogs, moors and mountains. Common. Fl. June, July.

From 2460 feet to sea-level.

Eriocauloneæ

Eriocaulon PIPEWORT.

537. **E. septangulare** *With.*

Moorland lakes at low level. Rare. Fl. August.

VI. In several lakes in The Rosses; Lake Aleck More, south of Dunglow; Kiltorris Lake, near Ardara; Mullaghderg Lake, near Kincashla, where it grows and flowers in mud amongst grass, etc, above the margin of the water.

First record; "abundant in the lakes of the Rosses," E. Murphy, *Mag. Nat. Hist.* Vol. I, p.436, 1829.

Typhaceæ

Typha *Linn.* REEDMACE, CAT'S-TAIL.

538. **T. latifolia** *Linn.*

Margins of lakes and slow rivers. Local. Fl. July, August.

III. Kindrum and Tamney Lakes, Fanet; lake at Melmore Point; by the river Lennan, near Ramelton; Milford Lake; Ballyarr.

V. By the Foyle, near Lifford.

VII. Near Bundoran; Brown Hall; Carricknahorna, north-east of Ballyshannon.

VIII. Lake Unshagh, near Slieve League; Owentogher River, above Ardara (8 feet high).

539. **T. angustifolia** *Linn.*

In quagmires and shallow water by lakes. Very rare. Fl. July, August.

III. South shores of Rinboy Lake and Kindrum Lake in Fanet; sparingly on south-eastern shore of Kinnylough, Fanet; abundant at the north-west end of Kinnylough.

First record; Hart, 1887 (*Jour. of Bot.*)

Sparganium *Linn.* BUR-REED.

540. **S. ramosum** *Huds.*

Ditches, slow streams and pools. Frequent. Fl. June, July.

Scarce in the remoter maritime districts, but occurs at Malin in Inishowen; Bedlam, near Ballyness Bay, etc.

From 600 feet to sea-level.

541. **S. simplex** *Huds.*

Ditches, marshy margins of lakes and slow streams. Not unfrequent. Fl. July, August.

I. In a small lake in Mamore Gap, by the roadside; Loughinn river, below Carndonagh.

III. Bran Lough, near Ballymagahy, Kindrum and Tamney Loughs, Fanet.

VI. Cloonea Lake, by the coast north-west of Ardara; river between Ardara and Glenties ("the floating state, often named *S. affine*," W.H. Beeby).

VIII. Lough Eske and Lake Unshagh.

542. **S. affine** *Schu.*

Mountain lakes and slow streams in mountainous districts. Common. Fl. August.

The more slender, long-leaved, alpine form occurs in most of the mountain lakes, often at considerable elevations, throughout the county.

III. Lough Golagh and Kinnylough in Fanet; Loughs Keel and Glenveagh; River Lennan between Ramelton and Lough Fern.

IV. Very common on Aranmore; Toome Lough in Lettermacaward in Loughahoe, Tory Island, R.M. Barrington.

VI. Lakes on Aghla above Finntown, at 1800 feet. The variety *alpinum*, named by Mr. W.H. Beeby.

VII. Lakes west of Ballyshannon; Lough Aveh, near Pettigo.

VIII. Lakes Unna, Dina, Agh, etc, near Carrick.

In the higher mountain lakes it is the variety *alpinum*. The specimens in this genus have been submitted to Mr. Bennett, who obtained Mr. Beeby's decision for me.

From 2100 feet to sea-level.

543. **S. minimum** *Fries.*

Lakes and ponds. Rare? Fl. July, August.

III. Milford Lake; Kindrum, Bran, Rinboy, and Ballymagahy Lakes in Fanet.

IV. Lake Unshagh, near Glenveagh.

VI. Kiltorris Lake, near Ardara; by the Barra River, below Lough Barra in several places.

VIII. Brockagh Lake, Killybegs.

I have no doubt this occurs in many other localities, but I have not usually distinguished it from *S. natans*, var. *alpinum*, and hesitate to record any localities except those where Mr. Beeby has seen the specimens.

Aroideæ

Arum *Linn.*

544. **A. maculatum** *Linn.* CUCKOO-PINT. LORDS AND LADIES.

Woods, thickets, and shady places. Local. Fl. April, May.

VII. and VIII. Frequent about Pettigo, Bundoran, Belleek, Ballyshannon and Donegal. Apparently confined to the limestone, and to this portion of Donegal.

Recorded by me from a station in Fanet (III.), but I cannot confirm the record, and fear there may have been an error.

First record; *Cybele Hibernica*, 1866 (A.G.M.)

Lemnaceæ

Lemna *Linn.* DUCKWEED.

545. **L. minor** *Linn.*

Pools and ditches. Common. Fl. June to August.

Alismaceæ

Alisma *Linn.*

546. **A. Plantago** *Linn.* WATER PLANTAIN.

Lakes and deep ditches. Frequent. Fl. July, August.

Local in Inishowen and Fanet, the extreme northern districts.

I. Doagh Island, Loughinn River, near Carndonagh.

II. Burnfoot and Inch.

III. Ballyhork, Between Waters and Kindrum, Fanet. Milford Lough, etc.

V. Foyle, above Lifford.

VII. and VIII. Not scarce in these districts. Probably occurs in the others.

547. **A. ranunculoides** *Linn.*

Marshes, ditches, and boggy margins of lakes. Frequent. Fl. June to August.

Naiadaceæ

Triglochin *Linn.*

548. **T. palustre** *Linn.*

Marshy and wet meadows, chiefly in peaty or sandy soil. Common. Fl. June to August.

From 1000 feet to sea-level.

549. **T. maritimum** *Linn.*

Salt marshes. Common. Fl. June, July.

Potamogeton *Linn.* PONDWEED.

550. **P. natans** *Linn.*

Still waters. Very common. Fl. June to August.

From 1800 feet to sea-level.

551. **P. polygonifolius** *Pourr.*

Watery ground on peaty soil and bog-holes. Common. Fl. June to August.

Several long-leaved, usually barren, forms of this pondweed occur in Donegal. Usually in slow moving water on peaty soil. River Lennan at Ramelton has a remarkable variety. They would probably be referable to *var. pseudo-fluitans* of Syme.

From 1100 feet (Barnesmore) to sea-level.

552. **P. rufescens** *Schrad.* *P. alpinus* BALBI.

Lakes. Rare. Fl. July.

II. "On the race-course bog, near Londonderry, D.M." *Cyb. Hib.*

III. Mouth of stream into Lough Fern (near where the boats are kept); in the river Lennan, between Lough Fern and Ramelton (*P. homophyllus* of Syme); Milford Lake,

III. and IV. Stream between Lakes Akibbon and Gartan, near Churchill.

VII. Drumgun Lake, Pettigo.

VIII. Lake Unshagh, near Slieve League; Owentogher River, a mile above Ardar.

My specimens were named by Mr. Arthur Bennett.

First record; D. Moore, 1866 (*Cyb. Hib.*)

553. **P. heterophyllus** *Schreb.*

Rivers and lakes. Not common. Fl. June to September.

I. Loughinn River, near the lough.

III. Lennan River, up to Gartan Lake and in Lough Fern, and the river out of Lough Fern near Moyagh.

IV. Mullaghderg Lake to the west of Bunbeg, plentiful; Lough Nacung Lower and stream from it to Gweedore.

VI. Kiltorris Lake, near Ardar.

VII. Lough Laghtowen near Pettigo; Termon River where it meets Lough Erne.

VIII. River Eske.

Named by Mr. Arthur Bennett.

554. **P. varians** *Monig.*

In a small lake. Fl. July, August.

IV. In the small lake at Ards. Very abundant and monopolizes the inner margin. Mr. Bennett writes, "perhaps a form formerly produced by *P. heterophyllus* x *Zizzii*, but now a fixed quantity. It is known from the Fens."

First record; Hart, *Flora*.

555. **P. nitens** *Webb.*

Lakes and slow streams. Very rare. Fl. June, July.

III. Kinnylough, Fanet.

III. and IV. In the stream between Lakes Akibbon and Gartan. Mr. Bennett states that the specimens from here are identical with Scotch specimens, but that others I sent him from Castlegregory in Kerry differed somewhat and were very near the form *curvifolius*, Hoeck.

Named by Mr. Bennett.

Var. P. intermedius, Tis.

To this form Mr. Bennett refers a plant from a still part of the Erne River, below Cliff, by the right bank. "Closely approaching the Swedish species, named by Dr. Tiselius *P. intermedius (ad nitens)*."

First record (for both); Hart, 1886. (*Proc. R.I.A.*)

556. **P. lucens** *Linn.*

Rather deep pools and lakes. Local. Fl. June to August.

III. Loughs Golagh and Kindrum, Fanet; River Lennan above Ramelton; Lough Fern.

VII. Bundrowes River, near Bundoran; Termon River where it meets Lough Erne; Carricknahorna Lake; Roshin Lake and Lough Gorman, near Ballyshannon.

VIII. Lough Eske and River Eske.

Var. P. lancifolius, Mertens & Koch, Deutch Flora, 1823.

Lake at a low level. Very rare. Fl. July, August.

III. Kinnylough, Fanet.

Named by Mr. Bennett.

First record; Hart, *Flora*.

557. **P. decipiens** *Hoth.*

Deep waters in lakes. Rare. Fl. July.

III. Long Lough, near Fort Royal, Rathmullan.

VII. Carricknahorna Lakes, north-east of Ballyshannon.

Named by Mr. Bennett.

First record; Hart, 1885. (*Proc. R.I.A.*)

558. **P. Zizzii** *Roth.*

Lakes and slow streams. Rare. Fl. July to September.

III. River Lennan above Ramelton; Kinnylough, Tamney and Ballyhork Lakes, Fanet.

VII. Letter River, near Pettigo; Bundrowes River above Bundoran.

In Ballyhork Lake, on the "Between Waters," Fanet, this scarce species is abundant and typical.

Determined by Mr. Bennett.

First record; Hart, 1885 (*Proc. R.I.A.*)

559. **P. praelongus** *Wuljen.*

Lakes in mountain districts. Very rare. Fl. June to August.

VI. At the southern end of Lough Finn, plentiful on the south side of the lake; Mullaghderg Lake, on the north side, Rosses. Identified in both cases by Mr. Arthur Bennett. Fragments picked up on the shores of Lough Anure, Rosses, belonged, I believe, to this species also, they had the hooded-tipped leaves and elongated habit.

First record; Hart, 1886 (*Proc. R.I.A.*)

560. **P. perfoliatus** *Linn.*

Lakes and rivers. Frequent. Fl. July and August.

Var. cordata occurs in Kinnylough.

561. **P. crispus** *Linn.*

Ditches, rivers and lakes. Not common? Fl. July, August.

III. Ballymagahy Lake and stream into it, and in Magherdromin Lake, Fanet; Kinnylough, Fanet; Lough Fern.

VI. Kiltorris Lake, near Ardara. A curious, young state, not easily determined.

VII. Bradagh River near Bundoran; in the Erne River.

562. **P. obtusifolius** *Mert and Koch.*

Peaty lakes and deep drains leading into them. Very rare. Fl. June.

III. Milford Lake; ("lakes in Fanet, Donegal, E. Murphy," *Cyb. Hib*, probably an error). In a deep ditch leading to a small lake by the roadside a mile north of Milford Union on the way to Carrowkeel.

VIII. In a deep dyke at the narrow end of St. Katharine's Lake, south of Killybegs. There is plenty of it here, but it could not be reached except in a dry season.

Determined by Mr. Bennett.

First record; E. Murphy, 1829 (*Mag. Nat. Hist*, Vol. I, p. 436).

563. **P. pusillus** *Linn.*

Still water, slow streams and watery bogs. Common. Fl. July and August.

564. **P. pectinatus** *Linn.*

Lakes near the sea and dykes flooded at high water. Local. Fl. July, August.

II. Abundant in dykes on Inch and Blanket Nook estuaries; along the railway from Inch road to Bridgend and adjoining ditches.

III. Kinnylough, Fanet; Kindrum.

This species will thrive in brackish water. In Babington's *Manual*, *P. flabellatus* is stated to grow "chiefly near the sea," while the present is given "ponds and streams." The reverse appears to me correct. I have often found *P. pectinatus* in brackish, or nearly salt water; *flabellatus* never. *P. flabellatus* appears to me very distinct, and also very rare in Ireland.

565. **P. flabellatus** *Bab.*

Margin of a lake on limestone. Very rare. Fl. July.

VII. Roshin Lough about four miles a little north of east from Ballyshannon. Thickly encrusted with calcareous matter. Named by Mr. Bennett.

First record; Hart, *Flora*.

566. **P. filiformis** *Holte.*

Shallow margins of lakes on a sandy peaty bottom. Very rare. Fl. July to September.

III. Kinnylough, Fanet. Abundant here, especially on the west shore.

First record; Hart, 1880 (*Jour. of Bot.*)

Ruppia *Linn.*

567. **R. maritima** *Linn.* *R. spiralis*, *Hartm.*

Brackish muddy pools. Very rare? Fl. July, August.

III. In a brackish pool by the southern avenue at Mulroy House; by the enclosed lake in the same demesne.

Named by Mr. Bennett.

First record; Hart, *Flora*.

568. **R. rostellata** *Koch.*

Brackish mud and pools. Frequent. Fl. July, August.

(I. and II. Abundant along shores of Lough Foyle. *Flor. Ulst.*)

I. Malin Estuary.

II. Blanket nook.

III. By the Thorn Embankment below Letterkenny.

VII. Salt marshes near Ballyshannon, etc; Donegal.

VIII. Glen Bay; Donegal.

Zannichellia *Linn.* HORNED PONDWEED.

569. **Z. palustris** *Linn.*

Muddy brackish ditches. Rare? Fl. July, August.

II. Between Inch and Burnfoot; Crana River, near Kinnagoe, Bunrana, J. Hunter.

VIII. Glen Head.

First record; Hart, 1872 (*Recent Additions*, etc.)

Zostera *Linn.* GRASS-WRACK.

570. **Z. marina** *Linn.*

Shallow, muddy-bottomed estuaries, from low-water mark at neap-tides to about ten feet below that of springs. Common. Fl. July, August.

Var. augustifolia.

I. Plentiful on mud flats in Trawbreaga Bay. This form was determined for me by Mr. Bennett.

571. **Z. nana** *Roth.*

Muddy shores, near high water mark. Very rare. Fl. July, August.

IV. Abundant on the strand at Ards, looking south towards Creeslough.

Named by Mr. Bennett.

First record; Hart, 1880 (*Jour. of Bot.*)

Eleocharis *R. Br.* SPIKE-RUSH.572. **E. palustris** *R. Br.*

Marshy places, and margins of streams and lakes. Common. Fl. June to August.

573. **E. uniglumis** *Link.*

Muddy salt ditches. Very rare. Fl. July.

VII. Pools and ditches in mud by the Ballyshannon estuary below Ballyshannon on the south side. Named by Mr. Bennett.

First record; Hart, *Flora*.

574. **E. multicaulis** *Sm.*

Spongy bogs, margins of lakes and wet moors. Locally abundant. Fl. June to August.

I. Characteristic of Malin Head and common generally in extreme north of Inishowen. Loughs Naminn and Fad.

II. Slieve Main, and other bogs. Not uncommon.

III. Lough Golagh, Fanet.

IV. About Dunfanaghy, and Marble Hill, frequent. Muckish, Dooish and Glenveagh; Tory Island, R.M. Barrington.

V, VI, VII, VIII. Frequent on the western moors.

From 925 feet to sea-level.

575. **E. acicularis** *Sm.*

Muddy sand at the edge of a large river. Very rare. Fl. June to August.

VII. In one place by the Erne River, right bank, nearly opposite Camlin. A considerable patch here in July, 1893.

First record; Hart, *Flora*.

Cyperaceæ**Scirpus** *Linn.* BULL-RUSH.576. **S. lacustris** *Linn.*

Margins of lakes and rivers. Frequent. Fl. June to August.

I. Loughs Naminn and Inn.

III. Kindrum, Fanet; River Lennan; Lough Gartan.

IV. Bedlam.

VII. Lough Eske, etc.

VIII. Lake near Cliff.

577. **S. Tabernaemontani** *Gm.*

Ditches, pools and wet places near the sea. Rare? Fl. June to August.

III. By the side of Lough Swilly, near Ramelton.

IV. Salt marshes, about three miles west of Dunglow; Kiltooris Lake, near Ardara.

VII. Salt marshes by Ballyshannon estuary.

First record; Hart, 1880 (*Jour. of Bot.*)

578. **S. maritimus** *Linn.*

Salt marshes and wet places near the sea. Frequent. Fl. June to August.

Particularly common along the muddy shores of Lough Foyle where it is often much in use for thatching. Rather local in some districts, but only on account of unsuitability of ground.

579. **S. sylvaticus** *Linn.*

River banks. Very rare. Fl. June to August.

I. Very sparingly by the Glentogher River in a couple of places below Glentogher wood, south of Carndonagh.

V. "By the Fyn [*sic*] in Donegal, Admiral Jones." – *Cyb. Hib.* I failed to rediscover it here. By the Deel River, on the south side, near its junction with the Foyle. Plentiful here, but grazed early by cattle.

VII. Termon River, above Pettigo, sparingly, near the town; abundant near the source of the stream, at the edge of the county.

This species decreases westwards of the Foyle, in a remarkable manner. It is frequent in Derry and Antrim.

First record; Admiral Jones, 1866 (*Cyb. Hib.*)

580. **S. setaceus** *Linn.*

Wet gravelly places and dug-out peat-bogs. Local. Fl. July to September.

I. and II. "Plentiful in the district of Inishowen," Dickie. Probably this should refer to *S. savii*, which is much commoner.

The present plant occurs about the signal tower at Malin Head, and elsewhere.

III. Fields and ditches near Croaghross, Fanet.

VIII. By the Eske; Lough Eske, etc.

581. **S. Savii** *Seb. and Maur.*

Marshy places in poor soil, chiefly near the coast. Frequent. Fl. July and August.

I. and II. Common in Inishowen.

III. Common in Fanet, and many other places round the coast.

IV. Tory Island, R.M. Barrington; Horn Head.

V. Mournebeg River.

VII. and VIII. Frequent.

582. **S. fluitans** *Linn.*

Ponds, ditches and pools in slow streams. Local. Fl. June to August.

I. Lough Naminn, Lough Inn, River Inn, etc.

III. Several Loughs in Fanet, as Lough Daragh; in a bog-hole at 300 feet above Carrablugh House.

IV. In a pond at Ards.

VII. Lakes between Pettigo and Ballyshannon.

583. **S. caespitosus** *Linn.*

Bogs, moors, and mountains. Common. Fl. May to July.

From 2300 feet to sea-level.

584. **S. pauciflorus** *Lightf.*

Wet, stony or sandy ground near lakes, or liable to be flooded in winter. Local. Fl. July, August.

I. Shores of Trawbreaga Bay, north of Carndonagh, and by the coast below Ballyliffin (very glaucous here).

III. Shores of Lough Golagh, Daragh, and Kindrum, Fanet; wet stony ground at the western end of Kinnylough, Fanet; sloblands below Carrigart, and near Rosapenna.

VI. Damp places amongst sandhills, north-west of Ardara.

VII. Lakes at Cavan Garden near Ballyshannon; about Ballyshannon in several places; shores of Lough Naveaghy, about seven miles north-west of Pettigo.

VIII. Shores of Lough Eske, east side; St. John's Point; by the coast between Donegal and Killymard.

Blysmus *Panz.*585. **B. rufus** *Panz.* WAHLB.

Salt marshes. Local. Fl. June to August.

I. Plentiful at the western end of Trawbreaga Bay on the south shore.

II. Side of the Foyle near Brookhall, Dr. Moore.

III. By Lough Swilly, close to Ramelton; Rosapenna to Carrigart.

IV. Abundant by Horn Head Bridge; coast below Creeslough; muddy estuary at Bedlam.

VI. By Kiltorris Lake, near Ardara; Gweebarra Estuary, below Doochary Bridge and above Russell's Ferry.

VII. Shores of Donegal Bay, at town of Donegal, *Flor. Ulst.*VIII. Shores at Donegal, abundant; Fintragh; Killybegs; Lough Head, near Killybegs; "shore at Glencolumbkille, and at Killybegs, A.G.M." *Cyb. Hib.*First record; Dr. Moore, 1864 (*Flor. Ulst.*)**Eriophorum** *Linn.* COTTON-SEDGE.586. **E. vaginatum** *Linn.*

Bogs, moors, and mountains. Common. Fl. April, May.

From 1450 feet to sea-level.

587. **E. polystachion** *Linn.*

Bogs and wet moors. Common. Fl. April, May.

From 2200 feet to sea-level.

588. **E. latifolium** *Hoppe.*

Marshy places. Very rare. Fl. May, July.

VI. Plentiful in low, rushy, coarse pasture near the sea, by Lough Sheskinmore, north-west of Ardara.

First record; Hart, 1886 (*Proc. R.I.A.*)**Rhynchospora** *Vahl.* BEAK-RUSH.589. **R. alba** *Vahl.*

Moors and bogs. Locally abundant. Fl. July, August.

Occurs abundantly wherever there are wide extents of wet moors, as about Glenveagh, The Rosses, between Pettigo and Donegal, Slieve League, East Inishowen, etc.

From 1000 feet to sea-level.

Schoenus *Linn.*590. **S. nigricans** *Linn.*

Wet moors and damp sandy ground near the sea. Frequent. Fl. June and July.

Occurs on many of the outer headlands in very exposed situations as well as inland in boggy places.

From 1100 feet to sea-level.

Cladium *R. Browne.* TWIG-RUSH.591. **C. Mariscus** *R. Br.*

Watery margins of lakes. Local. Fl. July, August.

I. Lough Naminn.

III. Kindrum and Lough Golagh, Fanet.

VI. By the Gweebarra, below Doochary Bridge; Mullaghderg Lake, Rosses.

VII. and VIII. Frequent. A very unusual locality occurs beside a lake in the Ballyshannon district at Carricknahorna. The *Cladium* grows here amongst blackthorn and other land plants in a hedge beside the lake. I have never seen it out of standing water or very wet mud elsewhere.

Carex *Linn.* SEDGE.592. **C. dioica** *Linn.*

Wet peaty places. Local. Fl. May to July.

I. Marshes at Malin Presbyterian Church, Dickie; on Bulbein Mountain.

III. Carrablagh, on banks by the sea; Bunlinn, near Milford, a mile above the bridge; Rosapenna.

IV. At the western base of Muckish; about five miles up the stream, running north to Bedlam.

VI. Marsh near Croaghbridd Lough, at the source of Owengarve River, Martin's Bridge, Glenties.

VII. Shores of Lough Gorman, between Cavan Garden and Brown Hall; shores of several other lakes in the same district; Lough Keenaghan, east of Belleek, on the borders of Fermanagh.

VIII. About the base of Slieve League; Lowerymore Glen, above Lough Eske; marsh at St. John's Point.

From 750 feet to sea-level.

593. **C. pulicaris** *Linn.*

Bogs and wet peaty pastures. Frequent. Fl. June, July.

I. Bulbein mountain, from 1000 feet to the summit; Crockaughrim, Culdaff, where it forms the sward at the shore, Dickie.

III. Carrablagh and Glenalla; Carradoan; shores of Lough Keel; the sod is composed of this at the Bin in Fanet; Rosapenna.

IV. Horn Head.

VII. and VIII. Not unfrequent.

From 1700 feet to sea-level.

594. **C. disticha** *Huds.*

Marshes, and by rivers and lakes. Local. Fl. June.

V. Port Lough, Bogay, west of Derry.

VII. and VIII. Frequent.

595. **C. arenaria** *Linn.*

Sandy sea shores. Common. Fl. May to July.

Omitting District V.

592. **C. teretiuscula** *Good.*

Boggy margins of lakes. Rare. Fl. June, July.

III. Fallaneass Lake, Fanet.

IV. By a small lake, between Marble Hill and Sesiagh Lough, near Dunfanaghy.

VI. By the Barra River, a little above Doochary Bridge.

VII. Shores of several lakes between Ballyshannon and Ballintra, Lake Gorman, etc; abundant in wet pasture lands, north of Ballyshannon; Lettercran, north-west of Pettigo.

First record; Hart, 1881 (*Jour. of Bot.*)

Var. C. Ehrhartiana, Hoppe.

III. Ballyshannagh bog, by the roadside, between Portsalon and Carrowkeel.

IV. At a small lake near Bedlam, about six miles north of Gweedore.

VII. By a small lake about three miles north of Ballyshannon.

First record; Hart, *Flora*.

597. **C. paniculata** Linn.

Spongy bogs and margins of lakes. Local. Fl. June, July.

II. In a large bog between Scalp and Slieve Snacht, J. Hunter.

III. By the Lennan, above Ramelton; Ballyshannagh bog between Portsalon and Carrowkeel.

IV. By the small lake near Dunfanaghy, with *C. teretiuscula*.

VII. and VIII. Not uncommon.

598. **C. vulpina** Linn.

Marshy places and ditches by the sea. Local. Fl. June, July.

I. Inishowen Head and Inishtrahull, Prof. Dickie; Culdaff, Mr. Hunter.

II. Between Inch Road and Burnfoot; Blanket Nook; Buncrana, Mr. Hunter; about Derry by the Foyle.

III. Shores of Lough Swilly at Rathmullan, Caraleena and Ramelton; wet places along the granite coast west of Fanet Lighthouse; plentiful on the west side of Lough Swilly from Letterkenny to Fort Stewart in various places.

V. By the Swilly below Manor Cunningham; Foyle above Derry.

VII. Wardtown, Ballyshannon.

VII. and VIII. Donegal Bay in various places.

599. **C. echinata** Murr. (*C. stellulata*. Good.)

Bogs, wet peaty places and mountain pastures. Very common. Fl. June to July.

From 2150 feet to sea-level.

600. **C. remota** Linn.

Shady places in wooded districts. Local. Fl. June to July.

I. Malin Hall.

II. Farland Point and Blanket Nook; Inch and Burnfoot; Buncrana, J. Hunter.

III. Glenalla; Greenfort, Fanet; Carradoan; Fort Stewart.

IV. Doe Castle and Horn Head.

VII. and VIII. Frequent.

601. **C. Bæninghauseniana** *Weihe*.

Damp woods. Very rare. Fl. June, July.

VIII. By a sunken fence between The Hall and the sea wall, near Mt. Charles. The only Irish locality.

Probably a hybrid between *C. remota* and another which is supposed to be *C. paniculata*. But I failed to observe the latter anywhere in above locality. I hear this form has been discovered in Kerry in 1894.

First record; Hart, 1886 (*Proc. R.I.A.*)

602. **C. canescens** *Linn.*

Swamps and wet mountain slopes. Rare. Fl. June.

II. In a bog at the north side of the Railway at Gallagh Road, between Derry and Fahan; between Scalp and Slieve Snacht, J. Hunter.

III. Ballyshannagh Swamp by the roadside between Portsalon and Carrowkeel; Milford Lake.

III. and IV. Marshy ground at the south end of Lake Akibbon, and remarkably plentiful at the north-west end of the same lake adjoining Lake Gartan, near Churchill.

IV. Lower slopes of Muckish looking towards Calabber Bridge.

VII. Lettercran Lake about six miles north of Pettigo.

VIII. Near Killybegs, A.G. More; Brockagh Lake, near Killybegs.

First record; A.G. More, 1866 (*Cyb. Hib.*)

603. **C. ovalis** *Good.*

Pastures and meadows in mountain districts and in bogs. Not common. Fl June and July.

I. Wet meadows in Glentogher by the river.

II. Farland Point.

III. Bran Lough, Fanet; Glenalla; Thorn embankment by the Swilly, near Letterkenny; Church Hill; Lough Conny near Milford.

IV. Western base of Muckish; by the shore about half a mile west of Dunglow; below Falcarragh.

V. Castle Forward, near Bogay; by the Deel River; by the Finn at Killygordon.

VIII. By the Eske above Donegal.

604. **C. stricta** Good.

Boggy margins of lakes and rivers. Rare. Fl. June, July.

?III. and IV. North-western end of Lake Akibbon near Churchill

?IV. Near Dunfanaghy with *C. teretiuscula*. In this station as well as the last the specimens were withered.

VII. By the Erne River.

605. **C. acuta** Linn.

Margins of streams. Very rare. Fl. May, June.

V. Banks of the Finn, Admiral Jones (*Cyb. Hib.*) This was probably a mistake for *C. aquatilis*.

VIII. Riverside at Glencolumbkille, *Flor. Ulst.* Not seen there by me.

VII. Bundrowes River, above Bundoran; by a small lake close to the Ballyshannon and Belleek Railway; by the Lowerymore River, in the Glen 1½ miles above Lough Eske; by the Eske River. These specimens were gathered in June, 1893, and named for me by Mr Bennett. I am doubtful about the other records. All those I have found were on the limestone.

First certain record; Hart, *Flora*.

C. acuta var. *prolixa* Fr.

VII. By the Erne River on the right bank below Cliff. A large and handsome sedge. Named by Mr. Bennett. Mr. Bennett remarks that no European sedge varies in glumes more than *acuta*. This form is most distinct.

606. **C. rigida** Good.

Wet places in alpine situations on mountains. Very local. Fl. June, July.

I. Bulbein Mt. "This scarce *Carex* is to be met with on Bulbein, Inishowen, flowering in June, Mr. Browne." Wade, *Plantæ Rariores*, 1804.

III. About a hundred yards north-east of the highest point of Knockalla in Fanet, at 1200 feet.

IV. Slieve Snacht West, 1500 to 2100 feet; Errigal; 1700 to 2000 feet on Muckish; Slieve Snacht Beg (west).

VI. Aghla Mountain, above Lough Finn.

VIII. Slieve League, summit to 1400 feet; Slieve-a-Tooney; Alt Mountain, near Ardara; Lavaghmore, 2000 to 2200 feet; Croaghnacarkfree near Martin's Bridge, Glenties. (See under *Lycopodium alpinum*.)

From 2400 to 1000 feet above sea-level.

First record; R. Brown, 1804 (*Wade, Plantæ Rariores*).

607. **C. aquatilis** *Wahl.*

Margins of rivers. Very rare. Fl. June, July.

VI. Doocharry Bridge, Gweebarra. Occurs with the Var. *virescens*. Mr. Bennett writes "glumes too pointed for Var. *virescens*." On both margins of the Gweebarra.

Var. Watsoni, Syme.

V. By the River Finn in several places, as, half way between Stranorlar and Killygordon, and close to Killygordon, near Castlefinn.

Var. virescens, Anderson.

VI. By the Barra River immediately above Doocharry Bridge, plentiful; by the River Finn, right bank above Clady.

Always growing *in* the water.

Mr. Bennett writes that the Gweebarra plant is a variety he has seen only from Perth in Great Britain.

First record; Hart, 1885 (*Proc. R.I.A.*)

608. **C. Goodenovii** *Gay.* *C. vulgaris, Fries.*

Marshy and boggy places and margins of streams. Very common. Fl. May to July.

From 1100 feet to sea-level.

Var. juncella, Fr.

III. Milford Lake.

VII. Near Ballyshannon.

VIII. Mountains near Martin's Bridge, Glenties.

609. **C. glauca** *Murr.*

Pastures, heaths and wet places. Common. Fl. May, June.

610. **C. limosa** Linn.

Spongy bogs and margins of lakes. Local. Fl. June, July.

[I. "Gap of Urris," Mr. C. Moore. This may refer to Mamore Gap in Erris Mts, but I failed to find the sedge there.]

III. Rinboy Lake, Fanet; in a marshy spot a little west of Lough Doira, Fanet; upper end of Glenlough.

III. and IV. By the stream between Lakes Akibbon and Gartan, and elsewhere round Lake Akibbon near Churchill.

IV. Lake Inshagh between Churchill and Glenveagh; by the Ray River about five miles down from Muckish Gap; marshes at the source of the Bedlam River.

V. Lough Napaste, south-east from Barnesmore Gap. The divisional line of V. and VII. passes through this little tarn. As usual *C. limosa* is here accompanied by *C. filiformis*. This lake is 1100 feet above sea-level. I have never seen either sedge nearly as high. Watson's highest record is Tyne, 200 yards for both. Marshy ground between Lough Mourne and River Mournebeg.

VII. Marsh on the east side of Bulbein Mountain, near Ballyshannon; Lake Unshin; bogs at Cliff, Erne River.

VIII. Bog-holes between Glen and Carrick on both sides of the road; lakes near Killybegs; lake by the roadside south of Binbane between Donegal and Glenties.

From 1100 feet at Lough Napaste (Barnesmore Gap) to sea-level.

First record; 1864. (*Flor. Ulst.*)

611. **C. pilulifera** Linn.

Dry stony places on moors and mountains. Not common. Fl. May to July.

I. Bulbein Mt.

II. Hills above Fahan.

IV. Muckish.

III. Glenalla; Churchill; Rosapenna.

VII. and VIII. Frequent.

From 2200 feet to sea-level.

612. **C. præcox** Jacq.

Dry pastures and heaths. Frequent. Fl. April to June.

From 1300 feet to sea-level.

613. **C. pallescens** *Lam.*

Marshy places and wet banks in mountainous woods, thickets and glens. Rather rare. Fl, June to July.

III. Glenalla; Between Waters, Fanet; thickets on the east side of Lake Akibbon, Churchill; by the Lennan, below Lough Gartan; thickets above the sea at Carrablagh; Cottian Wood, Kilmacrenan.

IV. Thickets along Faymore river, on north side of Muckish.

V. Castleforward Deer Park, west of Derry.

VI. South side of Gweebarra Estuary, a little above Russell's Ferry; and above Doocharry.

VII. By the Termon river, above Pettigo, in meadows, abundant; Wardtown, Ballyshannon and elsewhere north of Ballyshannon; Lettercran, north-west of Pettigo.

VIII. Above Ardnamona, Lough Eske; by the Eske River, in several places.

614. **C. panicea** *Linn.*

Wet places, especially on mountains. Frequent. Fl. May to July.

From 1200 feet to sea-level.

615. **C. pendula** *Huds.*

Damp woods and borders of streams. Very rare. Fl. June.

VIII. Right bank of the Eske River, three-quarters of a mile above Donegal; left bank of Eanymore Water, above Drumagraa Bridge.

First record; Hart, 1885 (*Proc. R.I.A.*)

616. **C. strigosa** *Huds.*

Damp woods. Very rare. Fl. June.

IV. Ards? My specimens were too far advanced for determination (July, 1889).

VII. In thickets on an island in the Erne River, immediately below Cliff.

VIII. Abundant at The Hall, Mount Charles; near the town of Donegal, between it and Mount Charles, Prof. Dickie.

First record; Prof. Dickie, 1864 (*Flor. Ulst.*)

617. **C. sylvatica** *Huds.*

Woods and shady places. Frequent. Fl. May to July.

I. Carndonagh.

II. Kilderry.

III. Glenalla; Greenfort, Fanet; Carradoan; Fort Stewart.

IV. Doe Castle.

V. Convoy.

VII. and VIII. Frequent along the rivers.

618. **C. lævigata** *Sm.*

Wet thickets, borders of woods and marshes. Scarce. Fl. June, July

III. Leatbeg, Fanet.

VII. Thickets by the Erne River.

VIII. Woods about Lough Eske Castle, abundant; in a wet hedge near Killybegs, A.G. More (*Cyb. Hib.*)

First record; A.G. More, 1872 (*Cyb. Hib.*)

619. **C. binervis** *Sm.*

Heaths, moors and mountains. Common. Fl. June, July.

From 2000 feet to sea-level.

620. **C. distans** *Linn.*

Wet places near the shore, specially by estuaries and lochs. Frequent. Fl. June and July.

I. Inishowen Head and Inishtrahull, Dickie; Greencastle, Glengad head, Malin Head.

II. Inch Road and Burnfoot.

III. Shore at Ramelton.

IV. Shore below Horn Head House and elsewhere on the Head; Burton Port; Aranmore; Ards; Breaghy Head; Falcarragh.

VI. Gweebarra, below Doocharry Bridge and to Russell's Ferry.

VII. and VIII. Frequent.

621. **C. fulva** *Good. C. Hornschuchiana, Hoppe.*

Wet moors in hilly districts and spongy bogs at the base of mountains. Local. Fl. May, July.

I. Abundant in Inishowen, Dickie.

III. Wet slopes a little inland from Drimnacraig Bay in a south-westerly direction, Fanet; by the Lennan River at Gartan; Rosapenna.

IV. Muckish, *Flor. Ulst*; at the western base of Muckish.

VI. Below Doocharry Bridge, Gweebarra, on the north side

VII. Cavan Garden lakes, north of Ballyshannon; Brown Hall; by the Erne.

VIII. By the Eske River; Slieve League; marsh at St. John's Pt.

622. **C. *extensa*** *Good.*

Salt marshes. Local. Fl. June.

I. Culmore, by the Foyle, Dickie.

II. Very sparingly near the signal tower, Malin Head.

III. Ramelton to Aughnish Island; Rosapenna.

IV. Dunfanaghy, C. Moore, *Cyb. Hib*; Ards; Horn Head, near the House; Aranmore to the north of the harbour at Leabgarrow.

VI. Gweebarra, below Doocharry Bridge, and to Russell's Ferry.

VII. and VIII. Frequent.

623. **C. *flava*** *Linn.*

Wet moors, lake margins, and marshy places. Frequent. Fl. May to July.

Especially common in Districts VII. and VIII, and occurs chiefly in swamps around lakes.

624. **C. *Æderi*** *Ehrh.*

Margins of lakes, stony dug-out bogs, and exposed pastures near the sea. Common. Fl. June, July.

From 2000 feet to sea-level.

625. **C. *filiformis*** *Linn.*

Shaky bogs and margins of mountain lakes at low levels. Very local. Fl. May to July.

III. With *C. limosa* at the Drumnacraig Lakes, Doira and Golagh, in Fanet; upper end of Glen Lough.

III. and IV. Various places about Lake Akibbon, near Churchill.

IV. Lake Unshagh, between Churchill and Glenveagh, and in the stream out of the lake; Gweedore (Crawley) River, on IV. and VI. boundary.

V. Lough Napaste, south-east from the summit of Barnesmore at

1100 feet. See remarks under *C. limosa*. A record elevation for this sedge.

VI. Stream from Sheskinmore Lake, north west of Ardara; by the Barra River, below Lough Barra; River Crawley (or Gweedore River), on IV. and VI. Boundary

VII. Laree Lake, Lough Unshin and Lough Golagh, west of Ballyshannon; lakes north of Cavan Garden; Lough Avehy, near Pettigo; lake near Cliff, Belleek; Lettercran, north-west of Pettigo.

VIII. West side of Lough Eske, abundant in two places; south-east corner of Lough Eske; Cunlin Lake, near Killybegs; Lowerymore Glen, above Lough Eske; lake by the roadside, south of Binbane, between Donegal and Glenties.

From 1100 feet (Lough Napaste, Barnesmore) to sea-level.

First record; A.G. More, 1866 (*Cyb. Hib.*)

626. **C. hirta** Linn.

Wet pastures in a poor soil, and marshes. Rather rare. Fl. June, July.

III. Glenalla; Rosapenna.

IV. Glenveagh.

V. By the Swilly, near Manor Cunningham.

VII. Ballyshannon to Bundoran, by the railway, etc; Termon River, above Pettigo.

VIII. River Eske; Ardnamona, Lough Eske.

627. **C. riparia** Curt.

Deep dykes near the sea. Very rare. Fl. May, June.

VII. By the stream at Bunlin Bar, along the coast between Donegal and Ballyshannon – the locality is a little north of Carrickfad, in a deep ditch; ditches at Wardtown, west of Ballyshannon.

VIII. Marsh at St. John's Point.

First record; Hart, 1885 (*Proc. R.I.A.*)

Of the specimens from Wardtown, Mr Bennett writes that they are decidedly off type. The plant is very distinct in habit from the southern *C. riparia*, being smaller and stouter. Mr. Bennett considers it “approaches American *C. Watsoni*, *Olney*; the fruit has, however, a tendency to be hairy. It cannot be referred either to *orthostachys*, C.A. Meyer, nor *evoluta*, Hartm.”

628. **C. ampullacea** Good. *C. rostrata* Stokes.

Marshes, ditches and borders of lakes and rivers. Very common. Fl. May to July.

A remarkably broad-leaved variety, very flaccid in habit, occurs in still deep bog-drains out of Lake Akibbon, Churchill. The present species is a very important agent in the economy of nature. Its power in overgrowing and choking up shallow mountain lakes, and in diminishing the size of deep ones, is very great. Within my own observation some small lakes have almost ceased to exist from this cause.

From 1500 feet to sea-level.

629. **C. vesicaria** Linn.

Margins of lakes and rivers. Rare. Fl. May to July.

III. By the Lennan River, out of Lough Fern.

VII. Left bank of River Erne, above Belleek; Brown Hall; Termon River, Pettigo.

First record; Hart, 1885 (*Proc. R.I.A.*)

Gramineæ

Phalaris Linn.

630. **P. arundinacea** Linn. REED GRASS.

Ditches and sides of rivers and lakes. Frequent. Fl. June, July.

[*P. canariense* occurs as an outcast occasionally, as at Greencastle in Inishowen.]

Anthoxanthum Linn.

631. **A. odoratum** Linn. SWEET VERNAL GRASS.

Fields, heaths, mountains and woods. Common. Fl. May to July.

From 1400 feet to sea-level.

Alopecurus Linn. FOX-TAIL.

632. † **A. pratensis** Linn.

Colonist? Pastures, banks and meadows. Local. Fl. June, July.

I. and II. Not infrequent.

III. Glenalla; Greenfort, Fanet.

VII. Belleek; Lettercran, north-west of Pettigo.

Not unfrequent as a meadow-grass, but rarely, if ever, established

except in the best cultivated districts. I have not many notes of the occurrence of this species having till lately been under the impression it was much commoner than it is.

633. **A. geniculatus** *Linn.*

Marshes, ditches and wet places. Not uncommon. Fl. June, July.

I. Malin Head in several places.

II. Blanket Nook; Buncrana, J. Hunter.

III. Wet places on Ballyvicstocker and Bottom Shore, Fanet; not rare in Fanet; River Lennan above Ramelton; Lough Swilly from Fort Stewart to Letterkenny.

IV. Tory Island, R.M. Barrington.

V. Shores of the Swilly from Pluck upwards; by the Foyle above Derry; by the Finn below Castlefinn.

VII. By the Erne.

VIII. Lake Unshagh, near Carrick.

Milium *Linn.* MILLET.

634. **M. effusum** *Linn.*

Woods. Very rare. Fl. June, July.

VIII. Ardnamona Wood, Lough Eske; left bank of Eanymore Water, above Drumagraa Bridge.

First record; Hart, 1885 (*Proc. R.I.A.*)

Phleum *Linn.* CAT'S-TAIL. TIMOTHY.

635. † **P. pratense** *Linn.*

Meadows and pastures. Rare. Fl. June, July.

III. Glenalla.

V. By the Finn a little below Castlefinn Bridge.

VII. By the Termon River above Pettigo; and below Pettigo.

636. **P. arenarium** *Linn.*

Sandhills along the coast. Local. Fl. June, July.

I. Between Greencastle and Inishowen Head; west end of Trabreaga Bay.

II. Between Buncrana and Fahan, J. Hunter.

III. Melmore Head and elsewhere in Rossgull; Doaghmore and

Glinsk, Between Waters and Ballyvicstocker, Fanet; Carrigart sandhills; Macamish Pt, Lough Swilly.

IV. Abundant on sandhills at Dunfanaghy, *Flor. Ulst.*; Tramore Strand.

VI. Sandhills north-west of Ardara.

VII. Between Ballyshannon and Bundoran.

VIII. Glen Bay.

Agrostis *Linn.* BENT.

637. **A. canina** *Linn.*

Moors and heaths. Frequent. Fl. July, August.

638. **A. vulgaris** *With.*

Fields, dry pastures, banks and heaths. Common. Fl. June to August.

From 2460 feet to sea-level. A summit plant.

639. **A. alba** *Linn.* FIORIN.

Wet waste places and pastures, especially along the coast. Common. Fl. July.

From 1000 feet to sea-level.

This is a most valuable grass in poor wet lands, with a peculiar method of culture.

Ammophila *Host.* MARRAM GRASS.

640. **A. arundinacea** *Host.* (*Psamma arenaria*, *R. et.*)

Sandhills on the coast. Common. Fl. July to August.

Much planted to bind the sand, and no doubt on this account much commoner than it would naturally be.

Aira *Linn.*

641. **A. caryophyllea** *Linn.*

Dry places on a light soil, tops of walls and banks. Frequent. Fl. June, July.

642. **A. præcox** *Linn.*

Heaths, banks and bare places. Frequent. Fl. May, June.

Deschampsia *Beauv.*644. **D. flexuosa** *Linn.*

Moors and mountains. Common. Fl. July, August.

From 2400 feet to sea-level. A summit plant.

645. **D. caespitosa** *Linn.*

Woods, glens and damp meadows. Frequent. Fl. July and August.

From 1100 feet to sea-level.

Holcus *Linn.* SOFT GRASS.646. **H. lanatus** *Linn.*

Waste ground, meadows and banks. Very common. Fl. June-July.

647. **H. mollis** *Linn.*

Thickets, pastures and borders of woods. Very local.

?III. Pasturage amongst copses by the River Lennan about a mile below Churchill, sparingly and casual here.

VI. Owentogher River above Ardara.

VII. By the Moyne River, at Moynalt, about three miles above Laghy.

VIII. Abundant on the banks of the Owentogher River for some miles above Ardara in several places.

Only plentiful and constant by the Owentogher River.

First record (satisfactory); Hart, *Flora*.**Trisetum** *Pers.*648. **T. flavescens** *Beauv.* YELLOW OAT-GRASS.

Dry banks and pastures. Very local and rare. Fl. June, July.

VII. Plentiful along the Railway banks of Ballyshannon and Bundoran Railway; meadows at Camlin by the Erne; roadside near Ballyshannon on the way to Belleek; plentiful on banks by the sea at Bundoran and in grass lands.

First record; Hart, *Flora*.

Avena *Linn.* WILD OAT.649. **A. pubescens** *Linn.*

Dry banks. Very rare. Fl. June, July.

I. Coast at Inishowen Head, G.D, *Flora Ulster*.

VIII. Near Killybegs, A.G. More.

First record; G. Dickie, *Flora Ulst*, 1864.

The locality in the Flora of Ulster for *Avena pratensis*, "coasts near Culdaff, Co. Donegal" is omitted, the authority (G.D.) having considered it uncertain. It is not in the least likely to occur in Donegal.

Arrhenatherum *Beauv.*650. **A. avenaceum** *Beauv.* FALSE OAT.

Borders of fields and cultivated land. Very common. Fl. June to August.

One of the worst weeds in ploughed land and only to be destroyed by fire. It is known as "pearl" from the shining tuberous or knotted rootstock.

Triodia *R.Br.* HEATH-GRASS.651. **T. decumbens** *Beauv.*

Heaths and dry mountainous pastures, frequent. Fl. June to August.

I. and II. Forms the sod in many very exposed places at Malin Head and elsewhere on the Inishowen coast.

III. Kindrum and Carrablagh, Ballyvicstocker, etc; frequent in Fanet. Forming the sod by the coast of Fanet in exposed outer headlands.

IV. Horn Head; Tory Ireland, R.M. Barrington.

VI, VII. and VIII. Frequent.

From 1800 feet to sea-level.

Phragmites *Trin.*652. **P. communis** *Trin.* REED.

Margins of lakes, ditches and wet sandy ground. Common. Fl. July, August.

From 800 feet to sea-level.

Sesleria Scop.653. **S. cærulea** Scop.

Limestone pastures. Locally abundant. Fl. April to June.

VII. Rocks on the south side of the inlet below Ballyshannon; on limestone hills between Ballyshannon and Bundoran, and from Ballyshannon to Cavan Garden, abundant; about Lough Gorman and thence to Brown Hall; banks by the sea a little north of Bundoran; by the Termon River, a little above Pettigo; on the banks of the Erne at Ballyshannon, A.G. More (*Cyb. Hib.*); limestone west of Brown Hall and near Ballintra, all the grass in many places here is *Sesleria*.

VIII. St. John's Point and on the promontory leading to it, plentiful; by the Eanymore Water in several places, reaching up to the skirts of the Bluestack Mountains, but at no great elevation; south-east shore of Lough Eske, abundant.

Always on limestone.

First record; A.G. More, 1866 (*Cyb. Hib.*)**Cynosurus** Linn. DOG'S-TAIL.654. **C. cristatus** Linn.

Meadows and pastures, common. Fl. July and August.

Kœleria Pers.655. **K. cristata** Pers.

Dry pastures and banks near the sea, and on mountains. Local. Fl. June, July.

I. Dunaff Head; Inishowen Head, Dickie; Dunargas, on the west side of Malin Head.

II. Lough Swilly shores, in several places, J. Hunter.

III. Bottom Shore, Carrablagh, Kindrum and Glinsk in Fanet.

IV. Ballyness Bay; Gweedore Estuary.

VI. Kincashla.

VIII. Inver Bay; Slieve League, in many places.

From 1500 feet to sea-level.

Molinia Schrank. MOOR-GRASS.656. **M. cærulea** Moench.

Wet, peaty places, and on the mountains. Common. Fl. July and August.

From 1700 feet to sea-level.

Catabrosa *Beauv.*657. **C. aquatica** *Beauv.*

Ditches and watery places. Local. Fl. June, July. Increasing to the westwards.

I. Marshes, a little east of Culdaff, Dickie; west of Malin, by the estuary.

II. By the Foyle embankment, below Kilderry; about Buncrana, J. Hunter.

III. Doaghmore Strand, near Glinsk, and by Lough Trusnahan, Fanet; by the shore, north-west of Rosapenna.

IV. Shores of Doagh estuary, near Creeslough; ditches at Bedlam; frequent on the Bloody Foreland, and on Aranmore.

VI. Wet places amongst the sandhills north-east of Ardara.

Melica *Linn.* MELICK.658. **M. uniflora** *Retz.*

Shady banks and rocks in woods and glens. Rather scarce. Fl. June, July.

III. Bunlinn, at the Waterfalls; by the Lennan, at an old mill, above Kilmacrenan; Ards; woods at Daisyknowe Island, between Ray and Ramelton; woods between Ray and Rathmullan; Cottian Wood, near Kilmacrenan.

IV. Woods at Doagh Castle.

VI. South side of the Gweebarra River, a little above Russell's Ferry.

VII. By the Erne and Letter Rivers; Brown Hall; thickets by Waterfoot River, near Pettigo, and close to Lough Erne.

VIII. By the River Eske.

Dactylis *Linn.* COCKSFOOT.659. **D. glomerata** *Linn.*

Meadows, pastures and banks. Common. Fl. June and July.

Briza *Linn.*

660. **B. media** *Linn.* QUAKING GRASS.

Damp meadows. Local. Fl. June, July.

III. Glenalla; Fort Stewart; Carrablagh; Fort Royal, Rathmullan and about Ramelton.

VII. Common on all the meadow and grass lands, on limestone in this district.

VIII. Left bank of Eske River.

Poa *Linn.* MEADOW-GRASS.

661. **P. annua** *Linn.*

Pastures and waste places. Very common. Fl. March to November.

From 1600 feet to sea-level.

662. **P. pratensis** *Linn.*

Pastures, meadows and waste places. Very common. Fl. June to August.

Var. subcærulea, Sm.

Walls of Derry; sands at Drimnacraig and the Bottom in Fanet; west end of Trawbreaga Bay, Carndonagh, on sands; Carrigart sands; Ballyness Bay, north of Gweedore.

From 1600 feet to sea-level (*P. pratensis.*)

663. **P. trivialis** *Linn.*

Pastures, meadows and waste places. Common. Fl. June, July.

664. ‡ **P. compressa** *Linn.*

Dry places. Very rare.

II. Walls of Derry (*Cyb. Hib.*)

I have not been able to rediscover this plant, which was gathered on the walls of Derry by Dr. David Moore. The only unusual *Poa* that came under my notice was *pratensis var. subcærulea.*

Glyceria *R. Br.*

665. **G. fluitans** *R. Br.* FLOATING GRASS.

Ditches, pools and borders of streams. Common. Fl. June to August.

From 1350 feet to sea-level.

666. **G. maritima** *Wahlb.*

Muddy or wet sandy places by the sea. Common where these occur. Fl. June to August.

667. **G. distans** *Wahlb.*

Waste ground and brackish places by the sea. Very rare. Fl. June to August.

I. Sparingly by the Foyle, between Quigley's Point and Redcastle.

II. Waste ground at Pennyburn Station, and at Fahan Station on the Londonderry and Lough Swilly Railway.

III. Abundant by the Swilly River, below Letterkenny, both above and below Port.

First record; Hart, *Flora*.

Festuca *Linn.* FESCUE.

668. **F. eliator** *Linn.* (*F. arundinacea*, *Schreb.*)

Marshy places in woods, and by lakes or rivers. Not common, Fl. June to August.

I. Coast at Inishowen Head, Dickie.

II. Bridgetown and Blanket Nook; by the Foyle, north of Derry.

III. Glenalla; Ray Woods; Kindrum.

V. Finn Valley; Foyle above Derry.

VII. Erne River.

VIII. Eske River; Inver Bay.

669. **F. pratensis** *Huds.*

Wet meadows, banks and pastures. Frequent. Fl. June, July.

670. **F. gigantea** *Vill.*

Hedges, thickets and open woods. Local. Fl. July, August.

I. Near Carndonagh.

II. Kilderry.

III. Glenalla; Carradoan; Killydonnelly.

V. By the River Finn, at Killygordon.

VII. By the Erne, left bank.

671. **F. sylvatica** *Vill.*

Damp woods. Very rare. Fl. July.

II. Ned's Point, Buncrana.

III. Glenalla.

VI. By the river at Glenties.

VIII. By the River Eske, above Donegal; Lowerymore Glen, above Lough Eske.

First record; Hart, 1880 (*Jour. of Bot.*)

672. **F. ovina** *Linn.*

Dry pastures, sandy shores, and on the mountains. Very common. Fl. June, July.

The sub-species, *F. rubra*, is common, especially on sea-shores and by lakes in thickets.

From 2460 feet to sea-level. A summit plant.

673. **F. sciuroides** *Roth.*

Dry sandy places, walls and banks. Frequent. Fl. June to August.

I. Ballyliffin, etc; Malin, Dickie; Clonmany Church.

III. Carrowkeel; Arryheernabin in Fanet; Carrablagh, etc. Common in this district.

IV. Fields between Russell's Ferry and Doocharry Bridge, on the north shore of Gweebarra Estuary.

VI. Near Doocharry Bridge, up the valley.

VII. Roadsides near Pettigo.

VIII. Doorin Point.

674. **F. rigida** *Kth.*

Dry banks, walls or stony places. Rare. Fl. June, July.

III. ? Near Ballyhooriskey, Fanet; Rathmullan.

VII. Railway banks between Ballyshannon and Bundoran.

675. **F. loliacea** *Huds.*

Dry banks and sandy places near the sea. Local. Fl. June, July.

I. Coast at Inishowen Head, and at Culdaff, Prof. Dickie.

III. Glinsk, Ballyhooriskey, Drimnacraig, and Bottom Shore, Fanet; Rathmullan, Macamish Point; Carrigart.

IV. Bloody Foreland.

VI. Frequent round the coast from Anagry to Cruit, Rosses.

VIII. Glen Bay.

Bromus *Linn.* BROME-GRASS.

676. **B. asper** *Murr.*

Borders of woods, hedges, and bushy valleys. Frequent. Fl. June, July.

II. Near Fahan.

III. Little Bins, Greenfort, Fanet; Drumalla, near Rathmullan.

IV. About half-a mile above Carrowcanor Glebe, on the left bank of the Ray River.

VII. by the River Erne in several places.

VIII. Lowerymore Glen, above Lough Eske.

677. * **B. erectus** *Huds.*

Dry banks. Very rare. Fl. June, July.

V. Railway banks on the Great Northern line, above Derry, thoroughly established, but no doubt introduced.

First record; Hart, *Flora*.

678. ‡ **B. sterilis** *Linn.*

Dry banks and sandy fields. Rare. Fl. July, August.

III. Near Carrowkeel, Fanet.

V. Railway banks by the Foyle, near Derry.

VII. Hedge-banks and roadsides near Ballyshannon.

679. **B. mollis** *Linn.*

Borders of fields, waste places, and in meadows. Common. Fl. May to July.

680. **B. commutatus** *Schrad.*

Damp meadows by rivers. Very rare. Fl. June.

III. At the north-west corner of Milford Lake, near an old hedge by the lake shore, in plenty.

V. Left bank of the Finn, between Stranorlar and Killygordon; by the same river above Clady.

VIII. Termon River, below Pettigo; Eske River.

First record; Hart, *Flora*.

681. ‡ **B. secalinus** *Linn.*

Colonist.

Waste places on the borders of cultivated land. Very rare, and probably introduced. Fl. July, August.

III. Right bank of the Lennan River, between Swilly Bridge and Lough Fern.

First record; Hart, *Flora*.

Brachypodium *Beauv.*682. **B. sylvaticum** *R. et S.*

Woods, banks and bushy places. Frequent. Fl. July, August.

Lolium *Linn.*683. **L. perenne** *Linn.* RYE-GRASS.

Meadows, pastures and roadsides. Common. Fl. June, July.

684. * **L. temulentum** *Linn.* DARNEL.

Colonist.

Cultivated fields and meadows. Locally common. Fl. June.

I. "Townland of Claggan, parish of Culdaff; not uncommon." Mr. C. Moore.

V. By the Finn, near Clady (but sown?)

VII. Cliff, near Belleek.

Triticum *Linn.* WHEAT-GRASS.685. **T. caninum** *Linn.*

Thickets and damp woods. Very rare. Fl. July, August.

II. Woods near Buncrana.

VII. Left bank of the Erne, a little below Belleek; at Cliff on the Erne; by the Termon River, above Pettigo.

First record; Hart, 1885 (*Proc. R.I.A.*)

686. **T. repens** *Beauv.* COUCH-GRASS.

Fields, waste ground and sandy places. Common. Fl. July.

T. acutum, *D.C.*

Not unfrequent around the coasts in sandy bays.

687. **T. junceum** *Beauv.*

Sandy sea-shores. Frequent. Fl. June to August.

I. Doagh Island.

II. Fahan; Dunree.

III. Carrablagh (occasionally), Ballyvicstocker, and Doaghmore Strand, near Glinsk, in Fanet.

VIII. Tawney Bay and Glen Bay.

Lepturus *R.Br.*

688. **L. filiformis** *Trin.*

Sandy or muddy sea-shores. Rare. Fl. July, August.

II. In the mud at the mouth of the river below the bridge at Bunrana.

VI. By the Gweebarra, below Doocharry Bridge, on the south side.

VII. Donegal.

VIII. Inver Bay, near Dunkineely; Killybegs; Donegal.

Nardus *Linn.*

689. **N. stricta** *Linn.* MAT GRASS.

Dry places on moors and mountains. Common. Fl. June to August.

From 1850 feet to sea-level.

Elymus *Linn.* LYME-GRASS.

690. **E. arenarius** *Linn.*

Sandy sea shores. Very local. Fl. July, August.

I. Glennagivney Bay. "Sandy shores north from Inishowen Head," Dickie.

IV. Aranmore (sparingly here where it was originally discovered by Prof. E. Murphy); abundant upon the western side of Carrick Finn Island, to the west of Bunbeg; along a strand looking north, a little north of Bunbeg; about three miles north of Bunbeg towards the Foreland, at the mouth of the Calheen River. 'Horn Head' and 'Dunfanaghy,' *Flor. Ulst.* are, I think, incorrect.

VI. Sandhills south-east of Kincashla, Rosses.

?VII. "Bundoran," E. Murphy. Perhaps south of the county, towards

Mullaghmore, where this plant grows. I do not think it is at Bundoran.

VIII. "Rinn of the Largy," and again a little west of that point, beyond Killybegs.

First record; 1829, E. Murphy (*Mag. Nat. Hist*, London, Vol. I, p.436).

ACOTYLEDONES OR CRYPTOGRAMS

Filices

Hymenophyllum *Sm.* FILMY FERN.

691. **H. tunbrigense** *Sm.*

Rocks in damp native woods, or dense thickets. Very local. Fl. July to October.

III. Carradoan wood near M'Camish Point, Lough Swilly.

IV. Glenveagh, by the lake side, west of the Castle, and in Glenlack, a tributary glen.

VIII. Lough Eske woods. Mountain above Killybegs, A.G. More.

692. **H. unilaterale** *Willd.*

Mossy rocks and stems of trees in damp shady places. Not uncommon in the mountain districts. Fl. July to October.

I. Gap of Mamore and elsewhere on Erris mountains; Inishowen Head; Coolcross.

II. Wet rocks facing the north, between Fahan and Buncrana, Mrs. Leebody.

III. Ballyar Wood; Glenveagh and Glenlack; Glenalla; Bunlinn; Carradoan Wood; Auchterlinn; Knockalla; Drummonaghan Wood, near Ramelton.

IV. Poisoned Glen; Slieve Snacht to the summit; Errigal and Muckish, and frequent in the mountains of this district.

VII. and VIII. Frequent.

From 2200 feet to sea-level.

Trichomanes *Linn.*

693. **T. radicans** *Sw.* KILLARNEY FERN.

Wet shady rocks. Very rare. Fl. August to October.

IV. Poisoned Glen, where it was discovered in the year 1884, by Mr. Mahony.

VIII. Ardnamona Woods, Lough Eske, 1884.

First record; Hart, 1885 (*Jour. of Bot.*)

Adiantum *Linn.*

694. **A. Capillus-Veneris** *Linn.* MAIDEN-HAIR.

Moist shady cliffs and banks by the sea, especially on limestone. Very rare. Fl. July to October.

VIII. Slieve League at Bunglass; Tawny Bay to Teelin Bay; Teelin Bay to Muckross Point.

Much of this fern has already been exterminated. Should any future observer be desirous of seeing specimens, I would implore him to do so *privately*, out of view of any natives or residents whatsoever. This entreaty may be applied to other rare plants, but more especially to the Holly Fern.

First record; Rev. L. O'Brien, 1872 (*Recent Additions, etc.*)

The maiden-hair, though preferring limestone, does not require it. Slieve League and Achill are both instances of this in Ireland, and many places abroad might be quoted. I find no difficulty in establishing it in places where there is not a particle of limestone. This remark is necessitated by a statement at page 305 in the *Flora of North-East Ireland*, which was written in direct contradiction of previous remarks of mine.

Pteris *Linn.*

695. **P. aquilina** *Linn.* BRACKEN.

Heaths, woods and sandhills. Very common. Fl. July to October.

From 900 feet to sea-level.

Cryptogramme *R. Br.*

696. **C. crispa** *R. Br.* PARSLEY FERN.

Stony slopes in alpine situations on mountains. Very rare. Fl. July to September.

VIII. Very sparingly on Alt Mountain, near Ardara.

First record; Hart, 1886 (*Proc. R.I.A.*)

Lomaria *Willd.* HARD FERN.

697. **L. Spicant** *Desv.* HARD FERN.

Peaty and stony places in woods and mountains. Common. Fl. July to October.

From 2150 feet to sea-level.

Asplenium *Linn.* SPLEENWORT.

698. **A. Ruta-muraria** *Linn.* WALL RUE.

Old walls, ruins and rarely in dry rocky places. Scarce. Fl. July to October.

I. and II. Rare in Inishowen, W.E. Hart. Sea wall by the Foyle below Brook Hall.

III. Drumalla, near Rathmullan; old wall by Rathmullan Church; Killydonnelly Abbey; on rocks looking north, south-east of Milford, about a mile and a-half from it, and 600 feet above sea-level; rock, at Kinnalargy, Rossgull, the Misses Kinahan; on an old walls Ramelton; Kilmacrenan Abbey ruins; Loughsalt Mountain, the Misses Kinahan; Moross Castle.

IV. Dunfanaghy, Mrs Leebody; in a small glen between Aghla and Muckish Gap (Owen Altderry glen).

V. Reelan Bridge, Mrs Leebody. Near Derry, in several places.

VII. Walls at Laghy and Brown Hall; rocks by the right bank of the Erne.

VIII. Roadside walls at Ardnamona, Lough Eske; walls at Donegal and Lough Eske Castle; by Lough Head River, near Killybegs; St. John's Pt.

From 1100 feet to sea-level.

699. **A. Trichomanes** *Linn.* MAIDEN HAIR SPLEENWORT.

Old walls and shady rocks. Frequent. Fl. July to October.

From 1800 feet to sea-level.

700. **A. viride** *Huds.* GREEN SPLEENWORT.

Damp cliffs in alpine situations. Very local. Fl. July to October.

IV. Cliffs above Lough Alton, looking north, at 1200 feet above sea level; on the north side of Muckish, at about 950 feet with *Saussurea alpina*. Probably the easternmost locality in Ireland. The Loughsalt locality must, I think, be erased.

V. Has appeared spontaneously on old walls at Convoy, Raphoe (and is there still).

VII. By the waterfall above Lough Eske; Banagher Mountain, above Lough Eske, Miss Sinclair.

VIII. Slieve League, from about 1600 to 1200 feet; north-west side of Lavaghmore, at 2000 feet sparingly.

From 2000 feet to 700 feet above sea-level.

First record; Murphy, 1864 (*Flor. Ulst.*)

701. **A. marinum** *Linn.* SEA SPLEENWORT.

Rocks and mouths of caves by the sea. Frequent. All round the coast. Fl. July to October.

702. **A. adiantum-nigrum** *Linn.* BLACK SPLEENWORT.

Rocky places, old walls and stony banks. Frequent. Fl. July to October.

This fern demands more sun than it's congeners.

From 1100 feet to sea-level.

Athyrium

703. **A. Filix-fœmina** *Bernh.*

Damp banks, shady places, and on moors. Common. Fl. July to September.

The form *b. erectum*, Syme, was named for me by Mr. Bennett, from Slieve League. I had hopes of it proving to be *alpestre*.

From 1600 feet to sea-level.

Ceterach

704. *C. officinarum* Willd.

Old walls. Very rare. Fl. July to October.

II. On the sea-wall along the Foyle, below Brook Hall, about three miles north of Derry.

III. Bridge over the River Lennan, between Lough Fern and Ramelton, where it was pointed out to me by the Rev. Lucius O'Brien in 1878; Douglas Abbey, near Churchill, on the road to Letterkenny, the Misses Kinahan.

VI. Ivy Bridge, on the Owentogher River, east of Ardara, sparingly.

VII. Walls at Brown Hall; near Belleek, Mr. Allingham; bridge at Ballintra, Mr. T. Gahan (seen there 1893, H.C.H.)

First record with locality; Hart, 1879 (*Jour. of Bot.*)

Scolopendrium Sm.

705. *S. vulgare* Sm. HART'S-TONGUE.

Old walls, ditch banks and rocky shady places. Frequent. Fl. July to October.

From 600 feet to sea-level.

Cystopteris Bernh.

706. *C. fragilis* Bernh. BRITTLE FERN, BLADDER FERN.

Damp shady rocks, especially in alpine situations. Local. Fl. July to October.

I. Bulbein Mt; Coolcross.

IV. Loughsalt Mt, the Misses Kinahan; Muckish; in a gully on the eastern shoulder of Slieve Snacht (Slieve Snacht Beg), with *Oxyria reniformis* (q.v.) etc, between Slieve Snacht and the Poisoned Glen.

VI. In several places, by the stream above Martin's Bridge (Owengarve River).

VII. By the Erne, near Ballyshannon; Brown Hall; on a bridge over the Termon River, above Pettigo; streams above Laghy, at Moynalt.

VIII. On Binmore Cliff, half a mile west of Lough Belshade, above Lough Eske; Slieve League; Alt Mountain, near Ardara.

Var. dentata occurs on Bulbein Mt, Inishowen, and on Muckish, and on Croghanacleragh, near Ardara.

From 2000 feet to sea-level.

First record, with locality; Hart, 1880 (*Jour. of Bot.*)

Aspidium Sw.

707. **A. lonchitis Sw.** HOLLY FERN.

Fl. August to October.

[III. The record, "The Rosses and Fanet," in *Cybele Hibernica* is erroneous.]

[VII. (or VIII.) 'In a glen east of Lough Eske, Donegal,' E. Murphy, *Mag. Nat. Hist*, Vol. I, p. 436, 1829. This record has never been confirmed. Miss Brooke, of Lough Eske, informed me that these glens had been searched unsuccessfully many times. *A. aculeatum*, *var. lonchitoides* was often found. I believe there was a mistake.]

VIII. Slieve League, sparingly. There is a fine self-sown plant at the base of a tumbled down wall near Killybegs. It was shown to me here by Miss Ball. Similar isolated seedlings have occurred in Tyrone and Longford. See *Cyb. Hibernica*, p. 372.

From 1470 feet to 1850 feet above sea-level.

First record (correct); Hart, 1885 (*Proc. R.I.A.*)

708. **A. angulare Willd.**

Shady banks, woods, and rocky places amongst thickets. Local. Fl. July to October.

I. Goorey, west of Malin.

III. By Lough Swilly, between Glenvar and Macamish; Whale Head; Daisyknowe Island; Long Lough woods.

IV. Ards.

VII. Largy; by the Erne River.

VIII. Lough Eske.

709. **A. aculeatum Sw.**

Damp rocks in shady places and amongst boulders. Local. Fl. July to October.

I. Crockaughrim; Glentogher (*var. lobatum* at Crockaughrim).

- [II. ? No record. Certain to occur.]
 III. Glenalla; Drimnacraig; Bunlinn; Fort Stewart.
 IV. Glen between Muckish Gap and Aghla, with *var. lonchitoides*.
 V. Finn, near Cloughaun Bridge.
 VI. Above the Stuckauns on Owengarve River, Martin's Bridge, Glenties (with *var. lonchit.*)
 VII. Brown Hall; by the Erne River.
 VIII. Stream above Martin's Bridge; waterfall above Lough Eske, with *var. lonchitoides*; River Eske; Lough Eske; Eanymore Water.
 From 1000 feet to sea-level.

Nephrodium *Rich.*

710. **N. filix-mas** *Rich.* MALE FERN.
 Ditches, hedges and woods. Abundant. Fl. July to September.
 Usually *var. abbreviata*, Bab, on the upper parts of the mountains.
 From 1800 feet to sea-level.
711. **N. dilatatum** *Desv.* BROAD FERN.
 Woods, shady banks and mountain slope. Abundant. Fl. July to September.
 From 2150 feet to sea-level.
712. **N. spinulosa** *Desv.*
 Woods and shady banks. Very rare. Fl. July to September.
 VII. In a glen leading to Barnesmore Gap, on the south-west side of Barnesmore.
 VIII. Woods at Lough Eske.
 First record; Hart, 1886 (*Proc. R.I.A.*) Doubtfully district.
713. **N. æmulum** *Brack.* EVERGREEN FERN, HAY-SCENTED FERN.
 Fl. July to October.
 Shady woods and (rarely) mountainous glens. Frequent.
 I. and II. Not unfrequent in Inishowen.
 III. Rathmullan; Glenalla; Glen Lough; Glenveagh, etc. Frequent in this district.
 IV. Frequent.
 VII. and VIII. Frequent.
 From 800 feet to sea-level.

714. **N. Thelypteris** *Desv.* MARSH FERN.

Marshy places in woods and near rivers. Very rare. Fl. July to September.

VII. By the River Erne, A.G. More (near Ballyshannon); on limestone shingle by the Erne, close to Belleek; in tussocks of *Carex paniculata*, on the marshy edge of a small lake about three miles south of Ballintra, close to the roadside.

First record; A.G. More, 1866 (*Cybele Hibernica*).

715. **N. oreopteris** *Desv.* SWEET MOUNTAIN FERN.

Moors and mountain glens. Local. Fl. July to September.

I. Frequent in the glens about Carndonagh, Moville, Glennagivney, etc.

III. Glenveagh; Bunlinn; several places about Glen Lough, Miss Kinahan; Aughterlinn; Carradoan; Glenalla road, near Carrowkeel; Knockalla.

IV. Between Muckish Gap and Calabber Bridge.

V. By the Reelan Water.

VI. Between Glenties and Silver Hill.

VIII. Between Lough Belshade and Lough Eske; banks of Eske River, Glen River, Lough Head River, etc; Croaghanacleragh, near Ardara.

From 800 feet to sea-level.

Polypodium *Linn.*

716. **P. vulgare** *Linn.* POLYPODY.

Walls, trees, rocks and dry banks. Common. Fl. July to September. From 1100 feet to sea-level.

717. **P. Phegopteris** *Linn.* BEECH FERN.

Damp woods, banks, and mountain cliffs in shady situations. Locally abundant. Fl. July to September.

I. Crockaughrim, Mr. C. Moore; Coolcross.

II. Mintiagh Glen, Mr. C. Moore.

III. Glenalla; Knockalla; Carradoan Wood, near Macamish Pt; Augherlinn; Bulbein and Cratlaugh, near Milford; Lough Doo and Croaghroe, Miss Kinahan; Cottian wood, near Kilmacrenan.

IV. Slieve Snacht to 2000 feet and upwards; on Muckish Mt, Mr. C. Moore (*Cyb. Hib.*); Glenveagh and Glenlack; waterfall on the Crawley

(Gweedore) River, just above Crolly (on the district boundary of IV. and VI.)

VI. Above Lough Finn, on Aghla; south side of Gweebarra Estuary, about a mile above Russell's Ferry, in a natural copse (see also under District IV.); Owengarve River, above Martin's Bridge, Glenties.

VIII. About Lough Eske and Lough Belshade, and on Blue Stack, Lavaghmore and Silver Hill; sparingly about Killybegs, A.G. More; Ardamaona an Lough Eske Castle Woods; Banagher mountain; Alt Mountain, near Ardara; natural scrubby places by the coast, between Magheragh and Slieve-a-Tooye; Barnesmore, Admiral Jones (*Cyb. Hib.*), etc; waterfall above Lough Eske, *Flora Hibernica*; Lowerymore Glen; Croaghanacleragh.

From 2100 feet to sea-level.

First record; Makay, 1836 (*Flor. Hib.*)

Osmunda *Linn.*

718. **O. regalis** *Linn.* ROYAL FERN, FLOWERING FERN.

Fl. July to September.

Wet moors, by mountain lakes and streams, and on sea cliffs. Common west of Lough Swilly.

I. Formerly found at Culdaff (Dickie). Very rare, or extinct in Inishowen now. At once on leaving Inishowen and crossing Lough Swilly this fern becomes common. But it is rapidly falling a prey to tourists in Fanet and elsewhere.

II. Linsfort, Dunree, J. Hunter (1892).

Common in the other districts.

From 700 feet to sea-level.

Ophioglossum *Linn.*

719. **O. vulgatum** *Linn.* ADDER'S TONGUE.

Meadows, pastures and dry banks. Local. Fl. May to July.

I. Leenane.

II. Kilderry, W.E. Hart.

III. Carrablugh; Glinsk; Horn Head; Rossgull; Rosapenna; Ballyarr Wood (Miss Kinahan), etc.

VII. Brown Hall; Stone Park, near Ballyshannon.

VIII. Lough Eske Castle.

720. **O. polyphyllum** *Syme.*

Bare pastures facing the Atlantic. Very rare. Fl. August to October.

IV. Horn Head, 1878.

VIII. Carrigan Head, Slieve League. I have gathered this little fern also on Sybil Head and Brandon Head in Kerry.

“Distinct from *O. ambiguum* of Orkney,” Sir. J. Hooker. Mr. Bennett tells me that this form occurs at Orkney, Scilly Islands, St. Kilda, Merioneth, and in France.

First record; Hart, 1879 (*Jour. of Bot.*)

Botrychium *Sw.*

721. **B. Lunaria** *Sw.* MOONWORT.

Peaty pastures, especially near the sea. Probably frequent, but withers early and not easily observed. Fl. April to June.

I. Leenane; Culdaff, Prof. Dickie.

II. Local, W.E. Hart. “Side of Lough Swilly, near Burnfoot,” Mr. C. Moore; Linsfort, Mr. Hunter.

III. Carrablagh; Seven Arches; Kindrum; Between Waters; and elsewhere in Fanet, frequent; Carn Hill, above Fort Stewart, near Ramelton (Miss Kinahan); frequent in Rossgull, especially on sheep pastures on the west side.

IV. At Gweedore, Mr. P. Mahony.

VII. Templecarn, near Pettigo, Miss Young.

VIII. Slieve League? I gathered some withered remains of apparently this fern along the cliffs, on the far side of Slieve League from Carrick.

From the abundance of this fern in some parts of Fanet, I cannot think it is as scarce as would appear from the above record, in the other parts of the country.

Equisetaceæ

Equisetum *Linn.* HORSE-TAIL.

722. **E. arvense** *Linn.*

Damp fields, roadsides and ditch banks. Common. Fl. April, May.

723. **E. pratense** Ehrh.

Damp peaty banks and rocky places. Very rare. Fl. April.

I. Culdaff, *Flor. Ulst.*

IV. Between Dunfanaghy and Gweedore, *Flor. Ulst.*; Mount Charles, *Flor. Ulst.*

First record; Prof. Dickie, 1864 (*Flor. Ulst.*)

724. **E. maximum** Lamk.

Damp shady banks in heavy soil. Rare. Fl. April, May.

I. Glennagivney.

II. Blanket Nook and Burnfoot.

III. In two small glens between Macamish and Glenvar, and near the latter, by Lough Swilly; near Whale Head, to the east of Ramelton; Rosapenna.

VII. North of Ballyshannon, in several places.

VII. and VIII. Abundant near the town of Donegal.

725. **E. sylvaticum** Linn.

Shady damp places, thickets, hedges, and mountain slopes. Frequent. Fl. May to June.

From 700 feet to sea-level.

726. **E. palustre** Linn.

Marshes, bogs, and wet fields. Frequent. Fl. June, July.

727. **E. limosum** Linn. PIPES.

Margins of lakes, slow streams, and in ditches and pools. Common. Fl. May to July.

From 1100 feet (Lough Napaste, Barnesmore), to sea-level.

728. **E. hymale** Linn.

[III. The locality formerly given "Little Bins, Fanet," is, I fear, erroneous. I am unable to rediscover it there. The locality has been entirely overgrown, however, with bramble.]

VIII. By the right bank of the River Eske. Named by Mr. Baker for me, who considered the specimens as showing an approach to *Moorei*. The plant was of coarser growth than the following.

First record (correct); Hart, 1886 (*Proc. R.I.A.*)

729. **E. trachyodon** A. Br. *E. Moorei*, Newman.

Banks of streams on a limestone soil. Very rare. Fl. June, July.

VII. Bank of the Waterfoot river, south of Pettigo, near the railway crossing. This locality is on the edge of the county. By the Bundrowes River, above Bundoran. Mr. Bennett determined these specimens for me. I agree with him that *E. Moorei* and *E. trachyodon* are inseparable.

First record; Hart, *Flora*.

Lycopodiaceæ

Lycopodium Linn. CLUB-MOSS.

730. **L. clavatum** Linn. CLUB-MOSS.

Dry, grassy and stony hills. Rare. Fl. July to October.

I. Stoolary Hill, 3 miles south of Carndonagh.

II. Scalp, near Fahan; Greenane.

III. Croaghroe, and Inch Mountain, the Misses Kinahan.

IV. By the Bullaba River, about a mile below the watershed.

V. Bogay Hill, midway between Londonderry and Inch Mountain.

VII. Mountains near Pettigo, Miss Young.

VIII. Abundant on slopes looking N.E. near the roadside, south of Ardara, at a place called "Nock of the Ballagh," on Croaghnacleragh.

From 900 feet to sea-level.

Recorded without authority or locality in *Cybele Hibernica*.

First record (with locality); Hart, 1883 (*Jour. of Bot.*)

731. **L. alpinum** Linn.

Bare mossy and stony summits of mountains in alpine situations. Rare. Fl. July, August.

II. Summit of Slieve Main, S.W. of Slieve Snacht.

III. Moylennanav, in Glendowan.

IV. Slieve Snacht West; Muckish; Dooish; gully looking north-west on Slieve Snachtbeg at 1800 feet.

VI. Aghla Mountain, above Lough Finn.

VII. Barnesmore Mountain, E. Murphy.

VIII. Slieve League, near the summit; Alt mountain, near Ardara;

on a mountain known locally as Croaghnacarkfree ('Hill of the Moor Fowl'), 2 or 3 miles south-east of Martin's Bridge.

From 2219 feet to 1400 feet above sea-level.

First record; "Aghla and Barnesmore Mountains," E. Murphy, *Mag. Nat. Hist.*, Vol. I, p.436, 1829.

732. **L. Selago** *Linn.*

Moors and mountains. Common. Fl. May to September.

From 2400 feet to sea-level, or near it.

Selaginellaceæ

Selaginella *Beauv.*

733. **S. selaginoides** *Gray.*

Wet, peaty, stony and sandy places. Common, especially in alpine situations. Fl. June to September.

Occurs on sandy pastures by the sea; in mossy swamps; on the limestone bluffs and pastures in the S.W; and high up on the mountains.

From 1800 feet to sea-level.

Isoetis *Linn.* QUILLWORT.

734. **I. lacustris** *Linn.*

Mountain lakes and tarns at a depth of 1 to 3 feet. Frequent. Fl. June to September.

I. Lough Naminn and Lough Fad in the Mintiaghs; Lough Fad, East Inishowen.

II. Mintiaghs Lake, sparingly.

Frequent in the remaining districts.

From 1500 feet to low level.

First record; "Lakes in the Rosses, Donegal," E. Murphy, *Mag. Nat. Hist.*, Vol. I, p.436, 1829.

I. lacustris, *L.*, var. *falcata*, *Tausch.*

VII. Knader Lough, near Ballyshannon. Named by Mr. Bennett.

Characeæ**Chara** *Vaillant.*735. **C. fragilis** *Desv.*

Lakes and ponds. Frequent?

II. Small lake at Ards.

VI. Kiltorris Lake, near Ardara.

VII. Bundrowes River; Carrickahorna Lake.

VIII. Lakes about Killybegs, Rev. E.S. Marshall.

Var. delicatula.

III. Kinnylough, Fanet.

VII. Bundrowes River, Bundoran.

The species of this family have been determined by Mr. Arthur Bennett.

736. **C. contraria** *Kuetz.*

Lakes and ponds.

VI. Kiltorris Lake, north-west of Ardara.

Nitella *Agardh.*737. **N. opaca** *Ag.*

Lakes and ponds.

IV. Small lake at Ards.

VII. In a small lake on the left bank of the Erne, above Ballyshannon; Lough Erne, near Pettigo; Lough Golagh, nine miles N.E. of Ballyshannon.

(Pages 297 to 364, "Climate" have been omitted.)

APPENDIX.

PLANT-NAMES AND PLANT-LORE.

- AARON'S ROD. *Solidago Virgaurea*. Golden rod. Shane's Castle, Co. Antrim. [Warwickshire, Britt. And Holl.]
- ADDER'S TONGUE. *Arum maculatum*. Cuckoo pint. Co. Tyrone.
- AGRIMONY. *Agrimonia Eupatorium*. Much valued for weak or sore eyes. Brown Hall, Co. Donegal.
- ALDER. Elder. *Sambucus nigra*. Ray, Co. Donegal. Called also Boor tree or Bore tree.
- ALEXANDER. *Smyrniium Olusatrum*. Alexanders. Ray, Co. Donegal.
- AMERICAN WEED. *Elodea canadensis*. Erne River, Co. Donegal.
- ARAS. Another name for the skayug, shiggy, or fairythorn. Ballyshannon.
- ARNUT. Earthnut. *Bunium flexuosum*. Ray, Co. Donegal. [North Eng. And Scottish.]
- ARRIGOLOGHER. *Spiræa ulmaria*. Killybegs, Co. Donegal. [Ulmaria Airgid Lovaghra, Threlkeld.]
- ATCHENAGH. Furze, Gorse. Fanet, Co. Donegal. [Aitinn, Threlkeld.]
- BACHELOR'S BUTTONS. *Centaurea nigra*, Ramelton, Killybegs, and Ballyshannon; *Scabiosa succisa*, Brown Hall, Donegal; 'the Clover-grass,' Fanet; 'a name given to many flowers,' Prior.
- BASKET FERN. *Lastrea Filix-mas*, Shieldfern, Derry. [Cornwall, Hants, Britt. and Holl.] From the receptacle formed by the base of the fronds. Called also *crook-fern*.
- BARRAN A DHU OR BARRADHU. Fibrous roots of bent or some other sand plant, used in scouring pans, kitchen tables, etc. Fanet, Co. Donegal. [?Barrach, twigs, branches; dhu, black.]
- BEECH. "Under this tree (or birch) thunder won't strike you." Glenalla, Co. Donegal.
- BEGH. *Betula*. Birch. Fanet.
- BENDLE. *Luzula sylvatica*. Woodrush. Glenties, Co. Donegal. [Bentle and Bennel are names given to coarse grasses, Britt. and Holl.]

- BENWEED. *Senecio Jacobæa*. Ragweed. Universal. [Scotland, Jamieson.]
- BENT. *Eriophora* (cottonsedges) and *Narthecium* or bog-asphodel, Stranagalwilly, Co. Tyrone. [A term usually applied to the old stalks of various grasses, Britt. and Holl.]
- BERGAMOT. *Mentha piperita*. Peppermint. Killybegs.
- BETONY. *Ajuga reptans*. Bugle. Flora N.E. Ireland.
- BILBERRY DAY. At the end of July (about Favour Royal, Co. Tyrone) the people go to the woods to gather bilberries. It is a great day for making up matches. See *Heather-berry day*.
- BILLER. *Nasturtium officinale*. Watercress. Glen Alla, Co. Donegal. [Patterson, Antrim and Down Gloss, *biorrer*, Irish; Kilrea, Derry, Britt. and Holl; Gaelic, *biolair*, a dainty, etc, Cameron, who says the Gaelic and Irish bards used it for all cresses.]
- [BI-NA-KEEON. At Glencar, in Kerry, the name for Irish spurge. In Galway, at Gort, it is called makkin bwee. 'Buidhe-na-ningean, spurge, tithymallus,' O'Reilly. *Tithymallus Hibernicus*, Makkinboy, Threlkeld.]
- BIRCH. See under *Beech*.
- BISHOP WEED. *Ægopodium Podagraria*. Derry.
- BISHOP'S-POSY. *Chrysanthemum Leucanthemum*. Ox-eye daisy. Belleek to Brown Hall, Co. Donegal.
- BITING BILLY. *Scabiosa succisa*. Devil's-bit. Co. Derry.
- BILLY BRIGHT-EYE. *Veronica Chamædrys*. Speedwell. Glen Alla, Co. Donegal.
- BLACKBERRY. At Hallow Eve the Devil goes round and shakes his bratogs (rags) over the blackberries and they are then unfit to eat. [There is probably a play on words here as *bratogs* means both 'rags' and 'worms.'] Fanet, Co. Donegal.
- BLACKHEAD. *Typha latifolia*. Reedmace. Londonderry. In common use. Cited by N.E. Ireland Flora. [Isle of Wight, Britt. and Holl.]
- BLACKHEAD. *Centaurea nigra*. Derry and Donegal (Killybegs.) The common name also about Dublin for hardhead is 'blackhead.'
- BLACKHEAD. *Eriophora* or Cottonsedges are called so about Killybegs, before the white plumes show.
- BLACKWEED. *Potamogeton natans*. Broadleaved pondweed. Inishowen, Co. Donegal. See *Dooliman*.

- BLAEBERRY. *Vaccinium Myrtyllus*. Bilberry. General. Called also 'blue-berry,' Donegal.
- BLACKLEG. A disease in cattle. *Allium Babingtonii*, a species of coarse half-wild garlic is a cure for it. If a bulbil from the flowerhead be divided, and half of it put into a slit in a calf's tail and bound up, the calf will not die of blackleg. [This disease is the same as 'Quarterill'? Said to be prevalent since turnip feeding came in vogue, Canon Ross, Dungiven.] Glen Alla, Co. Donegal. [In Leicestershire Blacklegs is the same as that known to Vets. as Wood-evil. Lisle, Dial. Soc.]
- 'Poore bullock with browsing and naughtily fed,
Scarce feedeth, his teeth be so loose in his hed:
Then slice ye the taile where ye feel it so soft,
With soote and with garlike bound to it aloft.'
- Tusser, Five Hundred Points of Good Husbandrie, 1585.
- BLADDER WRACK. *Fucus versicolor*. Called also Wrack. Used for manure. Stones are regularly set in the slob in some places, as at Ray, Co. Donegal, and a crop cut off. [In Appendix, Britt. and Holl, from my information.]
- BLANTER. [A particular kind of oats long in the pickle, and late in ripening.' Antrim and Down Woods, Patterson.] Co. Derry, Canon Ross. Sampson's Survey of Derry, 128, 183.
- BLANCHNOG. *Arctostaphylos Uva-ursi*. Cowberry. Slieve League and Ardara. [?'braighliog, bilberry, O'Reilly.]
- BLIND-EYE. Wild poppy. Favour Royal, Co. Tyrone. [In Britt. and Holl. of Norfolk and Bucks – 'There is a belief in Yorkshire that if placed too near the eyes it will cause blindness.']
- BLINDMAN'S BUFF. A kind of mushroom or fungus. Fanet, Co. Donegal. [Species of *Lycoperdon*. Known about Dublin, etc, as *Puff-balls*. Halliwell says, 'a kind of puff-ball is so called.' Jamieson quotes Linnæus that in Sweden an idea prevailed that the dust caused blindness. In Dublin this belief is still firmly adhered to. Holl. and Britt. quote Johnston's Botany of Eastern Borders.]
- [BLOBBY WAUR. The name for 'bladder wrack' (*q.v.*) at Howth, Co. Dublin. From Blob, a bladder, and waur or ware, a name for various kinds of sea-weed.]
- BLOODWEED. *Geranium Robertianum*. Ballyshannon. This plant is held to be good for cattle passing blood. Belleek.
- BLOODWEED. *Polygonum lapathifolium*. The dark spot on the leaf is supposed to be blood, and the plant was at the foot of the cross. Belleek.

- BLOOMING WILLIE, OR BLOOMING WILLOW. *Epilobium angustifolium*. Glen Alla, Co. Donegal. [North-east Ireland, Britt. and Holl.] See also *Flowering Sally*, or *Sallow*.]
- BLUE-BONNET. *Campanula rotundifolia*. Harebell. Belleek, Co. Donegal. [Britt. and Holl. give this as *Scabiosa succisa*, *Centaurea Cyanus*, and *Jasione montana*, all Scotch.]
- BLUEBERRY. See *Blaeberry*.
- BLUE ROCKET. *Orchis maculata*. Belleek, Co. Donegal.
- BLUE JACKET. *Polemonium caeruleum*. Glen Alla, Co. Donegal.
- BOCHAN BORROUGH. The large umbrella-shaped fungus that grows on trees; Inishowen, Miss Galway. [?Bochan, a hobgoblin, and borradh, a swelling, hump.] Threlkeld has Bochan Beragh, Fungus.
- BOGALL. *Salix repens*. Belleek to Brown Hall.
- BOGBEAN. *Menyanthes*. Yields a useful dark brown dye, Ardara. Decoction valuable for blood purifying. This and *Potentilla Tormentilla* ('yamminy' *q.v.*) are the chief 'yerribs' now in use in Fanet. [Carleton speaks of bogbean as a cure for 'link-roe or heartburn' Lianhan Shee, *Tales*, 11.76.] Invariably called *bog-bean* in Ireland, everywhere. Never pronounced *buck* in my experience. It is picked in summer and dried, and taken in March (Fanet).
- BOGLUSS BWEE, BUCKLES BWEE. *Senecio Jacobæa*. Killybegs, Ragweed. [Bogluss *i.e.* Bugloss. A name for several widely different plants with rough leaves. But perhaps corrupt form of Bougalan bwee, *q.v.* "In Ulster they call groundsel by the name of Bogluss." Threlkeld.]
- BOGBERRY. *Comarum palustre*. Marsh cinquefoil. Brown Hall.
- BOGSORREL. *Rumex acetosa*. Sorrel Dock. Ballyshannon.
- BOLAIRA. Called also *Phillaira*. Corrupted from Valerian. *Valeriana officinalis*. Glen Alla. See *Malara*.
- BOOR TREE, BORE TREE. *Sambucus nigra*. Elder. General. "The tree with the boor branches." Glen Alla.
- BOUGHALEEN BWEE. *Senecio Jacobæa*. Ragweed. Killybegs; Glen Alla. [Buacailan bwee. Yellow boy. If you strike a cow with b.b. she is "blinked." A very "shiggy" plant. Called also the 'fairies horse,' on which they love to ride.] This name was translated for me 'yellow boy' by a Glen Alla man. ["Sometimes they ride double, two to every ragweed." *Ulst. Jour. Arch.* VII. 132.]
- BOUGHRÂM, BAUGHRÂM. Bogbean. Fanet. Co. Donegal. [In Connaught, Bacharan, Threlkeld.]

- BRIAN BRAW. *Lythrum Salicaria*. Purple Loosestrife. Ballyshannon. [O'Brien gives 'breallan leana,' for this plant.] This is perhaps a form of the same name.
- BRISKEN. *Potentilla anserina*. Goose grass. Belleek. [O'Brien briosglan, skirret, silver weed. *Potentilla anserina*. Cameron gives Gaelic 'brisgean,' and quotes Armstrong, 'brisgean or wild skirret, often eaten (root) by the poor.'] See Sheep's brisken. [Threlkeld, Irish, brisglan.]
- BRUSH SWEET WILLIE. *Orchis maculata* or *O. latifolia*. Ardara.
- BUCKIE, BUCKIE-BERRY. *Rosa canina*. The dog rose. In common use in Donegal, Derry, Down and Antrim. 'Not worth a buckie,' is a common phrase. [Not in N.E.D. In Sampson's Survey of Derry, p.39, Appendix. Not in Jamieson nor Britt. and Holl. In Patterson.] Buckie is a very 'gentle' bush, and must on no account be destroyed, like a thorn that was never planted. Derivation unknown. Boc (or Puck) has been suggested in connection with Sprite-lore mentioned above.
- BULL'S PEAS. *Rhinanthus Crista-galli*. Yellow rattle. Ballyshannon. Bull as a prefix has often signification of large, as horse has of 'coarse.'
- BUCKIESHAUN. *Senecio Jacobæa*. Ragweed. Tyrone. Favour Royal. There was an old song in which the word occurred: –

“Where the ‘Bunkinshawns’ do grow, Molly dear,
And the rabbits do run so, Molly dear,
And my shadow on the wall,
It has grown so very small.
That I’m not myself at all, Molly dear.”

- The word is still in use, I am informed, at Malahide, Co. Dublin. [Pfullan buich balkisan. *Jacobæa*, Threlkeld. Corrupted from last word of name, no doubt. 'Comely yellow balkisan.']
- BUMMUCK, OR BURMUCK. *Scilla nutans*. Bluebell or wild Hyacinth. [Threlkeld, Irish, Buha muck.] Pettigo, Co. Donegal.
- BUTTERNUT. Fruit of *Hypericum Androsæmum* and other larger sorts grown in shrubberies. Londonderry.
- CAORRAGH AITTYEAN. *Juniperus nana*. Fanet. [Caor, berry; aittin, gorse, whin.]
- CAORRAN. *Pyrus aucuparia*. Mountain ash. The berry tree. Donegal to Pettigo.
- CARL DODDY. *Scabiosa succisa*. Devil's Bit, Scabious. Derry. [Jamieson gives this to *Plantago lanceolata*; but under Curlie doddie he interprets as above. Other plants so called are given in Britt. and Holl. The idea is a long-stalked flower. Doddie = bald.]

- CARNYAMELIA. *Lathyrus macrorrhizus*. Heath pea. Lough Derg, Pettigo, Co. Donegal. Any good little handy article is also called so. I have heard it used of a cow, a rod, a knife, a stick. "It makes an excellent stomach drink." [Carmeale, carmylie, carameil. Heath peas. Gael., caermeal, Pennant. Jamieson.] Pronounced carn-yamelia.
- CAT'S TAILS. *Eriophorum*. Cottonsedge. Stranagalwilly, Co. Tyrone. [In Jamieson; 'Galloway.']
- CASHĀRĀWAN. Dandelion. See Glashārāwān.
- CHECKLE-WEED. *Polypodium vulgare*. Killybegs. Mr. Arthur Brook, who obtained this name for me, was not certain if above was the accurate pronunciation.
- CHICKENWEED. *Stellaria media*. Lough Derg, Pettigo.
- CHICKENWEED. *Linum catharticum*. Belleek, Co. Donegal. Good for sprains and bruises, infused.
- CLAIRTHA. *Veronica officinalis*. Speedwell. Good for colds. Belleek.
- COCKS. Flowerheads of *Plantago lanceolata*, or ribgrass. The common name in Ireland. 'Cocks come out of the ripplegrass,' Lough Derg, Pettigo.
- COPPĀG. *Rumex*. Docken. Fanet.
- CORRĀGY. *Rosa tomentosa* and *R. canina*. Buckie or wild rose. Fanet.
- COLD-FOOT, COULD-FOOT. *Tussilago Farfara*. Coltsfoot. Generally so pronounced in Donegal.
- COOLFAUGH. *Urtica*. Nettle. Fanet.
- CORASEENA. *Vaccinium Myrtillus*. Bilberry. Fanet.
- COW TONGUE. *Scolopendrium vulgare*. Hart's tongue. Portrush.
- CRAN COMMER. *Salix repens*. The small willow of sandhills, etc. A decoction from the leaves is good for pains in the head and much prized. Glen Alla. [Crann coimir, short tree?]
- CRAN OOLY. Apple tree. Fanet. 'Ubhall, apple,' O'Reilly.
- CRAWFOOT. Crowfoot. *Lotus corniculatus*. Marble Hill, Dunfanaghy, Donegal. See under *crowfoot*.
- CRAWTEE. Crowtoe. *Ranunculus repens*. 'The same plant as *set-fast*.' Fanet, Co. Donegal. See under *crowtoe*.
- CRADAN. *Arctium*. Burdock. Fanet.
- CRAZZOOL. This extraordinary name was applied by a peasant to *Araucaria* ('monkey-puzzler'). After some years I discovered it to be a corruption of *crassula*, from the resemblance in the leaf

arrangement. Many such local corruptions occur. Cat-in-easter or cottony aster is Cotoneaster. Rosy dandlers Rhododendron. Unanimous, Enonymous. Pyannie or Pyanno rose, Peony. Extortioners, Nasturtiums. Pompous grass, Pampas grass. Baboon, Bamboo.

- ROWAGHAN. *Pyrus aucuparia*. Rowan-tree. Fanet. [Cäorran, Irish.]
- CREEPING JENNY. *Lysimachia Nummularia*. A favourite cottage garden plant in Ulster. Favour Royal, Co. Tyrone. [Herts, Mids. Britt. and Holl.]
- CRIG. A fircone. Monaghan. I have not found the word in any dictionary. [Grig has various senses, amongst others heath (Threlkeld), but the Monaghan word is distinctly *crig*. Crig is the name of an instrument used in preparing flax, and it also means to knock or strike.]
- CROCK-FERN. *Lastræa*. Shieldfern. From the cupshaped crown and fronds. Derrynoid, Londonderry. See *Basket fern*.
- CROOBEEN CUT. *Lotus corniculatus*. Ballyshannon. [Cruba-eain, bird's foot; O'Reilly.]
- CROTTEL. *Rosella* sp. 'The lichen from which litmus or orchil is prepared.' A lichen used to dye feathers and wool orange for tying flies, Ballyshannon and Belleek. The word is used throughout north and north-east Ulster, and in Scotland. Applied to various lichens. Gaelic and Irish *crotal*.
- CROW-FOOT, CROW-TOE. Buttercups of sorts, Kilderry. 'Buttercup grows from crow-foot or crow-toe,' Belleek. In the *Ranunculus* names belong to leaves. In Lotus, the spread out pods. Giving one name to a flower and a different name to the plant it grows on leads naturally to confusion. So 'cocks from the ripple-grass.' 'He' and 'She' heather. And in dandelion the roots and leaves are the 'mother.'
- CROW-PICKER. *Scilla nutans*. Bluebell. Ballyshannon.
- CROW-ROCKET. *Eupatorium cannabinum*. Hemp-Agrimony. Ballyshannon.
- CROW-SORREL. *Rumex acetosa*. Pettigo.
- CRUK SLANLISH. *Plantago lanceolata*. Ribwort. Killybegs. See *slanlish*. [Croc, red.]
- CRUPPANY-GRASS. *Nartheccium ossifragum*. Bog asphodel. "It's a kind of goose-grass which gives sheep a stiffness in their bones," Lough Mourne, Co. Donegal. "Cruppan in sheep is a sort of rheumatism from cold, hardship, and bad food," Glenties, Co. Donegal. In McParlan's Survey, p.44, the word 'cruppany' is said to give its name to coarse mountain pasture, from giving this disorder.

Cruppan he derives from cripple. Jamieson connects it with 'creep.' This McParlan's Survey of Donegal (1802) is a wretched work.

CUCKOO-FLOWER. *Lotus corniculatus*. Cliff to Brown Hall, Ballyshannon. It is curious that the only sense in which I have met this word in Donegal should differ from the various 'cuckoo flowers' in Britt. and Holl. About Dublin *Cardamine pratensis* is the cuckoo-flower.

CUCKOO-SORREL. *Oxalis acetosella*. Wood sorrel. Lough Derg, Pettigo and Kilderry, at opposite ends of Donegal. [In Britt. and Holl. for various places. Patterson, Antrim and Down.] Derry, Canon Ross.

CURRIS-RAN. *Empetrum nigrum*. Crowberry. Slieve-a-Tooev, Ardara, and Fanet, Co. Donegal. [Caor, a berry?] This name bears no resemblance to those given in Threlkeld or Cameron.

CUSHKINA. Reeds. *Arundo*. Fanet.

CULLEN. Holly. Fanet, Co. Donegal.

DAFFODIL. The roots are held useful as an emetic. Ardara.

DAY NETTLE. *Stachys sylvatica*. Belleek. Galeopsis is, I think, also so-called. See *sting nettle*.

DAY ROSE. *Cistus ladanifera*. Gum cistus. The flowers last only a day. Brown Hall, Co. Donegal.

DEADLY NIGHTSHADE. *Arum maculatum*. Cuckoo-pint. Favour Royal, Co. Tyrone. This name was also in use in Co. Dublin in my memory.

DEAD MAN'S POSY. *Armeria maritima*. Sea-pink. Ardara, Co. Donegal.

DEVIL'S CHURNSTAFF. *Euphorbia Helioscopia*. Patterson, Antrim and Down Words. From the unwholesome 'milk' exuding.

DEVIL'S BIT. *Arum maculatum*. Favour Royal, Co. Tyrone. Held to be very poisonous.

DEVIL'S BIT. *Scabiosa succisa*. Belleek.

DILLISK, DULSE. A seaweed. *Rhodymenia palmata*. Eaten by the poor people, and exported to Liverpool and Glasgow. It is dried in the sun for use, but also eaten fresh of the rocks. There is a sort of sentiment attached to the eating of it. An inland person holds it beneficial. ['Duilliasg, palmated fucus, dilse,' O'Reilly. Threlkeld has an interesting account under *Fucus membranaceus*.]

DOCKEN. *Petasites vulgaris*. Belleek. [Water Docken, Cumberland, Britt. and Holl.]

- DOGBERRY. *Viburnum Opulus*. Erne River, Co. Donegal.
[Cumberland, Britt. and Holl.]
- DOG DAISY. *Chrysanthemum inodorum*. Glenalla.
- DOGWEED. (?Dockweed). *Rumex crispus*. Belleek.
- DOG'S TOE. *Geranium Robertianum*. Herb Robert. Glen Alla.
- DOOLAMAN. *Potamogeton natans*. Broad-leaved pondweed.
Inishowen. [Threlkeld says of this, called in Ulster' Liagh Roda.']
Called also Blackweed and Lady Wrack. [Duille, leaf and abhan,
or aman, river.] See under *Will-o'-the-Wisp*.
- DRISAG. (Dherísag) *Rubus*. Briar, bramble. Fanet.
- DRAMWE NA MURROUGH. *Erythrea centaurium*. Centaury. Belleek, Co.
Donegal. [Dremira muire, *Centaureum minus*, etc. Threlkeld.]
- DREAN DHU, DREAN BAWN. Blackthorn, Whitethorn. Fanet.
- DUCK'S MEAT. *Lemna minor*. Duckweed. Ardara. [An early name, still
used in Ches. Warw, Britt. and Holl; Prior.]
- EARTH-STAR. A fungus showing its top above the earth, like a flat puff
ball, and in a 4 stellate form. Kilderry, Co. Donegal. "Geaster,"
Berkshire, Prior.]
- EELWEED. *Ranunculus pseudo-fluitans*. The floating water-crowfoot of
the Erne is so-called there. Eels are said to be very fond of it.
- EENAGH. *Hedera*. Ivy. Fanet.
- ELDER-PLANT. *Ægopodium Podagraria*. Bishopweed. Coleraine.
Called a "pizen plant" by the local gardeners on account of the
annoyance it causes. [Dwarf elder, wild elder, Britt.]
- ELFSHOT COW. Herb Robert (*Geranium Robertianum*) and Yarrow
(*Achillea Millefolium*), pounded with salt and water and given to a
cow, is one of the numerous cures for this supernatural ailment.
- ESPIBAWN. *Chrysanthemum Leucanthemum*. Tyrone and Monaghan.
"Espibawn-tea," an infusion of the white ray-petals of this flower,
was a favourite drink formerly against chills. (Did they put
anything else in?) Patterson gives it in his Antrim and Down
Words. [*Bellis sylvestris major*... The great Daisy, or ox-eye; in
Irish, Aisbeoc bán; in Westmeath, Easbeaig boeah, Threlkeld.]
- EVEN ASH. A superstition connected with the ash tree. A girl carries a
leaf with an even number of leaflets. The first man she meets she
asks the name of. His Christian name will be that of her future
husband. Inishowen. [Patterson, Antrim and Down Words, gives
this more fully.]
- FAIRY'S CORN. *Lathyrus macrorrhizus*. Heath Pea. Lough Derg,
Pettigo, Co. Donegal.
- FAIRY FLAX. *Linum catharticum*. Glen Alla and elsewhere.

- FAIRY FLAX. *Euphrasia Officinalis*. Eyebright. Belleek. [Britt and Holl. "English Border."]
- FAIRY GRASS. *Briza media*. Quake grass. Belleek. This name is in use also in Limerick.
- FAIRY'S HORSE. *Senecio Jacobæa*. Ragweed. Well-known to be the plant on which the fairies ride through the air at night. See under *Boughaleen bwee*. Ballyshannon and Killybegs.
- FAIRY SOAP. "The mother (*i.e.* roots and leaves) of that little blue flower (*Polygala vulgaris*) is used as a lather by the fairies." Belleek and Ballyshannon. Major H, of Brown Hall, told me there was a "gentry" place near him where there was a custom of picnicking, and of afterwards washing the hands with fairy soap. [Both Threlkeld and Turner, in their times, could find no people's name of this plant.]
- FAIRY THIMBLE. *Digitalis purpurea*. Foxglove. Pettigo, Co. Donegal; Dungiven, Londonderry, Canon Ross.
- FAIRY THIMBLE. *Campanula rotundifolia*. Belleek and Brown Hall, Co. Donegal.
- FALLEN STAR. *Tremella nostoc*. A slimy fungus. This name is given in Survey of Derry, App. p.35. See under *Shot Star*.
- FAMMANAGH, FAMMALYAGH. A seaweed, often eaten as a kitchen (flavour) for other provisions. Inishowen [Feamain, bladder-fucus; feamnach, sea-wrack, O'Reilly.]
- FARRABUN. *Ranunculus acris*, *R. repens*. Butercup. Belleek and Brown Hall. [Fearban, Threlkeld and O'Reilly.]
- FARRAGOTHA, FIRGOTHA. Hungry grass. [Feur, grass; gortleach, hungry, O'Reilly.] See under *Hungry grass*. This is purely superstitious grass, and it is unsafe to identify it with any species. Cameron, however, identifies it with *Briza*, in which he is probably wrong, since this is not a plant of starved mountains at all. In Tyrone I was informed it was the fiorin (*Agrostis alba*) that makes you so hungry if you tread on it. But I imagine the similarity of the name gave rise to this. The superstition would hardly attach to so valued a fodder grass. [Derry and Donegal.]
- FEADOG. *Equisetum limosum*. Horse-tail. Whistles or pipes are made out of these by boys. Hence the local name "pipes." [Feadog, a flute – fead, bulrush, O'Reilly.] Killybegs.
- FEARKAN. *Primula*. Primrose. Fanet. [In Ulster, Seinherclan, Threlkeld.]
- FEATHERFEW. *Pyrethrum Parthenium*. A common flower about cottage gardens. Used as an emmenagogue about Stranagallwilly, in

- Tyrone, with the same object in view as that for which Rue is elsewhere used. Parsley and gin are similarly used in Derry.
- FIAHA. Rushes. *Junci*. Fanet.
- FIORIN. See *Meadow grass*.
- FIRGOTHA. See Farragotha.
- FLAG, FLAGGERS. *Sparganium ramosum* or *Iris Pseudoacorus*, Fanet, Co. Donegal.
- FLAGGON. *Sparganium ramosum*. Bur reed. Belleek to Brown Hall. Also *Iris Pseudacorus*. It is to the leaves that the name is applied, not to the flowers as Prior states. See Skeat's Etymological Dictionary. See Saggon.
- FLOWERING FERN. *Osmunda regalis*. Royal fern. General.
- FLOWERIN' SALLY. (Sallow). *Epilobium angustifolium*. Largest willowherb. See *Blooming Willie* (willow). Tyrone.
- FOG. *Sphagnum* and other large, dense mosses. Generally spoken of *dry mosses*. [In Britt. and Holl, from my MS.]
- FOG, INDIAN. *Sedum reflexum* and mossy saxifrages of gardens. Any flowering ornamental cushion plant. Indian or French divide the honours for all foreign products. Danish, if ancient. American, if new. Ray, Ramelton.
- FOG, WANDERING. *Lycopodium clavatum*. Club-moss. Inishowen.
- FOUHLAN. *Carduus*. Thistle. Fanet.
- FOX AND LEAVES. *Digitalis purpurea*. Foxglove, Glenalla. [This name is given in Britt. and Holl, who got it from me.]
- FOX TREE LEAVES. *Digitalis*. Dungiven, Londonderry, Canon Ross. [In Appendix to Britt. and Holl. is quoted 'one drink of fox-tree leaves.'] The foxglove is much prized as a medicinal herb, Fanet.
- FOXTAIL. *Lythrum salicaria*. Purple loosestrife. Killybegs.
- FOX TONGUE FERN. *Scolopendrium vulgare*. Belleek. The Harts-tongue is called the 'cowtongue' and 'foxtongue' about the Giant's Causeway.
- FUTHERIN (?). Seaweed. Used as fammaneagh, *q.v.* Inishowen. (Miss H. Galway.)
- FROUGH. *Erica*. Heather. Fanet. [Irish Fraogh, Threlkeld.] Hence Froghan, heather berry.
- GALE. *Myrica Gale*. Bog Myrtle. "The whole of Ireland was called out of this plant in the old time. It was all Gale, and the plant was everywhere when the country was all bog." Lough Derg, Pettigo. Good for cattle. Called in Irish 'raid ye kut.' It is gathered and put under beds to keep off vermin. Pettigo. See raideogagh.

- GARKIN. *Leontodon autumnale*. Hawkbit. Glen Alla, Co. Donegal. Probably an error on the part of my informant, as Gairgin is given in O'Reilly, Threlkeld, and Cameron = *Ranunculus repens*, crowfoot. [In Britt. and Holl, from my MS.]
- GARLIC, WILD. *Allium Babingtonii*. Frequently seen established in a semi-wild state. A decoction from this is good for sick cattle. See under Blackleg. Fanet. [In Britt. and Holl, from my MS.]
- GARYAGH. *Lythrum salicaria*. Purple loosestrife. Killybegs.
- GEAL GOWAN, GEAL SEED. *Chrysanthemum segetum*. Corn-marigold. General. Pronounced Geel (g hard). Wrongly attributed (Gillgowan) to *Chrysanthemum Leucanthemum* in Flora N.E. Ireland. Gealseed is held a pest by the farmers in their cornfields. 'The land is full of gealseed.' [Gule, golden; gowan, daisy. Britt. and Holl, q.v.]
- GERMANDER. *Veronica Chamædrys*. Corrupted into Jerrymanders or Jellymanders, q.v.
- GINGER PLANT. *Tanacetum vulgare*. Dungiven, Londonderry, Canon Ross. [Britt. and Holt, N. Herts.]
- GIUS, GYUS. Fir or pine. Fanet, Co. Donegal. Gius ban is applied to the Silver fir; Gius daireg to the "red pine or larch;" Gius dhu to the "black oak that comes out of the bog." Fanet. [Abies, Irish, Giusagh]. As in Threlkeld, there is but one name for the tribe handed down from the time when the Scotch fir was abundant.
- GLASLARAWAN. *Taraxacum Dens-leonis*. Fanet. [Cais searuhan, Threlkeld, cas, a foot; searbh, sour, Cameron.] In Carleton ("Black Prophet") the dandelion is called casharawan (Tyrone). The name was also applied to Succory, O'Reilly. Cameron's derivation is not satisfactory. The termination is probably *white*, relating to the milky juice.
- GLASHARLANA. *Nartheicum ossifragum*. Bog asphodel. See cruppany. Belleek to Brown Hall, Co. Donegal. [Glas, green; lann, spot?]
- GOLDEN BALL. *Trollius Europæus*. Church Hill, Co. Donegal. [Britt. and Holl, Lanc, Chesh, Staff.]
- GOLDEN WILLOW. *Myrica gale*. Bog myrtle. I suppose from the gold of the pollen, conspicuous in early summer. R. Erne, Co. Donegal. [Golden withy, Wight, Britt. and Holl. See also Halliwell's Dictionary.]

- GOOSE-GRASS. "Cruppany (*Nartheicum*) is a kind of goose-grass." See *Cruppany-grass*. Lough Mourne, Co. Donegal.
- GORLÚS. *Elodea Canadensis*. Erne River. See under *Swanweed*. Perhaps the name has been suggested by the whorled appearance of the leaves.
- GORT-NA-MILLYAGH. See *Carn-na-melia*. The Fanet pronunciation of the name of *Lathyrus macrorrhizus*.
- GRANNY. See Mare's-tail. [?Granni, long hair, Ir.]
- GRANYAGH. *Spergula arvensis*. Corn Spurrey. Called also 'yagh.' This is the Scotch *yarr*, the name in Banff, etc. [See Jamieson.]
- GRASS, SWEET. *Zostera marina*. Co. Donegal. [In Britt. and Holl, from my MS.]
- GULLER-NA-GAT. *Drosera rotundifolia*. Round-leaved Sun-dew. The country people about Killybegs say lambs pick it, and it gives them the 'disease of the ears,' which they die of. The plant has "fresh poison on its leaves for every day of the year," Killybegs. I was told by an Irish-speaking person that 'disease of the ears' was the meaning of the name, but I cannot understand how it can be so.
- HARE'S COCK, HARE. "At the end of reaping the boys would begin to cry 'Hunt the hare!' and then they would suppose the hare was hid in the last cock, and they would throw their hooks at it from a little distance, and whoever cut it through brought home the hare's cock in triumph." Glen Alla. See Granny. Mare's-tail. The same name at Dungiven, Canon Ross.
- HEARTS. Cabbage-heads. Glen Alla. Fanet, etc.
- HEARTS' EASE. *Prunella vulgaris*. All-heal, Self-heal. This name is universal in south-west Donegal, from Killybegs to Belleek. An infusion of the plant is highly esteemed for the heart. [See Prior on the present application of this name to the pansy. I do not find that *Viola* was ever a highly esteemed *herb*. According to Culpepper, Self-heal and Sanicle supply the place of surgeon and doctor.] See *Keanadha hassog*. See also '*Shashagh na creeagh*.' Prior's explanation of the name hearts' ease applied to pansy is learned, but by no means convincing. Can the name have been improperly transferred from the present species, which is undoubtedly entitled to it?
- HEATHER BELL. *Erica tetralix*. Cross-leaved Heath. [A common Scotch name. In Jamieson.]
- HEATHER BERRY DAY. "On the first Sunday in August the country people from Derry, Buncrana, and all around gather and go up

Slieve Snacht in Inishowen. Hundreds of them go. They gather the berries of *Empetrum nigrum* (not bilberries), and the whiskey is not forgot." This information was given to me by a resident of Buncrana.

HE DANDELION. *Leontodon*. 'It has got no milk.' Belleek.

HE OR SHE-DANDELION. "Dandelion according as it bears flowers or not. Many have none. She-dandelion has the flowers." All immature specimens would be male. Lough Derg, Pettigo. [These last names smack of idiotcy, but no doubt they have arisen from some Celtic form of thought or language. They were given to me by sensible, grown-up men.]

HEMLOCK. *Conium maculatum*. Is good for sprains and bruises. Belleek.

HERB ROBERT. *Geranium Robertianum*. Good for the murrain in cattle. Belleek.

HOLLY. Sacred to the wee folk. If you strike a cow with a holly stick she will get red water or some illness. Belleek and Ballyshannon. 'As bad to cut a holly as a skeeog' (pron. skayug). Ardara. A holly was cut at Ardara to make cogs for a mill wheel, and the mill took fire.'

HONEY CUP. *Pedicularis palustris*. Lousewort. Lough Derg, Pettigo.

HONEYSUCKLE, WILD. *Pedicularis palustris*. Belleek.

HONEYSUCKLE. *Lonicera Periclymenum*. Belleek.

HONEYSUCKLE. *Trifolium pratense*. Red clover. Tyrone and Dublin.

HORSE PIPES. *Equisetum arvense*. "Horses will eat it, cows won't." Belleek.

HOUSE LEEK. *Sempervivum tectorum*. The juice of the leaves is used for sore eyes. Glenvar, Lough Swilly. [This is mentioned in Carleton's "Lianhan Shee," Tales, ii, 76.] Held to be a lucky plant on the house, and no one would remove it. Glen Alla, etc.

HUNGRY GRASS. "Where a cow or a mare 'picks' (drops) calf or foal is where the hungry grass will grow, and if you step on it by any chance ever, you'll pick hunger. If you had only a small grain of corn or bite of oatmeal to put inside your mouth, it would stop it. The Indian corn isn't worth a d—. You'll get a kind of gantherin' and a cowld hail on your cheeks. You shouldn't travel the length of yourself without the grain of corn or oatmeal. Maybe you'll have to be linked home. It's the fargotha or the cowld hunger. It comes faint and hungry. The root of rush will help for a time. A thrifle of male is the rale cure for it." Ballyshannon and Ardara. See under *Fargotha*. It was always on crossing poor, wet moorland, I was informed, that the dreaded danger arose.

HUNTING THE HARE. See *Hare*.

INDIAN FOG. See *Fog*.

IRISH VINE. *Lonicera periclymenum*. Glen Alla. [In Britt. and Holl, from my MS.]

IVY-RING. Ivy made into a ring of leaves sewn closely together is good to put round an arm or leg that has erysipelas or 'Evil.' The ring is put on heated. Killybegs.

IVY-LEAF. 'To pipe in an ivy leaf' is a boy's sport mentioned by sixteenth century writers. I saw a boy engaged thus by the roadside near Ramelton, Co. Donegal, about twelve years ago. He placed the leaf on his tongue, and his first and fourth fingers on the leaf, and made loud, clear pipings. It doesn't work out as easy as it looks.

JACK AT THE HEDGE. *Galium aparine*. ('Robin run the Hedge' in Dublin.) Glen Alla and Ardara, Co. Donegal. 'Pounded well and squeezed, it strikes out hives from the stomach in children,' Glen Alla. 'Very splendid physic for children,' Ardara. [In Britt. and Holl, from my MS.]

JELLYMANDER, JERRYMANDER. *Veronica Chamædris*. Germander. Rathmullan, Co. Donegal.

JELLYMANDERS. *Veronica Beccabunga*. Germander. Belleek; Cliff to Brown Hall.

[JENETTE. *Fritillaria meleagris*. Malahide. A garden name.]

JOHN'S WORT. '*Hypericum perforatum*' is the true John's wort. Its flowers, steeped in olive oil, are good for bruises, and much thought of. Ramelton.

KEIB, OR KABE. *Molinia cærulea*. L. Derg, Pettigo. 'A bad grass for cows is common keib.' [In McParlan's Survey, p.55, '*Keibdhu*, Black bogrush or *Schænus*']

KEANADHA-HASSOG. *Prunella vulgaris*. Glen Alla. 'Stewed and made tea of, it is good for the palpitations of the heart... they win it greatly through the country, and keep it hung up for use.' Near Killybegs. *Stachys palustris* was pointed out to me under this name. But *Prunella* is right. [Threlkeld has *Prunella*... Common Self-heal, Keannavan beag and Duhan Kean Cassagh, Ulster, Duih Muih. Smith's Waterford has Canavan beg. Cameron Ceanabhan beag.] See under *Heart's ease*.

KING FERN. *Osmunda regalis*. Belleek. [in Britt. and Holl. Chesh, Limerick, Kerry.]

LAD'S LOVE. Southern wood. *Artemisia Abrotanum*. Inishowen, Miss H. Galway. [Common garden name in England. Britt. and Holl.]

- LADIES' COMB. *Polypodium vulgare*. Polypody. 'The root boiled is good for a bad stomach. An excellent yeast.' Lough Derg, Pettigo. The name sometimes given to *Scandix Pecten-Veneris* in other places.
- LADIES' MANTLE. *Alchemilla vulgaris*. Used against the 'moorl' in cows. Pettigo. The above is the general name.
- LADY WRACK. See *Blackweed*. Doolaman. *Potamogeton natans*. Broad leaved pondweed. Inishowen, Miss H. Galway.
- LAMB'S QUARTERS. *Atriplex patula* and *A. hastata*. Cliff to Brown Hall. [This name is given to *Atriplex* by Threlkeld (not to *Chenopodium*, as has been stated), and in Sampson's Survey of Derry.]
- LIAGH. Long seaweeds, *Laminarias*, etc. The best sort for kelp. Fanet. [LIAGH RODA. *Potamogeton natans*. See Doolaman.]
- LILY. *Narcissus* of sorts. Fanet.
- LION'S PAW. *Lycopodium clavatum*. Stranagalwilly, Cos. Derry and Tyrone.
- LITHMORE. *Digitalis purpurea*. Fairy thimble. Killybegs. [Threlkeld gives this name 'lusmore' to *Solanum lethale*, dwale or belladonna. O'Reilly to *Verbascum Thapsus*. Henderson in Folklore of Northern Counties to the present plant. The meaning is simply 'great herb.' Neither of the two alternative species would be known or named about Killybegs.]
- LOOSESTRIPE, PURPLE. Used to supply a red dye, Killybegs.
- LOUGH SHULE. *Scabiosa succisa*. Belleek. [Vagrant by the lough?]
- MAD YE RALL. *Luzula sylvatica*. Great woodrush. Lough Derg, Pettigo.
- MAID'S CONCEIT. *Valeriana officinalis*. Co. Derry, Miss H. Galway.
- MĀLĀRA. (the middle a as in air). *Valeriana officinalis*. An attempt at Valerian. 'Used in old times as tea before tea was known.' Killybegs. It was kept always in the cottages dried and hung up in sheaves. Glen Alla. ['M' replaces 'V' in Venetian. I have heard an Irish carpenter at Glen Alla ask for Menetian red (paint.)] See *Bolaira*. [Fillaira, Patterson.]
- MARES-TAIL. *Equisetum*. Pettigo.
- MARES-TAIL OF GRANNY. The last sheaf of the harvest. Made up like a small whip, and brought in to the landlord or farmer and hung up over the chimney-piece in the dining-room till the next year. Merville, Inishowen, Miss H. Galway. [See Patterson under 'Hare,' 'Churn,' and 'Granny.' Many such customs occur, or did occur, in different parts of England. See Halliwell under 'Knack' and 'Mare.' 'Hooky' was another name.]

- MAYFLOWER. *Caltha palustris*. Marsh-marigold. Pettigo and Belleek. ["Strewed before the doors before sunrising on the 1st of May," Sampson, Survey of Derry, Append. 17 (1802).] Regarded as an emblem of May from the period of its flowering. The name is in use all over Ulster.
- MEADOW GRASS. Fiorin. *Agrostis alba*. This crop is put into the ground (layered) in May, like chopped, half-dried hay. It roots at the nodes when the wet gets at it. It is cut for fodder in October or so for cows and horses. Most of the farmers grow about an acre annually. Some let the same crop lie two or three years, and take annual cuttings. Fanet.
- MEEHAL. 'A yellow, thick-clustered seaweed that grows at the roots of (*Laminaria*), and is good to eat.' Fanet.
- MILKMAIDS. *Cardamine pratensis*. Lady's smock. Urney, Tyrone, and Donegal. [Britt. and Holl. Devon, Yks.]
- MILK THISTLE, MILK THRISSEL. *Sonchus arvensis*. Used for feeding cows. 'Milk thrissel for the coo.' Glen Alla. [Britt. and Holl. Dorset, Linc.]
- MIOULLOUGH. *Hypericum elodes*. "When cowcattle have the scout or scoot (diarrhœa) we give them the mioullough boiled and mashed" showing the plant). Killybegs.
- MOORINYAGH, MOOLINYAGH. *Psamma arenaria*. Bent. Fanet. ['In Leinster, *Muirinnagh*...in Ulster, *Muirneagh*,' Threlk.]
- MOOÂN AGUS. *Vaccinium*; or *Arctostaphylos uva-ursi*. Lough Derg, Pettigo. [Monog; *Vaccinium palustria*, Threlk; monix and moonoge, Britt. and Holl, Belfast. Moin, a bog, is undoubtedly the derivation. Cameron gives mionag, small berry (?)]
- MOSS. Turf-bog. Fanet. 'Spade the moss.'
- MOSS-COACH. *Eriophorum*. 'From the white plumes.' Lough Derg, Pettigo.
- MOTHER. The root, or the roots and leaves are the mother of a flower, A countryman told me St. John's wort was 'rock-rue,' and also that '*Euphrasia*' (eyebright) was 'rock-rue,' and very good to cure a disease (red water) in cows. When asked how so different plants came to be called by the same name, he said they came from the same 'mother.' He, in fact, believed, and was not the only one I met who did, that there was no certainty what sort of flower a root would throw.
- MOUSE-PEA. *Lathyrus pratensis*. Inishowen and Glen Alla. Often a plague from dirty seed of crops.
- MUSHAROWAN, MUSHAROON. Mushroom. Often used by peasants as a nickname for upstarts or new people. Canon Ross, Dungiven.

- MUGGART, MUGGERS. Or mugwort. *Artemisia vulgaris*. The leaves of this plant (which is very common and a cornfield pest), are dried and smoked instead of tobacco, in parts of Fanet by some people.
- MURVAGH. *Poa maritima*. Called also 'one-pointed grass.' Slightly purgative and useful for cattle. Ardara. [Muir, sea; vagh, field or pasture?]
- NAKED BOYS. *Colchicum*. Autumn crocuses, which send up flowers without leaves, are so called. Co. Cavan. [Britt. and Holl, Chesh, Heref, etc.]
- NAPERTY. 'Wild vetch.' Rev. St. J. Brennan, Cushendun. [*Lathyrus macrorrhizus*, Patterson, Antrim and Down.]
- NYAMMAN. Stranagalwilly, Co. Derry and Tyrone. NYAMMANY. Fanet, Co. Donegal. *Potentilla Tormentilla*. 'A decoction of this whole plant, roots, leaves, etc, stops diarrhoea in man or beast.' Fanet. 'If this won't nothing will.' This and the bogbean (for the blood) are the two most valued 'yerribs,' in Fanet. They are prized before all medicines. [Neaunidis, Tormentilla, Threlk.]
- NOONEEN. *Bellis perennis*. Fanet. [Noin, noon; noinin, daisy. O'Reilly. So daisy = days' eye. Noinin, nonin, Bellis minor, Threlk.]
- OIL PLANT. *Drosera*. Brown Hall.
- ONE-POINTED GRASS. *Sesleria cærulea*. Brown hall to Ballyshannon, where this rare grass is abundant, but said to be very poor feeding by some. By others I was told it was excellent, and the condition of the beasts from St. John's Point, Killybegs (where this is the commonest grass), is difficult to reconcile with the bad character this grass elsewhere gets.
- ONE POINTED GRASS. *Poa maritima*. Ardara. See *Murvagh*.
- ORN (*o*), ORAN. *Heracleum Sphondylium*. Cow-parsnep, Belleek, Pettigo, Killybegs, Ballyshannon. [Gaelic, odliaran, Cameron. ?Cameron says it has yellowish blossoms.]
- PALM, PALM-TWIGS. Worn on Palm Sunday. Yew, or larch if green, are called palm. Larch is especially asked for as "palm." The people make the budding twigs into rings, and wear them on the fingers or in the button-holes. Fanet. In Dublin palm-tree is the common name of the yew. I have never heard of willows being used as palm in Ireland. Laurel is largely made use of in Co. Donegal also. [Carleton (Lianhan Shee) says that these twigs having been consecrated on Palm Sunday, are nailed up over doors, beds, tyres, etc, for good fortune and blessings. Box seems to be similarly dealt with in the Pyrenees.]

- PARĀBĀN. . . ? Some herb, very good for making a plaister to draw a boil. Fanet (The Bottom). I have not yet identified it. Probably Farrabun or Fearban *q.v.*
- PARSLEY BED. The superstition that children (babies) are found in the parsley bed is still vogue in Donegal and elsewhere in Ireland. It is a very old one, mentioned by Shirley, Mabbe and other 17th century writers. Parsley and gin are used in Derry as an emmenagogue.
- PEARL. *Arrhenatherum avenaceum*. Oat-grass. From the swollen shining little knobs along the rootstock and at the base of the stem. One of the most injurious weeds. [But perhaps called 'pearl' from being used to care a disease of the eye. See Britt. and Holl.]
- PHOSPHORESCENCE (in rotten wood). Attributed to glow-worms (!) at Glenalla. The phenomenon has long been observed, and is mentioned by Ben Johnson and Herrick.
- PIANO, PIANNY, OR PIANNY ROSE. Peony. Inishowen, Miss Galway. Glenalla. [In Patterson, Antrim and Down.]
- PIPES. *Equisetum limosum*. Killybegs. See *Feedoge*.
- P—ABED. *Taraxacum Dens-leonis*. Dandelion. Belleek. [See Britt. and Holl, Prior.]
- PISMIRE'S POSY. *Hieracium iricum*. Belleek to Brown Hall, Co. Donegal. [Cf. Pismires, Leontodon Taraxacum, Britt. and Holl.]
- PLANTAIN. *Plantago major*. Much used by poor people about Derry for bruises. Long held to be efficacious to cure sores or stop bleeding from the cooling properties of its leaves. ["Bring a fresh plantain leaf, I have broke my shin." Albumazar (by T. Tomkiss) Act iv, Sc. ii, 1615; and see Ben Johnson's Case is Altered, II 4.]
- POOR MAN'S BLANKET. *Verbascum Thapsus*. Mullein, Rathmullan. No doubt from the woolly leaves, but a decoction of them is much prized as a cure for an old cough. It is grown for the purpose, or at least preserved in gardens. The decoction is made into a warm drink.
- PRACAS, PRAGUS. In Fanet (and elsewhere). Bere and oats grown mixed are so called. The word means 'hotch potch' or 'medley.' In Inishowen, formerly used for distilling raw grain whiskey. 'Bere is not true barley, which grows flat. It is longer bearded than rye, and grows all round.' Fanet.
- PRESHA, PRASHA, PRASHA-BWEE. Wild rape, or *Brassica napus*, etc. *Sinapis arvensis*, or wild mustard, is correctly speaking, 'Prasha,' but the name is indiscriminately used. I have heard it on Howth

and in Wicklow of the latter plant. Threlkeld, Cameron, Britten, Prior, etc all vary amongst themselves. Britten has 'Co. Donegal' from me.

PRETTY BETSY. *Centhranthus ruber*. Red valerian. Glenalla, Co. Donegal; and Dungiven, Co. Derry (Canon Ross). [Given by Britten from my MS.]

QUEEL RODS, QUILL RODS. *Arundo Phragmites*. Reed. Used by weavers under this name in Fanet. Called also Wheel-rod.

QUEEN OF THE MEADOW. *Spiraea Ulmaria*. Meadow-sweet. Belleek, Co. Donegal. ["A translation of its old name, Regina prati," Britten, and known in various parts of Great Britain.]

QUICKEN TREE. *Pyrus Aucuparia*. Mountain-ash. Flora, N.E. Ireland. [In Britten for several places.]

QUIGGEN ESPY. A corruption of Quaking aspen, *Populus tremula*. Rev. St. G. Brennan, Cushendun, Co. Antrim.

QUITCH, or SQUITCH. Properly *Triticum repens*, or Couch-grass, but applied also to the false-oat, *Arrhenatherum avenaceum*, and in general to all weeds gathered off the land to be burned. 'Burning quitch' is the usual term.

RAIDSOGAGH, OR RIDEOKUT. *Myrica Gale*. Bog-myrtle. The former was pronunciation at Lough Derg (Pettigo), and the latter at Killybegs. See under *Gale*. It is held to be excellent for tanning leather. [Threlkeld has *pindeog*, and *rileogagh*.]

RAMPS. *Allium ursinum*. Wild garlic. Sampson gives this name from Derry. [In Britten, from my MS.] Belleek to Brown Hall.

REDSHANKS. *Polygonum Persicaria*. Ray, Lough Swilly, and Ballyshannon. [Britten, from several English counties.]

REDSHANKS. *Lythrum Salicaria*. Purple loosestrife. Killybegs.

RIPPLE-GRASS. *Plantago lanceolata*. Rib-wort. A common name throughout the country.

ROBIN RUN THE HEDGE. *Galium aparine*. Held to be a cure for cancer in Derry.

ROCKET, BLUE. *Orchis maculata*. Belleek to Brown Hall.

ROCKET. Wild orchis. Any sort. Stranagalwilly, Co. Tyrone. [Meadow rocket appears to have been applied to *O. latifolia*, in Scotland. See Britten.]

ROCKET, CROW. See *Crow-rocket*.

ROCK RUE. *Hypericum pulchrum* and *Euphrasia officinalis* were both pointed out to me as 'rock-rue' near Ballyshannon. Both these plants were stated to have the qualities of curing the 'red water' in

cattle. "You must pick them with prayer, upon your knees." Ballyshannon.

ROSE NOBLE. *Scrophularia nodosa* and *S. aquatica*. 'Pounded and bruised, is good for splays or sprains,' Ray, Lough Swilly. The name is used at Glen Alla, Belleek, Pettigo, Ballyshannon, Co. Donegal; and in the Clogher Valley, Co. Tyrone. It is mentioned with Solomon's Seal and Bugloss as being medicinal in Carleton's Lianhan Shee (11-76), "Rose noble, ground and stewed (the root) for about 20 minutes, and strained through muslin, and mixed with lard or butter, is a salve for ringworm." 'It is much used in parts of Derry, as at Magheragh' (Miss Galway).

ROSE OF SHARON. *Hypericum calycinum*. Glen Alla.

ROWAN. *Pyrus Aucuparia*. Mountain ash. 'A gad of rowan run in between the churnstaff and the lid will make the churning good, and keep off evil spirits. A better way is to have the handle of the churnstaff made of rowan.' Glen Alla. A universal belief in Donegal, Derry. See *Caorran*.

RUE. Much used (formerly) as an emmenagogue in various parts of Derry, Donegal and Tyrone.

[SAFFRON, OR IRISH YELLOW, was usually *Reseda luteola*? Ulst. Jour. of Arch, 9-149.]

SAGGONS. *Iris Pseudoacorus*. The yellow Iris. Glen Alla. Called also 'Flaggers' in Fanet and about Donegal.

SALLY. *Salix*. Willow. General. The same word as 'Sallow.'

SCALLIONS. Any inferior leek. A kind of onion not forming a good bulb. Fanet.

SCAWEE. Harvest. But especially the kelp harvest, which is usually in May. The winter storms and Equinoctial gales have loosened the larger *Laminarias*, and there is a good drying season ahead before burning. A later 'Scawee' is spoken of after harvest. The weed saved then is used for manure.

SCOUT OF SCOOT. *Angelica sylvestris*. So called because its hollow tubes are used to make scoots or squirts by boys, with a ramrod. Universal about Pettigo, Belleek, Ballyshannon. ["Water scouting out on the road," Fanet.] See under *Scout* in Skeat and Jamieson.

SEAPINK. *Armeria maritima*. Ray, Lough Swilly.

SEED PHYSIC. A general name for medicine made from "yearbs." Ballyshannon.

SERRAG. *Rumex acetosella*. Fanet. See *Soollick*.

- SETFAST OR SITFAST. *Ranunculus repens*. Fanet. See *Crawtree*. [In Britten, North of Ireland, and Lanark.]
- SEVEN SISTERS. *Euphorbia Helioscopia* and *E. Peplis*. 'Seven branches starting from the same point.' Ray, Lough Swilly; Belleek and Ballyshannon. [In Britten from my MS.]
- SHAMROCK. *Trifolium repens*. Dutch clover. Other plants, *T. minus* and *Medicago lupulina*, also occasionally do duty for shamrock. See Britten for a good summary of the information gathered from early writers, and Mr. Colgan's interesting papers in *Irish Naturalist*. A Derry woman, nurse to a child of mine, taught her to call *Oxalis* 'shamrock.' In some districts it may have been originally the plant intended under the name. Threlkeld and Gerard both give *T. repens* as shamrock; but Dr. Molyneux, in his App. to Threlkeld (Ed. 1727), allots the name to the *Oxalis*, mentioning that it is of singular use, restoring a decayed appetite as well as quenching thirst. Spenser, Fynes Moryson, and Stanihurst all agree it was eaten. Fynes Moryson says, "they willingly eat the hearb shamrock, *being of a sharp taste*." Taylor, speaking of the Beggar's Sallet, mentions "sweet three-leaved grass." Dekker calls the Irish 'shamrock eaters.' When Ireland was a wooded island, shamrock was no doubt very abundant, far more so than now, or than any species of clover. An interesting discussion of the subject and the derivation of the name will be found in the *Ulster Journal of Archæology*, v. 12-20.
- SHASHAGH NA CREEAGH. *Prunella vulgaris*. Heart's ease. Heals diseases of the heart. Ardara. Sasadh, ease, and cri, heart. See *Heart's ease*. Cameron (and others) give 'lus a cridh' for *Prunella*, or the heart plant.
- SHE BENWEED. *Senecio aquatica*. Stranagalwilly, Co. Tyrone.
- SHEEP'S EARS. A white woolly garden labiate. Horehound. Dungiven, Co. Derry (Canon Ross).
- SHEEP'S BRISKEN. *Stachys palustre*. Woundwort. Ray, Lough Swilly. See under *Brisken*. [In Britten, from my MS.]
- SHE HEATHER. 'The one that throws a berry.' *Empetrum nigrum*, or crowberry. 'There'll be thousands of acres'll throw no berry.' Supposed female of Scotch Heather. Lough Derg, Pettigo.
- SHE LION. *Leontodon autumnale*. Hawkbit. Stranagalwilly, Co. Tyrone.
- SHIGGY, OR SHEEGY THIMBLE. Fairy thimble. *Digitalis purpurea*. Dungiven, Co. Derry, Canon Ross. About Portsalon 'Gentle' or 'Fairy' places are called 'shiggy.' 'Sighe,' a fairy.

- SHILLOGS. *Brassica Napus*. Yellow rape. Preshabwee. The usual name about Tamney in Fanet. Probably the same as *Skelligs*, which see.
- SHOT. Said of grass (meadow) when flowering stem has burst from sheath. 'Long shot' or 'short shot,' as season is good or bad as regards hay. Glen Alla.
- SHOT STAR. *Nostoc commune*. A slimy alga or fungus appearing on paths and elsewhere after wet weather in summer. The idea is that this substance arises from a fallen star. "I watched it fall, and there was nothing there but a lump of cowld starch," an Inishowen man. A Donegal man at Pettigo, who saw I disbelieved it, said, "Wiser men than me, or maybe than you either, have told me so." The belief occurs also in Derry, and in several English and Scotch counties. See Britten, who obtained Derry and Donegal from my MS. See also *Fallen Star*. This bit of folklore is mentioned in early writers. As I have not seen these quoted, I will extract a few. "Now is this comet shot into the sea, or lies like slime upon the sullen earth," Munday's Robert of Huntingdon, iii. I, 1601; "Here never durst the babbling cuckoo spit, no slough of falling star did ever hit upon this bank," Fletcher, Faithful Shepherdess, iii. I, 1610; "The shooting stars end all in purple jellies, and chaos is at hand," Dryden, *Ædipus*, ii. I, 1678. Dryden appears to have believed in it; see Dedn. To Spanish Friar. It is also mentioned in Sir John Mennis's *Musarum Deliciæ* (Reprint, ii. 351, 1640).
- SNICLE. *Sanicula europæa*. Wood Sanicle. Much prized for consumption. It is sold in the town of Donegal (or was) for the purpose. It is given to young pheasants for the 'gapes,' Pettigo.
- SILVER FEATHER. *Potentilla anserina*. Derry. Britten gives it for Oxford.
- SKEEOGE, SKAYUG, SKAIG. The Irish name for the whitethorn or hawthorn, but applied only to those essentially 'gentle' or 'gentry' bushes which are native, and not planted by the hand of man. One of these about a rath, or on a hillside with a sheltered area beneath, is venerated to the utmost degree by the peasants. Not one would lay a knife to it, and numerous are the tales of woe told of misguided people who, contrary to advice, have cleared such bushes away. Their cattle died. The people who came to live in the house built on such a site sickened or went mad, or committed fearful sins, and were punished accordingly. This superstition, and those relating to bewitched cattle and butter that won't come, are the most firmly-rooted ones met with.
- SKELLIGS. Another form of Shillogs?-*Brassica* or wild rape. O'Reilly has Scellagach, wild mustard. See *Shillogs*. Ray, Lough Swilly.

- SLACK, SLAB, SLOCK. Marrow. Stems of *Laminaria*. Sometimes used as a cudgel when a row takes place amongst the kelp burners. When the bailiffs went to Tory Island for taxes, "the women beat them out of it with a slack marrow." The name is universal round the coast. Slacan, a club; and mara, sea.
- SLAC. Sloe. Fruit of *Prunus spinosa*. Dunfanaghy. Blackthorn is slac, or club.
- SLANLIS. *Alisma Plantago* and *Potamogeton natans*. Ardara and Killybegs. "Healthy plant." Good for burns. See *Cruk Slanlish*. By the Erne river. Slanlis is the ripple grass, *Plantago lanceolata*, and called also Slanus.
- SOLLENDINE. *Chelidonium majus*. Celandine. Ramelton. In request for stuping sore eyes. ["Cheledonium is a stone taken out of a swallow which cureth melanchola. ...Some saie it is the hearbe which the swallows recover the sight of their young." R. Scot, Discoveries of Witchcraft, 1584 (Reprint, p.239).]
- SOOLICK. *Rumex acetosella*. "There are two sorts, *Florrish Soollick* and *Shooting soollick*." The first or flowering soollick is *R. acetosella*, and the other, *R. acetosa*. "Soollicky land is land full of *R. acetosella*, a very common plant on poor upland tillage. Stranagalwilly, Co. Tyrone. Glenalla, Co. Donegal. "Partridges are fond of soolick," Stranagalwilly. The commoner form elsewhere appears to be "soorock." See also *Serrag*. Probably from the root "searbh," bitter, sour. O'Reilly has "sealbhog," sorrel which is, no doubt, the word; "Searraigh" is, according to the same authority, pilewort, *Ranunculus Ficaria*.
- SOUR DOCK. *Rumex nemorosa*, and *R. Hydrolapathum*; River Erne. The latter is "a grand blood purifier, as good as bogbean and burdock."
- SPRAT OR SPRIT. Used of all the commoner sorts of rush that disfigure poor and badly drained land. The term is given in Sampson's Survey of Derry. It is very common in the North of Ireland.
- SQUITCH. See *Quitch*.
- STAG-MOSS. *Lycopodium Selago*. Club-moss. Ray, Lough Swilly.
- STAR OF BETHLEHEM. *Stellaria Holostea*. Stitchwort. Rathmullan, Co. Donegal.
- STINKING ROGER. *Geranium Robertianum*. Herb Robert. Derry, WJ Craig. Known as "Stinking Bobby" in Cumberland, Britten.
- STRINGS OF SOVEREIGNS. *Lysimachia nummularia*. A favourite garden plant about cottages. Ray, Lough Swilly, and in Co. Antrim.

- STONEBERRY. *Rubus saxatilis*. Stone Bramble. Belleek to Brown Hall.
- STURDY. *Bromus mollis*. Ray, Lough Swilly. This name is usually stated to be *Lolium temulentum*, or darnel. My informant for this and most other Ray words was Andrew Malseed, of Ray, a most intelligent and respectable farmer and shopkeeper.
- STURDY. 'A weed resembling peppermint (*Mentha arvensis* probably) that grows among corn'; Cushendun, Co. Antrim. Dried, it makes very good tobacco and is used in Fanet. Possibly the plant intended was *Stachys palustris*, a much commoner cornfield weed.
- SWANWEED. *Elodea Canadensis*, Ballyshannon. Called also "gorlus," *q.v.* (properly, this is doubtless garbhilus, cleavers, *Galium aparine*).
- SWEET GRASS. *Zostera marina*. Grass wrack. Lough Swilly. [In Britten from my MS.]
- SWINE'S THISTLE. *Sonchus*. Sow thistle. Good food for pigs. Belleek.
- TAGS. Daffodils. Tyrone and Monaghan. It is given by Britten as a 'species of narcissus, Cornwall.'
- THILLAG. Sally. Fanet. Irish soileach or suileag, sallow.
- THOOKA. An herb used by women as medicine in Fanet. I have not identified it.
- THRISSEL. Thistle. General.
- THRIPPANY. Some kind of Seaweed. "A good kitchen with praties, and grows in tufts out of sea shells and rocks." The old man who was going down to the sea to gather it (near Porturlin on the north coast of Mayo), said it was 'not dullisk or sloke, and some liked it better than sloke.' I have not traced the word. Perhaps it is a name for Carrigeen (*Chondrus crispus*).
- THRUMMAN. Elder. Boor tree. *Sambucus nigra*. Fanet. 'Droman, the bore-tree.' O'Reilly.
- THYME. Held in great favour by lovers. Strephon rolls himself in it preparatory to meeting Cloe, and chews a clove to sweeten his breath. General.
- TORMENTING ROOT. The root of *Potentilla Tormentilla*, and called also 'biscuit.' Patterson, Antrim and Down Gloss.
- TULIP. See *Wild Tulip*.
- WALL RUE. *Asplenium Ruta-muraria*. Ballyshannon to Brown Hall.
- WANDERING FOG. *Lycopodium clavatum*. Inishowen. See *Fog*.
- WEEDS. About Carrick, Co. Donegal, the excuse for not weeding the

potatoes is that the weeds support their weak stems. In Kerry I have been told that the weeds protect them from the sea damp which comes in and gives the blight.

WELL INK. *Veronica Beccabunga*. "On May eve get the stalks of billar (watercress) and well-ink and throw them over the left shoulder. Bury nine of each. Go next morning and if you find eight you'll die before next May eve. If you find ten you'll marry before next May eve." Inishowen (Miss Honoria Galway). The name is given in the glossaries for Cumberland and for Antrim. It is probably a corruption of 'fualacktar water speedwell, etc.' O'Reilly, or at any rate 'fual,' water is the first portion of name.

WHEEL ROD. *Arundo Phragmites*. Reed. See *Queel rod*.

WHIN. *Ulex europæus*, or *U. nana*. Gorse or Furze. Whin is the universal name.

WHINSHAG. Irish freinseog. *Fraxinus excelsior*. Ash-tree.

WHITE MAY, WHITE SUMMER. Primrose. Co. Tyrone. Clogher Valley.

WILD CALCEOLARIA. *Lotus corniculatus*. A gardener's term, and a silly one. Ballyshannon.

WILD FIRE. *Achillea Ptarmica*. Sneezewort. This plant is a specific (according to a Belleek man) against wild-fire or nettle-rash, which gives it the name. Gold rubbed to wild fire cures it also.

WILD HONEYSUCKLE. See *Honeysuckle*.

WILD RUE. *Enanthe fistulosa*. From a slight resemblance in the foliage. Belleek.

WILD TULIP. *Listera ovata*. Twayblade. From the leaves. Belleek.

WILL-O'-THE-WISP. "That oily leaf (*Potamogeton natans*) is what the will-o'-the-wisp rises off and away to the bogs at night." Lough Derg, Pettigo. [There is a sweetly attractive simplicity about the Celtic methods of elucidating natural phenomena sometimes.] See under *Doolaman*.

YAGH. Seaweed. Pronounced 'yarr.' The same word as Liagh, *q.v.* Fanet. Derry (Magilligan). Cf. yagh in Granyagh, Garyagh.

YARROW. *Achillea millefolium*. Young people used to gather yarrow on May Eve, and pull ten stalks. At every stalk the charm given below was repeated. The tenth stalk was thrown away over the left shoulder. The other nine were put into the left stocking, and placed under the pillow. No word must be spoken from the pulling of the

yarrow till the following morning, and the sleeper will dream of future wife or husband –

“Good morrow, good morrow, fair yarrow,
Thrice good morrow to thee;
I hope, before this time tomorrow,
You’ll show my true lover to me.”

This bit of folklore exists throughout Donegal and in Derry.

YEWANIMOUS OR UNANIMOUS. *Enonymous*. A gardener’s corruption. See under *Crezzool*. Glen Alla.

YELLOW BOY. *Senecio Jacobæa*. See under *Boghaleenbwee*. Killybegs.

YERRIB. The usual pronunciation of herb, or simple.

In the foregoing glossary, the paragraphs in inverted commas are remarks made to me by the peasants or other informants at the places indicated. The following are the chief works referred to:—

- Antrim and Down Glossary, W.H. Patterson. Eng. Dial. Soc, 1880.
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 Threlkeld. Synopsis Stirpium Hibernicarum. 1727.
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 Cameron. Gaelic names of plants. 1883.
 O’Reilly. Irish-English Dictionary. 1864.
 New English Dictionary, Murray. (In publication.)
 Halliwell. Archaic and Provincial Words. 1865.
 MacParlan. Survey of Donegal. 1802.
 Sampson. Survey of Derry. 1802.
 Skeat. Etymological Dictionary. 1888.
 Prior. Popular names of British Plants. 1870.
 Ulster Journal of Archæology. 1853 *et seq.*

ADDENDUM.

While going to press, the following localities were received from Mr. Hunter, of Londonderry:—

Linaria vulgaris. *Mill.*

II. Plentifully on a hedge at Elaghbeg, three quarters of a mile west of Bridge End Station. The plant has the appearance of a native here.

Ulex Gallii. *Plauch.*

II. Not at all uncommon about Grianan.

Prunus Padus. *Linn.*

II. A few bushes on rising ground half a mile east of Burnfoot. Perhaps introduced here.

Poa nemoralis. *Linn.*

II. Abundantly in a wood beside Lord Templemore's house in Inch. An addition to the Flora of Donegal. Confirmed by Mr. Bennett.

Errata

Page	No.	Detail
xxii		'Schænus' → 'Schœnus'
xxii		'Selaginellaceæ ... 285' → 'Selaginellaceæ ... 295'
5		'Rahtin' → 'Raghtin' (line 15).
8		'head or Inishfree Bay' → 'head of Inishfree Bay' (line 11).
18		'crystaline' → 'crystalline' (line 23).
20		'occurs' → 'occur' (line 1).
22		'Sutherlannd' → 'Sutherland' (line 26).
27		'Rosa spinosissima' → 'Rosa spinosissima' (line 23).
27		'Cratægus' → 'Cratægus' (line 24).
32		'Cardamine Bursa-pastoris' → 'Capsella Bursa-pastoris' (line 16).
33		'Daucus Caroba' → 'Daucus Carota' (line 9).
37		' <i>Orchidaceæe</i> ' → ' <i>Orchidaceæ</i> ' (line 13).
44		'Cardamime pratensis' → 'Cardamine pratensis' (line 28).
47		'Geum-urbanum' → 'Geum urbanum' (line 2).
47		'Epilobium' → 'Epilobium' (line 4).
47		'Vaccinium Oxycoccus' → 'Vaccinium Oxycoccus' (line 16).
48		'predicated' → 'predicted' (line 18).
48		' <i>Galum saxatile</i> , <i>Campanula rotundifolia</i> , <i>Vaccinium Myrtilus</i> ' → ' <i>Galium saxatile</i> , <i>Campanula rotundifolia</i> , <i>Vaccinium Myrtilus</i> ' (l. 20).
53		'Smyonium' → 'Smyrnum' (line 26).
53		'Inua Helenium' → 'Inula Helenium' (line 38).
63		'Helmimthia' → 'Helminthia' (line 18).
74		'H. anglicum' duplication.
74		'scabresceus' → 'scabrescens'? (line 21).
75		'are rich in Sedges' → 'is rich in Sedges' (line 13).
75		'Aspleium' → 'Asplenium' (line 15).
75		'Parsely Fern' → 'Parsley Fern' (line 18).
75		'bracketted' → 'bracketed' (line 21).
77		'Vaccinuum Vitis-idæa' → 'Vaccinium Vitis-idæa' (line 1).
78		'P. prelongus' → 'P. prælongus' (line 2).
78		'Carex divica' → 'Carex divisa' (line 6).
78		'Androsœmum' → 'Androsæmum' (line 21).
78		'Euphorbia hiberna' → 'Euphorbia hyberna' (line 21).
79		'Eletine hexandra' → 'Elatine hexandra' (line 17).
85		'Sagnia' → 'Sagina' (line 18).
86		'Glyceria fluitans' duplication (lines 3 and 6).
88		'Achillæa Ptarmica' → 'Achillea Ptarmica' (line 7).
111	11.	Species number missing.
116	28.	' <i>T. pallidiflora</i> ' → ' <i>F. pallidiflora</i> '
118	34.	VI. 'Adara' → 'Ardara'.
121	46.	' <i>Erysimm</i> ' → ' <i>Erysimum</i> '.
122	49.	VII. 'Moynait' → 'Moynalt'.
122	50.	' <i>Bisoiss.</i> ' → ' <i>Boiss.</i> '
124	57.	' <i>Gensta anglica</i> ' → ' <i>Genista anglica</i> '.

127	70.	VII.	'Ballyshannon, at Bundoran' → 'Ballyshannon and Bundoran'.
142	135.		' <i>angustifolia</i> ' → ' <i>angustifolia</i> '.
147	154.		'country' → 'county'.
153	176.	VI.	' <i>S. cærpitosa</i> ' → ' <i>S. cæspitosa</i> '.
154	181.		Species number is used twice.
162	210.		'21' change to '210'.
162	210.		' <i>Sium angustifolium</i> ' → ' <i>Sium angustifolium</i> '.
162	211.	I.	'Carrickabrahy' → 'Carrickabraghy'.
163	212.		' <i>Carum Carui</i> ' → ' <i>Carum carvi</i> '.
163	213.		' S. angustifolium ' → ' S. angustifolium '.
164	213.		'1886, <i>Flora Ulster</i> ' → '1864, <i>Flora Ulster</i> '.
166	223.	VII.	'roadside between Largy and Fintragh.' This is in District VIII.
169	234.	I.	'littte' → 'little'.
184	292	III.	Loughs Gartan and Inshagh are in District IV.
184	293.		'cerinthifome' → 'cerinthiforme'.
187	303.		'cæsium' → 'cæsium'.
193	322.		'HAIR' → 'HARE'.
203	352.		' <i>L. avense</i> ' → ' <i>L. arvense</i> '.
203	353.	I.	'beech' → 'beach'.
204	355.		Species number missing.
211	835		'835' → '385'.
212	388.		' B. officinalis ' → ' E. officinalis '.
213	392.		'From 2200 feet to level' → 'From 2200 feet to sea-level'.
217	406.		' L. europæus ' → ' L. europæus '.
217	407.	VII.	'cliff' → 'Cliff'.
217	407.		'mentioneda bove' → 'mentioned above'.
222	429.		' <i>Plantain</i> ' → 'PLANTAIN'.
223	434.		'edge ln many' → 'edge in many'.
228	461.	IV.	' <i>Lycopodium alpinum</i> ' → ' <i>Lycopodium alpinum</i> '.
248	542.	III.	'Glenveagh' – district IV.
248	543.	IV	'Unshagh' → 'Inshagh'.
250	553.		' heterophyllus ' → ' heterophyllus '.
252	557.		' <i>Hoth</i> ' → ' <i>Nolte</i> '.
252	559.		' <i>Wuljen</i> ' → ' <i>Wulfen</i> '.
254	570.		' <i>Var. angustifolia</i> ' → ' <i>Var. angustifolia</i> '.
255	576.		'Lough Eske' → district VIII; 'Cliff' → district VII.
262	601.		' Bæninghauseniana ' → ' Bæninghausiana '.
264	608.		' C. Goodenovii ' → ' C. Goodenovii '.
266	613.		' C. pallescens Lam. ' → ' C. pallescens Linn. '
268	625.	IV.	'Lake Unshagh → Lake Inshagh'
273	643.		Species number missing.
273	648.		'Yelow' → 'Yellow'.
274	651.	IV.	'Tory Ireland' → 'Tory Island'.
283			'CRYPTOGRAMS' → 'CRYPTOGAMS'
285	698.	III.	'on an old walls Ramelton' → 'on an old wall, Ramelton'.
287	704.	III.	'he Misses' → 'the Misses'.
288	708.	VII.	'Largy.' This could be Laghy (District VII), or Largy (District VIII).
289	711.		'slope' → 'slopes'.

289	712.		‘district’ → ‘distinct’.
291	718.	I.	‘fōund’ → ‘found’.
292	721.		‘country’ → ‘county’.
295	734.		‘Isoetis’ → ‘Isoetes’.
367			‘Vaccinium Myrtyllus’ → ‘Vaccinium Myrtillus’ (line 1).
367			‘Arctostaphyllos’ → ‘Arctostaphylos’ (line 23)
367			‘Holl. and Britt.’ → ‘Britt. and Holl.’ (line 33).
368			‘ <i>Polemonium cæruleum</i> ’ → ‘ <i>Polemonium cæruleum</i> ’ (line 9).
368			‘ <i>Comarum palustre</i> ’ → ‘ <i>Comarum palustre</i> ’ (line 28).
371			‘Enonymous’ → ‘Euonymus’ (line 3).
373			‘ <i>Centaurum minus</i> ’ → ‘ <i>Centaurium minus</i> ’ (line 12).
374			‘picniccing’ → ‘picnicking’ (line 12).
376			‘Britt. and Holt,’ → ‘Britt. and Holl.’ (line 20).
378			‘idiotcy’ → ‘idiocy’ (line 9).
379			‘ <i>Schænus</i> ’ → ‘ <i>Schænus</i> ’ (line 29).
381			‘Urney’ → ‘Derry’? (Line 14).
381			‘ <i>Arctostaphyllos</i> ’ → ‘ <i>Arctostaphylos</i> ’. (Line 24).
382			‘ <i>Sphondyllium</i> ’ → ‘ <i>Sphondylium</i> ’. (line 31).
383			‘care a disease’ → ‘cure a disease’. (Line 12).
391			‘ <i>Enonymous</i> ’ → ‘ <i>Euonymus</i> ’ (line 8).