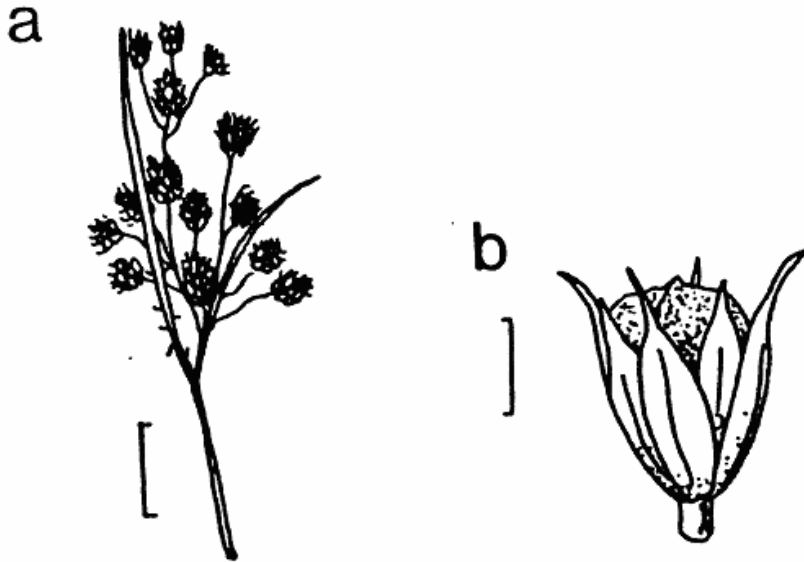


IRISH BOTANICAL NEWS

Number 4

February, 1994



Edited by: Dr Brian S. Rushton, University of Ulster
Coleraine, Northern Ireland, BT52 1SA

Published by: The Committee for Ireland
Botanical Society of the British Isles

COMMITTEE FOR IRELAND, 1993-1994
BOTANICAL SOCIETY OF THE BRITISH ISLES

In line with the Rules, two new committee members were elected at the Annual General Meeting, held in the Ulster Museum, Belfast on 2 October, 1993 (Office Bearers were subsequently elected at the first Committee Meeting). The Committee is now:

Dr Micheline J. Sheehy Skeffington, Chairman (retiring October, 1994)
Mr Paul Hackney, Secretary (retiring October, 1996)
Dr David W. Nash, Field Meetings Secretary (retiring October, 1994)
Miss Maura J.P. Scannell (retiring October, 1994)
Mr John J. Earley (retiring October, 1995)
Mr Alan Hill (retiring October, 1995)
Dr Daniel L. Kelly (retiring October, 1996)

The following are also members of the Committee:

Mrs Sylvia Reynolds, B.S.B.I. Council Representative
Mr Paul Corbett, Department of the Environment (Northern Ireland)
Representative
Mr C. O'Criodain, Office of Public Works, Republic of Ireland
Dr Brian S. Rushton, co-opted October, 1993

Irish Botanical News is published by the Committee for Ireland, Botanical Society of the British Isles and edited by Dr B.S. Rushton

Copyright Dr B.S. Rushton and the authors of individual articles, 1994.

The cover illustration is taken from the paper by Tim Rich and shows:

a. The inflorescence of *Luzula pallidula* Kirschner showing secondary branches (scale bar = 1 cm) and b. The ripe capsule of *L. pallidula* showing the short perianth segments (scale bar = 1 mm).

All species names and common names in *Irish Botanical News* follow those in Stace, C.A. (1991). *A new Flora of the British Isles*. Cambridge.

CONTENTS

Editorial	4
<i>Papers and posters presented at the Irish A.G.M., 1993</i>	
The Northern Ireland Lake Survey. <i>C.E. Gibson</i>	5-11
Towards conserving the South Wexford Coast. <i>J. Hurley</i>	12-15
Changes in the vegetation of the Isle of May (Scotland) after 18 years of reduced gull numbers. <i>Arlette Bataille</i> and <i>D.G. Sobey</i>	16
<i>Vice-county reports for 1993</i>	
A report on the flora of Cork (v.cc. H3-H5), 1993. <i>T. O'Mahony</i>	17-19
A report on the flora of Fermanagh (v.c. H33), 1993. <i>R.H. Northridge</i>	20-21
Some interesting plants from Tyrone (v.c. H36). <i>I. McNeill</i>	21-24
Recording in Co. Antrim (v.c. 39) in 1993. <i>S. Beesley</i>	24-26
<i>Other contributions</i>	
<i>Luzula pallidula</i> Kirschner in Ireland. <i>T.C.G. Rich</i>	26-28
From a dump to a check-list of aliens. <i>Sylvia Reynolds</i>	28-29
<i>Book Review</i>	
Wild plants of The Phoenix Park by P.A. Reilly. <i>B.S. Rushton</i>	29-31

EDITORIAL

At a meeting of the Council of the B.S.B.I. late last year a decision was taken to change the scope of *Watsonia* to reflect some of the changes in activity that are currently happening within the Society. In future, *Watsonia* will accept papers on “taxonomy, biosystematics, ecology, distribution and conservation of British and Irish vascular plants, as well as topics of a more general or historical nature”.

I'm not sure whether or not we in Ireland pre-empted that decision but it is interesting to note that the three papers presented at the A.G.M. in the Ulster Museum, Belfast in the autumn of 1993 were all concerned with plant distributions and the ecology and conservation of species (Chris Gibson's Northern Ireland Lake survey, Daniel Kelly's work on wet and damp Irish woodlands and Jim Hurley's conservation work on the South Wexford Coast plants).

Whilst the Society is still largely concerned with the taxonomy and distribution of the British and Irish floras it is becoming increasingly obvious through our involvement with mapping schemes, with the Species Recovery programme, etc. that times are a-changing. Indeed, environmental consultants have already latched on to the fact that we hold highly significant data through our various local and national recording schemes and one of the constant problems now is that of access to these important data. It might be expected that data collected by government agencies are deposited in the public domain but those collected by individuals are private and yet vice-county recorders are frequently asked for extensive lists of plants from sites by ecological consultants and similar bodies.

In the 'post-Thatcher' era everything has a price. I was down in the Ulster Museum, Belfast recently and was told that all their herbarium specimens had to be valued in the same way the paintings, sculptures, etc. that the Museum holds have a value. And just what is the value to be placed on a herbarium specimen of a now extinct or endangered plant species? And, of more immediate interest to our Society, what is the monetary value of biological records?

Answers will be published in the next issue of *Irish Botanical News!*

Have a good field season,

Dr Brian S. Rushton, Editor, *Irish Botanical News*.

THE NORTHERN IRELAND LAKE SURVEY

C.E. Gibson

*Department of Agriculture (Northern Ireland), Aquatic Sciences Research
Division, Newforge Lane, Belfast, BT9 5PX*

and

S.J. Smith & S.A. Wolfe-Murphy

Queen's University, Belfast

INTRODUCTION

Northern Ireland is a region well endowed with lakes and apart from the largest lakes in the British Isles (Lough Neagh 383 square kms, Upper Lough Erne 109.5 square kms), there is a plethora of lakes of smaller size in both lowland and upland areas. Since these are clearly of both scientific and conservation interest, the Department of the Environment (N.I.) Countryside and Wildlife Branch commissioned a large scale survey of inland waters which was carried out between 1988 and 1992. The first phase of the survey was a desk study. Based on careful scrutiny of the 1:50,000 Ordnance Survey maps, an inventory of lakes was drawn up which listed lake position, area, altitude and name. This information was then supplemented by geological data gleaned from the Geological Map of Northern Ireland, 1:250,000 Solid Edition. All these data are available in published form in Smith *et al.* (1991).

The result of this map search was that 1668 water bodies were listed, covering a total surface area of 626 square kms, equivalent to 4.4% of the surface area of Northern Ireland. The large area of water is mainly due to the five largest lakes which jointly constitute 90% of the total area of water. Almost three quarters of the lakes are less than 2 ha and together these small lakes represent just over 1% of the total lake area.

The first phase of the lake survey consisted of a survey of lakes between 1 and 100 ha in area. Initially, 50% of the 704 lakes in this category were randomly selected on the basis of their altitude, size and catchment geology. The survey of these lakes together with some others deemed to be of special interest was carried out in the summer of 1988 and 1989. Further lakes were surveyed in 1990, yielding a total of 614 lakes surveyed (Fig. 1). In 1991 the largest lakes (including Lough Neagh and the Lough Ernes) were surveyed, using a different methodology, and these are not treated further here.

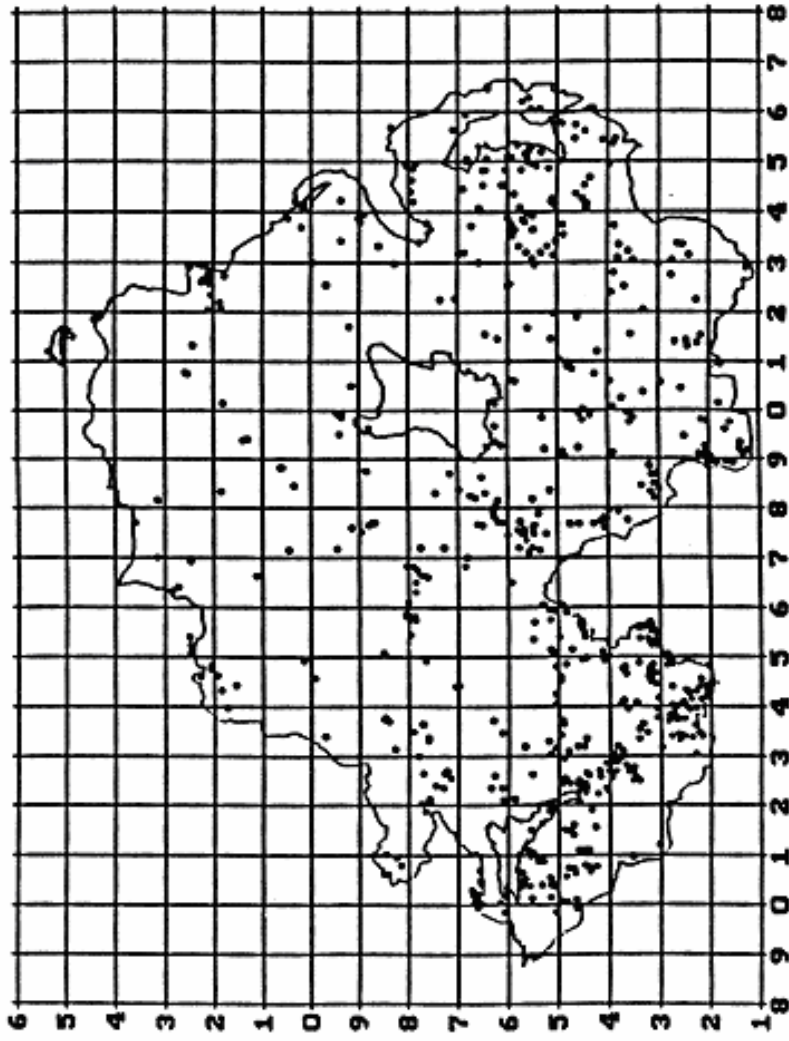


FIGURE 1. The lakes surveyed with the superimposed Irish National Grid.

METHODS

Time constraints allowed only half a day for the survey of each lake but, nevertheless, the following main activities were achieved:

1. A boat was used to sample the submerged vegetation wherever possible. 20 spot samples were taken by rake, at 20 sites in each lake along the longest axis of the basin and at right angles to it. Macrophyte species identity was noted and a subjective estimate of abundance made.
2. The lake was inspected visually and long grapnel trawls were made. Shallow water round the edge was covered by wading and the shore driftline examined.
3. Emergent and backmarsh vegetation was recorded during a walk around the shore and if necessary completed by boat. An annotated map of the whole lough was drawn up to show distribution of the most abundant species, transects of the fringing vegetation were recorded in detail and quadrats were recorded for a small number of more unusual stands of vegetation.
4. Water clarity (using a Secchi disc), surface pH and temperature and dissolved oxygen were recorded at the centre.
5. A water sample was taken and later analysed for 19 water chemistry variables.

Therefore, for each lake, there are data consisting of a species list, a site map, an analysis of water chemistry as well as detailed analysis of swamp community structure. These data are either stored on an Oracle database at the Biometrics Division, Newforge Lane, Belfast or with the Department of the Environment, Environment Service.

RESULTS

An enormous mass of data was obtained and the full analysis of it will be a lengthy process. Many specimens were vouchered and deposited mainly in the Ulster Museum, Belfast (**BEL**). Specialist collection of, for example, *Potamogeton* spp. are also held by C.D. Preston, Biological Records Centre, Monks Wood. The floristic data have been analysed in a number of ways and some of the results are at an advanced stage of preparation.

1. Multivariate analysis of aquatic macrophytes. TWINSpan classification of the macrophyte data achieved an interesting classification of lake

vegetation types. This work is submitted for publication (Smith *et al.*, under review). In essence, the analysis showed that the main categories were defined by altitude, water hardness and, in lowland hard water lakes, by phosphorus concentration. Some interesting groups also emerged which were man-made lakes at intermediate altitude. One of the surprises of the survey was the finding that reservoirs were in fact among the 'best' sites for aquatic macrophytes. Although it might be thought that the management of the reservoir would be deleterious to aquatic plants, some of the most species-rich waterbodies were water supply reservoirs.

Of the 16 end groups which TWINSpan produced four had the species *Juncus bulbosus* (Bulbous Rush), *Sparganium angustifolium* (Floating Bur-reed) and *Littorella uniflora* (Shoreweed) as indicator species. These were upland, softwater lakes. A set of eight end groups were characterised by the presence of *Nuphar lutea* (Yellow Water-lily), *Lemna minor* (Common Duckweed) and *L. trisulca* (Ivy-leaved Duckweed). These were generally lowland lakes with relatively hard waters. Finally, a set of two end groups characterised by *Nymphaea alba* (White Water-lily) and *Fontinalis antipyretica* Hedw., an aquatic moss, were generally found at intermediate altitude and water hardness.

2. Species distribution maps were produced using DMAP, a distribution mapping package. Clear distribution patterns emerged, as would be expected. In spite of the extensive nature of the survey, only one new record for Ireland was established. This was the finding of *Ceratophyllum submersum* (Soft Hornwort) in Co. Down (Smith & Wolfe-Murphy 1991). Nevertheless, there was much else of interest such as the finding of *Potamogeton x cooperi* (*P. perfoliatus* x *P. crispus*) (Cooper's Pondweed) in Ballyboley Reservoir, Co. Antrim (Wolfe-Murphy *et al.* 1991).

3. Analysis of the water chemistry data has also given much of interest. A synopsis of the data (Gibson *et al.*) is under review and further publications will appear in due course. Gibson and co-workers (Gibson 1986, 1988, 1989, 1991; Gibson *et al.* 1992) have already published a quantity of water chemistry data on a county by county basis. The geology of Northern Ireland varies on such a small scale that there is a wide range of water chemistry types. As with lake vegetation, the main variable determining water chemistry is altitude but the small scale variation means there are frequent geological disjunctions and within the same district one can find lakes that are virtually peat stained rain water within a few kms of very hard water lowland lakes. This is particularly notable in Co. Tyrone, but Co. Fermanagh also shows big changes, for example between lakes on Carboniferous limestones and those on Carboniferous sandstones.

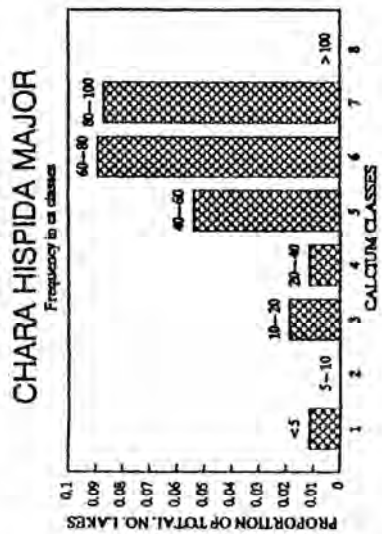
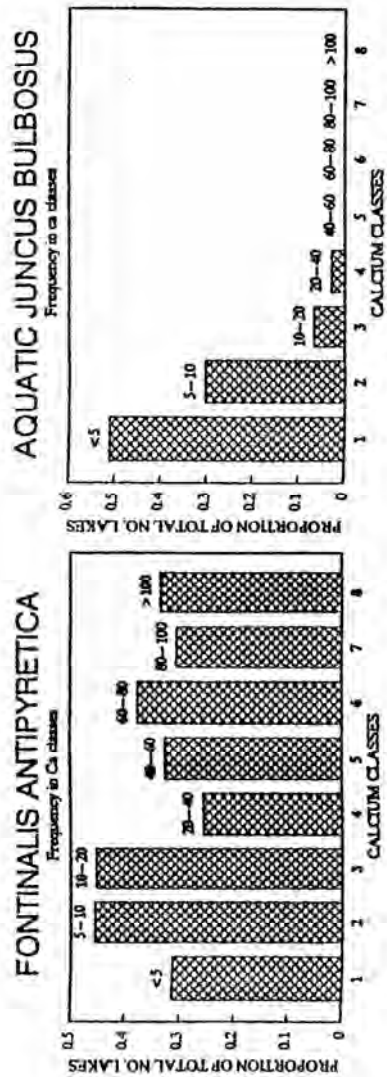


FIGURE 2. Calcium concentration ranges of three contrasting species found in the Northern Ireland Lake Survey.

These data can be set together with the aquatic macrophyte data to derive a series of ecological preferences sets for individual species. A few examples are the obvious soft water preference of *Juncus bulbosus*, the hard water range of *Chara hispida* var. *major* and the indifference of *Fontinalis antipyretica*, but full analysis of this important data set has not yet been achieved (Fig. 2).

4. Swamp vegetation. A very detailed analysis of the swamp vegetation has been undertaken, describing a number of vegetation types only poorly represented in the National Vegetation Classification (Rodwell 1991). This analysis was presented as part of the final report of the Lake Survey contract but it is hoped that it will be soon made available more widely by publication in another form.

CONCLUSION

The Northern Ireland Lake Survey has laid down a baseline of ecological data which will allow a truly synoptic view of aquatic vegetation in Northern Ireland at the time of sampling. Although only one water sample was analysed, and there are no data on the cyclic annual variation which is a common feature of lake chemistry, the large number of sampling points means that here, too, some generalisation should be allowable. Access to the data is made relatively easy by the computerisation of many of the records although inevitably there are problems of the intercompatibility of different computer systems. It is also hoped that much of the data will appear in the public domain in the near future. Interested workers can investigate access to the data by contacting, in the first instance, Richard Weyl, Department of the Environment, Conservation Service, Castle Place, Belfast, BT1 1FY.

ACKNOWLEDGMENTS

This work was carried out by Dr S.J. Smith and Shaun A. Wolfe-Murphy, assisted by a changing team of summer field assistants. To acknowledge their help is misleading, they were the Northern Ireland Lake Survey. Generous funding by the Department of the Environment, Countryside and Wildlife Branch made the venture possible.

REFERENCES

GIBSON, C.E. (1986). A contribution to the regional limnology of Northern Ireland: the lakes of County Down. *Record of Agricultural Research (N.I.)* **34**: 75-83.

- GIBSON, C.E. (1988). Contributions to the regional limnology of Northern Ireland: (2) The lakes of County Fermanagh. *Record of Agricultural Research (N.I.)* **36**: 121-132.
- GIBSON, C.E. (1989). Contributions to the regional limnology of Northern Ireland: (3) The lakes of County Armagh. *Irish Naturalists' Journal* **23**: 41-42.
- GIBSON, C.E. (1991). Contributions to the regional limnology of Northern Ireland: (4) The lakes of County Tyrone. *Irish Naturalists' Journal* **23**: 429-436.
- GIBSON, C.E., SMITH, S.J. & WOLFE-MURPHY, S.A. (1992). Contributions to the regional limnology of Northern Ireland: (5) The lakes of County Antrim. *Irish Naturalists' Journal* **24**: 51-59.
- GIBSON, C.E., WU, Y., SMITH, S.J. & WOLFE-MURPHY, S.A. (under review). Synoptic limnology of Northern Ireland: Water chemistry. Submitted to *Hydrobiologia*.
- RODWELL, J.S., ed. (1991). *British plant communities 2, Mires and heaths*. Cambridge.
- SMITH, S.J. & WOLFE-MURPHY, S.A. (1991). *Ceratophyllum submersum* L. Soft Hornwort, a species new to Ireland. *Irish Naturalists' Journal* **23**: 374-375.
- SMITH, S.J., WOLFE-MURPHY, S.A., ENLANDER, I. & GIBSON, C.E. (1991). *The lakes of Northern Ireland: an annotated inventory*. Countryside and Wildlife Research Series 3. H.M.S.O., Belfast.
- SMITH, S.J., WOLFE-MURPHY, S.A. & GIBSON, C.E. (under review). The classification and ordination of lakes in Northern Ireland based on aquatic macrophytes. Submitted to *Freshwater Biology*.
- WOLFE-MURPHY, S.A., SMITH, S.J. & PRESTON, C.D. (1991). Irish pondweeds I. A recent record of *Potamogeton x cooperi* (Fryer) Fryer from Co. Antrim. *Irish Naturalists' Journal* **23**: 457-458.

TOWARDS CONSERVING THE SOUTH WEXFORD COAST

J. Hurley

Grange, Kilmore, Co. Wexford, Republic of Ireland

In this paper I want to outline the importance of the South Wexford Coast as a natural heritage resource with particular emphasis on its botanical riches and to review recent developments that are having, or will have, a bearing on the conservation of this unique coastal strip.

LOCATION

Located in 'the Model County' in the sunny south-east corner of the Republic of Ireland, the south coast of County Wexford is a natural heritage coastline. This lovely area supports a wealth of natural heritage features and a unique cluster of nature sites.

The South Wexford Coast extends from the limestone tip of Hook Head in the west, to the granite foreland of Carnsore Point in the east. Though only 40 km (25 miles) long, this coastal strip supports 14 designated Areas of Scientific Interest (A.S.L.s), ten of which are rated of international importance. All of the sites are connected either to each other or together by the inshore waters of the Irish Sea. To have so many sites of such importance clustered together on so short a length of shoreline makes the South Wexford Coast one of the outstanding heritage features in Ireland and a significant feature of the coastal heritage resources of North-West Europe.

BIOLOGICAL IMPORTANCE

The central part of the South Wexford Coast is mainly a soft, low-lying shoreline composed of rapidly-eroding tills. The sea has worked and reworked these deep and extensive glacial deposits to create a magnificent diversity of rocky islands and forelands, gravel barriers, back-barrier lagoons, dunes and other sand systems, estuaries and mudflats. Being at the extreme south-east corner of Ireland, this cluster of diverse habitats enjoys a climatic advantage which is characterised by high levels of sunshine together with relatively low levels of rainfall and frost.

As a consequence of the diverse bedrock geology, a diversity of soil parent materials, the abundance of sediments, marine erosion, habitat diversity, the climatic advantage, biodiversity, the presence of a well developed vegetation and a number of rare species, the area is scientifically important and is a very rewarding place to visit. The

presence of a number of species at the northern limits of their ranges adds to the underlying oceanic character of the Irish fauna and flora – a continental flavour that is not found elsewhere.

BOTANICAL INTEREST

Coastal vegetation in South Wexford is particularly well developed. Ten (15%) of the 68 species of vascular plants protected in the Republic of Ireland under the Flora (Protection) Order, 1987; SI No 274 of 1987, have been recorded there.

Three species have their only known stations in Ireland on this coastline: *Sarcocornia perennis* (Perennial Glasswort), *Otanthus maritimus* (Cottonweed) and the yellow lichen *Fulgensia fulgens*. The area also supports possibly the largest population in Europe of *Asparagus officinalis* subsp. *prostratus* (Wild Asparagus). Other noteworthy species that occur in the coastal strip, or that have been recorded growing there in the past, include: *Rumex acetosella* subsp. *acetosella* var. *tenuifolius* (Narrow-leaved Sorrel), *R. maritimus* (Golden Dock), *Centaurium pulchellum* (Lesser Centaury), *Stachys officinalis* (Betony), *Mentha pulegium* (Pennyroyal), *Hyoscyamus niger* (Henbane), *Misopates orontium* (Weasel's-snout), *Kickxia elatine* (Sharp-leaved Fluellen), *Carduus nutans* (Musk Thistle), *Puccinellia fasciculata* (Borrer's Saltmarsh-grass), *Ophrys apifera* (Bee Orchid), and two Red Data species of green stoneworts: *Chara canescens* (Bearded Stonewort) and *Lamprothamnium papulosum* (Foxtail Stonewort).

What positive factors are contributing towards the conservation of wild plants on the South Wexford Coast? It is possible to identify the following:

1. In July 1990, as part of its preparations for the revision of the County Development Plan for the period 1993-1998, Wexford County Council commissioned the planning consultants Brady Shipman Martin to devise a Coastal Zone Management Plan for the county. The plan, which was adopted by the Councillors on 28 June 1993, lays particular emphasis on the need for strategic planning of coastal resources and makes the coastal strip an Area of Special Control. This should result in improved planning procedures to protect sites of botanical importance.
2. The National Parks and Wildlife Service of the Office of Public Works commissioned Ro FitzGerald to revise and update the database of rare and threatened vascular plants in south Wexford (Curtis & McGough 1988). Her detailed fieldwork and literature searches have resulted in a vastly

improved state of knowledge.

3. My Coastal Park proposal (Hurley 1991) suggested that because all of the A.S.I.s on the South Wexford Coast are so close together that a holistic countryside approach to the conservation of the cluster might be taken rather than the present fragmented site-by-site approach. The Minister replied that he was “fully supportive” of finding “the best way to conserve the unique heritage features of the South Wexford coastline while these features are still intact” but he felt that “the establishment of a national park over the area in question is not the appropriate mechanism in the circumstances of this case”. The public debate that the proposal generated focused attention on the issues involved and raised awareness.

4. Recording of vascular plants by Ro FitzGerald and John Akeroyd, B.S.B.I. joint recorders for Wexford (H12), continued and the publication of their proposed *Check-list* will consolidate much recent work. Studies of lower plants by Nick Stewart for the National Parks and Wildlife Service has produced excellent results (Stewart & Church 1992). Fieldwork by local naturalists continues but nothing has been published; the contribution made to local knowledge by Roy Watson from Bridgetown is especially noteworthy. Wexford County Council have also produced *A guide to nature at Curraclloe* (Hore & Hurley 1992) and a brochure featuring Wexford’s new Coastal Path (Anon. 1993a).

5. A review paper by Richard Nairn in *ECOS* focused attention on the future of A.S.I.s and on Wexford (Nairn 1992).

6. The Habitats Directive (Council Directive 92/43/EEC on the *Conservation of Natural habitats and of wild fauna and flora*) was adopted on 21 May 1992. Together with the upsurge of interest in heritage matters and green tourism, the transposition of the spirit of the Habitats Directive into domestic legislation and the implementation of that legislation provide a tremendous opportunity to improve nature conservation measures throughout Ireland. Since coastal lagoons are listed in the Directive as priority habitat types for conservation, parts of the South Wexford Coast should feature among sites designated as Special Areas of Conservation.

7. Existing A.S.I.s and their boundaries are being resurveyed and re-evaluated by the National Parks and Wildlife Service of the Office of Public Works (O.P.W.) for the possible designation of these sites as Natural Heritage Areas (N.H.A.s). Wexford County Council is keen to facilitate this O.P.W. review. The Council’s *County Development Plan* states “It may be necessary to make a variation of this Plan when the

review is complete” (page 116, Anon 1993b).

THE FUTURE

Acknowledging that some excellent work has been done, I take the view that, in the past, there was an over-riding lack of political will to address the fundamental issues involved. However, as members of the wider European community we are now in an exciting period of rapid change and the future for nature conservation looks a bit brighter. Hopefully, the rate of development of conservation measures will overtake the rate of destruction of sites and that the future of places like the South Wexford Coast will be made more secure.

REFERENCES

- ANON. (1993a). *Sli Charman: Wexford's coastal pathway*. Wexford County Council, Wexford.
- ANON. (1993b). *County Wexford development plan, 1993*. Wexford County Council, Wexford.
- CURTIS, T.G.F. & MCGOUGH, H.N. (1988). *The Irish red data book, 1: Vascular plants*. Stationery Office for the Wildlife Service, Dublin.
- HORE, E. & HURLEY, J. (1992). *A guide to nature at Curracloe*. Wexford County Council, Wexford.
- HURLEY, J. (1991). *South Wexford Coast National Park: a proposal*. Wexford.
- NAIRN, R. (1992). Areas of Scientific Interest: Time for a re-think? *ECOS* **13**: 36-40.
- STEWART, N.F. & CHURCH, J.M. (1992). *Red data books of Britain and Ireland: Stoneworts*. Joint Nature Conservation Committee, Peterborough.

CHANGES IN THE VEGETATION OF THE ISLE OF MAY (SCOTLAND) AFTER 18 YEARS OF REDUCED GULL NUMBERS

Arlette Bataille and D.G. Sobey
Department of Biological and Biomedical Sciences, University of Ulster, Jordanstown, Co. Antrim, BT37 0QB

On the Isle of May the number of breeding herring and lesser blackbacked gulls increased from 455 pairs in 1936 to over 17,000 pairs in 1972 resulting in drastic changes in the vegetation. A detailed survey in 1972 indicated that the thrift-dominated 'heath' that had covered most of the island periphery in 1936 had been replaced by plant communities consisting of *Holcus lanatus* (Yorkshire-fog) and annual weeds particularly *Stellaria media* (Common Chickweed). Partly because of these changes a culling programme was initiated in 1972 which within two years had reduced the gull population to 4,500 pairs, a level which was maintained until 1983, when the population was further reduced to 2,600 pairs.

In June 1990 we surveyed the vegetation changes following 18 years of reduced gull numbers.

The spread of *Silene uniflora* (Sea Campion) over much of the island was the most obvious change – it covered most of the areas that were occupied by *H. lanatus* and *S. media* in 1972. These were now largely restricted to the remaining gull colony sites at either end of the island and they also still occurred along the eastern side where the factor responsible for their survival appeared to be puffins rather than gulls. Though less so than *S. uniflora*. *Armeria maritima* (Thrift) had also increased its distribution, expanding primarily in areas where remnants were recorded in 1972. However, in some areas it had declined and was encroached upon and suppressed by the on-going spread of *S. uniflora*.

Although the reduction in gull numbers is undoubtedly the principal factor responsible for these changes, other factors such as the increase in puffin and rabbit numbers, recent low rainfall and heavy salt-spray deposition during the previous winter complicate the interpretation of the vegetation changes following the drop in gull numbers.

A REPORT ON THE FLORA OF CORK (V.CC. H3-H5), 1993

T. O'Mahony

6 Glenthorn Way, Dublin Hill, Cork City

1993 has proved a very active and productive year, therefore only the more important plant finds are listed in the present report. On most of the outings, I was accompanied by Michael Troy, to whom I express my thanks.

Most of January/February was spent writing up a paper on the *Flora of Kilcolman Wildfowl Refuge*, which is situated near Buttevant, East Cork (H5, R/5.1). This beautiful 63 ha site is now the largest remaining inland fen in Co. Cork. My paper was subsequently incorporated into the work: *An ecological base-line survey of Kilcolman Wildfowl Refuge* (ed. G. Morgan, 1993).

It is pertinent to note that, according to the Irish Peatland Conservation Council, there are 48,240 ha of fen of European Conservation Importance (Categories 1 & 2) in Ireland, of which only 244 (including Kilcolman) are actually conserved!

In late-January, *Sedum dasyphyllum* (Thick-leaved Stonecrop) was found on a 2 m stretch of wall-top at Wise's Hill, Cork City (H4, W/6.7). This may now be the only extant Mid Cork site for the stonecrop.

On 1 May, Rock Island, near Goleen, West Cork (H3, V/8.2) produced *Lotus subbiflorus* (Hairy Bird's-foot-trefoil) in only its second mainland Cork site. This gem of a site also holds *Tuberaria guttata* (Spotted Rockrose), *Ornithopus perpusillus* (Bird's-foot), *Sagina subulata* (Heath Pearlwort), *Erodium maritimum* (Sea Stork's-bill), *Erodium moschatum* (Musk Stork's-bill) and *Orchis morio* (Green-winged Orchid), the orchid being quite frequent along the heathy sea-inlet in the direction of Crookhaven, the population running into thousands of plants.

On 8 May, *Ceratocarpus claviculata* (Climbing Corydalis) was seen in flower on the large sandstone outcrops of Toon Bridge Woodland, overlooking the Gearagh, near Macroom (H3, W/2.7). This is the sole Cork site for the species, where it was originally found prior to 1986 by Roger Goodwillie.

Also in May, 17 tussocks of *Carex depauperata* (Starved Wood-sedge) were seen at its station on the River Blackwater near Killavullen, East Cork. Other finds in the area included a third River Blackwater site for *Carex*

strigosa (Thin-spiked Wood-sedge) since 1991, and a large population of *Persicaria amphibia* var. *glandulosum* (Amphibious Bistort), which I first recorded in the area in the early 1970s. This taxon appears to be very rare in Britain, while I know of no other Irish stations for the plant outside of East Cork.

On 5 June, *Equisetum variegatum* (Variegated Horsetail) was added to the Cork flora, with the discovery of a 30 m length roadside population, adjacent to the River Awbeg, roughly 3 km downriver of Buttevant (H5, R/5.0). Within the same period, Tom Curtis found a sand-dune population near Castlefcreke, West Cork (H3, W/3.3).

On 24 June, the Carboniferous limestone quarries at Buttevant (H5, R/5.0) yielded an as yet unnamed *Hieracium* sp. (Hawkweed), in addition to *Anacamptis pyramidalis* (Pyramidal Orchid), *Koeleria macrantha* (Crested Hair-grass), *Clinopodium ascendens* (Lesser Calamint) and a thicket of (originally planted?) *Cornus sanguinea* (Dogwood), forming an understorey beneath *Fraxinus excelsior* (Ash).

On 11 July, it was a pleasure indeed to see *Lathyrus japonicus* (Sea Pea) in beautiful flower over a 20 m stretch of sand-dune near Clonakilty, West Cork. This national rarity was added to the Cork flora in 1992 by Miss Caroline Minchin.

An equally memorable event was a trip to Clear Island in Roaringwater Bay, West Cork, on 19 July. Mr Dave Bird (the Bird Warden!) graciously showed us a new South Harbour site for *Asplenium obovatum* (Lanceolate Spleenwort), discovered here by Jack Donovan in August 1992. The fern occurs over a 17 m length of roadside bank and is accompanied by the ubiquitous *A. adiantum-nigrum* (Black Spleenwort). Other notable South Harbour plants seen included: *Lotus subbiflorus* (Hairy Bird's-foot-trefoil), *Cicendia filiformis* (Yellow Centaury), *Sagina subulata* (Heath Pearlwort), *Ornithopus perpusillus* (Bird's-foot), *Chamaemelum nobile* (Chamomile), *Carex punctata* (Dotted Sedge) and *C. muricata* subsp. *lamprocarpa* (Prickly Sedge) (both apparently new to the island), and *Calystegia sepium* subsp. *roseata* (Hedge Bindweed), this latter beautifully adorning the shingle beach and cliff-faces with its bi-colourous flowers.

Also in July, *Eleocharis uniglumis* (Slender Spike-rush) was added to the East Cork flora, with its discovery in a brackish marsh near Glounthaune, in Cork's Inner Harbour (H5, W/7.7).

In August, Dave Bird sent me a list of additional Clear Island sites for *Asplenium obovatum* (Lanceolate Spleenwort), which he had discovered

since our July trip to the island. I look forward to seeing these new sites in 1994.

Also in August, a number of trips were made to the Caherbarnagh Mountains, near Millstreet, West Cork. On the imposing, slightly calcareous cliffs overlooking Lough Gurtavehy, all of the fern species recorded by A.O. More in August 1868 were re-found, including: *Phegopteris connectilis* (Beech Fern), *Hymenophyllum wilsonii* (Wilson's Filmy-fern), *Cystopteris fragilis* (Brittle Bladder-fern), *Polystichum aculeatum* (Hard Shield-fern), *Asplenium trichomanes-ramosum* (Spleenwort) and *A. ruta-muraria* (Wall-rue) (very rare). In the damp, shady gullies, *Saxifraga* x *polita* (*S. spathularis* x *S. hirsuta*) (False Londonpride), in its myriad of forms, is abundant with *S. spathularis* (St Patrick's-cabbage), while pure (or slightly introgressed) populations of *Saxifraga hirsuta* (Kidney Saxifrage) are rare, and need critical examination during the flowering period.

Nearby Lough Murtagh is notable for the local abundance of *Cladium mariscus* (Great Fen-sedge) in the beds of *Phragmites australis* (Common Reed), where it was first recorded by the Rev. Thomas Allin in the 1870s. Allin also recorded *Sedum rosea* (Roseroot) and *Carex riparia* (Greater Pond-sedge) from this montane site, but these were not seen on my visit. However, I did find *Phegopteris connectilis* (Beech Fern), a single plant of the distinctive *Potentilla erecta* subsp. *strictissima* (Tormentil), and the rare *Juncus conglomeratus* (Compact Rush) x *J. effusus* (Soft-rush), the hybrid occurring as scattered plants about the lough.

Also in August, came news of another remarkable addition to the island flora of Roaringwater Bay, West Cork, viz: a 300-strong shingle beach population of *Geranium purpureum* (Little Robin)! John Akeroyd and Rosemary FitzGerald have seen the plant in situ and confirmed the identification.

Lastly, on 24 September, a single plant of *Stachys officinalis* (Betony) was found in estuarine woodland on a backwater of the River Bandon, near Kinsale (H4, W/61.50). Most interestingly, the late Mrs Elizabeth Good also reported this species from another Kinsale site in 1966! Her station needs re-finding.

R.H. Northridge
9 Coole Drive, Enniskillen, Co. Fermanagh, BT74 6BS

Fieldwork continued with visits to promising but lesser worked sites.

The south shore of lower Lough Erne produced several new sites for *Equisetum variegatum* (Variegated Horsetail), while *Pyrola minor* (Common Wintergreen) turned up on a wooded scarp below Magho; this means that the three species of wintergreen, *Pyrola minor*, *P. media* (Intermediate Wintergreen) and *Orthillia secunda* (Serrated Wintergreen) have all been recently seen in this area, just as they were in Praeger's time.

Lough MacNea produced a new county record for *Carex aquatilis* (Water Sedge), a new site for *Trollius europaeus* (Globeflower), as well as *Equisetum x trachyodon* (*E. hyemale* x *E. variegatum*) (Mackay's Horsetail), *Carex x turfosa* (*C. elata* x *C. nigra*) and *Dryopteris aemula* (Hay-scented Buckler-fern).

At Callow, near Monawilkin, *Neottia nidus-avis* (Bird's-nest Orchid) was found and *Primula x polyantha* (*P. vulgaris* x *P. veris*) turned up at Roosky Turlough where *P. veris* (Cowslip) used to occur. The area surrounding Lough Namanfin in Ballintempo Forest proved to be very rich with *Eriophorum latifolium* (Broad-leaved Cottongrass) being the most interesting species.

John Phillips and Iain Rippey found two patches, each with six flowering spikes, of *Neotinea maculata* (Dense-flowered Orchid) on Knockninny while Matthew Tickner discovered a colony of up to 100 spikes of *Monotropa hypopitys* (Yellow Bird's-nest) at Castle Caldwell: I regret to report that the only other colony of this size was destroyed in the making of a golf course at Castle Hume in 1992.

An international team of bryologists, led by Nick Stewart, visited the county in February and found two species new to Ireland. In two of three sites visited in the south west of the county the gametophyte of *Trichomanes speciosum* (Killarney Fern) was discovered in dark, but not very wet, crevices under overhanging rocks. The gametophyte could turn out to be quite widespread if botanists were aware of its characteristics.

Almost all post-1970 records for Fermanagh are now in the RECORDER Database giving a total number of records in excess of 90,000. Work has started on the historical records and we hope to complete this task over the

winter, with serious plans for a Flora being set in motion in the spring of 1994.

SOME INTERESTING PLANTS FROM TYRONE (V.C. H36)

I. McNeill

86 Fair Hill, Cookstown, Co. Tyrone, BT80 8DE

Tyrone has few claims to be a botanist's paradise. Praeger dismissed it as "a curiously negative tract" in *The way that I went* (1947). Nevertheless, here are ten plants from the county worthy of comment.

Cardamine amara (Large Bitter-cress)

C. amara is a plant confined, in Ireland, almost exclusively to Ulster. It is frequent along the Ballinderry and Blackwater river-systems in the east and south-east of Tyrone. It also occurs along the shores of Lough Neagh, and by some of the small lakes in the Blackwater basin. Its favourite habitat is in riverside hollows, the sort of ground that floods when the river is in spate, and remains waterlogged for days or weeks after the flood subsides. It sets seed with difficulty in an adverse year (I could find no viable seed in 1993) but it does seem to be able to colonise upstream, suggesting seed-dispersal by birds or other animals.

Rubus chamaemorus (Cloudberry)

R. chamaemorus has its only Irish station in Tyrone. First found in 1826, the site was known to botanists up to the 1890s. It then became 'lost' until refound by Miss Kertland in 1958, since when it has been visited regularly by various botanists. Apparently it now never flowers, but it seems possible it was seen in flower when originally found in 1826.

There has been some confusion over the site; sometimes it is described as being on the Tyrone-Derry border. It is 1 km within Tyrone, on the north-east Bank of Mullaghdoe Mountain, along the main ridge of the Sperrin Mountains.

Cloudberry is widespread in Scotland, and extends south as far as Derbyshire. Why it should be so rare in Ireland remains a mystery.

Physocarpus opulifolius (Ninebark)

This is a small tree of North American origin, which has been found by John Harron in two 'wild' sites in the Sperrin Mountains: a. along the

Glenelly River just east of Plumbridge and b. in Glenlark. One must presume it has escaped from planted stock, but I have never seen it in any garden.

Tellima grandiflora (Fringe-cups)

Another plant of North American origin, this time a herbaceous perennial with a lime-green flower-spike in spring – quite popular with flower arrangers.

It escaped from the gardens of Tullylagan Manor (6 km south of Cookstown), probably in the 1960s, and spread to the banks of the nearby Killymoon River. It then rapidly colonised downstream, firstly the 6 km until the larger Ballinderry River was joined, and then a further 9 km down that river. Both rivers carry a lot of sand, and where this is deposited as flood-silt, especially among trees, the species finds a perfect home. In several spots, especially at Tullylagan itself, at Desertcreat Church, and in the Killymoon Estate, it is an abundant member of the riverside flora.

Below Coagh, there is little riverside woodland, and fewer backwaters where sand can collect, so it may not get through the last 6 km needed to reach Lough Neagh. If it did, I suspect it could become a feature of the sandy, alder-strewn ground of the Lough shores.

We have seen it on the Moyola and Roe rivers of Co. Derry (v.c. H40), but nowhere to anything like its density on the Ballinderry.

Peucedanum ostruthium (Masterwort)

P. ostruthium is a long-lived perennial umbellifer, apparently grown in the past as a pot-herb. We knew of about ten roadside sites in Tyrone, mainly in the poor, hilly land of the centre of the county. These are all relict sites, showing no signs of regeneration. However, east of Plumbridge, along the Glenelly River, the plant has more hope of survival. For here it has colonised the river bank, and has found a habitat where regeneration is occurring. Masterwort has a rather handsome leaf, and is nearly deserving of space as a garden plant.

Lysimachia nummularia (Creeping-Jenny)

This is also the Creeping-Jenny of the cottage garden, although the plant in the wild does not look quite the same as its garden ‘cousin’ – its leaves are smaller, and it flowers rather indifferently.

It is abundant along the Lough Neagh shore, and around a few of the many small lakes of the Blackwater basin. It also grows along the Blackwater and its tributaries as a riverside plant.

It would appear that it was rare, even missing, on the Lough Neagh shore 100 years ago, yet was regarded as “frequent by Lough Neagh” in the 1930s. If it escaped from cultivation early this century, how can one explain its ubiquitous nature today? If we hypothesise an escape from some point well up the Blackwater, it would explain its presence on the Blackwater itself and also on Lough Neagh, but how would it have worked its way upstream along tributary streams to colonise the small-lake shores?

Incidentally, its favourite habitat by Lough Neagh is rather surprising, as it loves to straggle along the base of 2 metre-high reed beds. The only other denizens of such ground are *Scutellaria galericulata* (Skullcap) and *Lemna* spp. (Duckweeds).

Veronica peregrina (American Speedwell)

In Kerr’s manuscript *Flora of County Tyrone*, it is stated that *Veronica peregrina* was first found in Ireland at Baronscourt (in Tyrone) in 1836. It is still there! As a garden centre operates within the Baronscourt Estate, it would seem probable that this may lead to a dissemination of the plant. Most of our records, in fact, come from the grounds of other ‘Big Houses’. We have seven such records and only three from gardens of the proletariat – including my own!

I would suggest the plant arrived at Baronscourt as a result of travels to North America by the landed gentry, who might have brought some American garden plants in their luggage, plus a few weed seeds thrown in. There is frequent evidence of exchange of garden plants among the aristocratic fraternity within Ireland, and so weeds moved around also.

Veronica scutellata var. *villosa* (Marsh Speedwell)

This is the hairy variety of the normally glabrous *Veronica scutellata*. We found a small colony of it in the Butterlope Glen, near Plumbridge. According to the *Plant Crib* (Rich, T.C.G., 1988, London), it is “apparently absent from Ireland”. So ... another first for Tyrone!

Mercurialis perennis (Dog’s Mercury)

Dog’s Mercury is possibly the example par excellence of a plant abundant in many parts of Britain but almost absent from Ireland.

I don’t claim it to be abundant in Tyrone; we have seen it only in four 10-km squares. But there is an interesting area centred roughly 5 km north-west of Caledon where it does appear to have the hallmarks of a native. This is a district of small hills, with relict woodland on steeper slopes, and in most of these woodland patches the Dog’s Mercury grows.

There is a similar concentration a few kms away, near Tynan in Co. Armagh. However, in that case there are several nearby large estates, with the chance that it was introduced – the ‘big house’ theory!

Allium paradoxum (Few-flowered Garlic)

This March-flowering *Allium* is now frequent around Cookstown. Like *Tellima grandiflora* (Fringe-cups), its garden source is known; I first noticed it in the gardens of the former Adair Mansions on the south-west edge of the town. The Adairs made their money from linen, and built their fine houses on elevated sites overlooking beautiful tree-lined stretches of the Ballinderry River, the same river that provided the power for their spinning and weaving enterprises. They were great plantsmen (and women!), and their gardens, now largely built over, still have good plants. It was from Miss Adair’s house, Lynwood, that the famous *Forsythia x intermedia* (*F. suspensa* x *F. viridissima*) (Forsythia) ‘Lynwood’ originated.

The local council used the roadside close to the escaping *Allium* as a site for temporary storage of topsoil from various roadworks around the town. Subsequent restoration of this topsoil also transported *A. paradoxum* bulbils, and so now the plant has several prospering colonies. It has also managed to make its way down the Ballinderry River; we have seen it in small patches at intervals for 12 km downriver.

RECORDING IN CO. ANTRIM (V.C. 39) IN 1993

S. Beesley

12 Downview Park, Greenisland, Carrickfergus, Co. Antrim, BT38 8RY

Recording in Co. Antrim has continued but this year available time has been shared with recording for the *Flora of Belfast* project.

In Co. Antrim the emphasis has been on disused quarries and landfill sites and in these habitats the following records were of especial interest:-

Silene gallica (Small-flowered Catchfly) – last recorded in Co. Antrim over 100 years ago.

Erodium cicutarium (Common Stork’s-bill) – most unusual from an inland site.

Plantago maritima (Sea Plantain) – from two inland sites.

Pastinacea sativa (Wild Parsnip) – In a disused quarry this plant was well established with over a hundred plants. The origin is not clear but the plant is very rare in the North-East.

In other habitats in Co. Antrim the following were recorded:-

Linum usitatissimum (Flax) – seen in two locations.

Solanum nigrum (Black Nightshade) – last recorded in Co. Antrim in the last century.

Orobanche minor (Common Broomrape) – A large colony growing with mixed *Trifolium* spp. was found on reclaimed land near Larne Harbour. On a subsequent visit the area had been treated with weedkiller and all plants killed.

Veronica peregrina – (American Speedwell)

Recording for the *Flora of Belfast* is on a 1-km square basis and I have been surprised by the number of unusual plants recorded. Some of these are:-

Melilotus alba (White Melilot) – well established on one site, last recorded in Belfast in 1956.

Trifolium striatum (Knotted Clover) – found on waste ground near the Sewage Works. Last recorded about 60 years ago.

Aethusa cynapium (Fool's Parsley) – very rare in the area but a single plant found growing on the edge of a footpath in the Shankill area.

Conyza canadensis (Canadian Fleabane) – The first record in the North was five years ago and it has been seen on occasions since but this year we have seen it on four sites with many plants on some sites. One of the sites was on the Co. Down (v.c. H38) side of the city and is therefore a new county record.

Tragopogon pratensis (Goat's-beard) – very well established in grass verges on slip-roads to M2 motorway.

The plants mentioned are just a few of the highlights of an interesting and

enjoyable recording season and as usual I acknowledge the help and support of John Wilde. In particular his detailed knowledge of Belfast has been most useful in recording for the *Flora of Belfast* project.

LUZULA PALLIDULA KIRSCHNER IN IRELAND

T.C.G. Rich

37 Hartfield Road, Forest Row, East Sussex, RH18 5DY

Jan Kirschner and I have recently drawn attention to the occurrence of two records of *Luzula pallidula* (*L. pallescens*) (Fen Wood-rush) in Ireland (Kirschner & Rich 1993). John Harron took us to his locality at Lough Neagh, but the site is no longer suitable for the plant and it is probably extinct.

The second record is from an undated specimen collected by Pat Kertland in the Ulster Museum, Belfast (**BEL**). The specimen was labelled at "Sea Gull Bog, Co. Offaly" but we were unable to trace the locality. Maura Scannell and David Webb have kindly pointed out Praeger's (1894) reference in the *Irish Naturalist*. It is probably part of the Great Bog of Allen to the south east of Tullamore, possibly between Mount Mellick and Geashill. This coincides with a record card held at the Biological Records Centre, Monks Wood completed by Pat Kertland in August 1959 and labelled "on road to Tullamore, north of Mount Mellick" (the grid reference was given as 03/4.7 on the extended grid used for recording for the *Atlas of the British flora*, approximately equivalent to N/2.2 on the Irish grid). Interestingly, she recorded no obvious bog species (e.g. *Andromeda polifolia* (Bog-rosemary)) on the record card. The road to Tullamore will be the first obvious place to search on the field meeting in 1994, which will also be the centenary of Praeger's visit.

Luzula pallidula is easily distinguished from *L. campestris* (Field Woodrush) and *L. multiflora* agg. (Heath Wood-rush) (Fig. 1: see also Kirschner & Rich 1993) by the flowers and seeds which are tiny by comparison (outer perianth segments 2.0-2.8 mm, seeds to 0.8 mm). The inner perianth segments are unequal (x 10 lens) (equal in the other species) and the peduncles are densely papillose (microscope) (smooth in the other species), and often have secondary branching. At a glance, the small size of the inflorescence which is usually a pallid, pale brown, is conspicuously different from the large, dark brown inflorescences of the other species. It often occurs on track sides, open woodland and disturbed, open boggy or

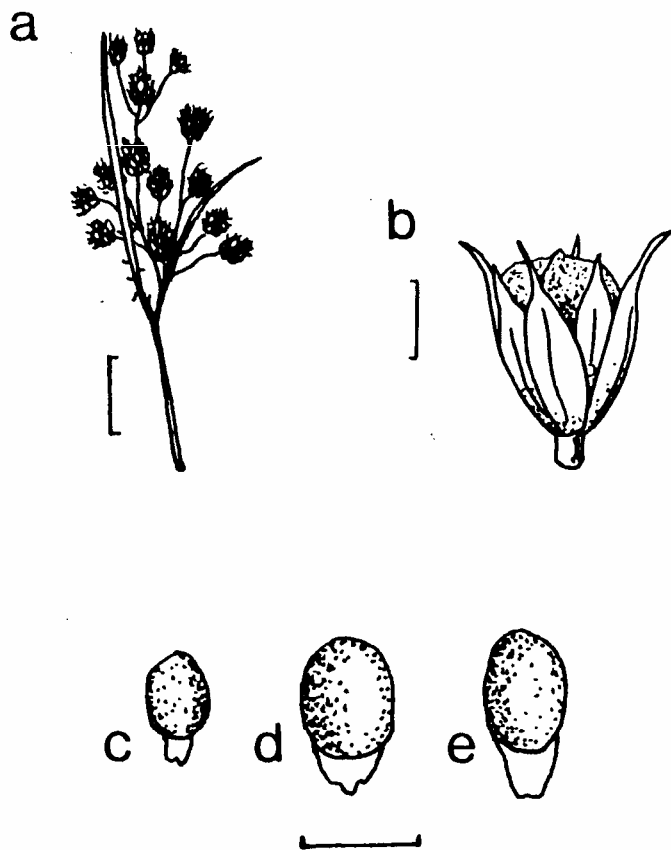


FIGURE 1. *Luzula pallidula*. a. Inflorescence showing the secondary branches (scale 1 cm); b. Ripe capsule showing the shorter inner perianth segments (scale 1 mm). Seeds of *L. pallidula* (c), *L. campestris* (d), and *L. multiflora* (e) (scale 1 mm) – measurements exclude the white appendage and should be made flat side down.

sandy vegetation in Europe. I will be pleased to identify any specimens.

REFERENCES

KIRSCHNER, J. & RICH, T.C.G. (1993). A note on *Luzula* Section *Luzula* in Ireland with special reference to *Luzula pallidula* Kirschner. *Irish Naturalists' Journal* **24**: 297-298.

PRAEGER, R.L. (1894). The Seagull Bog, Tullamore. *Irish Naturalist* **3**: 173-175.

FROM A DUMP TO A CHECK-LIST OF ALIENS

Sylvia Reynolds

115 Weirview Drive, Stillorgan, Co. Dublin

“This is my idea of heaven!”. This statement provoked a startled response from my companion. We were not in the Burren, nor a beautiful oakwood in Killarney, nor on the top of Brandon Mountain. We were on the Ballyogan tip-head in Co. Dublin. It is a huge rubbish dump not far from where we live but I had not visited it before. Of course, the area of active dumping is revolting, but where the dump had been covered with soil, there was much to excite the botanical imagination! The expected garden vegetable and flower throw-outs were there – potatoes, cabbages, tomatoes, marigolds, laburnum, Californian poppy, sweet alyssum, etc. as well as weedy species – *Coronopus didymus* (Lesser Swine-cress), *C. squamatus* (Swine-cress), *Fallopia convolvulus* (Black Bind-weed), *Tripleurospermum inodorum* (Scentless Mayweed), *Urtica urens* (Small Nettle) and *Mercurialis annua* (Annual Mercury). *Hirschfeldia incana* (Hoary Mustard) lined the roadway. However, there were also some less common plants such as *Senecio viscosus* (Sticky Groundsel), *Phalaris canariensis* (Canary-grass), *Galinsoga quadriradiata* (Shaggy-soldier) and the garden plant *Anthemis tinctoria* (Yellow Chamomile) whose flowers yield a yellow dye.

For the last several years, I have been interested in recording alien plants, particularly at ports and on roadsides. Many naturalised and established aliens are listed in the *Census catalogue of the flora of Ireland* (Scannell, M.J.P. & Synnott, D.M., 1987), but casual alien species are not included. In many cases it was difficult to trace earlier Irish records and this led to the idea of compiling an annotated check-list of plants introduced into Ireland, whether deliberately, e.g. as garden plants which have then

escaped, or unintentionally, e.g. with imported grains and animal feed.

To date I have records for about 750 alien taxa. Of these about 290 are listed in the *Census catalogue*, and about 460 are not listed.

The main sources of records have been Irish Floras, *Irish Naturalist*, *Irish Naturalists' Journal* and *Watsonia* – about 560 references so far – which span over a hundred years. Since 1970 there have been published records for about 65% of the total number of introduced species (about 490 species). In the proposed check-list, vice-county distribution will be given as well as the approximately 250 synonyms encountered in publications. It may also be possible to indicate if there are specimens of the rarer species in the Herbarium, National Botanic Gardens, Dublin (**DBN**), the Ulster Museum, Belfast (**BEL**) or Trinity College, Dublin (**TCD**).

A check-list such as this can never be completely comprehensive and up-to-date. I know that there is much active fieldwork in progress in Ireland at present, and if anyone feels like passing on recent records, their contributions will be gratefully received and acknowledged. At the A.G.M. of the Irish Branch of the B.S.B.I. in 1990, Gwynn Ellis advocated monitoring all alien species “so that any that threaten to get out of hand can be pinpointed at the start of their invasion” (Ellis, G. (1990). The role of the B.S.B.I. in the future. *Irish Botanical News* 1: 5-11). There are still many months of work to do, and I hope that the final annotated check-list will provide a useful baseline.

And now for another foray on the dump!

BOOK REVIEW

Wild plants of The Phoenix Park. P.A. Reilly with contributions from D.L. Kelly, D.M. Synnott and J. McCullen, edited by E.C. Nelson. Pp. 126 with seven black and white and 14 colour plates. National Botanic Gardens, The Office of Public Works, Glasnevin, Dublin 9. 1993. Price IR£7.50 (ISBN 0-7076-0331-5).

There can be few cities in the world that can boast that in the last ten years two Floras have been published describing their plant life. Dublin is one! This book complements the one authored in 1984 (Wyse Jackson. P. & Sheehy Skeffington. M. *The Flora of inner Dublin*. Royal Dublin Society), which stopped short of the Phoenix Park boundary. This book peeks over

the wall at what goodies are on the other side. It came into my hands very late and so my examination of it has not been as thorough as I would have liked and consequently I have not read it from 'cover to cover'. But, in any case, this is a book for delving into and using and that's exactly what I have done. And such delving reveals a treasure trove of goodies including *Saxifraga granulata* (Meadow Saxifrage) and *Viola hirta* (Hairy Violet), both on the protected list and both recently confirmed in The Park.

Essentially, the book has four parts (in three chapters).

In the first part, P.A. Reilly outlines the general background to The Phoenix Park – its climate, geology and the history of recording in The Park – together with the organisation of the recording for the present survey and the broad results in terms of species changes, plants and their habitats, and plant distribution and soils. The second part is then the formal Catalogue of flowering plants and ferns in which the distribution in the five recording areas of The Park of each individual species is indicated. The records (historical and modern, herbarium and field) for the more uncommon species receive special attention. This section includes three indices – a topographical index, index of Latin names and an index of English(!) names.

The third part covers the Bryophytes of The Phoenix Park compiled by Daniel Kelly and Donal Synnott. A brief review of past recording and summary of the bryophyte flora of the different habitats precedes a more formal catalogue. One interesting point to emerge from this section is the lack of previous records. Indeed, this largely parallels the situation with flowering plants where Paddy Reilly in the first section notes that between 1726 and 1975, only 89 species were listed (about 600 species are now known). It is rather puzzling that the recording within The Park has been so poor despite the fact that, as Paddy Reilly points out, Dublin has been the home of botanists for over three centuries.

The last section on the landscape history of The Park by John McCullen is a delight. It takes us from the Neolithic and Bronze age settlements through the creation of The Park in the seventeenth century and through to the plantings of recent years. It is interesting to note how disasters such as the appearance of Dutch Elm Disease in the 1980s and the loss of trees due to storm damage (e.g. Hurricane Charlie in August, 1986 and the storms of 1839 and 1903) were seen as opportunities for replanting.

Grouses are few. Although the map on page 6 shows the five recording areas very clearly, there is too much clutter to make it a useful map and with maturing vision, I found it difficult reading parts of it. Errors appear

to be few though I did spot *Articum minus* (*Arctium minus*) in the Catalogue which interestingly also appeared in the index – that's the problem with computers, if an error is present then it gets duplicated every time!

You may already have gathered that I'm fan of this book and if I haven't yet convinced you to go and buy a copy then let me make one last point. I recently reviewed a book and calculated that the book was costing 16.8 pence per page. The *Wild Plants of The Phoenix Park* is only 5.5 pence per page and includes 14 colour plates. Buy a copy. Better still, buy two copies and give one away as a present!

B.S. RUSHTON