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Carex limosa.

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COMMITTEE FOR IRELAND, 2001-2002
BOTANICAL SOCIETY OF THE BRITISH ISLES

In line with the Rules, two new committee members were elected at the Annual General Meeting held in Teach Lea, Lough Boora Parklands, Co. Offaly on 22 September 2001. The Committee is now:

Miss Anne B. Carter, Chair (retiring Irish AGM 2002)
Dr Sharon L. Parr, Hon. Secretary (retiring Irish AGM 2004)
Mr G.V. Day, Field Meetings Secretary (retiring Irish AGM 2002)
Dr D.A. Doogue, *Atlas 2000* Co-ordinator (retiring Irish AGM 2003)
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Mrs Fiona Devery (retiring Irish AGM 2004)

The following are co-opted members of the Committee:

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Mr P. Corbett, Environment and Heritage Service (N.I.) Representative
Dr D.W. Nash, BSBI Council Representative
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Dr B.S. Rushton, Hon. Editor *Irish Botanical News*, co-opted October 1995

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All species and common names in *Irish Botanical News* follow those in Stace, C.A. (1991). *New Flora of the British Isles*. Cambridge University Press, Cambridge except where otherwise stated.

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EDITORIAL

I was pleased to receive the short article from Maura Scannell for inclusion in this edition of *Irish Botanical News* as it reports data collected on *Carex limosa* (Bog-sedge) almost fifteen years ago. It got me thinking just how much data there must be out there mouldering away at the backs of drawers or in long-forgotten field notebooks. I was reminded of a discussion I had with the head warden of a large local nature reserve some years ago. I was trying to convince him that there was some merit in allowing my final year honours degree students to do projects on the nature reserve site. He seemed strangely reticent and he asked me a rather odd question – "Would the students get as far as analysing the data they collected?". When I queried this, he took me over to a large filing cabinet – he showed me piles of unanalysed data sheets that had been accumulating over the years from students' and amateurs' work (and some professionals) and which would never see the light of day in published form.

I'm just as guilty as every one else. I suspect that in my office I must have data that would translate into between ten and 20 research papers let alone smaller items from student project work. I seem to remember some years ago that one of the universities in the South was trying to compile a list of unpublished student dissertations but I don't know what happened to this initiative (does anyone remember this or did I dream it?). Certainly CEDaR at the Ulster Museum does include reference to such information in its databases. But there must be a huge amount of lesser information still out there waiting to be published.

A fifteen year old set of biotechnology data would be next to useless; not so a set of field records or data. So, a very, very late New Year's Resolution – sort out that old data and get it into the public domain. Of course *Irish Botanical News* will accept your contributions …

Have a good field season,

Brian S. Rushton, *Irish Botanical News*

THE COMPARATIVE MORPHOLOGY OF *JUNCUS CONGLOMERATUS* L. (COMPACT RUSH), *J. EFFUSUS* L. (SOFT-RUSH) AND THEIR INTERSPECIFIC HYBRID, *J.* × *KERN-REICHGELTII* JANSEN & WACHTER EX REICHG.

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INTRODUCTION

Within the genus *Juncus* L. subgenus *Genuini* Buchenau as represented in Britain and Ireland, the polymorphic species *J. conglomeratus* L. (Compact Rush) and *J. effusus* L. (Soft-rush) are of widespread and common occurrence. However, given their superficially similar appearance and considerable morphological plasticity, it is not surprising to find that certain variants of each are frequently confounded, or erroneously interpreted as their interspecific hybrid, *J.* × *kern-reichgeltii* Jansen & Wachter ex Reichg. For example, the taxon *J. effusus* var. *subglomeratus* DC (which bears condensed infructescences that often encircle the stem) is still frequently mis-determined as *J. conglomeratus*, while the pseudo-diffuse-infructescence form of *J. conglomeratus* (var. *subuliflorus* (Drejer) Asch. & Graebner), in which the peduncles are long and lax (though the cymules are still characteristically aggregated into spherical heads) is similarly mis-determined as an aberrant form of *J. effusus* or, more likely, as their interspecific hybrid, *J.* × *kern-reichgeltii*. It is against this very confused taxonomic background that the evidence for the existence of genuine *J.* × *kern-reichgeltii* populations in Ireland, Britain and mainland Europe must be assessed.

JUNCUS × *KERN-REICHGELTII* IN THE BRITISH FLORA

The first detailed account of putative *J.* × *kern-reichgeltii* populations in Britain was that of Agnew (1968), who recorded presumed F_1 hybrid populations, together with introgressed *J. effusus* populations, from a number of upland sites in Scotland and Wales. Moreover, Agnew stated that such hybrids "…appeared fully fertile" – presumably meaning that their capsules bore a full complement of seeds. Stace (1972) subsequently reviewed the history and occurrence in Britain of interspecific hybrids in the genus *Juncus* subgenus *Genuini* and concluded (on the basis of his own fieldwork and from an examination of herbarium vouchers of putative hybrids) that adequate evidence for the existence of *J.* × *kern-reichgeltii* in either Britain or mainland

Europe, was lacking. Moreover, he further commented (1972: 8): "The question of the very existence or otherwise of *J. conglomeratus* hybrids, is one which will not be settled until comprehensive breeding programmes have been completed." Nevertheless, Stace (1975) later reported finding fruit-fertile *J.* × *kern-reichgeltii* populations in a number of lowland sites in northern England and eastern Scotland and stated that he had raised a segregating F_2 generation from wild F_1 plants. Moreover, it would seem that by this time he had come to accept Agnew's (1968) records of the hybrid as genuine.

JUNCUS × *KERN-REICHGELTII* IN THE IRISH FLORA

Praeger (1951) in his seminal paper – Hybrids in the Irish Flora: a tentative list – records only two *Juncus* hybrids, viz:

1. *J.* × *diffusus* Hoppe (= *J. effusus* × *J. inflexus* L.); and
2. *J.* × *surrejanus* Druce ex Stace & Lambinon (= *J. articulatus* L. × *J. acutiflorus* Ehrh. ex Hoffm.).

Prior to 1979, it would seem that the only reference to the occurrence of *J.* × *kern-reichgeltii* in the Irish flora was a terse note in various editions of D.A. Webb's *An Irish Flora* (e.g. the 4th ed., 1963 and 6th ed., 1977) to the effect that hybrids involving *J. effusus* with both *J. conglomeratus* and *J. inflexus* (Hard Rush) are of occasional occurrence in Ireland. Yet *J.* × *kern-reichgeltii* is *not* listed in the 7th ed. of this work (Webb, Parnell and Doogue, 1996). The Cork (H3-H5) records for *J.* × *kern-reichgeltii* in the *Census Catalogue of the flora of Ireland* (Scannell and Synnott, 1987) are based on my own initial finds during the period 1979-1980 and these are listed below, together with all other known Irish records for this hybrid.

The current known Irish records (in date order) for *Juncus* × *kern-reichgeltii* are as follows:

H4, W59.77. Three clumps about a *Ulex europaeus* (Gorse) thicket in damp-heath, on the periphery of Waterloo Mire, near Blarney: August 1979 – T. O'Mahony.

H3, W20.88. Two small populations in marshy ground at the northern end of Lough Gortavehy, in the Caherbarnagh Mountains to the west of Millstreet: September 1979 – T. O'Mahony. Population still extant in

July 1992 (O'Mahony, 1993) and in July 1995, on which latter date, material was brought into cultivation.

H5, W62.85. A small population on the margin of a *Ulex europaeus* (Gorse) thicket in damp-heath at Sixmilebridge, near Whitechurch, East Cork: 1980 – T. O'Mahony. (Population still present in August 1999.)

H3, W18.88. Scattered plants about the margin of Lough Murtagh, in the Caherbarnagh Mountains to the west of Millstreet: August 1993 – T. O'Mahony (O'Mahony, 1994).

H5, W75.81. In very small quantity in Trantstown Marsh, near Watergrasshill: July 1995 – T. O'Mahony (O'Mahony, 1996).

H4, W66.53. Two small populations in a damp meadow on the right bank of the River Stick estuary, near Belgooly, Kinsale: April/July 1999 – T. O'Mahony (O'Mahony, 2000).

H1/H3, V81.55, etc. Widely scattered populations in blanket bog on the South Kerry/West Cork border, from the Healy Pass north-eastwards to Knockowen and Cushnaficulla, in the Caha Mountains, near Adrigole: July 1998 and July 1999 – T. O'Mahony (O'Mahony, 2000).

Despite the paucity of present-day records, I have little doubt but that *J.* × *kern-reichgeltii* will ultimately prove to be widespread in Irish upland regions.

JUNCUS × *KERN-REICHGELTII* ON THE EUROPEAN MAINLAND

Stace (1975) states that *J.* × *kern-reichgeltii* has been recorded from Czechoslovakia, France, Germany, Netherlands, Romania and Sweden, while outside of Europe, it is also reported from Newfoundland. However, the authenticity of many of these records remains subject to considerable doubt. Snogerup (1980) does *not* include *J.* × *kern-reichgeltii* in his otherwise excellent account of the genus *Juncus* in *Flora Europaea* **5** – a rather baffling situation, given that he (Snogerup, 1970) was well aware of this hybrid's existence in Europe and had claimed that Swedish *J.* × *kern-reichgeltii* populations were fruit-sterile.

THE DIAGNOSTIC CHARACTERS OF *J.* × *KERN-REICHGELTII* AND ITS PARENTS

Following on the initial (i.e. 1979-1980) Cork finds of *J.* × *kern-reichgeltii*, comprehensive descriptions of the parental species, *J. effusus* and *J. conglomeratus,* were compiled from a wide range of literature sources. In tandem with this, a critical reappraisal of the morphology of all three taxa was undertaken, based on living material collected from the wild. An almost immediate result of the latter activity was the discovery that the stem-sheath unit (i.e. the 3-4 overlapping basal scales) in *J. conglomeratus* (up to 32 cm in length) *was comparatively much longer* than its counterpart in *J. effusus* (up to 18(-22) cm in length). Moreover, this previously unrecognized diagnostic feature provided an equally useful subsidiary character, as the stem length: sheath unit length ratio between the two species was also found to differ, viz: *J. conglomeratus* less than 6:1, and *J. effusus* 6-8:1.

In *J.* × *kern-reichgeltii*, the stem-sheath unit was found to range up to 26 cm in length, this character being intermediate between that of its parents, whereas the stem length:sheath unit length ratio at less than 6:1, fell solely within the parameters of its *J. conglomeratus* parent. Stace (1997: 790) notes that the hybrid "… is intermediate [between its parents] in diagnostic characters, but due to its high fertility, it is difficult to determine, other than in the field with its parents." Given these comments, the new biometric data presented here should prove invaluable for establishing the *true* identities of the many putative *J.* × *kern-reichgeltii* vouchers stored in European national/regional herbaria.

In the field, *J.* × *kern-reichgeltii* populations are most easily detected when they combine the diffuse, light-brown inflorescences of their *J. effusus* parent (in which the ultimate flowers are single-spaced on the branchlets), with the matt, grey-green, conspicuously ridged stems of their *J. conglomeratus* parent. However, *stunted* hybrid material (especially from acidic upland sites) can prove very difficult to distinguish with confidence from cohabiting, equally stunted forms of *J. effusus*. In such circumstances, it is essential to bring putative hybrid (and parental) material home, in order to undertake a biometric analysis of the stem-ridge/stem-sheath unit characters outlined above.

In my experience, inflorescence-bract length and inflorescence-/infructescence-density characters in both parent species are extremely plastic,

and of no diagnostic value, despite literature statements to the contrary. This especially applies to the notoriously polymorphic *J. effusus*, in which *even the stems from a single clump* may show a wide range of bract-lengths, while the inflorescences may vary from very diffuse to compact and subsessile! Given these observations, there is every reason to believe that many of the putative *J.* × *kern-reichgeltii* populations recorded in the past, and which continue to be reported on a sporadic basis from throughout Europe, are mis-identifications.

In the course of fieldwork, I have also observed that the stems of *J.* × *kern-reichgeltii* are tough-textured and firmly anchored to the rootstock – characteristics it shares with its *J. effusus* parent. In *J. conglomeratus*, by contrast, a sustained upward pull will almost always cleanly disengage the stem from its basal sheath unit, which latter remains attached to the rootstock. In *J. effusus* the stem-sheath unit is characteristically purple-black pigmented in the proximal half – a feature commonly seen in *J.* × *kern-reichgeltii* also, whereas in *J. conglomeratus* it is usually reddish-brown pigmented proximally. In *J. effusus* the inconspicuous striations on the fresh stems below the inflorescence develop into low, smooth, *confluent* ridges on overwintering or dried stems. In *J. conglomeratus* the stem ridges become much more pronounced in dried material and vary from slender to robust, *but they are always minutely translucent-rugulose and frequently wide-spaced.* In *J.* × *kern-reichgeltii* the stem ridges are always slender, but generally show the distinctive features of *J. conglomeratus*.

In *J. effusus* the stem-pith is generally continuous and dense-packed and thus appears cream-/milk-coloured to the naked eye. In *J. conglomeratus* the stem-pith may be continuous or display irregular air-chambering, *but the pith is always lax and appears grey-coloured to the naked eye*. In their interspecific hybrid, *J.* × *kern-reichgeltii*, the stem-pith is always continuous but, as it is not as densely compressed as in *J. effusus*, it bears the same grey colour as its *J. conglomeratus* parent.

In *J. effusus* the outer whorl of perianth-segments *are always distinctly longer than the inner whorl* (a useful, if somewhat subtle diagnostic character, also noted by Agnew (1968)), whereas in *J. conglomeratus* the perianth-segments are subequal. In *J.* × *kern-reichgeltii* the two perianth-whorls are most often subequal, as in *J. conglomeratus*, but occasionally are unequal, as in *J. effusus*. Moreover, the apices of the fruit-capsule segments in *J. effusus* are truncate-

retuse, whereas in *J. conglomeratus* they are subacute-mucronate (the upturned, mucronate, valvate tips of all three capsule-segments forming a central cone, through which the style protrudes). In *J.* × *kern-reichgeltii* populations, either capsule-segment shape may be displayed.

Lastly, the question must be asked, 'Is *Juncus conglomeratus* a silica-accumulating species?' This is suggested by the brittle, easily shredded epidermis and the apparent excretion of silica on the stem ridges, giving these latter a translucent-rugulose micro-morphology. Interestingly, this stem ridge character is inherited by some populations of *J.* × *kern-reichgeltii*, though in a diluted form – never being as conspicuous as in its *J. conglomeratus* parent. This phenomenon calls to mind the surface micro-morphology of the stem ridges/branch ridges of *Equisetum* (Horsetail) taxa, which latter are well known silica accumulators.

FRUIT PRODUCTION IN *J.* × *KERN-REICHGELTII* POPULATIONS

Agnew (1968) reported that the *J.* × *kern-reichgeltii* populations he had detected in Scotland and Wales were fruit-fertile and this was Stace's (1975) experience also, as he subsequently reiterated (Stace, 1997). Nevertheless, Richards and Clapham (1941) stated that this hybrid "… with intermediate characters and high sterility" was "reported from Britain, but needs confirmation." Richards (1962) merely repeats this statement and adds that *J. conglomeratus* var. *subuliflorus* is sometimes mistaken for *J.* × *kern-reichgeltii*. Snogerup (1970) also claimed that Swedish *J.* × *kern-reichgeltii* populations were fruit-sterile, while Buchenau (1906: 137) considered this hybrid to be highly sterile and rare. In the face of these contradictory statements, my own long-term observations of Irish *J.* × *kern-reichgeltii* populations *show the majority of these to be fully fruit-fertile.* Occasionally, however, I note that small populations of both the hybrid and *J. conglomeratus* (mainly from montane habitats) exhibit a high level of seed abortion – apparently solely attributable to a fungal infection of the seed capsules.

As mentioned earlier, Stace (1975: 82) reported raising a segregating F_2 generation of the hybrid from wild F_1 plants and he commented that the detection of F_2 segregation is a valuable aid in hybrid diagnosis, where hybridisation experiments cannot easily be carried out. My own experience is similar to that of Stace, for F_1 plants of the Cork hybrid brought into cultivation in the 1980s seeded themselves freely in adjacent open ground,

producing a range of morphologically variable F_2 plants. Indeed, some of the F_2 hybrid progeny came morphologically close to *J. effusus* (though the fresh stems bore discernible ridges) and, if such plants were encountered in the wild (a very likely possibility), their hybrid origin would doubtless not be suspected. Consequently, it may well be the case that segregating F_2 hybrids of *J.* × *kern-reichgeltii* are of widespread occurrence in nature (only the distinctive F_1 hybrids being readily recognized) and that their presence greatly contributes to the identification difficulties encountered by many botanists in the field.

JUNCUS EFFUSUS (SOFT-RUSH)
Diagnostic Characters:
(Key literature characters in italics; * = personal observations in italics)

Stems up to 150 cm tall, *glossy-green and smooth*, *with (35-)40-60 inconspicuous striations* immediately below the inflorescence/infructescence when fresh, these forming feeble, smooth, *confluent* ridges on overwintering or dying stems;
Stems *very smooth to the touch*, neither brittle nor silica-accumulating, *the pith usually continuous *and dense-packed*, *appearing cream-/milk-coloured to the naked eye*;
Stems tough, **firmly anchored to the rootstock* and thus *snapping* when a sustained upward pull is exerted, or (in damp ground) coming away from the rootstock **with the stem-sheath unit still attached*;
Stem-sheath unit *matt*, *purple-black coloured in the proximal half; *up to 18(-22) cm in length*;
Infructescence typically diffuse and pale-brown in colour, **the ultimate flowers single and spaced along the axis* (but dark-coloured, condensed and partially/completely encircling the dull-green stems in var. *subglomeratus*);
Infructescence-bract rigid, *its base tightly inrolled* at the junction with the stem and therefore *not* hinging backwards at the late-fruiting stage.

JUNCUS CONGLOMERATUS (COMPACT RUSH)
Diagnostic Characters:
(Key literature characters in italics; * = personal observations in italics)

Stems up to 150(-170!) cm tall, *matt, grey-green, limp and brittle, with 15-25(-30) conspicuous, often stout, *minutely translucent-rugulose ridges* immediately below the inflorescence/infructescence;
Stems **apparently silica-accumulating (the silica deposited on the epidermal ridges) and thus brittle-textured and shredding into strips when rubbed vigorously upwards*;
Stem-pith **very lax and grey-coloured to the naked eye and often irregularly chambered throughout;*
Stems **delicate*, *weakly anchored* to the rootstock *and thus easily disengaged* when a sustained upward pull is exerted, *virtually always leaving the stem-sheath unit still attached to the rootstock;*
Stem-sheath unit *usually a warm, red-brown colour proximally* (more rarely purple-black) and olive-green distally, **commonly 26-32 cm in length*;
Infructescence *typically dark-coloured, densely contracted and partially/wholly encircling the stem* (more rarely light-brown in colour and pseudo-diffuse, with long, lax branches, though the ultimate flowers are still aggregated into subspherical heads = var. *subuliflorus*);
Stem-bract *characteristically inflated/dilated at the sheathing junction with the stem, causing the bract to hinge backwards at the late-fruiting stage.*

A COMPREHENSIVE, CRITICAL KEY TO *J.* × *KERN-REICHGELTII* AND ITS PARENTS

1a. Fresh stems glossy-green, smooth, with 30-60 inconspicuous striae immediately below the inflorescence (these forming low, confluent, smooth ridges on overwintering/dying stems); stems tough, firmly attached to the rootstock; stem-pith usually continuous, dense-packed, and cream-/milk-coloured to the naked eye; stem-sheath unit up to 18(-22) cm in length, and purple-black pigmented proximally; stem length:sheath unit length ratio, 6-8:1; infructescence-bract rigid, tightly inrolled at the mouth and never hinging backwards; outer perianth-segments distinctly longer than the inner … … ... *J. effusus*

1b. Fresh stems always matt grey-green distally, with 15-40 distinctly elevated (and often wide-spaced) ridges immediately below the inflorescence; stem-pith lax, grey-coloured to the naked eye; stem-sheath unit often over 22 cm in length; stem length:sheath unit length ratio, less than 6:1; perianth-segments subequal … … … … … … … … … … … .. 2

2a. Stems brittle, frequently shredding into strips when vigorously rubbed between finger and thumb; stems easily detached (upward pull) from the sheath unit/rootstock; stem-pith often irregularly chambered; range of means for stem-ridge number, 19-21; stem-sheath unit commonly 26-32 cm in length and usually reddish-brown pigmented proximally; infructescence-bract dilated at mouth (i.e. at junction with stem) and often hinging backwards at the late-fruiting stage; fruits always aggregated into head-like clusters on the ultimate branchlets of the infructescence, or forming a single, tight head which partially or wholly encircles the stem … … … … … … … … .. *J. conglomeratus*

2b. Stems tough-textured (neither brittle nor shredding) and firmly attached to the rootstock; stem-pith continuous; range of means for stem-ridge number, 24-31; stem-sheath unit up to 26 cm in length and usually purple-black pigmented proximally; infructescence-bract usually rigid, tightly inrolled at the mouth and not hinging backwards; fruits often spaced singly along the ultimate branches of the infructescence … … … … … … … … … … … … … … … … … … .. *J.* × *kern-reichgeltii*

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THE BEST SQUARE IN THE COUNTY

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Does the mapping of the distributions of plants, butterflies or whatever, truly reflect the distribution of the organisms or do the maps sometimes tell more about the distribution of the *recorders*? Is there a tendency for recorders to have high totals near home and smaller numbers as we move away from home territory?

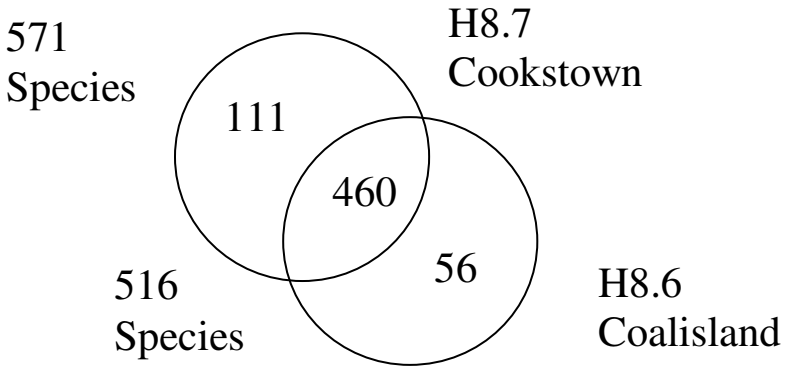
Since 1980 we have botanized extensively in Co. Tyrone, H36 (and some adjacent counties) and one of the fascinations has been the gradual build-up of our total number of species over the years for each 10-km square. From the very beginning our own square (H8.7 Cookstown) has been a clear leader; currently, four squares (H8.7 and the adjoining H7.7, H8.6, H8.8) are the only squares to exceed 500 species. The pattern around Cookstown now stands as:

H7.8 Lough Fea 472 species	H8.8 Moneymore 506 species	H9.8 Ballyronan 470 species
H7.7 Drum 513 species	H8.7 Cookstown 571 species	H9.7 Ardboe 479 species
H7.6 Castlecaulfield 492 species	H8.6 Coalisland 516 species	H9.6 Washing Bay 425 species

Along the southern boundary of the county totals mostly lie between 400 and 450 species, the highest being H8.5 Moy at 463. In the west 350 to 400 species is common; the highest is H3.8 Baronscourt with 434. Mountain ground in the high Sperrins or in the wet, bleak far west of the county have totals under 350.

I am convinced that squares in the west will never be as fruitful as in the Cookstown area and no amount of botanising will bring them up to 500+ species. This is largely a matter of geology. In the west, Co. Tyrone comes under the influence of Caledonian rock systems, giving mostly acidic soils. In the east and south of the county, Carboniferous systems predominate, giving base-rich soils; at the same time glacial activity has blocked the natural drainage and bog and acid marshland still occur, setting up a wide range of habitats for plants. Certainly one often feels in the Cookstown area that one is on ‘good ground’ botanically, a feeling one rarely gets around Omagh, say.

So the main challenge to Cookstown’s lead will have to come from some neighbouring square. Let us look at the ‘contest’ between H8.7 Cookstown and H8.6 Coalisland. The squares have 460 species in common; Cookstown 111 species on its own, Coalisland 56 species on its own:



Although a study of the 460 common species should provide some insights, to simplify matters we will concentrate on the non-common plants. What differences do the squares offer to account for these non-common species?

Cookstown, as our home town, has a lot of species added through keeping an eye open while on business or social calls around the town and not in fact added as a result of actual botanising (e.g. *Aethusa cynapium* (Fool's Parsley) in a builder's yard, *Valerianella locusta* (Common Cornsalad) in a friend's garden).

It is almost certain that we botanized H8.7 Cookstown rather more intensively than H8.6. We 'cut our teeth' botanically in H8.7, and our first year, 1980, was spent entirely in H8.7. In subsequent years we probably equalised the intensity of cover over most adjoining squares, but unfortunately there would have been occasions when we would have been reluctant to botanise in parts of H8.6 for reasons of political sensitivity. Perhaps outsiders to Northern Ireland wonder how we dared go out at all with all the bombs and bullets flying about, but really it wasn't like that. A certain incident might induce fear and suspicion for a few days or weeks, but very quickly the natural friendliness of the Irish people re-asserted itself and one felt at ease again poking around on waste ground and looking over bridges, as a botanist is wont to do. What made the Coalisland area that bit less inviting was the constant presence of Army and Police patrols and the unpleasant necessity of trying to convince them that one wasn't up to 'no good'!

H8.7 Cookstown has a very rich mix of geology. Basalt and Cretaceous chalk (dominant in Co. Antrim, H39) extend into the east side of the square. Carboniferous limestones and sandstones, often near the surface, are found in the south-west and, between, Triassic sandstones give rise to very fertile soils. The Ballinderry, and its tributary the Killymoon River, incise deeply into the Carboniferous rock near Cookstown town and provide excellent river-bank botanising; only a short stretch of the Torrent River in H8.6 offers comparable conditions. There are several well-wooded estates in H8.7; some smaller properties exist in H8.6, but none present the same amount of preserved woodland as Killymoon, Stuart Hall or Drumcairne in H8.7. H8.6 has good, varied geology too, but the coal-measures and shaly ground near Coalisland tend towards less fertile conditions. Both squares have excellent disused quarries, sand-pits and gravel-pits. In H8.6, the Coalisland area offers a very scarred, post-industrial landscape. The disused Cummings' limestone quarry near Tullyhogue in H8.7 is one of the superb botanical sites of the county (*Origanum vulgare* (Wild Marjoram) in profusion and *Ophrys apifera* (Bee Orchid)). Both squares have good areas of urban waste ground. Both have interesting former railway-cuttings and embankments (H8.7 has *Epipactis palustris* (Marsh Helleborine) in a railway-cutting near Stewartstown). There are a couple of lakes in H8.7, three in H8.6, all on limy ground with good fen-type flora. H8.7 has occasional patches of lowland bog; H8.6, however, has extensive areas of raised bog in the far south-east, with very good bog-species (*Andromeda polifolia* (Bog-rosemary), *Drosera longifolia* (Great Sundew), *Vaccinium oxycoccos* (Cranberry), etc.). In the south-east of H8.6 too, the Lough Neagh fenlands extend up the Blackwater valley and give rise to a number of species that have no suitable ground in H8.7 (*Thalictrum flavum* (Common Meadow-rue), *Lysimachia vulgaris* (Yellow Loosestrife)). Lough Neagh itself lies just 200 m away from H8.6 at one point. Significantly, the former Coalisland Canal provided boating links with Lough Neagh and the Blackwater River has some pleasure-craft running up from the Lough. As a result H8.6 has Lough Neagh species like *Butomus umbellatus* (Flowering-rush) and *Sagittaria sagittifolia* (Arrowhead).

Let us try to put some statistical 'bones' on to the argument. Remember that we are concentrating only on the non-common species. First of all, we shall separate out the species that I recollect as having been found incidentally, on business or social calls for example, and not found through actual botanising. In H8.7 Cookstown, I was astounded to find that there were no fewer than 40

such species! In H8.6 there was just one! These 40 species in H8.7 break down as follows:

In own garden	8
In friends' gardens	6
On business in town	11
Driving about	6
Family walks	9

Fifteen are short-term casuals. Only two are established native species – *Ophioglossum vulgatum* (Adder's-tongue) and *Neottia nidus-avis* (Bird's-nest Orchid).

Incidentally, Dungannon town lies partly in H8.6, but the main shopping and business area happens to lie just over the border of the square to the west (H7.6 Castlecaulfield). We have had several incidental finds in that business part of Dungannon. Boundary lines can be critical!

This leaves 71 plants in the non-common total for H8.7. Let us classify these as follows:

A species – strong habitat advantage in H8.7; in fact, unlikely to occur in H8.6.

B species – suitable habitat present in both squares, but much more of it in H8.7.

C species – no clear habitat advantage; occurrence may be essentially random.

The 71 species in H8.7 break down as:

A	4
B	10 (including five river-bank species)
C	57 (including one species, *Lysimachia nummularia* (Creeping Jenny), that should really have more suitable ground in H8.6)

Applying similar criteria to the outstanding 55 species in H8.6, we have:

A	15 (Lough Neagh linkage 6, Lough Neagh-type fenland 9)
B	5 (all on bogland)
C	35

Why the larger number of 'C' species in H8.7? There are so many factors possibly involved that one is almost overwhelmed at the thought of sorting them out. Fortunately, several factors are fairly similar over the two squares,

and we can declare them to be 'neutral' e.g. altitude, climate, fertility, population density (more people – more likelihood of the less usual introductions), roads and rivers (as agents in the transportation of species). There is little doubt that the major cause of the disparity is under-recording in H8.6, but I wonder about two other factors. Both these refer back to habitat:

a. Although our A and B species have highlighted *strong* habitat requirements, almost certainly it will still hold that the greater the variety of habitat, the greater will be the diversity of species. Here I think H8.7 has a small advantage.
b. There is definitely more industrial waste-ground in H8.6. This is the very sort of ground that one would visit to seek out unusual species and yet was the very sort of ground that we were the most reluctant to visit in H8.6.

I have tried various statistical ways of quantifying these factors, but with little success. Falling back on 'gut feeling', I am convinced that under-recording has denied H8.6 25-30 plant species compared to H8.7.

There are other supporting factors:
About 18 of the C species in H8.7 are reasonably frequent over east Tyrone in general; their absence from H8.6 would therefore appear to be because of under-recording. On the other hand, the C species of H8.6 are nearly all rare.

We have set up desiderata lists for each square and a constituent part of these consists of old records that we feel might conceivably be 'still there'. There are 16 such old records in H8.7, but 47 in H8.6. All sorts of factors (e.g. home base of the 'old' botanists) are involved here, but it does suggest current under-recording in H8.6.

Finally, there is the 'White Bryony' story. A few years ago, two Dublin ecologists, Wistow and Ashe (1997), reported a colony of *Bryonia dioica* (White Bryony) from Coalisland and when we checked it out from their quoted grid reference we found it was on interesting ground that we somehow seemed to have missed altogether in our botanising around Coalisland. Not only did we find the White Bryony to be in some considerable quantity over several hundred m of hedgerow, but we also found *Orobanche minor* (Common Broomrape) in its first recorded site in Tyrone, *Trifolium campestre* (Hop Trefoil) in its only current site in Tyrone, as well as the rare *Mercurialis*

perennis (Dog's Mercury). Surely proof that we hadn't been doing our work properly in the Coalisland area!

Which is truly the better square in terms of species number? Currently, the scores are:

H8.7 571 species
H8.6 516 species

It might be possible to award H8.6 27 additional species say, to make up for under-recording:

H8.7 571 species
H8.6 543 species

Now, let us imagine an outsider (from e.g. Belfast) undertaking the botanising work for *Atlas 2000* for these squares. He (or she) would not have the advantage of living in the area and finding the incidental species. Let us deduct them (40 from H8.7, one from H8.6):

H8.7 531 species
H8.6 542 species

Coming from a distance, the Belfast botanist would not be able to match us locals in the many short botanical trips we made into the adjacent countryside. Let's take off another 20 all round!

H8.7 511 species
H8.6 522 species

I declare H8.6 the winner!

If these thoughts on botanical recording have sparked your imagination then you might be interested in reading further. The following series of articles provide a good starting point: Le Duc, Hill and Sparks (1992), Rich (1997), Rich and Woodruff (1990, 1992, 1995). These should encourage others to look more closely at their v.c. databases.

ACKNOWLEDGEMENTS
Throughout this article I have referred to "we" and "our". The "we" refers to myself and my sons, David and Andrew and actual associates in the field and does not include anyone botanising when a McNeill wasn't present!

Associates included Doreen Lambert, John Faulkner, John Harron, Paul Hackney, Ronnie Irvine, a few BSBI groups and possibly one or two others.

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ATRIPLEX LONGIPES DREJER (LONG-STALKED ORACHE) NEW TO IRELAND

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Little Island falls just within the boundaries of Co. Waterford (H6). It lies in the River Suir and the only access is by ferry from Ballynakill at the eastern end of Waterford City. Most of Little Island (S6.1) is now a golf course. Surveying it with Dominic Berridge and my brother Ian on 25 October 2001, we visited all the various habitats we could in the limited time we had. One hundred and seventy one plant species were recorded.

On the eastern side of the island, north of a Scots Pine (*Pinus sylvestris*) plantation, lies a small brackish pond. *Atriplex longipes* (Long-stalked Orache)

was found growing on its north shore. There were only three plants of the Orache, the only species growing on the sandy shores of the pond. The Orache was in very poor condition, but still retained some leaves and bracts, the features needed for identification. A specimen was sent to Dr John Akeroyd for confirmation; he has placed the specimen in the herbarium at the National Botanic Gardens, Glasnevin, Dublin (**DBN**).

Ruppia maritima (Beaked Tasselweed) and *Zostera marina* (Eelgrass) were the only species to be found in the pond. The Eelgrass seemed a very unlikely species, as even at the highest tides it would be very doubtful that the pond would get flooded from the River Suir.

Long-stalked Orache is likely to be an over-looked species and should be kept in mind when surveying salt marshes.

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CAREX LIMOSA L. IN CO. CORK: A FURTHER RECORD MADE AT PORTALOUGHA (V.C. H3) IN 1987

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This paper reports a further site in West Cork (H3) for *Carex limosa* L. (Bog-sedge) and comments on previous records for the species in the county (H3, H4 and H5) as published in Allin (1883), Perring and Walters (1962), Jermy, Chater and David (1982) and Rich and Woodruff (1990). Webb, Parnell and Doogue (1996) describe *C. limosa* from "wet bogs, and margins of lakes and pools, locally frequent in the West, rare elsewhere".

A field meeting, centred in Innishannon (H3) on 24-25 May 1987 was arranged by the Irish Regional Branch of the BSBI towards work for the BSBI Monitoring Scheme 1987-88 (organiser, T.C.G. Rich). The meeting was attended by Jim O'Malley, Alan Hill, John Phillips and the leader, Maura Scannell.

On the first day, from OS Sheet 25 (half-inch), an un-named wetland, north of Enniskean (W36.54) was selected for work. It was found to be a large marsh, c. 20 ha, with open water on one side, situated in a basin between low rounded

hills of the Old Red Sandstone series. The marsh is named Portalougha on Sheet 194 (one-inch) and also on Discovery Sheet 86. In early six-inch maps, outlets to the east and west are shown. The latter, a 10 m cut through rock, was an attempt at drainage.

An un-surfaced track from the public road (south-bound from Castletown (W34.57) allowed access to the marsh on the north side and to the 'lough' area. On the soft mud margin of the last feature, a colony of *Carex limosa* – a species rare in Cork – was observed. The associated flora included *Hypericum elodes* (Marsh St John's-wort), *Menyanthes trifoliata* (Bogbean), *Pedicularis palustris* (Marsh Lousewort), *Utricularia intermedia* (Intermediate Bladderwort) and *Eleocharis palustris* (Common Spike-rush). Moss specimens collected nearby were named (by D. Synnott) as: *Sphagnum papillosum*, *S. recurvum* subsp. *recurvum*, *S. capillifolium*, *Aulacomnium palustre* and *Polytrichum formosum*. Further listing was carried out on the west and north margins. A traverse of the marsh was not possible due to the soft conditions underfoot and the high ground-water level. The emergent vegetation seen at a distance included large stands of *Osmunda regalis* (Royal Fern), *Salix aurita* (Eared Willow), *S. cinerea* subsp. *oleifolia* (Rusty Willow) and *Carex paniculata* (Great Tussock-sedge).

The marsh is probably best described as a mire. An overview on the day of the meeting suggested that the area of open water had declined due to efforts at drainage over the years; the vegetation had closed in following siltation and natural colonisation. The colony of ducks present on the water probably help to maintain the lough free of vegetation. The spent cartridges pointed to the use of the marsh as a local amenity.

The early records for *Carex limosa* in Co. Cork are as follows:

H3 V8.5 Sugar Loaf Mountain, 1870. (Allin, 1883).
V9.3 Near Schull, 1896, R.A. Phillips. (Praeger, 1901).
V8.5 Between Schull and Ballydehob, 1896, R.A. Phillips.
V8.5 Ram's Hill, Caha Mountains, 27 June 1949, R.B. Desmond (**K**).
V9.5 Lough Avaul, SW of Glengarriff, 2 July 1964, M.J.P. Scannell (**DBN**).
W3.5 Portalougha, N of Enniskean, 25 May 1987, M.J.P. Scannell (**DBN**).
W0.5 NE of Bantry, 4 July 1988, T. & M. Rich (**DBN**).

H4 R2.0 Blueford Bog, Newmarket, 1870. (Allin, 1871).
H4/5 W5.9 Mallow, 25 June 1884, R.P. Vowell (not in **DBN**).

Many of the above records are held at the Biological Records Centre, Monkswood (C.D. Preston, pers. comm.). Corrections have been made. The Vowell record, said to be in **DBN**, has not been traced. On the same date, R.P. Vowell collected three further specimens (in **DBN**) – *Lotus uliginosus* (Greater Bird's-foot-trefoil) (now *L. pedunculatus*), *Carex pallescens* (Pale Sedge) and *Rosa canina* (Dog-rose) (*R. arvensis* × *R. canina*) (det. A.L. Primavesi). All bear the brief location "Mallow". Mallow (W54.98) is on the River Blackwater; it bestrides the H4/H5 boundary. It is not in H3. The map section (plotted on the Irish National Grid) in Jermy, Chater and David (1982) shows three dots for *C. limosa* in Co. Cork – Sugar Loaf, Bluefort (recte Blueford) and Mallow. Allin (1871) noted *C. limosa* from Bluefort (*sic*) some miles west of Newmarket town (R3.0). It is interesting to note that the text in the work states that the maps "are not intended to pinpoint localities, but to give an overall impression of the distribution more striking than can be conveyed by a verbal description". Ram's Hill (triangulation point 533 m) is directly on the West Cork/South Kerry (H3/H1) boundary line. Blueford bog was located by the author on 6 September 1989 and a second visit was made on 30 June 1990. *C. limosa* was not seen on either occasion whilst *C. curta* (White Sedge) was of frequent occurrence on *Sphagnum* tussocks. It is unlikely that Allin was mistaken in his identification of the two sedges. Allin (1883) does not list *C. curta* for Cork. Allin (1883) described the habitat for *C. limosa* as "spongy bogs". He noted the occurrence at Blueford and Sugar Loaf as "very sparingly".

The *C. limosa* record at Portalougha represents an extension in range by some 37 km from the location "on quaking bog" north-east of Bantry, discovered in 1988 by Tim Rich. The general area about Portalougha is of botanical interest. The sheer rock-face on the west side of the marsh is sheathed with *Saxifraga spathularis* (St Patrick's-cabbage); *Euphorbia hyberna* (Irish Spurge) and *Dryopteris aemula* (Hay-scented Buckler-fern) are frequent on the boreens and approach roads. *Juncus tenuis* (Slender Rush) occurs on the track on the north-west side. A short distance to the south, the map shows a body of water to the west of Clonomera (cluain, meadow; iomar, trough). On a later visit no open water was seen. A local farmer said the feature is a lake in winter. Several small streams drain the uplands and flow south to join the River Bandon. At Kinneigh there is an old graveyard about the square (at base) Round Tower.

Portalougha marsh and the 'lough' near Clonomera together with the information outlined above indicate an area worthy of consideration for conservation as a site of scientific interest.

ACKNOWLEDGEMENTS
I wish to acknowledge help in the field from those mentioned above and in particular to John Phillips for discussion on the marsh; to Mr Gerard Lyne for a selection of area maps; to Mr G.R. Wright, Geological Survey for photocopies of relevant parts of early six-inch maps and to Dr Tom Curtis for comment on an early draft of the paper.

NOTE
The above is a shortened version of a report on Portalougha prepared in 1988 which, for various reasons, was not published then.

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TWO NEW STATIONS FOR *SISYRINCHIUM BERMUDIANA* (BLUE-EYED-GRASS) IN NORTH KERRY (V.C. H2)

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Dromin Bog north-west of Milltown (V99.80) is a cutaway bog of about 6 ha bounded on one side by a forestry plantation and on the other by farmland. It is predominantly wet with a flora typical of such places such as *Menyanthes trifoliata* (Bogbean) and *Typha latifolia* (Bulrush). On a few scattered elevated zones such plants as *Potentilla erecta* (Tormentil) and *Lotus pedunculatus* (Greater Bird's-foot-trefoil) are to be seen.

It was on one of these drier areas that I came across ten plants of *Sisyrinchium bermudiana* (Blue-eyed grass). The plants were growing amongst the stems of *Anthoxanthum odoratum* (Sweet Vernal Grass).

The second station was less than 1 km away by the verge of a 23 ha mixed plantation (V99.81) and was discovered on 22 June 2001. Four plants were observed growing under a bush of *Ulex europaeus* (Gorse). Up until recently this habitat was bog.

This dainty little flower was last recorded in this region in July 1983 on the banks of the River Laune, Killorglin. There was but a single specimen and it was not subsequently re-found at this site.

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CHAMERION ANGUSTIFOLIUM (ROSEBAY WILLOWHERB), A FIRST RECORD FOR NORTH KERRY (V.C. H2)

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Kilderry Wood (V99.80), Milltown, is situated on the main road to Killorglin and comprises approximately 45 ha of various species of both broad-leaved and conifer tree species. It is 100 m above sea level and the soil is of a loamy texture on a foundation of shale-rock. For botanical purposes this site is in N. Kerry (v.c. H2).

On 5 July 2000 I discovered a small stand of about 20 tall purple red flowers growing amongst Bracken (*Pteridium aquilinum*). Though I had never seen these plants before I knew from reference books that they were the elusive *Chamerion angustifolium* (Rosebay Willowherb). Elusive to this wood that is – five other members of the family are found here namely *Epilobium hirsutum* (Great Willowherb), *E. parviflorum* (Hoary Willowherb), *E. montanum* (Broad-leaved Willowherb), *E. palustre* (Marsh Willowherb) and *E. brunnescens* (New Zealand Willowherb).

Voucher specimens have been deposited in the National Herbarium, Glasnevin, Dublin (**DBN**).

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A REPORT ON THE FLORA OF CORK (V.CC. H3-H5), 2001

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The introduction of foot-and-mouth precautions in the Irish Republic in the first half of 2001 considerably restricted fieldwork within this period and therefore attention was focused on the remaining accessible sites, such as a range of coastal habitats and the wall-flora of Cork City.

On 26 February, my 1984 site for *Geranium purpureum* (Little-Robin) from a limestone wall within the grounds of St Finbarr's Hospital, Douglas Road, Cork City (H4, W68.70) was revisited and many over-wintering leaf rosettes of *G. purpureum* were seen here.

A two-hour visit to Spike Island, in Cork Harbour, on 3 March, allowed a hasty survey of its western shoreline (H4, W79.64) for possible populations of *Lepidium latifolium* (Dittander), but without any success. On nearby Great Island, the long established populations of *Hypericum hircinum* (Stinking Tutsan) were rechecked on the limestone retaining wall facing Cobh Railway Station (H5, W79.66). *Valerianella carinata* (Keeled-fruited Cornsalad) was also naturalized here, as were leaf rosettes of an *Oenothera* (Evening-primrose) taxon.

On 22 March, work on the eastern tidal bank of the Glashaboy River downstream of Glanmire Village (H5, W72.73) allowed a rechecking of the *Apium graveolens* (Wild Celery) and *Allium vineale* (Wild Onion) populations here. Unfortunately, *A. vineale* seems to have declined here in recent years in the face of the aggressive spread of the naturalized *Allium triquetrum* (Three-cornered Garlic). On the riverbank close to the village, *Soleirolia soleirolii* (Mind-your-own-business) is well established – a garden escape that is now of common occurrence about Cork City and its hinterland.

On 10 April, flowering populations of *Cerastium diffusum* (Sea Mouse-ear) were found in pavement-cracks on the Earlwood Estate Road, near its junction with the Togher Road, Cork City (H4, W66.70). I have no previous Cork City records for *C. diffusum.*

On 12 April, a re-examination of the wharf-timbers on Morrison's Quay/Union Quay, Cork City (H4, W67.71) showed the long naturalized populations of *Briza maxima* (Greater Quaking-grass) to be at the unfolding-inflorescence stage, their leaves variably flushed vermillion – a beautiful feature. *B. maxima* cohabits here with *Cochlearia danica* (Danish Scurvygrass), *C. anglica* (English Scurvygrass) and *Sisymbrium orientale* (Eastern Rocket), the latter well naturalized in Cork City since the 1960s at least.

On 29 April, the environs of Ringrone Bridge (H3, W63.48) in Sandycove Creek, opposite Kinsale, were examined. Small populations of *Rosa pimpinellifolia* (Burnet Rose), *Rubia peregrina* (Wild Madder), *Brassica nigra* (Black Mustard), the hybrid coastal grass *Elytrigia atherica* (Sea Couch) × *E. juncea* (Sand Couch), *Anisantha sterilis* (Barren Brome) and naturalized *Lunaria annua* (Honesty) were recorded from here. A search for further sites for *Poa infirma* (Early Meadow-grass) in hectad W6.4 proved negative on this occasion, but yielded a 15 m length population of *Clinopodium ascendens* (Common Calamint) on the seawall (H4, W62.49) to the west of Commoge brackish lagoon. *C. ascendens* is a very localized calcicole in Co. Cork and has been lost from a number of sites in the Kinsale-Belgooly area in recent years, as a consequence of infrastructural developments.

During April/May, a special effort was made to record the East Cork populations of *Euphorbia hyberna* (Irish Spurge) on a 1-km basis, as this beautiful species is undoubtedly under-recorded in H5. This project will take a number of years to complete.

On 2 May, a small naturalized population of *Hyacinthoides hispanica* (Spanish Bluebell) was found on a wooded embankment beside the Amenity Walkway, close to Blackrock Bridge (H4, W71.71). Synchronistically, during this outing, *H. hispanica* was seen in cultivation in nearby Menloe Gardens in the same 1-km square. Hitherto, the numerous naturalized *Hyacinthoides* populations I have found throughout Co. Cork, have all proved to be variants of the Hybrid Bluebell, *H. hispanica* × *H. non-scripta* (*H.* × *massartiana*).

On 20 May, work was undertaken about the junction of the Rathcormac-Glenville Road (H5, W80.91), close to Rathcormac Village. Three, small, disjunct, wall populations of *Arabis hirsuta* (Hairy Rock-cress) occur here – a rare Cork crucifer, that is new to hectad W8.9 – associated with an abundance of *Arabidopsis thaliana* (Thale Cress), *Saxifraga tridactylites* (Rue-leaved Saxifrage) and *Vulpia myuros* (Rat's-tail Fescue). West of Athaclaren Bridge (H5, W79.90) *Ranunculus ficaria* subsp. *bulbilifer* (Bulbiliferous Lesser Celandine) occurred frequently on the grassy roadside margins, while a fine stand of *Pentaglottis sempervirens* (Green Alkanet) was naturalized here – a species that rarely, if ever, establishes itself far from gardens in Co. Cork, despite its somewhat rampant spread in cultivation.

On 1 June, naturalized *Tragopogon pratensis* (Goat's-beard) was rechecked from its Cork-Mallow Railway Line embankment site near Kilnap Bridge (H5, W66.75), where it was first recorded in 1987. A secondary population now occurs on the roadway margin nearby, but may be only transitory here.

On 3 June, *Erinus alpinus* (Fairy Foxglove) populations were seen in flower on roadside walls adjacent to Ballyhooly Bridge (H5, W72.98) on the River Blackwater.

On 17 and 24 June, survey work on the western (4 km long) section of the Carrigaline-Crosshaven Amenity Walkway (H4, W7.6) produced naturalized populations of *Rosa rugosa* (Japanese Rose), *Hypericum hircinum* (Stinking Tutsan), *Chamerion angustifolium* (Rosebay Willowherb) and *Crepis biennis* (Rough Hawk's-beard), while Marie O'Mahony found a small population of *Calystegia sepium* subsp. *roseata* (Hedge Bindweed) on the seawall at Rabbit Island (H4, W76.61) – a very local plant in Cork Harbour. The wooded Aghamarta Castle demesne opposite Rabbit Island, holds an abundance of naturalized *Carex pendula* (Pendulous Sedge) and *Leycesteria formosa*

(Himalayan Honeysuckle) as well as a large stand of *Chamerion angustifolium*. Other finds in this area included two, disjunct, established stands of *Persicaria amplexicaulis* (Red Bistort) on the Fountainstown Road (H4, W76.60).

On 27 June, further work was undertaken in the Fountainstown area of Cork Harbour (H4, W7.5). This allowed a rechecking of my July 1999 find of *Rosa stylosa* (Short-styled Field-rose) at the Y-fork of two minor roads (H4, W77.58) to the north of the beach. *R. stylosa* occurs over 160 m of one roadside hedgebank here and over 240 m of another and cohabits with abundant *Rosa arvensis* (Field-rose). A naturalized population of *Mentha suaveolens* (Round-leaved Mint) occurs at a nearby road junction (H4, W78.58).

On 1 July, an evening visit to the Amenity Walkway (H4, W61.76) bordering the Cork-Mallow Road to the north of Blarney, produced a total surprise – thousands of flowering plants of *Parentucellia viscosa* (Yellow Bartsia) on the dryish roadway embankment! The status of this population must remain doubtful, given the uncharacteristic nature of its habitat here. Some doubt must also attach to the status of two disjunct populations of *Origanum vulgare* (Wild Marjoram) along this roadway, of which one occurs beside the bridge crossing (H4, W61.76) and the other faces on to Waterloo Church (H4, W60.78). *O. vulgare* is of very local occurrence in Co. Cork and this is the first record for hectad W6.7 for many years. This Amenity Walkway holds some thriving populations of *Primula veris* (Cowslip), first found here by Mick Daly in the early 1990s. *P. veris* has greatly declined in Co. Cork since the 1970s, mainly as a consequence of changing agricultural practises, while its demise in the Cork City area (where it was locally common during the 1960s) is attributable to massive infrastructural developments in the interim period.

On 3 July, fieldwork in the Youghal area proved very rewarding. At Quarry Park (H5, X09.78) *Glyceria declinata* (Small Sweet-grass) was seen in the small pond-cum-marsh, while *Buddleja davidii* (Butterfly-bush) was naturalized in the park, where *Pimpinella major* (Greater Burnet-saxifrage) was present in small quantity. Walls about the adjacent Quarry Crossroads held populations of *Valerianella locusta* (Common Cornsalad), *Erodium cicutarium* s. st. (Common Stork's-bill), *Vulpia bromoides* (Squirreltail

Fescue) and *Anisantha sterilis* (Barren Brome), while *Polypodium cambricum* (Southern Polypody) occurred abundantly on walls throughout Youghal Town.

In the contiguous 1-km square, X09.79, *Rosa stylosa* (Short-styled Field-rose) and *R. arvensis* (Field-rose) cohabited commonly in some hedgebanks (the former new to hectad X0.7), while small populations of *Valerianella locusta* (Common Cornsalad) and *Geranium rotundifolium* (Round-leaved Crane's-bill) grew on a nearby roadside wall, and *Mentha suaveolens* (Round-leaved Mint) was well established on the byroad leading to the old Pier. The crumbling, mortared sea-wall bordering the Pier (H5, X10.80) held large populations of *Geranium rotundifolium* in its most eastern Cork site, associated with an abundance of *Sedum album* (White Stonecrop) and small populations of *Erodium moschatum* (Musk Stork's-bill) and *Orobanche minor* (Common Broomrape). *Rosa stylosa*, *R. arvensis* and *Equisetum telmateia* (Great Horsetail) are of locally common occurrence along the c. 5 km stretch of minor road running west from Quarry Crossroads to near Clasheen Bridge (H5, X04.79). This is a major new site for *Rosa stylosa*, which is of very local occurrence in Co. Cork.

On 7 July, an afternoon visit to Knockananig Reservoir (H5, W76.96) near Fermoy (now an Amenity Coarse Fishing Site) added *Agrostis vinealis* (Brown Bent), *Epilobium brunnescens* (New Zealand Willowherb), *Littorella uniflora* (Shoreweed) and *Callitriche hamulata* (Intermediate Water-starwort) to hectad W7.9. Other finds included *Chamerion angustifolium* (Rosebay Willowherb) and *Sparganium emersum* (Unbranched Bur-reed). Hedges bordering the byroad junction in the vicinity produced naturalized populations of *Prunus avium* (Wild Cherry), *Prunus cerasus* (Dwarf Cherry) and *Ligustrum ovalifolium* (Garden Privet), associated with *Rosa tomentosa* (Harsh Downy-rose).

Between July and August, preliminary survey work was undertaken of the hitherto greatly neglected (and scenically beautiful) north-west 'corner' of Mid Cork (H4), which embraces at least six hectads (R1.0, R1.1, R2.0, R2.1, R3.0, R3.1 and R4.0) and the environs of Kanturk, Newmarket, Boherboy, Kishkeam, Ballydesmond and Rockchapel. Thankfully, invaluable foundational work had already been undertaken in this area in 1999, by the brothers Paul and Ian Green and their friend, Mike Stephens, as part of their contribution to *Atlas 2000* recording in Ireland.

On 24 July, the remnant limestone quarry at Ballyclough Village (H4, R49.02) yielded small populations of such local Cork species as *Primula veris* (Cowslip), *Briza media* (Quaking-grass), *Pimpinella saxifraga* (Burnet-saxifrage) and *Leontodon hispidus* (Hairy Hawkbit), while the watery environs of the nearby Holy Well produced populations of *Berula erecta* (Lesser Water-parsnip). A naturalized population of *Ribes uva-crispa* (Gooseberry) was found in a roadside hedgebank near Ketragh Bridge (H4, R44.02). The highlight of the day was the discovery of a single fruiting clump of *Carex spicata* (Spiked Sedge) on a calcareous, species-rich roadside near Kanturk (H4, R39.02) – an addition to the Cork flora after almost thirty years of searching for it! The associated flora included: *Pimpinella major* (Greater Burnet-saxifrage), *Pimpinella saxifraga*, *Primula veris*, *Briza media*, *Agrimonia eupatoria* (Agrimony) and a single plant of *Anacamptis pyramidalis* (Pyramidal Orchid). Rose taxa found throughout the day included: *Rosa tomentosa* (Harsh Downy-rose), *R. arvensis* (Field-rose), *R. micrantha* (Small-flowered Sweet-briar), *R. sherardii* (Sherard's Downy-rose) and *R. sherardii* × *R. rubiginosa* (Sweet-briar), this latter hybrid of widespread and locally common occurrence in Co. Cork.

On 22 August, a further visit to the Kanturk-Newmarket area turned up *Carex otrubae* (False Fox-sedge) on a damp roadside (H4, R382.066) near Coolageela road-junction, slightly north of Kanturk and in a similar habitat to the east of John's Bridge, by a boreen (H4, R408.094) – *C. otrubae* being new to hectads R3.0 and R4.0, respectively. Planted roadside stands of the Willow hybrid, *Salix caprea* (Goat Willow) × *S. viminalis* (Osier) were subsequently found on the Kanturk-Newmarket Road (H4, R36.04) – a hybrid that ultimately proved to be frequent and of widespread occurrence throughout this region. In the adjoining *upland* hectads of R1.0 (Ballydesmond), R2.0 (Kishkeam) and R2.1 (Rockchapel), the roadside hedgerows are locally dominated by alternating planted stands of *Rubus spectabilis* (Salmonberry) and *Spiraea salicifolia* (Bridewort).

On 26 August, work about Ballygrady Crossroads (H4, R44.08) near Kilbrin Village, produced roadside populations of *Agrimonia eupatoria* (Agrimony), *Viburnum opulus* (Guelder-rose) and *Equisetum telmateia* (Great Horsetail), the latter of very local occurrence *inland* in Co. Cork. The acidic water-meadows below the crossroads, yielded populations of *Cirsium dissectum* (Meadow Thistle), another very local Cork species. On 26 August, Marie O'Mahony found populations of *Calystegia sepium* subsp. *roseata* (Hedge

Bindweed) on the hedgebanks of a minor road (H3, W60.43), near Whitestrand, Garrettstown.

On 2 September, a survey of the watermeadows on the right bank of the River Awbeg above Ballywalter Bridge (H5, R67.05), Castletownroche, produced six clumps of the rare rush hybrid, *Juncus effusus* (Soft-rush) × *J. inflexus* (Hard Rush) (= *J.* × *diffusus*), together with a 7 m stand of *Mentha* × *piperita* (Peppermint), two bushes of *Rosa rubiginosa* (Sweet-briar), which is new to hectad R6.0 and riverside populations of *Rorippa amphibia* (Great Yellow-cress), which latter is new to the River Awbeg. *R. amphibia* has its Cork headquarters on the River Blackwater, where it occurs from Mallow down river to below Fermoy and thence on to Cappoquin, Co. Waterford.

The main focus for botanical work from late-September onwards was the River Lee Reservoir (H3/H4), from Hartnett's Cross, Macroom, downstream to the Inniscarra Boat Facility near Inniscarra Dam – a circuitous northern shoreline route of roughly 36 km.

On 29 September, the left bank of the Lee Reservoir was surveyed from Coolacareen Graveyard (H4, W38.71) south and west to Rossnascalp (H4, W38.70). Two disjunct strand populations of *Limosella aquatica* (Mudwort) were found here, associated with an abundance of *Littorella uniflora* (Shoreweed) and other species such as *Persicaria minor* (Small Water-pepper), *Polygonum arenastrum* (Equal-leaved Knotgrass) and a little *Juncus tenuis* (Slender Rush). A small woodland population of *Saxifraga spathularis* (St Patrick's-cabbage) was also found here.

On 11 October, work on the Lee Reservoir allowed a rechecking of my 1985 populations of *Limosella aquatica* (Mudwort) from the pond-like culvert to the south-east of Macroom (H4, W38.68), while the species was also found to be frequent on the nearby, right bank of the Reservoir (H4, W37.69). In this latter habitat, a backing, remnant bit of *Quercus petraea* (Sessile Oak) woodland, held a further small population of *Saxifraga spathularis* (St Patrick's-cabbage) – apparently new to hectad W3.6. On the right bank opposite Rossnascalp (H4, W38.70), further populations of *Limosella aquatica* and *Juncus tenuis* were found, while *Epilobium brunnescens* (New Zealand Willowherb) grew on a damp, vertical section of riverbank and is new to hectad W3.7. The narrow boreen (H4, W38.69), which gives access to this stretch of the Lee Reservoir, was found to hold populations of *Rosa tomentosa* (Harsh Downy-rose), *R.*

micrantha (Small-flowered Sweet-briar) and *Carex muricata* (Prickly Sedge), while the Aghthying Stream (which discharges into the Reservoir) held a small population of naturalized *Cornus sericea* (Red-osier Dogwood), located at a point just downstream of the boreen-bridge. Of these finds, *Cornus sericea* is new to hectad W3.6, while *Carex muricata* has only been recorded once previously.

On this day's outing, a final stop was made at the Picnic Site immediately south of Hartnett's Cross (H4, W35.71) in order to access the Lee Reservoir at a new point. *Limosella aquatica* (Mudwort) occurred in great abundance here as (more locally) did *Elatine hexandra* (Six-stamened Waterwort), in its first recorded site today. Scattered clumps of *Schoenoplectus tabernaemontani* (Grey Club-rush) are also present here – the seed doubtless having arrived on the feet of wildfowl commuting between coastal sites and the Reservoir. (In this connection, *S. tabernaemontani* has been established in the Lee Reservoir since the 1980s, while a similarly-derived, single population of *Bolboschoenus maritimus* (Sea Club-rush) was recorded from the Gearagh Causeway (H3, W33.70) in September 2000.)

However, the biggest surprise of the day was the discovery of extensive, naturalized populations of *Cyperus eragrostis* (Pale Galingale), many clumps very robust and in flower and fruit. The indications are that this species is spreading here and the worry is that it may well become a major pest in future years, given the sheer abundance of seed produced by just a single infructescence and the ease with which the minute nutlets are disseminated!

On 21 October, a final outing was made to the Lee Reservoir, the initial stop being at Rooves Bridge (H4, W45.71), near Coachford. The right bank was then surveyed downstream to the start of Farran Wood (H4, W47.71). It was gratifying to note that both *Chamaemelum nobile* (Chamomile) and *Spergularia rubra* (Sand Spurrey) still occurred frequently along this 2 km stretch of riverbank, where I had first recorded them in the years 1974-75. *Limosella aquatica* (Mudwort) also spanned the entire distance, whereas *Elatine hexandra* (Six-stamened Waterwort) seemed to be confined to the area in the vicinity of Rooves Bridge. A small population of *Parentucellia viscosa* (Yellow Bartsia) was also refound and *Anagallis minima* (Chaffweed) was added to the flora of the Lee Reservoir, from the banks of a small inlet near Farran Wood (H4, W47.71), where a stream discharges into the Reservoir. *A. minima* seemed to be confined to just a 1 sq. m section of ground here.

Near Lower Dripsey (H4, W51.73) my 1985 site for *Kickxia elatine* (Sharp-leaved Fluellen) was rechecked and this attractive little annual was seen to be flourishing and quite common over a c. 180 m strip of gravelly shoreline. This may well now be the only *permanent* site for *Kickxia elatine* in Ireland.

A final stop was made at the Amenity Boating Area (H4, W52.72) roughly 2.5 km upriver of Inniscarra Dam. *Limosella aquatica* (Mudwort) and *Elatine hexandra* (Six-stamened Waterwort) occurred here in small quantity, both being new to hectad W5.7. This discovery confirms that both *Limosella aquatica* and *Elatine hexandra* now occur *over virtually the entire length* of the Lee Reservoir (a sinuous and intricately indented shoreline running eastwards from Toon Bridge to the Inniscarra Boating area), a distance of approximately 46 km! Consequently, the Lee Reservoir catchment area may well hold the largest and most extensive populations of *L. aquatica* in these islands (a species legally conserved in the Irish Republic under the Flora (Protection) Order, 1999) with some millions of plants occurring throughout its length in any given year (personal observations, 1984-2001).

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RECORDING IN 2001 FOR A FLORA OF CO. WATERFORD (V.C. H6)

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I was lucky enough to be awarded a Praeger Grant from the Royal Irish Academy to help with my research towards a Flora of the county. This enabled me to make five visits each of a week's duration to Co. Waterford.

The year 2001 has been very productive; besides the finds listed below there have been more sites found for *Geranium purpureum* (Little-Robin) around Dungarvan, several additional sites for *Euphorbia hyberna* (Irish Spurge) and another location for *Trichomanes speciosum* (Killarney Fern). There are now three 10-km squares with over 600 species recorded: (X2.9) Dungarvan, (S6.0) Dunmore East and the highest (S5.0) Tramore with 652 species.

The records detailed below were made by myself unless otherwise stated. Order, nomenclature and status follow Scannell, M.J.P. and Synnott, D.M. (1987, *Census catalogue of the flora of Ireland*, 2nd ed. Stationery Office, Dublin). For taxa not listed in that work, the authority is given. NCR = new county record. **DBN** = National Herbarium, Glasnevin, Dublin. * = species certainly introduced into Ireland. All dates are 2001.

Equisetum hyemale (Rough Horsetail). Two large stands on the right bank of Whelanbridge River (S52.09) south of Whelan's Bridge, 24 February, Ian Green, NCR.

Botrychium lunaria (Moonwort). Abundant on side of grassy track on the west side of Bleantasour Mountain (S23.08), 30 May. The only other county record was from Ballyscanlan (S5.0) in 1875, Miss I. Horne, specimen in **DBN**.

Ophioglossum azoricum (Small Adder's-tongue). Gravelly shore of small pool below Coumshingaun Lough (S33.10), 29 May, NCR. First reported in 1997 as *O. vulgatum* (Adder's-tongue) by myself.

Asplenium onopteris (Irish Spleenwort). Wet dripping cliffs of Muggort's Bay (X29.87), 22 October, NCR, **DBN**. Also on the cliffs were *A. adiantum-nigrum* (Black Spleenwort), *A. marinum* (Sea Spleenwort) and *Osmunda regalis* (Royal Fern).

Dryopteris carthusiana (Narrow Buckler-fern). Single clump by drainage ditch of young conifer plantation, Ballycondon Commons (X03.86), 26 October, Ian Green. Only the second specimen of this fern I have seen in Co. Waterford.

Urtica dioica subsp. *galeopsifolia* (Wierzb. ex Opiz) Chrtek. (Nettle). Plentiful, bank of River Suir, Gibbethill (S58.13), 21 October, NCR, Ian Green.

**Fallopia japonica* × *sachalinensis* (*F.* × *bohemica* (Chrtek & Chrtkova) J.P. Bailey). Abundant on waste ground, Kilcohan, Waterford City (S60.09), 25 October, with both parents, most likely reproducing naturally from seed. Second county record.

Atriplex longipes Drejer (Long-stalked Orache). Three specimens at north end of Little Island (S65.11), 25 October, confirmed by Dr John Akeroyd, specimen placed in **DBN**.

Minuartia verna (Spring Sandwort). Thirty-one plants on east facing rock face, Coummahon, Comeragh Mountains (S32.09), 28 May, NCR, first record for the south east of Ireland.

Spergularia rubra (Sand Spurrey). Forest ride, Portlaw (S46.13), 27 October, Ian Green, NCR.

Fumaria purpurea (Purple Ramping-fumitory). Waste ground on edge of dunes, Bunmahon (X43.98), 31 August, NCR, confirmed by Dr Tim Rich, specimen placed in **NMW**.

Cotoneaster atropurpureus Flinck & B. Hylmoe (Purple-flowered Cotoneaster). Self-sown on edge of wood, Ballynakill (S62.11), 21 October, NCR, determined J. Fryer.

**Prunus cerasifera* Ehrh. (Cherry Plum). Plentiful in roadside hedge, Dooneen (S53.08), 23 February, NCR.

Hypericum × *desetangsii* (*H. maculatum* × *H. perforatum*) (Des Etangs' St John's-wort). Road verge, Camphire Bridge (X07.92), 27 August, second county record.

**Gaultheria shallon* (Shallon). Patch on roadside, Ballyrafter (X05.99), 14 April, NCR.

**Viscum album* L. (Mistletoe). Single clump growing on a Lime tree, Monacallee, Clonmel (S20.22), 13 April, NCR.

**Coriandrum sativum* L. (Coriander). Two specimens, disturbed trackside, Lackaroe (X07.82), 23 February, Ian Green, NCR.

**Anethum graveolens* L. (Dill). Waste ground, Ardmore (X18.77), 26 October, Ian Green, NCR.

Hippuris vulgaris (Mare's-tail). Small pool next to River Suir, Ardpaddin (S14.14), 25 August, fourth county record.

Galeopsis bifida Boenn. (Bifid Hemp-nettle). Waste ground, Buck's Cross Roads (S45.05), 20 October, Ian Green.

Jasminum officinale L. (Summer Jasmine). Scrambling over ruin, Carrigfeneagh, Carrick-on-Suir (S41.20), 27 May, Mike Stephens, NCR.

Kickxia elatine (Sharp-leaved Fluellen). Six specimens on spoil heaps of quarry, Newport East (X09.84), 31 May. Only the second time I have seen it in the county.

**Veronica crista-galli* (Crested Field-speedwell). Plentiful on verge either side of road, Carrickbeg (S39.20), 13 April, NCR.

Lathraea squamaria (Toothwort). Two plants on side of path next to Owennashad River, Ballyrathter (X04.99), 14 April. Only the second time I have seen it in the county.

**Aster novi-belgii* × *A. lanceolatus* (*A.* × *salignus* Willd.) (Common Michaelmas-daisy). Bank of River Suir, Gracedieu (S58.13), 21 October, NCR, determined by Dr P.F. Yeo.

**Picris echioides* (Bristly Oxtongue). Twenty-four specimens, north verge of R673, Ardmore (X18.79), 26 October, third county record, first since 1882.

**Picris hieracioides* (Hawkweed Oxtongue). Ten specimens on edge of disused tip, Carrick-on-Suir (S41.21), 27 October, NCR.

**Crepis biennis* (Rough Hawk's-beard). Forming extensive yellow patches on railway bank, Mount Congreve (S53.10), 27 May, fourth county record.

**Pilosella aurantiaca* subsp. *carpathicola* (Fox-and-cubs). Field bank, Ardmore (X18.77), 26 October, NCR.

Gnaphalium luteoalbum* L. (Jersey Cudweed). Eight specimens on waste ground, Ringnasilloge, Dungarvan (X25.92), 20 October, Ian Green, NCR, **DBN.

**Conyza bilbaoana* J. Remy (Hispid Fleabane). Single plant, harbour wall, Ringcrehy, Dungarvan (X25.92), 20 October, NCR.

**Matricaria recutita* L. (Scented Mayweed). Plentiful on waste ground by Dillon Bridge, Carrick-on-Suir (S40.21), 28 August.

Potamogeton lucens (Shining Pondweed). Lake by Pouldrew Bridge (S50.11), 25 August, NCR.

**Sisyrinchium striatum* Sm. (Pale Yellow-eyed-grass). Abundant on waste ground, Greenan (S19.21), 30 May, NCR.

Juncus foliosus (Leafy Rush). Marshy area, Ballycondon Commons (X03.85), 26 October, fourth county record.

Festuca altissima (Wood Fescue). Two clumps on left bank of Glenmore River (R99.00), 23 October, third county record.

**Anisantha madritensis* (Compact Brome). Plentiful, waste ground, Greenan (S19.21), 25 August.

Brachypodium pinnatum (Tor-grass). Four patches, bank of River Suir, Ballynakill (S62.11), 21 October, third county record.

**Lemna minuta* Kunth (Least Duckweed). Pond, Dromana (X10.94), 26 August, second county record.

Spirodela polyrhiza (Greater Duckweed). Pond, Dromana (X10.94), 26 August, NCR.

**Cyperus longus* L. (Galingale). Patch on bank of River Suir, Carrick-on-Suir (S39.21), NCR.

Carex diandra (Lesser Tussock-sedge). Marshy field, Ardpaddin (S14.14), 25 August, third county record.

Carex punctata (Dotted Sedge). Damp sea cliffs east of Knockmahon (X44.98), 31 August. (There is a specimen from this site in the

herbarium at the University of Cambridge (**CGE**) dated 1965.) Also abundant on sea cliffs in Muggort's Bay (X29.87), 22 October, Ian Green, third county record.

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BSBI FIELD MEETINGS IN IRELAND, 2001

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Despite the outbreak of Foot and Mouth disease in the spring, the scheduled twelve field meetings took place. Reports from five have been received and a synopsis of these appears below.

I led the first field meeting of the season at Rostrevor National Nature Reserve and Mourne Park estate near Kilkeel in Co. Down (H38) on 13 May. This was a glorious spring day with the oaks just coming into leaf. The ground was carpeted with *Luzula sylvatica* (Great Wood-rush) growing together with unfurling *Dryopteris affinis* (Scaly Male-fern), *Dryopteris dilatata* (Broad Buckler-fern) and *Polystichum setiferum* (Soft Shield-fern); *Galium odoratum* (Woodruff), *Luzula pilosa* (Hairy Wood-rush), *Allium ursinum* (Ramsons), *Arum maculatum* (Lords-and-Ladies), *Oxalis acetosella* (Wood-sorrel), *Anemone nemorosa* (Wood Anemone) and *Hyacinthoides non-scripta* (Bluebell) were all seen. On our return to the car park we made a new record for the 10-km square, *Barbarea verna* (American Winter-cress).

After lunch we went to the Mourne Park estate near Kilkeel. Much of this has been planted and we saw mature *Prunus laurocerasus* (Cherry Laurel), *Tsuga heterophylla* (Western Hemlock-spruce), *Quercus* spp. (Oak), *Acer pseudoplatanus* (Sycamore), *Fraxinus excelsior* (Ash), *Tilia* × *vulgaris* (Lime) and *Pinus sylvestris* (Scots Pine). *Hyacinthoides non-scripta* (Bluebell) and *Chrysosplenium oppositifolium* (Opposite-leaved Golden-saxifrage) were remarkable, forming large drifts in places. *Equisetum telmateia* (Great Horsetail) was found close to the river. In an area with huge *Castanea sativa* (Sweet Chestnut) trees, *Potentilla anglica* (Trailing Tormentil), a new record for the square, was found. *Ranunculus penicillatus* (Stream Water-crowfoot), also a new record for the square, was noted as we returned to the cars.

Con Breen led the meeting in Westmeath (H23) on 19 and 20 May. On the Saturday, the first area visited was Coosan Point on Lough Ree, at the southern part of the outlet from Killinure Lough, where hazel scrub and lakeshore were examined. Non-flowering *Cephalanthera longifolia* (Narrow-leaved Helleborine) was seen together with flowering spikes of *Orobanche hederae* (Ivy Broomrape). In the afternoon Killinure Point to the north of Coosan Point, on the other side of the outlet, was visited. Here, among planted *Fagus sylvatica* (Beech), there is a noteworthy exposure of limestone. Among species noted here were *Thalictrum flavum* (Common Meadow-rue), *Cornus sanguinea* (Dogwood), *Polypodium cambricum* (Southern Polypody) and *Saxifraga tridactylites* (Rue-leaved Saxifrage). *Taxus baccata* (Yew) (which is possibly native here) was also seen. A quick visit was paid to Lough Makeegan fen and lake-shore where *Carex appropinquata* (Fibrous Tussock-sedge) and *Thelypteris palustris* (Marsh Fern) were just beginning to show.

On 20 May Crosswood Bog to the east of Athlone was visited. This very wet bog is a scheduled National Heritage Area (NHA), but despite this some mechanical peat extraction is still in progress. *Drosera longifolia* (Great Sundew), *Rhyncospora alba* (White Beak-sedge), *Andromeda polifolia* (Bog-rosemary) and *Vaccinium oxycoccos* (Cranberry) were among the species noted. *Rhyncospora fusca* (Brown Beak-sedge), which has been recorded from bogs in the Athlone area, was not found despite close searching. The day concluded with a visit to Tullywood Bog where David Nash showed the station for *Frangula alnus* (Alder Buckthorn) to participants. This stand of about 20 small trees was first noted here by Dr Keith Lamb over 60 years ago. There is only one other known station for this species in Co. Westmeath.

On 9 June two sites in Co. Laois (H14) and two in Co. Kildare (H19) were visited. This meeting was led by Declan Doogue and Evelyn Moorkens. The first site was Whelahan's Bridge (N59.11), an area of sloping damp grassland and canal bank close to the Grand Canal, including patches of waste ground and the old bridge itself. A total of 135 species were noted here. The second Laois site was at Carrick Hill in Portarlington (N54.10), where the most notable species was *Melica uniflora* (Wood Melick).

The meeting then moved on to Co. Kildare, to the canal aqueduct at Monasterevin (N62.10). This was principally to refind *Cystopteris fragilis* (Brittle Bladder-fern) a few plants of which were indeed still present on the aqueduct wall. *Equisetum variegatum* (Variegated Horsetail) was also noted

from the canal. The final site was south of Monasterevin, to look at a recently discovered site for *Rosa micrantha* (Small-leaved Sweet-briar) and the most northerly known site for this plant in Ireland.

The next meeting was led by Don Cotton in Co. Leitrim (H29) on 16 June and Co. Sligo (H28) on 17 June. Cullentra woodland on the shore of Lough Gill was visited first and contained *Plantago maritima* (Sea Plantain) and *Aquilegia vulgaris* (Columbine). *Hymenophyllum tunbrigense* (Tunbridge Filmy-fern) was recorded at two sites in the wood and a single spike of *Neottia nidus-avis* (Bird's-nest Orchid) was seen. In the afternoon an area of limestone grassland close to O'Rourke's Table was found to contain many old flowering spikes of *Orchis mascula* (Early-purple Orchid). *Arabis hirsuta* (Hairy Rock-cress), *Saxifraga hypnoides* (Mossy Saxifrage), *Alchemilla glabra* (Smooth Lady's-mantle), *Alchemilla glaucescens* (Small Lady's-mantle) and *Carex caryophyllea* (Spring Sedge) were also seen.

On 17 June the Bricklieve Mountains were climbed. *Pseudorchis albida* (Small-white Orchid) was a notable find and *Aira praecox* (Early Hair-grass), *A. caryophyllea* (Silver Hair-grass), *Rubus saxatilis* (Stone Bramble) and *Melampyrum pratense* (Common Cow-wheat) were also recorded. The megalithic cairns (G75.11) had flowering *Arabis hirsuta* (Hairy Rock-cress) and *Draba incana* (Hoary Whitlowgrass). In the late afternoon a fen by the Unshin River (G76.15) was visited and we saw *Thelypteris palustris* (Marsh Fern), *Cladium mariscus* (Great Fen-sedge), *Ranunculus lingua* (Greater Spearwort) and *Osmunda regalis* (Royal Fern).

On 30 June and 1 July Ian McNeill led the meeting at the Baronscourt estate near Newtownstewart in Co. Tyrone (H36). On the first day an interesting-looking patch of damp lawn was found to have *Juncus tenuis* (Slender Rush), *Anagallis minima* (Chaffweed) and *Veronica peregrina* (American Speedwell). This is only the second recent record for *A. minima* in Tyrone. The *V. peregrina* is of particular interest, because it was at Baronscourt that it was first discovered in Ireland, in 1836! By Lough Fanny. *Symphytum tuberosum* (Tuberous Comfrey) (not otherwise recorded in Tyrone), *Circaea* × *intermedia* (Upland Enchanter's-nightshade) and *Silene latifolia* (White Campion) were recorded as naturalising. By the lake, *Osmunda regalis* (Royal Fern) looked native. The shores of Lough Catherine were then explored, again finding *Osmunda regalis*, this time with abundant *Viola palustris* (Marsh Violet). *Lycopus europaeus* (Gypsywort), *Lysimachia nummularia* (Creeping-

Jenny), *L. vulgaris* (Yellow Loosestrife), *Lythrum salicaria* (Purple-loosestrife) and *Scutellaria galericulata* (Skullcap) were also present. We also found a nice group of *Dactylorhiza purpurella* (Northern Marsh-orchid).

On Sunday a party comprising the leader and one other set off to climb forest roads to the summit of Bessy Bell. A long trek turned up only two plants of interest: *Potamogeton alpinus* (Red Pondweed) and *Listera cordata* (Lesser Twayblade). The *Potamogeton* was found in a strange setting, in a peaty pool less than 1 sq. m in area and only a few cm deep. *Listera cordata* was growing in its expected habitat, among heather on the summit ridge. It was last recorded on Bessy Bell in 1896.

The meeting on 7 July was led by Aideen Austin in Co. Offaly (H18), when Derryad (N115.133) was visited. This is a remote area of cut-away bog and fen surrounding a chain of six small lakes. *Rubia peregrina* (Wild Madder), *Ilex aquifolium* (Holly), *Rubus fructicosus* (Bramble) and *Rosa canina* (Dog-rose) were recorded in the hedgerows adjoining the site. A fire on the bog had burned an area of about 20 sq. m scorching *Myrica gale* (Bog-myrtle), *Ulex europaeus* (Gorse) and *Salix* spp. (Willow) in the vicinity. There was evidence that re-growth was taking place. On the bog *Rhynchospora alba* (White Beak-sedge), *Narthecium ossifragum* (Bog Asphodel), *Selaginella selaginoides* (Lesser Clubmoss), *Drosera rotundifolia* (Round-leaved Sundew) and *D. longifolia* (Great Sundew), *Pinguicula vulgaris* (Common Butterwort) and the rarer *P. lusitanica* (Pale Butterwort) were recorded. *Nymphaea alba* (White Water-lily) which covers large sections of the surface of the lakes was in full bloom. *Cladium mariscus* (Great Fen-sedge), *Carex lasiocarpa* (Slender Sedge), *C. dioica* (Dioecious Sedge), *C. rostrata* (Bottle Sedge) were growing around the edges. The fen also had a healthy population of *Epipactis palustris* (Marsh Helleborine).

I would like to thank all of those who gave so freely of their time to make this year's field season a success and also to those who provided the reports upon which this text is based. Thanks should also go to Declan Doogue who did most of the hard work on the field programme before I took over as Field Meetings Secretary.

BOOK REVIEW

The flora of County Cavan. P.A. Reilly. Pp. 177, 16 colour plates, two maps. National Botanic Gardens, Glasnevin. 2001. Price (including postage and packing) 15.80 Euros (within Ireland), 17.00 Euros (UK and Europe). ISSN 0792-0422.

Praeger (1947) was relatively kind to Co. Cavan:
"Cavan (*Cabhán*, a hollow), which lies close to the extremity of the great wedge of Silurian rocks, includes much besides, for it is a large and sprawling county, with a long arm running in an absurd way far to the north-west, and not stopping till it reaches Lough Macnean. The main portion of Cavan is undulating country formed of Ordovician and Silurian slates, with lakes of all sizes in profusion, and these give the landscape a picturesque and interest that otherwise it would not possess."

in contrast to, for example, Praeger's description of neighbouring Co. Monaghan:

"… is rather a dull area … I have botanized a good deal in Monaghan, with despair in my heart at the monotony and lack of interest which its flora displays; and of its zoology and archaeology one can say nothing better."

With Praeger's mention of the profusion of lakes in Cavan it should be of no surprise to learn that the front cover of its new Flora by Paddy Reilly is illustrated with a very eye-catching photograph of Gartinardress Lough, north of Crossdoney. And this promising start is maintained within the covers, as this is an excellent compilation that shows strong evidence of a very professional job.

The bulk of the Flora consists of the individual species accounts. Unlike the trend that has recently become established for local county Floras, Paddy Reilly has resisted the temptation to provide distribution maps for the species but has opted instead for the traditional approach; the county has been divided in five regions, defined by grid lines, and presence in these is used as an indication of overall distribution. A map (curiously at the end of the species accounts) illustrates the boundaries of these five areas. For each species the

Irish and English common names are given together with significant records. Habitat details are also noted.

To support these data there is a wealth of other information that puts the occurrence and distribution of plant species into context. The physical landscape is described (including geology and climate) as well as the landscape history. The history of botanical exploration is detailed with some excellent 'pen-portraits' of the botanists involved. The work of Mr and Mrs Faris (Jean M. Cole of Cloverhill and Charles Faris of Farranseer) who provided many records during the last century is recognized and there is a delightful photograph of them on a park bench. The geology and botanical interests of the five areas into which the records have been divided are outlined. There are four appendices one of which outlines the 20 areas of scientific interest in the county that are botanically worth a visit – excellent for strangers to the county. A bibliography, topographical index (complete with four-figure grid references) and species index (generic, family and common names) complete the text.

Overall, I think it is a marvellous example of a local Flora but I do have two small grouses. Firstly, with the main body of text divided into so many sections and the appendices adding to this fragmentation the result is of a Flora that feels disjointed – there are lots and lots of fascinating lists but one is left with the impression that some consolidation of these might have improved things. Secondly, the Flora includes 16 colour plates. I have to question the choice of subjects. Nearly all are site views and one or two are very good (e.g. the limestone pavement at Corratirrim) but others convey little information (e.g. the two photographs of roadside verges). It was nice however to see a photograph of Bishop Bedell's Sycamore (*Acer pseudoplatanus*), said to have been the first Sycamore planted in Ireland.

Since this is the latest addition to Ireland's growing list of Floras you might be interested to know that Mitchell (2000) has recently compiled a list of all Floras ("a descriptive or distributional catalogue of native and naturalised plants recorded from a defined geographical area") relating to the Irish flora. This list supplements and largely supersedes that given in McCosh (1988).

REFERENCES

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Mitchell, M.E. (2000). The Irish Floras: a checklist of non-serial publications. *Glasra* **4**: 47-57.
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MINUTES OF THE ANNUAL GENERAL MEETING OF THE BSBI IRISH REGIONAL BRANCH HELD IN UNIVERSITY COLLEGE DUBLIN ON 25 NOVEMBER 2000

The Chair, Anne Carter, welcomed the 20 members attending.

ATTENDANCE
As per the attached sheet [see file copy].

APOLOGIES
Apologies were received from: John Faulkner, Mike Wyse Jackson, Ian McNeill, Brian Rushton, Stan Beesley, Faith White, Frances Lucy, Eleanor Dobson, Joan Crichton, Don Cotton, Daniel Kelly, Ro Fitzgerald, Marion Allen.

MINUTES OF IRISH REGIONAL AGM, 6 NOVEMBER 1999
Read, approved and signed.

CHAIR'S REPORT
Anne Carter apologised for not having made any of this year's field trips blaming it on post-*Atlas 2000* trauma. She reported that the Society's AGM held in Belfast during May 2000 had been very successful with a lot of positive feedback from those who had attended. The Ulster Museum, Paul Hackney and Alan Hill were formally thanked for their considerable input to the organisation of the AGM. Anne also thanked the Committee and the Hon. Secretary for their work during the year and Declan Doogue for his role in co-ordinating the *Atlas 2000* work.

The Chair extended her sympathy to the family of Toby Hodd, particularly Rory, following his untimely death.

Returning to the subject of post-*Atlas 2000* trauma, Anne reiterated the need for the incoming Committee to look at future projects that would be applicable for Ireland.

SECRETARY'S REPORT
A copy is on record.

REPORT OF THE FIELD MEETINGS SECRETARY
Declan Doogue reported that ten field meetings had taken place during the year but attendance had been poor due to post-*Atlas 2000* fatigue. However, he was heartened by the response from vice-county recorders who had volunteered to lead outings in 2001. He mentioned some of the finds on various outings and reported on some problems of taxonomy in Ireland.

The Chair thanked him for his efforts during the year. Anne also mentioned the Irish Field Club Union Meeting held in Sligo during August 2000, for which Julia Nunn had fixed the weather, and which she described as being one of the best outings she had ever attended.

REPORT OF REPRESENTATIVE TO COUNCIL
David Nash attended three meetings during the year where much of the time was spent discussing projects such as the Threatened Plant Database and the Millennium Seed Bank all of which are British financed and have little or no relevance to the Irish Regional Branch of the BSBI. He mentioned the Strategy document produced by the Council and said that we should be concerned that Ireland hardly figures in the future strategy that includes the move toward paid posts such as the Secretary and Projects Manager. Declan Doogue said that other Societies were going through similar changes and suggested that we should look at the aims of the Irish Regional Branch and how we can best function.

A discussion took place on the problems of the public perception of plants particularly how they are represented in the popular press. A suggestion was made that members should be circulated on their views as to how the Irish Regional Branch should proceed which could be followed by a meeting to discuss the issues raised.

ATLAS 2000
It is reported that publication of the *Atlas 2000* is expected for late-2001 or early-2002. It will probably cost £75 and include a CD ROM version.

VICE COUNTY RECORDERS' REPORTS
Alan Hill, who has been co-ordinating the *Atlas 2000* field work for Monaghan (H32), reported on the increase in the number of species now recorded for that county.

Graham Day reported on his efforts and failure to refind many species that were previously recorded for Co. Down (H38) and suggested that it would be valuable to have some method of recording this as it gives a good indication of plant losses.

ELECTION OF NEW COMMITTEE MEMBERS
The Chair thanked the three people retiring from the Committee for their work over the last few years.

Fiona Maitland, Declan Doogue and Alan Hill were proposed 'en bloc' by Anne Carter and seconded by Sharon Parr. In light of no other nominations they were deemed to be elected.

AOB
None.

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MINUTES OF THE ANNUAL GENERAL MEETING OF THE BSBI IRISH REGIONAL BRANCH HELD IN TEACH LEA, LOUGH BOORA PARKLANDS, CO. OFFALY ON 22 SEPTEMBER 2001 (Unapproved)

The Chair, Anne Carter, welcomed the 20 attending members.

ATTENDANCE
S. Parr, A. Carter, M. Troy, M. Archer, G. O'Donovan, S. Ward, G. Day, J. Nunn, S. van der Sleesen, A. Poole, A. Austin, J. Early, D. Nash, A. Hill, S. Reynolds, D. Cotton, K. Duff, F. White, F. Devery, D. Doogue.

APOLOGIES

Apologies were received from: F. Adair, J. Faulkner, J. & M. Neff, B. Rushton, F. Lucy, J. Crichton, M. Scannell, F. Maitland, C. Breen.

MINUTES OF IRISH REGIONAL AGM 2000, 25 NOVEMBER 2000

Read, approved and signed.

CHAIR'S REPORT

The Chair apologised for not having been able to attend many field meetings. She thanked the Committee for their work particularly Graham Day for his work as Field Meetings Secretary, Alan Hill for his attendance at Records Committee meetings and David Nash for his role as representative on the Council. She stated the need to discuss the future of the Irish Regional Branch and suggested that we may need to find our own way forward as the role of the Society seems to be changing.

SECRETARY'S REPORT

The Committee met in January, April and July 2001.

Discussions centred largely on future projects; some vice-county recorders have their own ideas on what needs doing in their counties post-*Atlas 2000* while the main body of the BSBI is proposing an arable weed survey. However, there are questions as to how applicable this would be for large parts of Ireland, Wales and Scotland. The general move appears to be towards funded projects that will pay for some posts on the BSBI Council but will rely largely on the good will of vice-county recorders and general membership. As many of these projects will be driven and funded by the statutory nature conservation organisations, government departments and some of the larger NGOs in Britain the projects will be very GB focussed and are unlikely to include Ireland and that will see us becoming even more isolated from the main body of the organisation than we are already.

Projects that are being considered include:

i) Facilitating the completion of the *Flora of Westmeath* (v.c. H23) – Con Breen, the v.c. recorder for Westmeath has been co-opted on to the Committee to this end;

ii) Possibility of producing our own Atlas which requires further thought and would need a source of funding; and

iii) A project looking at the distribution of selected ecologically significant species in order to produce a habitat map of Ireland. Declan Doogue has been giving a considerable amount of consideration to this.

Finally I would like to thank the Committee for their work during the year particularly the two retiring members, Kathy Duff and Grace O'Donovan. And, yes, for those of you who remember last year's AGM I did retire but due to some dreadful deeds in a past life was co-opted to continue in the role of Secretary, even leaving Dublin for Offaly failed to put the Committee off my scent!

REPORT OF THE FIELD MEETINGS SECRETARY

Graham Day thanked Declan Doogue for having organised this years field programme and presented a comprehensive report, which appears in this issue of *Irish Botanical News*.

REPORT OF REPRESENTATIVE TO COUNCIL

David Nash attended one meeting of the Council having missed the other due to Foot and Mouth. The focus was on projects such as the National Biological Network, Biodiversity Action Plans and Threatened Plant Database. Discussions have been taking place regarding the employment of full time staff members that may be funded partly by the National Lottery and the BSBI. A permanent office is also being considered. Ireland is mentioned very little so that there are concerns as to where we will fit into this newly directed Society.

REPORT OF REPRESENTATIVE ON RECORDS COMMITTEE

Alan Hill said that most discussions during the year had related to *Atlas 2000.*

VICE-COUNTY RECORDERS' REPORTS

A single vice-county recorder report was presented by Graham Day for Co. Down (v.c. H38).

ELECTION OF COMMITTEE

The Chair thanked Grace O'Donovan and Kathy Duff for their work on the Committee over the last three years. Two new members were elected to fill the vacancies: Fiona Devery (Proposer Anne Carter, Seconder Sylvia Reynolds), Sharon Parr (Proposer Anne Carter, Seconder John Early).

AOB

A discussion took place on the future of the Irish Regional Branch and how we could continue to contribute to the Society as a whole. There were some concerns over the trend towards paid staff and that the general membership would end up being driven by the interests of the paid posts; however, this was then viewed in terms of increased interests in conservation. Opinions were somewhat divided as to the direction that the Society appears to be taking. The question of plant records collected by the v.c. recorders and members being viewed as an exploitable resource by the 'new management' was raised along with the question of what is the reward for those who have put their own time and effort into collecting them. It was suggested one reward is the potential contribution to conservation. The issue of the increasing number of companies looking for records from v.c. recorders was also mentioned and the problems that this creates for people in voluntary positions. The role of CEDaR in fielding these enquiries in the North was explained but this does not help in the South were there is no such body. [In relation to this it would be nice to know what sort of Biological Records Centre the members would like to see – Secretary's Comment.]

The discussion moved on to field trips and the need to move away from the square bashing mentality that was fuelled by the *Atlas 2000* and to start catering for beginners and improvers perhaps through targeted meetings. The question as to what the membership would like was asked e.g. lectures, workshops, newsletter.

NOTE: These minutes are as yet unapproved and are included to provide the membership with an overview of topics at the recent AGM.