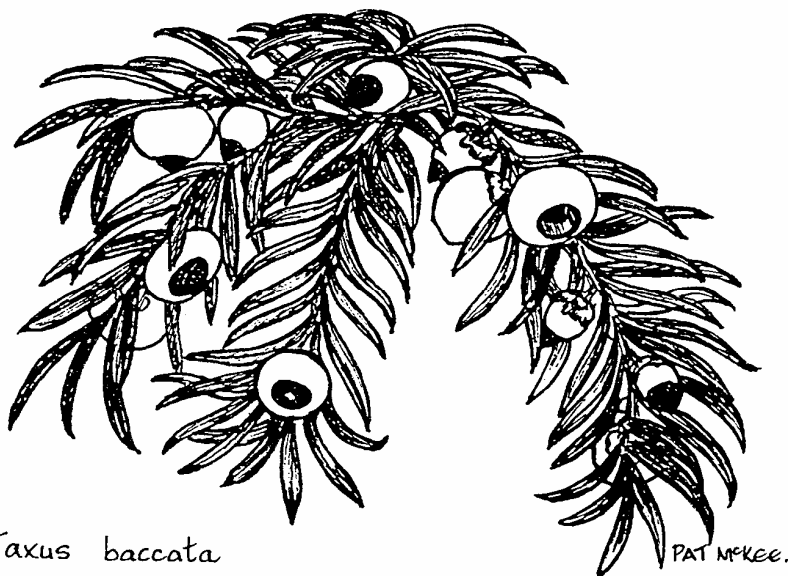


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Taxus baccata

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COMMITTEE FOR IRELAND, 1999-2000
BOTANICAL SOCIETY OF THE BRITISH ISLES

In line with the Rules, one new committee member was elected at the Annual General Meeting held at the Portora Royal School, Co. Fermanagh on 6 November 1999. The Committee is now:

Miss A.B. Carter, Chair (retiring October 2001)
Dr S.L. Parr, Hon. Secretary (retiring October 2000)
Mr S. Wolfe-Murphy (retiring October 2000)
Miss A.M. McKee (retiring October 2000)
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Mr A.G. Hill, Representative on BSBI Records Committee, co-opted October 1999
Dr D.A. Doogue, *Atlas 2000* Co-ordinator, Field Meetings Secretary, co-opted October 1995
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The cover illustration shows *Taxus baccata* L. (Yew) drawn by Pat McKee.

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

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EDITORIAL

I imagine that many of my readers out there are suffering from the PAST (Post *Atlas 2000* Syndrome Tension) – now that fieldwork for the *Atlas* has been completed it will certainly change your lives. Rooms will be re-decorated, gardens tidied, hobbies taken up again as you face up to life again without ‘square bashing’. It’s been nearly 40 years since the original *Atlas* was produced and subsequently we’ve had the Monitoring Scheme and other, somewhat more restricted efforts. One concern is that the vegetation of Britain and Ireland is changing and in many areas it is changing very rapidly indeed. The effort that has gone into the *Atlas 2000* project is huge but I fear that we may be unable to repeat it as an exercise for many years to come and therefore monitoring the changes will be that much more difficult. That is where the work of the vice-county recorders becomes so significant because although they may not be undertaking monitoring work in a systematic fashion they are, nevertheless, acutely aware of changes which are taking place on their ‘patch’ and they can respond appropriately. BSBI is fortunate indeed to have such a set of dedicated folk.

On another topic, *Irish Botanical News* is ten years old this year – happy anniversary to me! I would like to take this opportunity to thank all those who over the years have supported the venture through supplying articles, ideas, suggestions, even the occasional illustration. I suppose the next thing will be an index – now there’s a thought! Please keep the material flowing in. This year, as you can see, we have the largest edition yet.

Have a good field season,

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

THE DELIMITATION CHARACTERS OF *CAREX VESICARIA* L.
(BLADDER-SEDGE), *C. ROSTRATA* STOKES (BOTTLE SEDGE)
AND THEIR INTERSPECIFIC HYBRID *C. X INVOLUTA* (BAB.)
SYME

T. O'Mahony
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INTRODUCTION

The sedge species *Carex vesicaria* L. (Bladder-sedge) and *C. rostrata* Stokes (Bottle Sedge) are of widespread and locally common occurrence throughout Britain and Ireland, while their interspecific hybrid, *C. x involuta* (Bab.) Syme is regarded by Stace (1997) as one of the commoner sedge hybrids in these islands. However, Scannell & Synnott (1987) only report *C. x involuta* from four Irish vice-counties, while it is clear that most Irish and British botanists are quite unfamiliar with this hybrid - a situation not helped by the lack of a description in Jermy, Chater & David (1982), while no confident determination can be based on the very brief description provided by Wallace (1975).

Moreover, the accurate identification of *C. x involuta* is far from straightforward, for the following reasons:

1. Fertility criteria are traditionally employed for distinguishing the parents from the hybrid, yet many populations of all three taxa are shy-flowering, only sporadically producing flowering/fruiting stems, an inconvenient fact which undoubtedly accounts for the under-recording of *C. x involuta* in these islands to date.
2. My long-term observations suggest that nutlet-set in the female spikes of many *C. rostrata*/*C. vesicaria* populations is often extremely low, pointing to strong self-incompatibility barriers in such instances. These fruit-sterile populations of *C. rostrata*, in particular, could quite easily be mis-identified as *C. x involuta*.

3. Vegetatively, *C. x involuta* is an extremely polymorphic species, with various phenotypes superficially resembling *C. x involuta*, *C. nigra* (Common Sedge) or even *C. lasiocarpa* (Slender Sedge). (Despite literature statements to the effect that *C. rostrata* and *C. vesicaria* are frequently confounded, I have never encountered vegetative material of *C. rostrata* that could be mistaken for *C. vesicaria*.)

THE DIAGNOSTIC CHARACTERS OF *CAREX X INVOLUTA* AND ITS PARENTS

Wallace (1975: 522) states that *C. x involuta* is a *variable* hybrid, some variants being nearer to one parent, and some the other. While this statement may well be true, it runs totally counter to my own long-term (1978-1998) observations of *C. x involuta* in the Cork flora, where the very disjunct populations on the River Lee (H3/H4) and in the Kilcolman Fen (H5, R/5.1) are remarkably similar in vegetative morphology and, moreover, very closely resemble *C. rostrata* in appearance.

My detailed microscopic observations down the years have shown that *all* vegetative material of *C. rostrata* prominently displays a dense covering of epidermal papillae on the *upper* leaf faces, each cell bearing a single, distal papilla. Scattered papillae may also occur on the lower leaf faces. In all Cork populations of *C. x involuta*, such epidermal papillae are also present (in very variable abundance) on both leaf faces, yet are *totally absent* on the leaves of *C. vesicaria*. Indeed, this single morphological character allows accurate separation of all vegetative material of *C. vesicaria* from both *C. rostrata* and *C. x involuta*.

Furthermore, in *C. rostrata* the stomatal rows (easily seen at x 20 magnification) are predominantly confined to the *upper* face of each leaf, while they vary from absent to frequent on the leaf undersides of different populations. In *C. x involuta*, the stomatal rows tend to be scattered over both leaf faces, varying considerably in abundance on each leaf face, even within a single vegetative tuft. In *C. vesicaria*, by

contrast, contiguous stomatal rows are confined to the *lower* face of each leaf, though randomly scattered stomata may occasionally be found on the upper leaf faces also.

The leaf ligule characters of vegetative material also provide very useful delimitation criteria for all three taxa. In *C. vesicaria* the *tubular* ligules are lanceolate-acuminate, straight-sided, often hooded at the apex, and up to 35 mm in length. In *C. rostrata*, the *non-tubular* ligules are ovate-rounded, with curved sides, often *retuse* at the apex, and up to 15 mm in length. In *C. x involuta* the ligules are lanceolate, long-tapered to an acute or obtuse apex, and up to 30 mm long. Moreover, in the hybrid, the ligules of at least the peripheral, pioneering shoots are *conspicuously tubular*, these ligule characters clearly being inherited from its *C. vesicaria* parent.

Apart from the vegetative delimitation characters just outlined for all three taxa, *C. x involuta* exhibits an admixture of other parental characters (a common feature of many F₁ hybrids) which should enable further help to clinch an accurate determination. For example, the subterete or bluntly trigonous shoots and spongy leaf-sheaths are *C. rostrata* characters while the lateral faces of the leaf-sheaths are commonly purple-flushed and glossy, as in the *C. vesicaria* parent. The hyaline inner leaf-sheath faces show conspicuous longitudinal striae, which form a regular ladder-like pattern (i.e. become fibrillose) on disintegration of the tissue - a feature common to both parents. The aerenchyma-blocks in the leaf-sheaths below the ligules may reach to 12 mm in length, as in *C. vesicaria*, whereas in *C. rostrata* 6 mm is the maximum length. However, the mature leaves are very similar to those of *C. rostrata* in being cardboard textured (thick and spongy in transverse section, with large air spaces) and always a matt, grey-green on their *upper* faces.

In flowering material of all Cork populations of *C. x involuta*, the male spikes were found to be wholly sterile, as would be expected, and to thus differ from those of either parent in that their stamens remained

enclosed within their glumes, the anthers being indehiscent and bearing sparse, empty, mostly malformed, pollen grains. Most surprisingly, the virtually fruit-sterile female spikes (which are long-cylindrical, with short, ovoid utricles as in *C. rostrata*), were found to bear an occasional utricle containing a fully developed nutlet - attesting to back-crossing from one or both parents, and clearly demonstrating that such hybrid spikes are not totally female-sterile! Were such back-cross-derived utricles to germinate and develop into mature plants, then one could envisage a far more complex breeding situation ultimately arising in such localities.

A vegetative key is provided below for the confident delimitation of *C. x involuta* from its parents. This key should facilitate the search for the hybrid in new localities, as vegetative material is available for study throughout the greater part of each year (say, March to November).

VEGETATIVE KEY TO *CAREX X INVOLUTA* AND ITS PARENTS

1a. Leaves *without* epidermal papillae, plastic textured, often bright-green, glossy on both faces, often with submarginal ridges on their upper faces; transverse leaf-section plicate, very thin, with inconspicuous air spaces; leaf shoots firm, rather sharply trigonous; leaf sheaths firm, purple-flushed for most of their length; leaf-ligules *tubular*, lanceolate-acuminate, straight-sided, often hooded at the apex, up to 35 mm in length; stomata virtually confined to *lower* leaf faces ...
 *C. vesicaria*

1b. Leaves with epidermal papillae on both faces, cardboard textured, always a matt grey-green or glaucous on their *upper* faces; transverse leaf section (flat, keeled or semi-cylindrical) thick and spongy, with large air spaces; leaf shoots spongy, subterete or bluntly trigonous; leaf sheaths thick and spongy; stomata present on both leaf faces, or confined to the upper leaf face 2

2a. Leaf-ligules *non-tubular*, rounded or ovate, with strongly curved sides, often *retuse* at the broadly obtuse apex, and up to 15 mm in length; *all* cells of *upper* leaf faces bearing a single, distal, papilla; stomata always abundant on the upper leaf faces, absent to frequent on the lower leaf faces; leaf sheaths often red-flushed near the base, their aerenchyma-blocks to 6 mm in length *C. rostrata*

2b. Leaf-ligules *tubular*, lanceolate, with weakly-curved sides, tapered to an acute or subobtuse apex, and up to 30 mm in length; epidermal papillae and stomata *very variable* in abundance on both leaf faces; leaf-sheaths purplish-flushed for most of their length; their aerenchyma-blocks to 12 mm in length *C. x involuta*

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EXTENSION OF *COCHLEARIA DANICA* L. OFF MOTORWAYS IN NORTHERN IRELAND

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Over the last couple of years, I have observed *Cochlearia danica* L. (Danish Scurvygrass) in several inland roadside sites away from motorways. It is strongly established along most of the entire lengths of the M1 (from Belfast to Dungannon) and M2 (from Belfast to Randalstown) motorways in Ulster.

In the Dungannon area, from the terminal point of the M1 at Stangmore, it extends for 1 km along the Dungannon by-pass, which is effectively a continuation of the M1. Interestingly, it dies out when the by-pass loses its dual carriageway nature to become a single carriage road. It also occurs sporadically along the Stangmore-Dungannon road, again to about 1 km distant from the M1.

Off the M2, I have observed it at the foot of a wall about 2 km north-east of the Templepatrick roundabout on the Templepatrick-Larne road. West of Randalstown it occurs on the bridge at Toome, and further west still on the bridge where the Castledawson by-pass (not a dual carriageway) crosses the Moyola River.

On the dual carriageway linking Moneymore and Cookstown it was also abundant in 1999, and yet I did not notice it in 1998 - this is a road I would be on several times a week.

Why *C. danica* favours motorways and major arterial routes has been the subject of much speculation in the botanical journals in recent years. I hold to the view that, for a plant shedding abundant annual seed, weed-killing regimes positively favour it - linked, of course, to the highly saline environment created by the winter gritting.

SOME COMMENTS ON THE FLORA (PROTECTION) ORDER, 1999: REPUBLIC OF IRELAND

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INTRODUCTION

While perusing through the species-list in the Flora (Protection) Order, 1999: Republic of Ireland recently, I was both dismayed and annoyed to note the omission of a range of species (Table 1) which should surely have been included. Later on in this paper, I append my own observations on those species marked with an asterisk in Table 1.

Ostensibly, the range of criteria outlined in *The Irish Red Data Book: 1, vascular plants* (Curtis & McGough 1988) for assessing the rarity-status of Irish plant species, seems scientific enough to arrive at a realistic consensus as to which species require legally protected status in the Irish Republic. Yet, given that both the 1987 and 1999 Flora (Protection) Orders (Republic of Ireland) are manifestly unsatisfactory (in that a suite of species of very rare occurrence in Ireland have not received legal protection), we may reasonably ask, "what went wrong?".

In my view, the factors which have contributed in the main to this very unsatisfactory state of affairs, can be summarised in three categories, viz:

1. For some inexplicable reason, a suite of our rarest plant species have been totally overlooked during the initial vetting process, and consequently do not receive a mention in Curtis & McGough (1988). Such species include *Asplenium onopteris* L. (Irish Spleenwort), *Euphorbia amygdaloides* L. subsp. *amygdaloides* (Wood Spurge), *Ranunculus parviflorus* L. (Small-flowered Buttercup), *Rumex pulcher*

L. (Fiddle Dock) and *Sedum dasyphyllum* L. (Thick-leaved Stonecrop). The apomictic species, *Alchemilla alpina* L. (Alpine Lady's-mantle) and *A. glaucescens* Wallr. (Glaucous Lady's-mantle), which are very distinctive morphologically, and of extremely rare occurrence in Ireland, surely also deserve legal protection. Indeed, the status of *A. glaucescens* in Ireland seems especially perilous, considering that it has only ever been recorded from but two limestone hills in County Leitrim (H29) (Webb, Parnell & Doogue 1996), and bearing in mind the ever-accelerating destruction of Irish wildlife habitats in general.

2. Certain species formerly given legal protection in the Irish Republic under the Flora (Protection) Order, 1980, have since been excluded from such protection - solely, it seems, on the basis of the recent discovery of a number of additional (often transitory!) sites for these species. Taxa in this second category include: *Orobanche rapum-genistae* Thuill. (Greater Broomrape), *Crambe maritima* L. (Sea-kale) and *Salvia verbenaca* L. (Wild Clary). I contend that this change in legal status is both unwarranted and unscientific. Such a decision should have been based on a more insightful criterion, such as the performance of these species in their Irish habitats over the past 100-150 years, as gauged from literature statements on their status for the relevant period. This autecological overview would clearly have shown that *O. rapum-genistae* and *C. maritima* have always been rare and of very local occurrence in Ireland, and would have highlighted the fact, that *Salvia verbenaca* has drastically declined in frequency during this time-span. Moreover, the extant populations of all three species are generally small, very disjunct, and very vulnerable to destruction from both natural and human threats.

3. The third category relates to spurious taxonomic decisions. Here, I specifically refer to *Geranium purpureum* Villars (Little-Robin) (a taxon dealt with at length elsewhere in this paper), which authors consider to be a very doubtful species, or perhaps only a subspecies of *G. robertianum* L. (Herb-Robert). This idiosyncratic taxonomic viewpoint runs totally counter to that pertaining in Britain, and has had

the negative effect of denying legal protection to one of our very rarest and most vulnerable species. The lesson to be learned here is that appropriate taxonomic rank should be based on the *best, in-depth*, taxonomic data, and *not* on superficial speculations!

Table 1: Species deemed worthy of legal protection within the Republic of Ireland.

(Note: species marked with an asterisk * are reviewed later in this paper.)

Alchemilla alpina L. (Alpine Lady's-mantle)
Alchemilla glaucescens Wallr. (Glaucous Lady's-mantle)
**Asplenium onopteris* L. (Irish Spleenwort)
**Crambe maritima* L. (Sea-kale)
**Euphorbia amygdaloides* L. (Wood Spurge)
**Geranium purpureum* Villars (Little-Robin)
**Lepidium latifolium* L. (Dittander)
**Orobanche rapum-genistae* Thuill. (Greater Broomrape)
**Ranunculus parviflorus* L. (Small-flowered Buttercup)
**Rumex pulcher* L. (Fiddle Dock)
**Salvia verbenaca* L. (Wild Clary)
**Sedum dasyphyllum* L. (Thick-leaved Stonecrop)

Asplenium onopteris (Irish Spleenwort)

This exceedingly beautiful fern has its Irish headquarters in counties Cork (H3-H5), and Kerry (H1, H2), while genuine old records exist for Limerick (H8) (More 1872), North Tipperary (H10), Kilkenny (H11) Wicklow (H20) and Down (H38), material from the latter four stations having been confirmed by Roberts (1979). A few more doubtful records have been reported from elsewhere in Ireland in the nineteenth century, but need confirmation.

Alarminglly, only a handful of sites for *A. onopteris* are known in counties Cork and Kerry at the present time mainly from highly vulnerable wall and hedge-bank habitats, while the majority of these populations are very small in size, and just about surviving. Ironically, at one of its very few remaining Mid Cork (H4) sites, *A. onopteris* is now less frequent than its very rare interspecific hybrid with *A. adiantum-nigrum* L. (Black Spleenwort), namely, *Asplenium x ticinense* D. Meyer.

It is imperative, therefore, that steps be urgently taken to legally protect *A. onopteris* - a very rare and declining Irish fern.

Crambe maritima (Sea-kale)

Although formerly legally protected in the Republic of Ireland under the Flora (Protection) Order, 1980, *C. maritima* has since lost its protected status, presumably, because of the discovery of a number of more wide-ranging sites in recent years. Yet a perusal of Irish botanical literature spanning the period 1800-1970, shows that *C. maritima* has always been regarded as very rare in Ireland, the majority of populations being very small in size and transient in nature. Bearing in mind that many of the populations recorded during the period 1970-1999 are similarly impermanent, being very small in size and rarely reaching the flowering/fruiting stage, one must seriously question the decision to withdraw legal protection from this magnificent maritime species.

Euphorbia amygdaloides subsp. *amygdaloides* (Wood Spurge)

Although common and native in Southern Britain and the Channel Islands, Wood Spurge is an extremely rare, naturalised species in Ireland. In the past, a few transient populations have been recorded from Wexford (H12) and West Donegal (H35), but the only long-term Irish sites are those from the River Bandon (H3/H4), where the populations are highly disjunct and some need refinding, although *E. amygdaloides* is still locally frequent on the River Stick estuary (H4) near Kinsale (O'Mahony 1993, 2000).

Euphorbia amygdaloides must surely qualify as an automatic candidate for legal protection in the Republic of Ireland, the mystery being why it has not already received such protection.

(Note: *E. amygdaloides* subsp. *robbiae* (Turrill) Stace, a taxon native to NW Turkey, is well naturalised in woodlands and shady hedgerows in parts of England, though I am unaware of any Irish records to-date. It differs from *E. amygdaloides* subsp. *amygdaloides* in that the leaves are firm, leather-textured, glabrous and glossy (*not* soft, dull-green and pubescent).)

Geranium purpureum (Little-Robin)

This essentially Mediterranean annual is among the very rarest of native Irish species, the total Irish populations at the present time (December 1999) possibly encompassing less than 600 individual plants. While *G. purpureum* is virtually confined to the environs of Cork City (O'Mahony 1985, 1996, 1997, 1999), some notable outlier populations also occur on Long Island, Roaringwater Bay, West Cork (Akeroyd 1996). The species may still occur at Dungarvan, Co. Waterford (H6) where it was originally found in 1881.

The decision to omit *G. purpureum* from both the Flora (Protection) Order, 1987 and Flora (Protection) Order, 1999 can be explained by the statement in Curtis & McGough (1988: 111) which reads: "However, its taxonomic status is uncertain enough to warrant its exclusion at present, and it may at best be a subspecies of *G. robertianum*." In relation to both *G. purpureum* and *G. rotundifolium* L. (Round-leaved Crane's-bill) the authors further state (1988: 120): "The two species of *Geranium* are taxonomically uncertain, and more research on their precise status needs to be carried out." In fact these statements are quite erroneous and, with regard to *G. purpureum* in particular, highly speculative, as neither author at that time (as far as I can ascertain) had any first-hand knowledge of this exceedingly rare Irish plant.

On the basis of my own long-term (1969-1999) taxonomic research on native *G. purpureum* (which entailed field observations, observations of cultivated material and considerable microscopic work) I can categorically state that *G. purpureum* is a bone fide species. Such work has shown that *G. purpureum* differs from *G. robertianum* in at least 18 morphological characters, while there are also known differences between the two species in floral biology, cytology, ecology and world-wide distribution patterns. Indeed, cytological work undertaken on this species-pair in Europe since the 1940s, suggests very strongly that *G. purpureum* is one of the progenitors of *G. robertianum*, the other ancestral diploid parent not being known to science at the present time.

Additionally, further evidence confirming the specific distinctness of *G. purpureum* comes from my detailed studies of the morphology, floral biology and fertility of the *wild* interspecific hybrid, *G. purpureum* x *G. robertianum* (new to science), of which the F₁ hybrid was found in a single East Cork site in 1988 and 1995 (O'Mahony 1996), while the F₂ hybrid was also found in a single Mid Cork site in 1996 (O'Mahony 1997). Both the F₁ and F₂ hybrids are highly fruit-sterile.

On the basis of this accumulation of evidence, there can be very little doubt but that the tetraploid *G. robertianum* is an allopolyploid derivative of the cross between diploid *G. purpureum* and some other (unknown) diploid *Geranium* species. Accordingly, *Geranium purpureum* should be given the legal protection in the Irish flora that it thoroughly deserves.

Lepidium latifolium (Dittander)

A member of the Cruciferae, *Lepidium latifolium* is an imposing plant, with tall, waxy-white stems, a frothy panicle of white flowers (produced from July to September), leathery, dock-like leaves and long, pioneering stolons which help it to consolidate unstable ground (such as sand-dune and salt-marsh habitats) and thus form large stands over time. Although native to England and mainland Europe, etc. (and widely naturalised

elsewhere) all of its Irish sites are derived from cultivated sources, as *L. latifolium* has a long history of medicinal and culinary use.

In Ireland, *L. latifolium* has always been of very localised occurrence as a naturalised species, Scannell & Synnott (1987) recording it from just six vice-counties: (1) 3-6, 8. However, they have overlooked the Sligo (H28) record given by Praeger (1939), viz: "Saltmarsh at Sligo Harbour - Miss Roper; *B.E.C.*, 1928: 727." Whether this Sligo station still survives is not known to me. Additionally, Wyse Jackson & Sheehy Skeffington (1984: 80) note *L. latifolium* as quite frequently naturalised on the coast north of Dublin's inner-city, and also report it from the banks of the Royal Canal at its junction with the River Liffey. However, it would seem that such recent records are erroneous, as the species is not recorded in the *Flora of County Dublin* (Doogue *et al.* 1998).

Of the remaining Irish stations, the South Kerry (H1) record from near the mouth of the Kenmare River is attributable to Smith (1746a) and does not appear to have been seen since: this would also seem to be the case with regard to his Kinsalebeg site on the Waterford side of the River Blackwater estuary, opposite Youghal Town (Smith 1746b). The terse Limerick (H8) record for *L. latifolium* (in Praeger 1901) reads: "About Limerick, established: 1900 - R.D. O'Brien." Yet the County Recorder for Limerick, Mrs S. Reynolds, informs me (pers. comm., 1999) that she is unaware of any extant Limerick sites for *L. latifolium*.

Within Co. Cork, *L. latifolium* was formerly long-established in a number of sites in all three vice-counties up to 1900, but at the present time it is only known from a single site each in Mid Cork (O'Mahony 1995) and in West Cork near Kinsale, where it has survived since its discovery in c. 1872. (I am currently reviewing the status of Dittander populations in East Cork.)

On the basis of the foregoing evidence, I feel that *Lepidium latifolium* more than adequately qualifies for legal protection in the Republic of Ireland.

Orobanche rapum-genistae (Greater Broomrape)

In the 19th century, *O. rapum-genistae* (a robust, striking, parasitic species) occurred very locally in south and east Ireland. However, the species has never recovered in either frequency or numbers following on its dramatic countrywide decline during the first half of the 20th century. Yet Curtis & McGough (1988: 59) state: "Though the species was formerly protected in the Irish Republic (Flora Protection Order, 1980), the still wide-ranging distribution of its host-species, and the probable under-recording of this Broomrape, make it likely to be more widespread than recent records suggest. Consequently, until its status has been further investigated we do not consider it a candidate for protection."

This viewpoint is both unrealistic and naive, for it is blatantly obvious that a *range* of environmental factors, other than the distribution and frequency of its host species - *Ulex europaeus* L. (Gorse) and *Cytisus scoparius* (L.) Link (Broom) - determine Greater Broomrape's status, as is most likely the case with all other *Orobanche* species also. Otherwise, one could reasonably expect the frequency/distribution of any Broomrape species to mirror that of its host(s), yet this is certainly not the case!

In Ireland, for example *O. alba* Stephan ex Willd. (Thyme Broomrape) is mainly confined to the large-scale, base-rich habitats of the Burren limestones and the Basaltic Plateau of the north-east. Yet its predominant host, *Thymus polytrichus* (Wild Thyme) is of widespread occurrence, and indifferent to soil pH. Similarly, *O. hederæ* Duby (Ivy Broomrape) shows a strong preference for calcareous soils over much of its Irish and British ranges though its host, *Hedera helix* L. subsp. *helix* (Common Ivy) is an abundant species on all but the most acid or waterlogged of soils. *Orobanche reticulata* Wallr. (Thistle Broomrape) also shows a strong calcicole predilection. It is only known from Yorkshire, where it is virtually confined to the Magnesian Limestones (Foley 1999), yet its main host, *Cirsium arvense* (L.) Scop. (Creeping

Thistle), is one of the most widespread and abundant of weed-species in these islands. Plenty of other examples of this phenomenon are to be found within the genus *Orobanche*.

Given that there has been no marked *sustained* increase in the frequency of *Orobanche rapum-genistae* in Ireland since the 1980s, and as the species still seems restricted to just a very few sites, I suggest it urgently receive the legal protection its rarity status warrants.

Ranunculus parviflorus (Small-flowered Buttercup)

In Britain, *R. parviflorus* is of frequent occurrence in open ground near the coast in SW England, South Wales and the Channel Islands, though very local elsewhere. By contrast, in Ireland the species has always been rare and of very scattered occurrence. While Scannell & Synnott (1987) report *R. parviflorus* from eight Irish vice-counties - (4), 5, (7), 9, (11), 12, (20, 21) - Webb, Parnell & Doogue (1996) state that it is now a very rare and decreasing species, and list it as extant only in Clare (H9), East Cork (H5) and Wexford (H12).

In Co. Clare it is confined to arable fields on all three Aran Islands (Webb & Scannell 1983), where it was recorded during the period 1966-1974 at least. I am unaware of any extant East Cork record for *R. parviflorus*, and have no information on the species status in Co. Wexford.

Clearly, *Ranunculus parviflorus* deserves legal protection in the Irish Republic, as the species seems close to extinction.

Rumex pulcher (Fiddle Dock)

Scannell & Synnott (1987) list this extremely rare Irish dock from just ten vice-counties, viz: (3-6, 9-11), 12, (20, 21), of which only the Wexford record is post-1950. Akeroyd (1993) has recently reviewed *R. pulcher*'s status in Ireland (he considers it a native species, and not a casual introduction, as is generally believed), and states that only two extant sites are known, one from Sherkin Island, West Cork, and one

from Wexford. In both surviving sites *R. pulcher* occurs in very small quantity.

The hey-day for this species in Ireland seems to have been round about 1896, when it occurred frequently about Baltimore in West Cork, and in a number of East Cork sites, such as Whitegate and Youghal (Colgan & Scully 1898). Legal protection for *Rumex pulcher* in the Irish Republic is urgently required, given the extremely few sites remaining, and taking into account the transitory nature of its Irish populations down the years.

Salvia verbenaca (Wild Clary)

This rare, aromatic Labiate is essentially confined to the south and east coasts of Ireland, with some outlier western sites in Limerick (H8) and Clare and some former *inland* sites in Kilkenny. Scannell & Synnott (1987) list the species from eleven Irish vice-counties: 3, 5, 6, 8, 9, 11, 12, (20), 21, 22, (31). As *S. verbenaca* has undoubtedly dramatically declined in frequency down the years, it was given protected status in the Republic of Ireland under the Flora (Protection) Order, 1980, and such was the position when Curtis & Robinson (1985) reviewed its Irish status following on their discovery of the species on the Aran Island of Inishmore (H9) in 1983. In that paper they stated: "The habitats in which the species is found include dry pastures, roadsides and sandhills. These are much prone to disturbance through ploughing, road-widening, and trampling, respectively, and it seems likely that the non-sighting of *S. verbenaca* in 50% of the sites it has previously been recorded from, represents a real decline of the species in Ireland, due to habitat destruction. It can thus be considered a rare and vulnerable species ...".

Yet astonishingly, just two years after, *S. verbenaca* was excluded from the Flora (Protection) Order, 1987! In reference to this change in status for the species, Curtis & McGough (1988: 44-45) explain: "Though formerly protected in the Irish Republic due to an apparent decline, research has revealed that the species is commoner than has been supposed." So, once again, a total U-turn from a protected to an

unprotected status has been inflicted on a genuinely rare and declining Irish species, solely on the basis of a few transitory additional sightings.

In my view, the current Cork situation more accurately mirrors the *true* status of *S. verbenaca* in Ireland. While formerly very locally frequent in West Cork, the only known extant sites consist of a small, calcareous, dune habitat near Red Strand, Clonakilty (which is precariously close to a caravan-park), and a tiny population by Baltimore Castle, which is almost certainly a relict of cultivation, rather than a truly wild population. Similarly, in East Cork *S. verbenaca* seems to be now reduced to just two, small, sub-adjacent populations about Clay Castle, Youghal, where the species was first recorded by James Drummond prior to 1820 (O'Mahony 2000).

Sedum dasyphyllum (Thick-leaved Stonecrop)

This charming Stonecrop is very locally naturalised in Britain and Ireland on wall-tops and other rocky habitats, Scannell & Synnott (1987) listing it from just four Irish vice-counties: Mid Cork (H4), East Cork (H5), SE Galway (H15), and Westmeath (H23). (More (1872) gives an Antrim (H39) record for the species, viz: "On rocks in Glenariff Glen, growing with *S. reflexum*: R. Tate.")

However, *S. dasyphyllum*'s Irish status is far from straightforward, as two Irish records are particularly puzzling:

1. Webb (1980) reported that a specimen of putative *S. anglicum* Hudson (English Stonecrop) which he had collected on Inisheer, Aran Islands (H9) in 1976, proved, on examination, to be actually *S. dasyphyllum*! Yet he further commented (in Webb & Scannell 1983: 80) that all attempts to re-find *S. dasyphyllum* on Inisheer had been unsuccessful. This fascinating puzzle still awaits a resolution.
2. The long-standing Cork stations for *S. dasyphyllum* from the Carrickshean range of limestone outcrops at Middleton, East Cork are even more intriguing. *S. dasyphyllum* cohabits in this species-rich habitat with a range of native calcicoles, and has all the appearance of an indigenous species - a view entertained by the Rev. T. Allin (in More

1872) and by R.A. Phillips (in Colgan & Scully (1898), and Praeger (1934)). The species was first reported from the Midleton area by Power (1845), who observed it growing on limestone rocks and walls at Broomfield. It is still locally frequent on limestone walls all about Midleton, and it is a moot (if unresolvable) point as to whether *S. dasyphyllum* subsequently extended on to the natural limestone outcrop habitats from adjacent wall sites.

Nevertheless, it is clear that the Carrickshean limestone outcrop habitat for *S. dasyphyllum* is something unique in Ireland and Britain, and thus eminently deserving of conservation status through legal protection. In fact such protection is urgently needed at the present time, given the ongoing threats posed to this special Cork botanical habitat from renewed quarrying operations, road developments and the inexorable expansion of Midleton Town.

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HOLLY (*ILEX AQUIFOLIUM* L.) GENDER SURVEY

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Out of curiosity a survey to establish the ratio of male to female Holly (*Ilex aquifolium* L.) trees was undertaken by me in October 1999.

As this was a 'good berry' year and as October is a prime fruiting time for the species the margin of error in the recording of tree gender would be greatly diminished. For practical purposes the area surveyed was divided into two sub-areas. The first sub-area (A) consisted of seven fields, some adjoining a wood; the second sub-area (B) consisted of six fields adjoining the same woodland. The trees in the hedgerows

surroundings the fields were very numerous on the wood boundary ditch.

In sub-area A, 55 trees out of 101 (54%) had berries and were presumed to be female; in sub-area B, 42 trees out of 108 (39%) had berries. The sample is rather small but there does appear to be a variation in the number of female trees between the two sub-areas but wider investigations would be needed to establish whether this variation was general.

WALKS IN WILDWOODS

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For the past 45 years most of my spare time and interest has been devoted to ornithology, in particular the Copeland Bird Observatory, Co. Down. I have, however, maintained an interest in botany since the mid 1960s when I undertook a botany degree at Queen's University, Belfast.

An interest in *field* botany came with the dawning realisation that bird habitats are plant-dominated. I began to develop ideas of habitat creation. My main interest was woodland, focussing on the native ideal. I have been operating a native tree nursery since 1982, when I began to collect tree and shrub seed from local wild areas for germinating and growing. It is not a business in the real sense, just a self-financing hobby.

Gradually I have identified woodland that seems in all likelihood to be truly native. The purpose of this article is to describe one or two of the places I visit almost annually, and make a few comments on management problems.

ST JOHN'S WOOD

I first heard about St John's Wood, Co. Roscommon (H25) from Oliver Rackham on the Channel 4 Tree Programme aired in 1990. It wasn't until 1995 that I first got to visit briefly the area.

My wife Pat and myself walked just a short distance into the wood. While basically a hazel wood, there are more than a few oaks. Knowing that some experts think *Quercus robur* (Pedunculate Oak) may not be native in Ireland, I was surprised that all the oaks in St John's Wood are actually *Q. robur*.

Soon we came across the narrow clearings that I presume were made for the filming of the Channel 4 programme. These enabled us to find Wild Cherry (*Prunus avium*), Crab Apple (*Malus sylvestris*), Yew (*Taxus baccata*), Spindle (*Euonymus europaeus*), Guelder-rose (*Viburnum opulus*), Rowan (*Sorbus aucuparia*) and Irish Whitebeam (*Sorbus hibernica*). Their berries and leaves were down. The presence of the trees is easily given away in October by the distinctive dull brown leaves on the ground. Seed collection was impossible as mice and possibly some finches up in the trees had been there already. Both are in the habit of eating out the seed and leaving the skin and flesh. The thrush family eats the whole berry and excretes the seeds unharmed, making them the normal agents for dispersal.

In 1998 and 1999, we stayed overnight near Knockcroghery which is only a 6 km drive from the wood. This allowed us a late Saturday exploration followed by a leisurely Sunday morning stroll. We have developed the habit of then driving up to Lough Gill and staying there until dark.

Our 1998 visit was in early October and leaf colour was changing. There was a small crop of oak and hazel. We walked along several tracks that led out into open fen land. This was a wonderful area with

Grass-of-Parnassus (*Parnassia palustris*) being obvious but to me surprising. I am only familiar with it at coastal sites in the west. The Devil's-bit Scabious (*Succisa pratensis*) and Common Knapweed (*Centaurea nigra*) added a splash of contrast against the autumnal russet of most of the remaining fen plants. A little ditch runs northwards along the edge of the woodland just about 50 m out. It provides a focal point of biodiversity. There were water plants in the ditch, and some shrubby specimens along the sides of the ditch. These were mainly Purging Buckthorn (*Rhamnus cathartica*) and Alder Buckthorn (*Frangula alnus*) with Blackthorn (*Prunus spinosa*), Spindle, Guelder-rose, Grey Willow (*Salix cinerea*) and, of course, Downy Birch (*Betula pubescens*). These species also occurred in clumps farther out into the fen area. The edge of the woodland had a great mixture of trees with all of the above plus Hazel (*Corylus avellana*), Ash (*Fraxinus excelsior*), Hawthorn (*Crataegus monogyna*), Oak and well grazed Irish Whitebeam. Farther in, there was also Bird Cherry (*Prunus padus*), Crab Apple, Wych Elm (*Ulmus glabra*), Alder (*Alnus glutinosa*) and Wild Cherry (*Prunus avium*).

The wet meadows were sprinkled over with fluttering Brimstone butterflies in warm autumn sunshine and the buckthorns were laden with berries. The Alder Buckthorn's leaves were in an amazing range of autumn colours, while those of Purging Buckthorn stay green until they drop. Over the four years of visiting I have been struck by the rapidity of the closing in of the woodland, especially the tracks through it. Brambles (*Rubus* spp.) and Honeysuckle (*Lonicera periclymenum*) have descended from above, hanging through the space that walkers would like to occupy. Some trees have fallen across the paths and it appears no access maintenance is being done over the 200 ha owned by the Department of Lands. The woodland has quickly become very overgrown.

As far as I know the woodland has a history dating back to the Ice Age, and though there are some opinions that coppicing had no great tradition in Ireland, St John's Wood seems to have had a long tradition of just

that practice. The Hazel has reached 6-9 m generally and is now tired. Almost every kernel was empty in 1999. Why do they go to the trouble of almost fruiting? What goes wrong? In closed hazelwood, good nuts are rare. The best nuts are produced in re-growing coppice in its first ten years, or in open sites.

The Hazel has almost eliminated all competition. There are some Rowan, Birch, Alder, Irish Whitebeam and Wych Elm managing to keep their heads up, but the Whitebeam is now struggling and fruiting is soon likely to be reduced.

I feel that St John's Wood should be coppiced on a rotation, perhaps leaving out the Oaks, or at least some of them. This wood is a remarkable reserve but I fear it could be badly damaged by neglect. If the wildlife there is used to a coppicing regime, then coppicing should continue. It would liberate the ground flora significantly as it is currently very repressed.

MUCKROSS

Though we are well travelled in Scotland, Ulster and Connacht it wasn't until 1998 that we ventured as far as Kerry. We spent a day around Lough Leane, hampered by the water level being about 1 m above the normal. Unfortunately the Whitebeam had lost all their leaves and I did not manage to find a satisfactory *Sorbus anglica* leaf to add to my collection of *Sorbus* leaf photocopies. The yew woods were impressive. So much Yew fruit had fallen in 1998 that in places it was up to 5 cm deep and generally it formed a red squidgy carpet.

Our return visit in 1999 was about a month earlier in the year. We quickly focussed on the hot spots for Whitebeam. The leaves were mostly still on but yellowing, so I searched for a good specimen. As a result of this search I found that 80% of the plants I examined closely were *Sorbus rupicola*. It was difficult to find *Sorbus anglica*, but at last one was found with a good pair of leaves underneath for photocopying.

The *Sorbus* group are light demanders, so it is not surprising that the stunted *Sorbus rupicola* are doing well on cliffs but where they are on more normal terrain, they are being swamped by other trees. Some pruning of the neighbours of the *Sorbus rupicola* would probably help them prosper again.

CONCLUSION

With the extreme scarcity of some of our woody species, I am of the opinion that intervention is needed to recover our rarities. I have the impression that many Irish botanists have recorded a decline or even local extinction of some of our flora, but I am unaware of any initiatives to reverse these declines. I know that there are reserves, but apart from Rhododendron (*Rhododendron ponticum*) removal that is going on well around Killarney, there seems to be little management along the lines I have suggested. The red phalarope story should remind conservationists that establishing a reserve which is not subsequently managed is just as bad as doing nothing at all.

THE HIGHLIGHTS OF RECORDING FOR THE *ATLAS 2000* IN SW IRELAND, 1999

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I was asked to help with more recording in Ireland in 1999. I was given 27 ha by Trevor Dines to do with a friend in just under three weeks, which seemed a little daunting. For once the weather was on our side; it only rained twice during the day in the first two weeks.

Over 100 clumps of *Cyperus eragrostis* (Pale Galingale) was our first highlight in Co. Cork, just west of Bandon (W/4.5) on waste ground along with *Fallopia x bohemica* (Japanese x Giant Knotweed). The latter seemed fairly common in Co. Cork. The coast around Clonakilty Harbour (W/3.4) yielded plenty of *Erodium moschatum* (Musk Stork's-bill), a little *Conyza canadensis* (Canadian Fleabane) and in one area *Mentha pulegium* var. *erecta* (Pennyroyal).

The following day, 10 August, we moved back inland and walked the circumference of Curraghally Lake (W/2.4). *Oreopteris limbosperma* (Lemon-scented Fern) was found under the trees on the south side of the lake and *Claytonia sibirica* (Pink Purslane) at the west end of the lake. *Malva neglecta* (Dwarf Mallow) grew on waste ground by Curraghally Bridge. *Elatine hexandra* (Six-stamened Waterwort) was plentiful around the shores of the lake.

The morning of the eclipse it rained so hard that the decision was taken to head south again and spend the afternoon doing square W/0.3. On a disturbed road verge at Bunlick a single specimen of *Verbascum virgatum* (Twiggy Mullein) was in full bloom along with lots of *Parentucellia viscosa* (Yellow Bartsia). The first new plant for my list was *Calystegia sepium* subsp. *roseata* (Hedge Bindweed) which I think we saw nearly every day, as it seemed very common in this part of Ireland.

On 12 August, still heading south, by mid-afternoon we had reached a camp site at Lackenakea (V/7.2). On the sandy road verge was more *Malva neglecta* (Dwarf Mallow), accompanied by *Carduus tenuiflorus* (Slender Thistle) and a clump of *Inula helenium* (Elecampane). The sand dunes at Cannawee were the best we came across with *Cuscuta epithymum* (Dodder), *Anacamptis pyramidalis* (Pyramidal Orchid) and *Arenaria serpyllifolia* subsp. *lloydii* (Thyme-leaved Sandwort). A visit around the lighthouse at Mizen Head made a change from looking at plants all the time. *Cytisus scoparius* subsp. *maritimus* (Broom) grew on the side of the path here and flying around the cliffs were choughs.

Passing a small loch at Dunkelly (V/8.3) the next day, I noticed a large stand of something blue in the water. This was soon named as *Pontederia cordata* (Pickerelweed). My first nightmare: what was the other plant growing in the lough? Dr Peter Green from Kew eventually came to my rescue, naming the specimens I sent him as *Sagittaria rigida* (Canadian Arrowhead), a native of SE Canada and the eastern United States. Also in the lough was a single plant of *Alisma plantago-aquatica* (Water-plantain). *Huperzia selago* (Fir Clubmoss) grew on the rocks on the opposite side of the road. I couldn't believe it when later in the day I found both the *Pontederia cordata* and *Sagittaria rigida* in Glan Lough (V/9.4) - but this time just a clump of each.

On 14 August we recorded along the north side of Dunmanus Bay. Back into V8.3, at Ahakista a large stand of *Lonicera japonica* (Japanese Honeysuckle) covered one road verge and *Phormium tenax* (New Zealand Flax) seemed to be self-sown. Further south to Farranamagh Lough and, as I had anticipated, lots of *Ruppia maritima* (Beaked Tasselweed) lined the shore of the lough. At Letter West (V/7.3) *Campanula poscharskyana* (Trailing Bellflower) grew on a field wall. *Radiola linoides* (Allseed) and *Cicendia filiformis* (Yellow Centaury) were on a track near Laharandota Lough, the latter being very common on road edges on this side of Co. Cork. The wind was almost strong enough to blow one off one's feet at Sheeps Head. On the cliffs by the

light-house grew *Carex extensa* (Long-bracted Sedge) and *C. distans* (Distant Sedge).

Sunday 15 August was meant to be a day off from recording. Even so, just doing a little more in V/8.4 to finish it off from the day before, we stopped in a lay-by just before Adrigole finding *Sisyrinchium bermudiana* (Blue-eyed-grass) on the east verge of the R572 - the only time we saw it flowering. A boat trip took us to the island of Garinish (V/9.5) to look around Ilnacullin Garden, where *Valerianella carinta* (Keeled-fruited Cornsalad) and *Selaginella kraussiana* (Kraus's Clubmoss) were weeds. By late afternoon we had reached Ballaghboy and caught Ireland's only cable car over to Dursey Island (V/5.4), one of the most peaceful places I have been to. We saw *Spiranthes spiralis* (Autumn Lady's-tresses) in their hundreds in the short cropped grass and choughs were again flying along the cliffs. Back on the mainland, *Stachys officinalis* (Betony) was flowering well in Firkeel Gap (V/5.4).

Monday had to be one of the most exciting days of the holiday. Deciding to follow a wooded stream in search of filmy-ferns in (V/6.5), looking at *Saxifraga hirsuta* (Kidney Saxifrage) and *S. spathularis* (St Patrick's-cabbage), I glanced across to the rocks on the other side of the stream. I looked again; no, I wasn't imagining it. There really was *Trichomanes speciosum* (Killarney Fern) on the rocks. Three good patches of the fern. Climbing higher up the stream, I found both *Hymenophyllum tunbrigense* (Tunbridge Filmy-fern) and *H. wilsonii* (Wilson's Filmy-fern); this was the only time we saw both growing together.

As we were near the Caha Mountains, I decided to do a little twitching. Walking from Healy Pass eastwards to Knockowen (V/8.5) in search of *Minuartia recurva* (Recurved Sandwort), I found it in three different places on the rock faces and still flowering. Climbing to the mountain summit to look into Co. Kerry, there was *Salix herbacea* (Dwarf Willow). Over 50 specimens of *Lycopodiella inundata* (Marsh

Clubmoss) formed a patch on one small rock ledge on the Co. Cork side of the mountain.

The next two days were spent sight-seeing and recording in Co. Kerry. We had lots of *Lobelia dortmanna* (Water Lobelia) and *Eriocaulon aquaticum* (Pipewort) in Lough Caragh (V/7.9) and, in the marshy areas on the west shore, *Carum verticillatum* (Whorled Caraway) and *Sisyrinchium bermudiana* (Blue-eyed-grass). By Wednesday we were travelling around the Dingle Peninsula. The rock faces near Lough Doon (Q/5.0) were very good with lots of *Sedum rosea* (Roseroot) and a little *Saxifraga x polita* (False Londonpride). *Sibthorpia europaea* (Cornish Moneywort) was in abundance, like I have never seen before, along the road edges. Two small specimens of *Botrychium lunaria* (Moonwort) were growing on top of a wall here.

We returned to Co. Cork on Thursday 19 August to do some more serious recording. *Carex limosa* (Bog-sedge) was a surprise in a flush next to the road near Knockacluggin (R/2.1). Next day a newly sown area of grass next to the River Allow at Kanturk (R/3.0) gave *Anthemis cotula* (Stinking Chamomile), *Centaurea cyanus* (Cornflower) and *Agrostemma githago* (Corncockle). *Cardamine corymbosa* (New Zealand Bitter-cress) grew in a nearby nursery.

Nearing the end of my holiday, on 22 August the shores of Taiscumar Reservoir, south of Macroom, (W/3.6) were awash with *Callitriche hermaphroditica* (Autumnal Water-starwort) and a small quantity of *Ceratophyllum demersum* (Rigid Hornwort) was growing in the water.

In total, records had been made in just over 70 hectads. All I can say is I must be mad.

CAREX PUNCTATA GAUDIN (DOTTED SEDGE): THE EAST
CORK (H5) STATION

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Robert Albert Phillips (1866-1945) wrote “On September 1st 1889 I discovered a luxuriant patch of this very rare and interesting sedge by the side of a field overlooking the sea between Power Head and Ballycottin” (Phillips 1899). The find extended the range of the species “in Ireland eastwards by about fifteen miles [24 km]”. R.A. Phillips was an excellent field botanist. His work, as a representative for the printers and stationers Guy & Co., Cork allowed him to travel widely over the province of Munster and record the flora.

The location is vague, probably deliberately so to protect an outlying station. Others have sought the species in H5 (East Cork). A specimen in **DBN** of *Trigonella ornithopodioides* (L.) DC. (Bird’s-foot Clover) (now *Trifolium ornithopodioides* L.) bearing the label “by cliff path one mile [2 km] west of Ballycotton, E. Cork. 5/1933. R.Ll. Praeger”, indicates that he may have visited the area to seek the sedge. He lists the find in Praeger (1939). The indications are that he walked along the cliffs to the first cove at Ballyandreen. The writer has visited areas about Ballyshane and Ballybranigan, to the east of Power Head. The Rostellan-Ballycotton peninsula is a plexus of lesser thoroughfares which, nearer the coast, become a lattice of smaller roads providing access to the coast.

One who visited the coast of East Cork in search of the Dotted Sedge was R.W. David (1912-1993). He carried out a survey of *Carex punctata* in Britain, Ireland and the Isle of Man (David 1981). On the 8 September 1979 he wrote to the author “between Ballycotton and Power Head, I drove all the roads to the coast and made sallies along cliffs on each side but without success”.

There are severe coastal-erosion problems on the coast of east Cork especially in Ballycotton Bay (Ballycotton to Knockadoon). Probably the 'soft' ground in the coves between Power Head and Ballycotton have suffered. They are also buffeted at times by severe Atlantic gales.

It should be noted that early maps entered one of the headlands as 'Ballycottin'. Today the place name is rendered 'Ballycotton'.

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DOWER

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Dower, a 'lough' in a limestone area, south east of Castlemartyr (H5, East Cork) was visited in the course of the Cloyne BSBI meeting in June 1999.

The area was visited also on 20 July 1835 by Richard Graham (1784-1859), a solicitor and much-travelled Scottish Whig with estates in Perthshire. He visited Ireland in 1835, 1836 and 1838 and kept a detailed diary of his journeys. The material is now MSS 1656-9 in the holdings of the National Library of Ireland.

Robert Graham wrote regarding his visit to Dower “I strolled out about a mile [2 km] to the south-east of the town [Castlemartyr], crossing a little stream which passes this town and runs into Youghal Bay; and found my way to a little farm of Lord Shanon’s called the Dowr. Here a small lake about an English mile in circumference is suddenly formed from some issues at the base of a limestone rock and flows away in a considerable stream. One of the feeders of this probably consists in a smaller lake at no great distance which in a similar way is formed by the waters bursting from a limestone rock and again very soon losing themselves in another one. But that there is another subterraneous channel extending for a distance of more than a mile and a half [2.4 km] was satisfactorily proved by the occurrence to a washerwoman near Mogealy. While washing clothes in a lake there she allowed a tablecloth to slip away from her and it appeared again at this outlet near Dowr. The circling rock from this water escapes has a very picturesque effect and the flatness of the ground which marks the line of this little stream all the way from this point to the sea, makes it spread out into a wide expanse. This gives an appearance of a greater body of water than there really is. It is a very pretty natural curiosity.”

Graham did not record trees or other plants in the immediate neighbourhood. In the manuscript the locations Dowr and Mogealy are mentioned; in current maps they are rendered as Dower and Mogeely.

In 1992, near Mogeely, in an area of “many ponds and small lakes with lowered summer water levels” the grass *Alopecurus aequalis* Sobol. (Orange Foxtail) was reported as a species new to Ireland (FitzGerald 1993).

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BELLE LAKE, CO. WATERFORD (H6)

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My only visit to Co. Waterford in 1999 was to Belle Lake to search for *Epipactis palustris* (Marsh Helleborine) which were seen here by Dr I.K. Ferguson in 1977. Much of the land around the lake has been planted with conifers. It would seem that the helleborines have now gone; even so there are still a few suitable areas. I just hope I only over looked them.

The west side of Belle Lake is by far the best. *Myrica gale* (Bog-myrtle) was in large numbers along with *Carex diandra* (Lesser Tussock-sedge) and *Alnus incana* (Grey Alder) which was self-sown in these good marshy areas. Washed up along the shore-line was *Elatine hexandra* (Six-stamened Waterwort) which I mistook to be a *Callitriche* sp. until I noticed the small flowers, a second record for Co. Waterford (H6). *Potamogeton perfoliatus* (Perfoliate Pondweed) and *P. pusillus* (Lesser Pondweed) were also here. *Rorippa microphylla* (Narrow-fruited Watercress) lined a muddy path leading to the lake.

Even though I only spent less than two hours around Belle Lake, 18 new species were added to S/6.0, taking the total number to 522 that I have recorded in the square since 1997.

A REPORT ON THE FLORA OF CORK (H3-H5), 1999

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My intensive fieldwork/homework between March and November 1999 has resulted in the 'completion' of 53 Cork hectad master cards (c. 80% coverage for 51 of these: c. 90% coverage for the two extracted from Akeroyd *et al.* (1996)), which represents just over half of the Cork total! Moreover, Sylvia Reynolds and Maura Scannell have completed a further four master cards for hectads shared by Limerick/East Cork (H8/H5), while the Somerset recorders, Paul and Ian Green, have greatly boosted our efforts by providing partial species-lists for many Cork (and some Kerry) hectads. My sincere thanks to these workers (and to Toby Hodd, Jim O'Malley and Caroline Mhic Daeid) for their invaluable help in this final year of recording for *Atlas 2000*. I am also grateful to Michael Troy for helping me refind *Minuartia recurva* (Recurved Sandwort) on Knockowen Mountain, to the north of Adrigole, West Cork, in late-July.

On the positive side, such intensive fieldwork has provided, for the first time ever a *realistic* picture of the Cork distribution of species within the genera *Rosa* (wild roses), *Carex* (sedges) and *Polypodium* (Polypody ferns) and for numerous other taxa, such as the maritime grass hybrids, *Elytrigia atherica* (Sea Couch) x *E. repens* (Common Couch) (= *E. x oliveri*) and *E. atherica* x *E. juncea* (Sand Couch) (= *E. x obtusiuscula*). On the negative side, it has starkly highlighted how woefully *under-recorded* are many *aquatic* species in the Cork flora, particularly those within the genera *Potamogeton* (Pondweeds), *Utricularia* (Bladderworts), *Myriophyllum* (Water-milfoils), *Sparganium* (Bur-reeds), *Callitriche* (Water-starworts) and *Ranunculus* subgenus *Batrachium* (Water-crowfoots). Equally poorly recorded are the *terrestrial* genera *Fumaria* (Fumitories), *Euphrasia* (Eyebrights), *Valerianella* (Cornsalsads) and *Polygonum* (Knotgrasses), etc., but at least a start has been made in 1999 on getting to grips with all of these

genera, and such work will be continued in future years, until a satisfactory level of species coverage has been attained.

During the period March/April, *Draba muralis* (Wall Whitlowgrass) was rechecked from its only known extant Cork site on a limestone wall in Kildorrery Village (H5, R/71.10) where I first found it in May 1985, while *Arum italicum* subsp. *italicum* (Italian Lords-and-Ladies) was observed to be well established in a number of roadside habitats about Dripsey (H4, W/4.7), in which hectad I first recorded it as naturalised back in 1987. Other interesting finds included small, naturalised populations of *Claytonia sibirica* (Pink Purslane) from the sandy left bank of the River Martin, at Muskerry Golf Course, Cork City (H4, W/59.73) - an addition to the Mid Cork flora, while precariously established roadside populations of *Eschscholzia californica* (Californian Poppy) from about Cork City (H4, W/6.7) succumbed to the Cork Corporation's weed-eradication programme - more's the pity!

On 11 April, *Allium scorodoprasum* (Sand Leek) was refound in my 1973 site in Pallastown Wood, on the River Stick estuary, near Belgooly (H4, W/66.53); an adjacent damp meadow produced two populations of the rare rush hybrid, *Juncus conglomeratus* (Compact Rush) x *J. effusus* (Soft-rush) while another section of the woodland held long-established populations of *Euphorbia amygdaloides* subsp. *amygdaloides* (Wood Spurge), which was in full flower. Other April finds included the discovery of many Cork City (H4, W/6.7 and W/7.7) populations of *Valerianella carinata* (Keeled-fruited Cornsalad), which is new to H4, and a rechecking of *Milium effusum* (Wood Millet) from its Mount Desert Woodland site on the Lee Road, Cork City (H4, W/62.72), a species of extremely rare occurrence elsewhere in Co. Cork.

On 4 May, a trip to Courtmacsherry (H3, W/51.42) produced cohabiting wall populations of *Valerianella locusta* (Common Cornsalad) and *V. carinata*, the latter being new to West Cork. Other interesting finds included: *Geranium rotundifolium* (Round-leaved Crane's-bill), *Allium triquetrum* (Three-cornered Garlic) - a widespread and locally abundant

naturalised species in coastal areas of the county, though of very local occurrence inland - and *Elytrigia x obtusiuscula*, which is also locally abundant in coastal areas of West Cork. On 22 May, Waterloo Marsh (H4, W/59.77) near Blarney, was visited to hopefully collect living material of the sedge hybrid, *Carex diandra* (Lesser Tussock-sedge) x *C. paniculata* (Greater Tussock-sedge) (= *C. x beckmannii*) from its only known Irish site, where I first found it in July 1979. The hybrid seems to have declined here, so I collected a small portion of a vegetative tussock for conservation purposes.

On 3 June, a massive ditch population of flowering *Catabrosa aquatica* (Whorl-grass) was found at Clogheenmilcon Wildlife Refuge, Blarney (H4, W/63.75). *C. aquatica* is now very rare in Co. Cork, though a number of scattered populations occur about Blarney, where I first recorded the species in 1984. On 18 June, I collected for cultivation/conservation, the rare glandular-leaved form of *Persicaria amphibia* (Amphibious Bistort) from its Halfmoon Lane site (H4, W/68.70) in Cork City (discovered in September 1998), as the site was in the process of being bulldozed.

On 20 June, the laneway adjacent to Dunmanway Town Pond (H3, W/23.52) produced *Carex muricata* subsp. *lamprocarpa* (Prickly Sedge) and the rose hybrid *Rosa canina* (Dog Rose) x *R. tomentosa* (Harsh Downy-rose), both being new to this hectad, while the hybrid, *Rosa micrantha* (Small-flowered Sweet-briar) x *R. rubiginosa* (Sweet-briar) occurred as a number of fine bushes, and is new to West Cork.

On 4 July, work in the Cork Harbour area of Fountainstown (H4, W/77.57 and W/78.57) yielded a few stray plants of *Picris echioides* (Bristly Oxtongue), while hedges bordering a T-junction to the north of the beach held some massive, flowering populations of *Rosa stylosa* (Short-styled Field-rose) cohabiting with *R. arvensis* (Field-rose). *R. stylosa* is new to hectad W/7.5. A meadow adjacent to the sandpit holds populations of *Anacamptis pyramidalis* (Pyramidal Orchid), *Ophrys apifera* (Bee Orchid), *Orobanche minor* (Common Broomrape), *Linum*

bienne (Pale Flax) and *Blackstonia perfoliata* (Yellow-wort) with naturalised *Humulus lupulus* (Hop) in damp ground nearby. Sadly, species-rich sites such as this are rapidly vanishing in Co. Cork - a consequence of intensive agricultural practices, combined with never-ending building developments since the early 1970s, all of which threaten every conceivable type of wildlife habitat.

On 22 July, a trip was made to 'Annagh Bog' (H4, W/4.1) near Buttevant, with Wildlife Ranger Eva Sweeney, to survey the remnant ditch-flora of this formerly extensive wetland system. Eva showed me her recent find of *Carex pseudocyperus* (Cyperus Sedge), associated with an abundance of *Carex riparia* (Greater Pond-sedge) and *C. acutiformis* (Lesser Pond-sedge), all three species being of extremely rare occurrence *inland* in Co. Cork, and new to this hectad. I was delighted also to see native stands of fruiting *Butomus umbellatus* (Flowering-rush), found here by Evelyn Fennessey in 1998. Additions to the site on this day were: *Oenanthe aquatica* (Fine-leaved Water-dropwort), *Berula erecta* (Lesser Water-parsnip) and *Hippuris vulgaris* (Mare's-tail), this latter species surprisingly rare inland in the county.

On 29 July, coastal work about Harbour View (H3, W/5.4) proved very productive. Particularly gratifying was the discovery of a small stand (twelve plants) of *Atriplex littoralis* (Grass-leaved Orache) on Flaxfort Beach - an addition to the flora of West Cork. Harbour View bridge still supported a population of *Senecio squalidus* (Oxford Ragwort), which I found here in 1971, while *Rosa rubiginosa* (Sweet-briar) occurred as a few roadside plants to the east of the bridge (W/53.45), accompanied by *Agrimonia procera* (Fragrant Agrimony) and *Foeniculum vulgare* (Fennel). *R. rubiginosa* is new to hectad W/5.4. The Harbour View beach population of *Juncus acutus* (Sharp Rush) was rechecked and seen to be large and luxuriant (a *major* Cork locality for *J. acutus*), while the hybrid coastal grass, *Elytrigia x obtusiusculum* was noted to be abundant in this hectad.

On 31 July, Michael Troy and I made a special trip to Knockowen Mountain (H3, V/81.55), in the Caha Mountain Range, to the north of Adrigole, to hopefully re-find the nationally rare *Minuartia recurva* (Recurved Sandwort), first discovered in this area in July 1964. We re-found two disjunct populations in the general area of the known sites (i.e. Knockowen and Cushnafiacla), recording over 200 plants in each location of which c. 90% were in fruit, bearing an abundance of seed. *Sagina subulata* (Heath Pearlwort) occurred in one of the sites very sparingly, while some fine populations of the rush hybrid *Juncus conglomeratus* x *J. effusus* (= *J. x kern-reichgeltii*) were also observed in the area.

On 15 August, botanical work in the Glanworth area (H5, R/7.0) added *Chenopodium rubrum* (Red Goosefoot) to this hectad, the species occurring frequently about a small roadside pond at Rockmills (R/71.07 and R/71.08). On 21 August, a visit to Garranes Lakes (H3, W/1.4) near Dunmanway, found planted *Persicaria campanulata* (Lesser Knotweed) to be well naturalised and spreading by the western lake. Large stands of *Rubus spectabilis* (Salmonberry) occur freely on the southern periphery of the middle Garranes Lake, while nearby Driminidy Lough (W/15.42) held a marginal population of *Calystegia sepium* subsp. *roseata* (Hedge Bindweed) in a somewhat inland locality. On 27 August, the finger-like gravelspit on the eastern side of Castle Haven inlet (H3, W/19/31), facing Castletownsend, produced a single, vegetative clump of *Crambe maritima* (Sea-kale) (new to this hectad) and some plants of *Raphanus raphanistrum* subsp. *maritimus* (Sea Radish). Additionally, *Calystegia sepium* subsp. *roseata* (Hedge Bindweed) was seen at Rineen (W/18.33) and Shreelane Lakes (W/17.35), occurring commonly at the latter site, where I have known it since 1973. The southern margin of the western Shreelane Lake, yielded *Elatine hexandra* (Six-stamened Waterwort) in small quantity.

On 29 August, Bateman's Lough (H3, W/40.46), near Clonakilty, produced an abundance of *Chamaemelum nobile* (Chamomile) on its western periphery, with a surprise in a small, diminutive-sized

population of *Chenopodium rubrum* (Red Goosefoot) on its eastern margin, associated with a few tufts of *Schoenoplectus tabernaemontani* (Grey Club-rush). At nearby Kilmaloda Bridge, on the River Argideen (W/45.45), a suite of interesting species were naturalised, viz: *Selaginella kraussiana* (Kraus's Clubmoss), *Soleirolia soleirolii* (Mind-your-own-business), *Vinca minor* (Lesser Periwinkle) and an *Aster* species (Michaelmas-daisy). *Carex pendula* (Pendulous Sedge) was also established here. All five taxa are new to hectad W/4.4.

On 12 September, work in the East Cork coastal hectad, W/8.6, allowed a rechecking of my 1970s site for cohabiting *Origanum vulgare* (Wild Marjoram) and *Clinopodium ascendens* (Common Calamint) populations at Barrykilla (W/88.65). Thankfully, the site was still intact, both species being in flower. At Guileen (W/86.60) long-established populations of *Lavatera arborea* (Tree-mallow) and *Persicaria wallichii* (Himalayan Knotweed) were seen, associated with rampant stands of *Delairea odorata* (German-ivy). At East Ferry quay (W/86.68) I rechecked naturalised populations of *Hypericum calycinum* (Rose-of-Sharon) and *H. hircinum* (Stinking Tutsan). *Fragaria x ananassa* (Garden Strawberry) was well established on the sea-wall, and localised populations of *Orobancha hederæ* (Ivy Broomrape) occurred.

On 26 September, work on the eastern side of Inchydoney Island, Clonakilty (H3, W/4.3) added *Inula crithmoides* (Golden-samphire) to this hectad from the Virgin Mary Rock (two c. 15 m long populations), while it was equally gratifying to re-find *Echium vulgare* (Viper's-burgloss) on part of the dunes in its only native Cork site, where I originally found it in July 1971. On 26 September, *Salvia verbenaca* (Wild Clary) was seen in small quantity on Clay Castle, Youghal (H5, X/10.76), where it was originally recorded by James Drummond prior to 1820. A second population occurs on the dunes immediately to the west of Clay Castle (X/09.75). These are the only known extant East Cork sites for *S. verbenaca*. Clay Castle also holds populations of *Geranium rotundifolium* (Round-leaved Crane's-bill) and *Elytrigia x oliveri*.

A final outing on 7 November to the shared H5/H6 hectad, X/1.7, turned up a single vegetative clump of *Crambe maritima* (Sea-kale) on Monatray Beach (X/11.78) on the Waterford side of the River Blackwater estuary. *Elytrigia x oliveri* occurred abundantly in this area, in its second H6 site since 1998.

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RECENT PLANT DISCOVERIES IN CO. TYRONE (H36)

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Andromeda polifolia (Bog-rosemary)

Strong colony found on a bog at Kingsisland, east of Coalisland, 1999. As this is just over 1 km west of the long-known site at Derryloughan, this could fairly be claimed as a second county record.

Arenaria balearica (Mossy Sandwort)

This species was found by R. Irvine in June 1998 near Lough Fea and identified by P. Green. It was growing on a bank just inside the gate of grounds of former Slaghtfreedan Lodge, and presumably a relict of the gardens there. However, that means it has survived for 40 years or more, amazingly, as other much 'sturdier' plants have long since disappeared. Only Tyrone record.

Bryonia dioica (White Bryony)

S. Wistowe and P. Ashe found this in 1996 at Drumreagh, near Coalisland while carrying out an ecological survey (Wistowe & Ashe

1997). On subsequent visits to the area, A. McNeill, R. Irvine and myself found it widespread in hedgerows over about 1 km² of farmland, completely established, and as much 'at home' as one might see it in parts of England. First Tyrone record.

Coeloglossum viride (Frog Orchid)

Although there are several sites in the county, we found easily the best county site on a hillside overlooking Tullygiven Lough (between Dungannon and Caledon) in 1998. This steep hillside seems to have missed cultivation and over-fertilisation in recent years, and was being grazed at the time of the visit by a few horses. The flora is outstanding: 50+ spikes of *Coeloglossum viride*, 200+ *Platanthera chlorantha* (Greater Butterfly-orchid), abundant *Listera ovata* (Common Twayblade), as well as *Ranunculus bulbosus* (Bulbous Buttercup), *Galium verum* (Lady's Bedstraw), *Briza media* (Quaking-grass), *Danthonia decumbens* (Heath-grass), *Alchemilla xanthochlora* (a Lady's-mantle), etc. One can but surmise: would this richness develop on many of our drumlin slopes if farming was less intensively practised?

Mentha requienii (Corsican Mint)

R. Irvine found this in 1998 growing in some quantity on gravel near the ruined shell of Drum Manor in the grounds of Drum Manor Forest Park, near Cookstown. Origin a mystery! The gravel is regularly (annually?) treated with weed-killer, and both the Corsican Mint and *Hypericum humifusum* (Trailing St John's-wort) seem to find this to their liking (as well as an unpleasantly slippery algal growth!). Only Tyrone record.

Orobanche minor (Common Broomrape)

This was found at Drumreagh, Coalisland by R. Irvine and myself in 1998. A good example of great good fortune - we were exploring the *Bryonia dioica* (White Bryony) area and, on our return to the car, found the broomrape growing just where we had parked - it almost certainly wasn't there when we parked the car! The BSBI referee, Dr M.J.Y. Foley, was happy that the plant was *O. minor* rather than *O. hederæ*.

(Ivy Broomrape), although the specimen sent was not in good enough shape for absolute identification. First Tyrone record. According to Scannell & Synnott (1987), that leaves Co. Cavan (v.c. 30) as the only *Orobanche*-free county in Ireland.

[Since this article was first prepared, my attention has been drawn to a possible *Orobanche* record from the early 1980s when *Orobanche hederæ* (Ivy Broomrape) was recorded during a survey of an Ulster Wildlife Trust site at Tattynure, north of Omagh. The recorder at the time did not realise that this would have been a highly significant find and there was no follow-up, so it must stand as a possible, but unconfirmed, record.]

Phegopteris connectilis (Beech Fern)

A. McNeill and myself found an excellent stand of this lovely fern at Denet Falls, on the Burndennet, east of the Plumbridge-Donemana road in 1998. Fourth county record.

Trifolium campestre (Hop Trefoil)

Although old references to this plant occur in the Tyrone botanical files, there did not appear to be any specific sites quoted. R. Irvine and myself therefore claim our 1998 sighting at Roan, near Coalisland, as the first site-specific county record. In fact, this was another spin-off from our visit to the *Bryonia dioica* site nearby.

Utricularia stygia (Nordic Bladderwort)

Not only the 1st record for Tyrone, but we believe the first in Ireland. Found in June 1999 by A. McNeill at Lough Innaghachola on wild upland ground near the Donegal border, only a few kms east of the Barnesmore Gap. Identified by P. Hackney, and confirmed by J.J. Day (the BSBI referee).

In 1998 we had sent some material from Lough Mulreavy (not far from the 1999 site, but in Co. Donegal) to Paul Hackney to confirm as *U. ochroleuca* (Pale Bladderwort). Paul wondered if it might have been *U.*

stygia, and suggested we look out for similar material in 1999. We did, and two specimens collected, one at Lough Innaghachola in Tyrone, the other at Barnesmore Gap in Donegal, were sent to Paul. He reckoned both were *U. stygia*, but only the Tyrone specimen was sufficiently viable to send on to J.J. Day for confirmation. So we have a confirmed record from Tyrone and two highly probable records from Donegal.

Using Stace (1997) it is fairly easy with a x 10 lens to 'get into' the *U. intermedia* aggregate (Intermediate Bladderwort), and to further identify to *U. intermedia* s.s. or else *U. ochroleuca/U. stygia*. The dichotomy separating the latter pair is, however, a matter for microscope work. It may well be that many records previously given as *U. ochroleuca* could indeed be *U. stygia*.

Veronica agrestis (Green Field-speedwell)

Can plants 'disappear' for several years and then suddenly spring up again in a widespread fashion - due to some quirk of weather conditions, or whatever? I had only noted *V. agrestis* once before, near Cookstown in 1980 (that being the 2nd record in Tyrone). Yet in 1998-99 I came across it in no fewer than six locations. Three of these were in Tyrone: 1. Knocknacloy, between Dungannon and Caledon; 2. Cookstown; and 3. Aughnacloy.

The others were near Carrickfergus (Boneybefore) and two sites in south-east Derry (Loup and Moyola Foot).

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BSBI FIELD MEETINGS IN IRELAND, 1999

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The first meeting of the field season was centred at Lisdoonvarna in Co. Clare with recording in the Burren and a trip to Inisheer, one of the Aran Islands, where after a very rough boat trip we spent a few hours in the bright sunshine. In a sandy area we found *Geranium pyrenaicum* (Hedgerow Crane's-bill). In the shadow of Mullaghmore on the last day of a very enjoyable trip we found *Orchis mascula* (Early-purple Orchid) in some numbers and also *Ophrys apifera* (Bee Orchid).

The second meeting was in Carlow/Kilkenny but I was unable to attend but Trevor Dines and Graham Kay from England joined the local botanists for a prolonged trip 'square-bashing'.

The weekend of 26 and 27 June we met at the Cathedral at Cloyne in East Cork and botanized the Castlemartyr and Ballycotton areas. In the cathedral grounds at Cloyne we found *Vulpia bromoides* (Squirreltail Fescue) and at a small lake we discovered the whole surface covered in *Azolla filiculoides* (Water Fern). At Lough Aderry was *Ranunculus trichophyllus* (Thread-leaved Water-crowfoot). On the shores of Ballycotton Bay were the two seaside grasses *Leymus arenarius* (Lyme-grass) and *Elytrigia atherica* (Sea Couch) as well as *Crambe maritima* (Sea-kale) and *Cichorium intybus* (Chicory) but the surprise was *Picris echioides* (Bristly Oxtongue).

Early July saw us in East Donegal, centred at Ballybofey where areas in the valleys of the rivers Finn and Deele were 'square-bashed'. Among the finds were *Trollius europaeus* (Globeflower), *Melampyrum pratense* (Common Cow-wheat), *Dryopteris aemula* (Hay-scented Buckler-fern), *Carex pallescens* (Pale Sedge) and *C. limosa* (Bog-sedge), *Pilosella aurantiaca* (Fox-and-cubs) and *Rubus spectabilis* (Salmonberry).

There were meetings in West Mayo on 17-18 July and North Kerry on 24-25 July but I was unable to attend these. In early August Dr John Conaghan led a weekend field meeting to West Galway that was to examine lakes and uplands in Connemara. We met at Maam Cross and covered a wide area in the surrounding countryside. A new site for the New Zealand alien *Epilobium pedunculare* (Rockery Willowherb) had been discovered at Maam only the third site for Ireland. The plant is like a robust *E. brunnescens* (New Zealand Willowherb) but with acutely dentate leaves that are not purplish on the underside. Another find was *Sisyrinchium bermudiana* (Blue-eyed-grass) which is a new v.c. record.

The last meeting of 1999 was in West Meath where Con Breen led us to lakes, marshes, fens, bogs (indeed anywhere where it was wet!) but the result was an impressive list of sedges; among these were *Carex diandra* (Lesser Tussock-sedge), *panacea* (Carnation Sedge), *lasiocarpa* (Slender Sedge), *limosa* (Bog-sedge), *dioica* (Dioecious Sedge), *hostiana* (Tawny Sedge), and two rarities *Carex appropinquata* (Fibrous Tussock-sedge) and *C. x fulva*, a hybrid between *C. hostiana* (Tawny Sedge) and *C. viridula* (Yellow-sedge). Other species seen were *Pyrola rotundifolia* (Round-leaved Wintergreen), *Juncus subnodulosus* (Blunt-flowered Rush), *Galium uliginosum* (Fen Bedstraw) and *Ranunculus trichophyllus* (Thread-leaved Water-crowfoot).

All-in-all a very successful field season and I would like to thank all the leaders, botanists and friends who took time to participate. My four years as Field Meetings Secretary are now over and next years' meetings will be organised by my successor Declan Doogue who is

arranging a varied post-*Atlas 2000* relaxing series of trips where we can actually botanise at leisure and study plants for a change!

CLOYNE, EAST CORK (H5). 26-27 JUNE 1999

M.J.P. Scannell
43 Raglan Road, Dublin 4

The attendance comprised Alan Hill, Jim O'Malley, Pat Smiddy (Ranger for the area), Eva Sweeney, Judy Cassels, Michael Troy, Fiona Lucey, Brian Gale and Fiona Gale; on the second day we were joined by Pascal Sweeney and Colman Sweeney.

The printed field programme mentioned the seeking of *Carex punctata* (Dotted Sedge) in its only H5 location, "between Power Head and Ballycotton". It was decided to leave the search for another day as a cliff-bound coast could be dangerous with a party. Squares W/8.6, W/9.6 and W/9.7 were worked at the two-day meeting.

The party met in the town of Cloyne between the Cathedral (c. 1250) and the old Round Tower. With light rain falling we proceeded to an inlet of Cork Harbour at Saleen Creek, a mudflat area important to wildfowl, and to the East Ferry. The maritime flora was listed: *Armeria maritima* (Thrift), *Centranthus ruber* (Red Valerian), *Atriplex portulacoides* (Sea-purslane), *Cochlearia danica* (Danish Scurvygrass), *Sagina maritima* (Sea Pearlwort), *Juncus gerardii* (Saltmarsh Rush) and *Crithmum maritimum* (Rock Samphire). Michael Troy related that when photographing the latter species in Inishbofin earlier in the year a local told him that the plant was still used on the island as a food item.

In a small saltmarsh impounded behind a wall Pat Smiddy reported the species including *Spartina anglica* (Common Cord-grass). *Rubia peregrina* (Wild Madder) (in flower) dominated a section of the wall.

Further along this road - an old Red Sandstone - we recorded the flora of waste places and waysides. The flora included *Dipsacus fullonum* (Teasel) and *Hypericum hircinum* (Stinking Tutsan) - in abundance here - and long established in H5 when it was first reported by R.A. Phillips. The next stop was at the IWC sanctuary at Rostellan where *Potamogeton pectinatus* (Fennel Pondweed) was found near the shore with the fresh-water-tolerant seaweed *Fucus ceranoides*; on banks nearby there were a few plants of *Carex otrubae* (False Fox-sedge). After a brief lunch-stop at Whitegate (in the rain) we resumed the listing of the coastal flora at Roche's Point. *Silene uniflora* (Sea Campion) grows on shingle above HWM. Brian Gale noted the fungus *Ustilago violacea* on this plant. The alien *Carpobrotus edulis* (Hottentot-fig) on record from without the Harbour, still thrives (fide P. Smiddy). With rain now falling steadily we drove northwards to Dower (W/97.72) - a small secluded 'lough' east at Castlemartyr.

Dower is on the Lower Carboniferous Limestone. In the general area - Cloyne-Castlemartyr-Imokilly - there are numerous 'sinks', 'swallow-holes' and caves associated with underground streams. Some, including Dower, have been chartered by speleologists. Dower Lough, surrounded by rocks and trees, is a spread of water on a limestone floor. It is drained by the Dower River, a tributary of the Womanagh River (*uamach*, jointed) which flows into Youghal Bay. The water-body is flanked on the south side by sheer cliffs at the base of which is a cavern, the river enters to emerge 0.5 km later near the Pumping Station which supplies 90,000 l of water a day to the Whitegate Refinery. Although barely mentioned in the floristic literature Dower Lough was sampled for cryptogams in the last century! A Scotsman, who travelled through Cork in 1835, described Dower as "a very pretty natural curiosity". We had permission from the landowner to botanise. In advance of the meeting, at my request, Jim O'Malley made arrangements with Tadgh O'Loughlin.

Azolla filiculoides (Water Fern) dominated the surface vegetation on this occasion. A *Ranunculus* sp. was present, possibly *R. penicillatus*

(Stream Water-crowfoot) but without flower and fruit, not proven. *Mentha aquatica* (Water Mint) and other marsh plants were listed. Jim O'Malley noted a spent plant of *Orchis mascula* (Early-purple Orchid) on rocky ground beneath trees. On a previous visit (Scannell in 1995) *Rorippa* sp. (Water-cress) and *Veronica* sp. (Speedwell) were noted but were not seen in 1999. Jim O'Malley reported that *Azolla filiculoides* (Water Fern) occurs also at Ballybutler Lough a few kms to the east. The tree canopy at Dower is mainly of *Fraxinus excelsior* (Ash). Out on the nearby public road the party was shown three separate sites for *Origanum vulgare* (Wild Marjoram) almost obscured by vegetation on the roadside banks. It is a rare species in Cork. Nearby, in a clearing for the deposit of the season's beet, we listed the species present. There was a large stand of *Trifolium pratense* (Red Clover) with pure white flowers - garden worthy. That concluded work for the day; participants were all damp or very wet.

On the second day of the meeting we began with the recording of the flora of the graveyard about the Cathedral. Although heavily treated with chemicals we could recognise most of the species. *Allium vineale* (Wild Onion) occurred. We then departed for Lough Aderry where Jim O'Malley pointed out the station for *Carex pseudocyperus* (Cyperus Sedge) - a species rare in Cork. Flanking the road opposite the nearby Ballintotis Church there was a length of well-clipped hedge of *Euonymus europaeus* (Spindle) and a derelict cottage garden yielded *Hesperis matronalis* (Dame's-violet), *Clinopodium ascendens* (Wood Calamint) and others. In a marshy field off the N25 (indicated by Jim O'Malley) flowering (and fruiting) plants were collected from dried mud and were named *Ranunculus trichophyllus* (Three-leaved Water-crowfoot). In the shrubby area of the marsh there were plants of *Osmunda regalis* (Royal Fern). A brief visit was made to Ballycotton where some listing was carried out of the flora west of the village. The party then worked two areas of Ballycotton Bay. Throughout the length of this bay there is severe coastal erosion. In the more vulnerable parts large boulders are in place to halt cliff fall. At Ardnahinch and Ballynamona, with habitats of shingle, sand and salt marsh we listed the

flora including *Orobanche minor* (Common Broomrape). (On a sloping clay-soil cliff Alan Hill skilfully dissected a single flower to name the species.) Pat Smiddy took us directly to the plants *Cakile maritima* (Sea Rocket), *Glaucium flavum* (Yellow Horned-poppy) and *Picris echioides* (Bristly Oxtongue). Although it is frequent in H5 *Cichorium intybus* (Chicory) was not seen on this occasion. In the saltmarsh *Puccinellia* cf. *maritima* (Common Saltmarsh-grass) dominated and there was also *Salicornia europaea* (Common Glasswort) and other species. This completed the Cloyne meeting.

The leader would like to thank all who took part in the meeting some of whom travelled from some distance; Brian and Fiona Gale travelled to Cloyne from London via Knock airport!

REPORT ON THE BSBI FIELD MEETING IN CONNEMARA, CO. GALWAY (H16). 7-8 AUGUST 1999

J. Conaghan
52 Cluain Dara, Ballymoneen Road, Galway

The bogs, lakes and mountains of Connemara have long been a popular venue for plant recording and the area never fails to throw up a surprise or two. The field meeting which took place in early August proved to be no exception. Recording took place on both the Saturday and Sunday with ten people present on the first day and eight on the second. The most extensive habitats in the region are lowland blanket bog and lake; however the area does support a number of other interesting habitats which are smaller in extent such as mountain cliff and deciduous woodland. A total of four squares in central Connemara were visited over the two days in order to increase their species lists for the *Atlas 2000* project. Although the region is famed for its extensive tracts of lowland blanket bog, this habitat is for the most part rather species-poor and thus more species-rich areas with a wider variety of habitats such as

roadsides and lake margins were targeted. Another reason for the targeting of these richer habitats is the tendency of many past workers (myself included!) to record in the more scenic and 'natural' habitats such as blanket bog and mountain.

While awaiting the arrival of people on the Saturday morning, a large clump of *Mentha x villosa* (Apple-mint) was found growing in a small area of waste ground south of the road at Maam Cross. The discovery of this population appears to constitute a new vice-county record for the species; however, the future survival of the population is in doubt due to plans to build a hotel at Maam Cross. In the dull weather of Saturday morning, the southern shore of Lough Shindilla (L/95.45) was visited. A wide variety of habitats occur here such as lake-shore, blanket bog, heath, damp grassland and deciduous woodland. Among the more unusual species noted along the shore of this fine oligotrophic lowland lake were *Oreopteris limbosperma* (Lemon-scented Fern), *Scutellaria minor* (Lesser Skullcap), *Cystopteris fragilis* (Brittle Bladder-fern), *Achillea ptarmica* (Sneezewort), *Daboecia cantabrica* (St Dabeoc's Heath), *Eriocaulon aquaticum* (Pipewort) and the alien *Juncus tenuis* (Slender Rush). The presence of the last three species is noteworthy; however, it must also be pointed out that they are generally common in the Connemara region.

In the afternoon the weather brightened up considerably and two locations within the square which lies to the east of Maam Cross (M/0.4) were visited. On the way to the first of these locations, a stop for refreshments at Maam confirmed the presence of the very rare alien willowherb *Epilobium pedunculare* (Rockery Willowherb) on a steeply sloping roadside bank a few m north-west of Keane's bar (L/96.52). In Ireland this species is unknown outside of north Connemara. The first of the locations for afternoon recording was the hill of Doon (M/02.49), where lake shore and roadside habitats were investigated. Species of note recorded here included *Saxifraga spathularis* (St Patrick's-cabbage) growing along the tops of stone walls, *Bromopsis ramosa* (Hairy-brome), *Briza media* (Quaking-grass), *Scutellaria galericulata*

(Skullcap), *Leycesteria formosa* (Himalayan Honeysuckle) and *Buddleja davidii* (Butterfly-bush). The bushes of *B. davidii* lived up to their name, treating us to a spectacular display of butterflies including Tortoiseshell, Peacock, Red Admiral and Silver-washed Fritillary. Nearing the end the day, an area of blanket bog along the northern shore of Loughaunierin (M/01.46) was visited. In addition to the more abundant bog species, this location yielded *Juncus inflexus* (Hard Rush) (a rare species throughout much of Connemara), *Antennaria dioica* (Mountain Everlasting) and *Isolepis cernua* (Slender Club-rush).

On Sunday morning a variety of habitats within the grounds of Ballynahinch Castle (L/76.47) were visited. This location produced a number of interesting finds such as *Soleirolia soleirolii* (Mind-your-own-business) which proved to be abundant on walls close to the castle, *Viburnum opulus* (Guelder-rose) and *Senecio sylvaticus* (Heath Groundsel). All of these species are generally scarce in Connemara. *Senecio sylvaticus* (Heath Groundsel) was found growing sparingly on recently disturbed ground along a forestry track and this appears to be the first time the species has been noted in District 7 of the Connemara region as outlined in the *Flora of Connemara and the Burren* (Webb & Scannell 1983). On Sunday afternoon, roadside and lake-shore habitats north of Derryneen Lough (L/88.46) were visited. One of the more interesting finds at this location was the alien rush *Juncus planifolius* (Broad-leaved Rush). Within Ireland this species is confined to the Carna peninsula in Connemara and this station appears to be one of the most northerly in the region, lying just north of the main Galway to Clifden road. As frequently occurs on field meetings the most exciting find of the weekend was made at the last stop, when a small colony of *Sisyrinchium bermudiana* (Blue-eyed-grass) was noted. The species was found along the edge of a wet roadside ditch and grows in vegetation dominated by *Juncus articulatus* (Jointed Rush). This discovery constitutes a new vice-county record for a species that appears to be very rare in Ireland outside of Co. Kerry.

Overall the meeting was a very successful one which brought the number of species recorded in the squares visited to between 280 and 310. Many thanks are extended to all those who attended and especially to members who travelled considerable distances to participate.

REFERENCE

Webb, D.A. & Scannell, M.J.P. (1983). *Flora of Connemara and the Burren*. Royal Dublin Society and Cambridge University Press, Cambridge.

FLORA (PROTECTION) ORDER, 1999. REPUBLIC OF IRELAND STATUTORY INSTRUMENT NO. 94 OF 1999

This replaces the Flora (Protection) Order, 1987.

Please note that the following are protected in the Irish Republic and thus the taking of any specimen or voucher material is prohibited without a licence. Licence application forms are available from National Parks and Wildlife Service, 7 Ely Place, Dublin 2.

VASCULAR PLANTS

<i>Acinos arvensis</i>	Basil Thyme
<i>Allium schoenoprasum</i>	Chives
<i>Alopecurus aequalis</i>	Orange Foxtail
<i>Arenaria ciliata</i> (incl. subsp. <i>hibernica</i>)	Fringed Sandwort
<i>Arthrocnemon perenne</i> (syn. <i>Salicornia perennis</i>)	Perennial Glasswort
<i>Asparagus officinalis</i>	Wild Asparagus

<i>Asplenium obovatum</i> subsp. <i>lanceolatum</i> (syn. <i>A. billotii</i>)	Lanceolate Spleenwort
<i>Asplenium septentrionale</i>	Forked Spleenwort
<i>Astragalus danicus</i>	Purple Milk-vetch
<i>Calamagrostis epigejos</i>	Wood Small-reed
<i>Callitriche truncata</i>	Short-leaved Water-starwort
<i>Cardamine impatiens</i>	Narrow-leaved Bitter-cress
<i>Cardaminopsis petraea</i>	Northern Rock-cress
<i>Carex depauperata</i>	Starved Wood-sedge
<i>Carex divisa</i>	Divided Sedge
<i>Centaurium pulchellum</i>	Lesser Centaury
<i>Cephalanthera longifolia</i>	Narrow-leaved Helleborine
<i>Colchicum autumnale</i>	Autumn Crocus
<i>Cryptogramma crispa</i>	Parsley Fern
<i>Deschampsia setacea</i>	Bog Hair-grass
<i>Epilobium alsinifolium</i>	Chickweed Willow-herb
<i>Equisetum x moorei</i>	Moore's Horsetail
<i>Eriophorum gracile</i>	Slender Cottongrass
<i>Galeopsis angustifolia</i>	Red Hemp-nettle
<i>Groenlandia densa</i> (syn. <i>Potamogeton densus</i>)	Opposite-leaved Pondweed
<i>Gymnocarpium robertianum</i> (syn. <i>Thelypteris robertiana</i>)	Limestone Fern
<i>Hammarbya paludosa</i> (syn. <i>Malaxis paludosa</i>)	Bog Orchid
<i>Helianthemum nummularium</i>	Common Rock-rose
<i>Hordeum secalinum</i>	Meadow Barley
<i>Hydrilla verticillata</i>	Irish Hydrilla
<i>Hypericum canadense</i>	Canadian St John's-wort
<i>Hypericum hirsutum</i>	Hairy St John's-wort
<i>Inula salicina</i>	Irish Fleabane
<i>Lathyrus japonicus</i>	Sea Pea
<i>Limosella aquatica</i>	Mudwort
<i>Logfia minima</i> (syn. <i>Filago minima</i>)	Slender Cudweed

<i>Lotus subbiflorus</i> (syn. <i>L. hispidus</i>)	Hairy Bird's-foot-trefoil
<i>Lycopodiella inundata</i> (syn. <i>Lycopodium inundatum</i>)	Marsh Clubmoss
<i>Mentha pulegium</i>	Penny-royal
<i>Mertensia maritima</i>	Oysterplant
<i>Minuartia recurva</i>	Recurved Sandwort
<i>Misopates orontium</i>	Lesser Snapdragon
<i>Najas flexilis</i>	Slender Naiad
<i>Omalotheca sylvatica</i> (syn. <i>Gnaphalium sylvaticum</i>)	Wood Cudweed
<i>Otanthus maritimus</i> (syn. <i>Diotis maritima</i>)	Cottonweed
<i>Papaver hybridum</i>	Round Prickly-headed Poppy
<i>Pilularia globulifera</i>	Pillwort
<i>Polygonum viviparum</i>	Alpine Bistort
<i>Pseudorchis albida</i> (syn. <i>Leucorchis albida</i>)	Small-white Orchid
<i>Puccinellia fasciculata</i>	Tufted Saltmarsh-grass
<i>Pyrola rotundifolia</i> subsp. <i>maritima</i>	Round-leaved Wintergreen
<i>Sanguisorba officinalis</i>	Great Burnet
<i>Saxifraga granulata</i>	Meadow Saxifrage
<i>Saxifraga hartii</i>	Hart's Saxifrage
<i>Saxifraga hirculus</i>	Yellow Marsh Saxifrage
<i>Saxifraga nivalis</i>	Alpine Saxifrage
<i>Scirpus triqueter</i> (syn. <i>Schoenoplectus triqueter</i>)	Triangular Club-rush
<i>Scleranthus annuus</i>	Annual Knawel
<i>Simethis planifolia</i>	Kerry Lily
<i>Spiranthes romanzoffiana</i>	Drooping Lady's-tresses
<i>Stachys officinalis</i> (syn. <i>Betonica officinalis</i>)	Betony
<i>Trichomanes speciosum</i>	Killarney Fern
<i>Trifolium glomeratum</i>	Clustered Clover
<i>Trifolium subterraneum</i>	Subterranean Clover

<i>Trollius europaeus</i>	Globeflower
<i>Vicia orobus</i>	Bitter Vetch
<i>Viola hirta</i>	Hairy Violet
<i>Viola lactea</i>	Pale Heath Violet

MOSSES

Bryum calophyllum
Bryum marratii
Catoscopium nigratum
Drepanocladus vernicosus
Leptobarbula berica
Orthotrichum pallens
Orthotrichum sprucei
Orthotrichum stramineum
Paludella squarrosa
Pottia wilsonii
Tetraplodon angustatus
Tortella inclinata
Weissia longifolia
Weissia rostellata

LIVERWORTS

<i>Leiocolea gillmanii</i> (syn. <i>Lophozia gillmanii</i>)	
<i>Leiocolea rutheana</i> (syn. <i>Lophozia rutheana</i>)	Fen Flapwort
<i>Petalophyllum ralfsii</i>	
<i>Plagiochila atlantica</i>	

LICHEN

Fulgensia fulgens

STONEWORTS

<i>Lamprothamnium papulosum</i>	Foxtail Stonewort
<i>Nitella gracilis</i>	Slender Stonewort

[EDITOR'S NOTE: Dr T.G.F. Curtis forwarded this list for inclusion in *Irish Botanical News*. Since it is an official list of species, no editorial changes of the Latin names have been made in order to conform to the house-style; a small number of changes have been made to the common names.]

BOOK REVIEW

Nelson, E.C. (1999). *Wild plants of The Burren and The Aran Islands*.
The Collins Press Ltd, Cork.

I wasn't looking forward to reviewing this book, that was published in the middle of 1999 (a little too late for the best flower show in The Burren), as I really do not like photo-guide Floras. Floras that use photographs to illustrate plants for identification purposes rarely work in practice and hover just above the level of the coffee-table publication. The photographs are either out of focus, lack scale, muddy the plant being illustrated with extraneous vegetation from other species, and so on. Frequently, the author(s) use the photographs as a substitute for accurate descriptions of diagnostic characters and as for illustration of non-floral characters - forget it! If I use an illustrated Flora I much prefer the style established by Fitter, Fitter & Blamey (1974) and Rose (1981).

Hence the trepidation. Was this going to be yet another unused photo-guide to clutter up my study?

I have to say I was pleasantly surprised. The bulk of the guide consists of 120 pages each devoted to a single species - not comprehensive coverage, so that could cause problems. A photograph dominates each page with Latin, Common English and Irish names given for each (with separate indices). A small diagram illustrates the flowering months and a short hand reference to two other publications (Webb & Scannell

(1983) and the 1997 reprint of Nelson & Walsh (1991)) leads the reader to fuller descriptions and background information. The text associated with each illustration describes the distribution of the species in The Burren and on The Aran Islands and its habitat and folk-loreist detail. The actual text descriptions are minimalist. The species are arranged in groups determined by flower colour (with ferns and horsetails having their own section) but *why* were the orchids made a separate section when they have purple, green and white flowers? Most of the photographs work but there are still some poor choices (e.g. *Ophioglossum vulgatum* (Adder's Tongue) and *Crocasmia x crocosmiiflora* (Montbretia)).

The introductory sections are excellent - good common sense to help the visitor. The usual habitat and climate information is here but the description of specific sites to visit (even with descriptions of where to park and how difficult it is sometimes to get parked!) with two walks described will be very useful for the first time visitor. Indeed this is less of a scientific Flora and more of "a simple souvenir guide". It slips easily into the pocket. On each species page the owner is invited to make a record of where and on what date they found a particular plant species. This will, I am sure, encourage visitors (and perhaps some local botanists) to search for and record what they find - in the same way that I used to do with *I-Spy* books nearly 50 years ago. Not much has changed except the quality of the printing and the asking price!

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