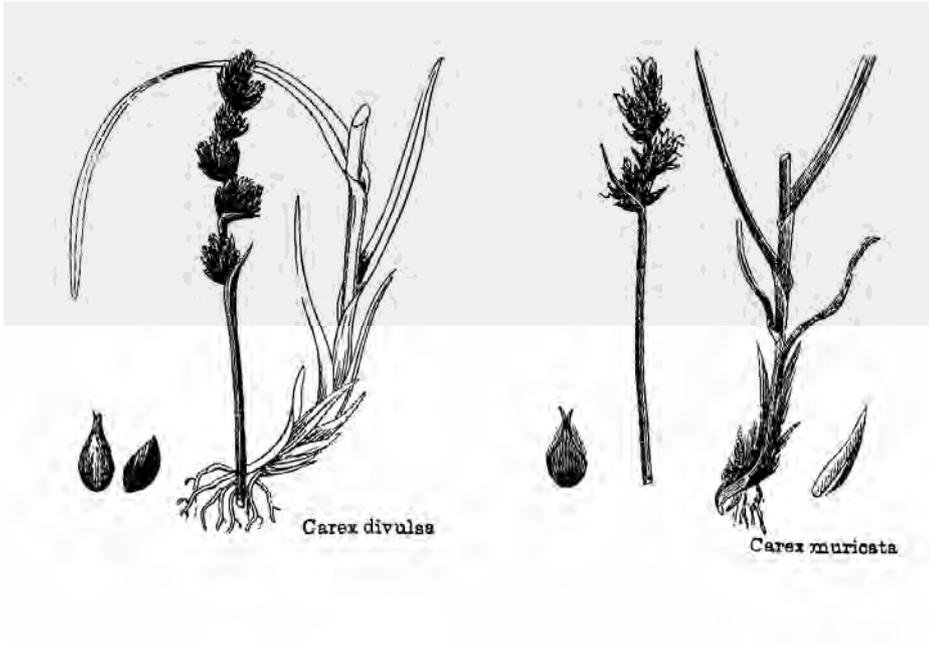


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COMMITTEE FOR IRELAND, 2003-2004
BOTANICAL SOCIETY OF THE BRITISH ISLES

In line with the Rules, one new committee member was elected at the Annual General Meeting held in Glasnevin National Botanic Gardens, Dublin on 4 October 2003. Office Bearers were subsequently elected at the first Committee Meeting. The Committee is now:

Dr E. Caroline Mhic Daeid, Chair (retiring Irish AGM 2005)
Mr P. Hackney, Hon. Secretary and BSBI Council Representative
(retiring Irish AGM 2005)
Mrs Fiona Devery (retiring Irish AGM 2004)
Dr Sharon L. Parr (retiring Irish AGM 2004)
Mr W. Semple (retiring Irish AGM 2005)
Mr G. Sharkey (retiring Irish AGM 2005)

The following are co-opted members of the Committee:

Mr M. Wright, Environment and Heritage Service (N.I.)
Representative
Dr M.B. Wyse Jackson, National Parks and Wildlife Service, Republic
of Ireland Representative
Mr G.V. Day, Field Meetings Secretary
Mr A.G. Hill, Northern Ireland Representative on Records Committee
Dr B.S. Rushton, Hon. Editor *Irish Botanical News*

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The cover illustration shows *Carex divulsa* (Grey Sedge) and *Carex muricata* (Prickly Sedge) taken from Deakin, R. (1857). *Florigraphia Britannica*. **Volume III**. Groombridge and Sons, London.

All species and common names in *Irish Botanical News* follow those in Stace, C.A. (1997). *New Flora of the British Isles*, 2nd ed., Cambridge University Press, Cambridge except where otherwise stated.

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EDITORIAL

In the next few months I shall be moving office for the first time in about 18 years and I've taken the opportunity to dispose of large amounts of useless (but thought useful at the time) rubbish. Books have proved to be a real problem. I love books and could never throw them out into the 'skip' – those that I couldn't give to friends, colleagues, students and a local school went to the Coleraine War on Want shop that has the best book collection of all the charity shops in the area. I'll let them take the decision to 'bin' them.

The exercise did point up one important feature of my book collection – the incredibly large number of plant identification books I've accumulated over the last 35 years. They range from the erudite *Flora Europaea*, through the more practical but still academic Stace, to the colour painting variety (the new Blamey, Fitter and Fitter) and line drawing format (Butcher) and the photographic guide (Phillips); the general (Clapham, Tutin and Warburg) to the specialist (the BSBI Handbook Series). I use all of them – or most of them – because I've found over the years that one book is best for one group and another is best for another. What I need is a composite. I suppose the answer would be to take a razor blade to the well-used sections and construct my own consolidated Flora; but I could never take a razor blade to my beloved books. So, I suppose I'll have to remain burdened down with about three or four books whenever I go out doing fieldwork. (A casual observation of mine, made after running field courses for many years with zoologists, is that while botanists always take a small library into the field, zoologists carry nothing ...)

The fact that publishers continue to publish plant identification books must mean there is a market out there – is every one trying to find the Holy Grail of plant identification? The one single book that is ideal for all taxa? Or is it that, like me, botanists are just 'suckers' for a glossy cover and would prefer to invest in plant identification rather than the latest Jeffrey Archer?

Have a good field season,

Brian S. Rushton, *Irish Botanical News*

CAREX DIVULSA STOKES (GREY SEDGE) × C. MURICATA L. (PRICKLY SEDGE) IN THE IRISH FLORA, AND ITS IMPLICATIONS FOR THE TAXONOMY OF THE C. MURICATA GROUP IN EUROPE

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ABSTRACT

In 1984, the F₁ interspecific hybrid, *Carex divulsa* Stokes subsp. *divulsa* (Grey Sedge) × *C. muricata* L. subsp. *lamprocarpa* Čelak. (Prickly Sedge) arose spontaneously in an East Cork garden, adjacent to both of its parents. This F₁ hybrid proved to be variably pollen-/utricle-fertile, and gave rise to segregating F₂ progeny – an apparently hitherto unknown phenomenon in the *C. muricata* group in Europe. During the period 1987-2003, this F₁ *C. divulsa* × *C. muricata* hybrid has been recorded from four hectads in Mid Cork/East Cork (H4-H5), and agrees in all respects (i.e. gross morphology and pollen-/utricle-fertility parameters) with its garden counterpart. The present paper provides an update on the known distribution of *C. divulsa* × *C. muricata* in Ireland, reviews the evidence for its possible occurrence in Britain and Continental Europe, and comments on the implications of the F₁'s variable pollen-/utricle-fertility for the taxonomy of the *Carex muricata* group in Europe.

INTRODUCTION

Within the genus *Carex* L. (Sedges) subgenus *Vignea* (Beauv. ex Lestib.) Kük., as represented in the European flora, the *C. muricata* L. group (section *Phaestoglochin* Dumort) has long been a source of taxonomic confusion and controversy. Indeed, some residual, seemingly intractable, taxonomic problems still remain, despite investigations into the precise relationships of the five main taxa undertaken by David (1976, 1979) and David and Chater (1977), the results of which were subsequently incorporated into three major works: *Flora Europaea* 5 (Chater, 1980); *Sedges of the British Isles* (Jermy, Chater and David, 1982); and the account of the *C. muricata* group in the *Journal of Ecology* (David and Kelcey, 1985). In these three works, five closely related, yet distinct European taxa, are recognised, namely: *C. spicata* Hudson (Spiked Sedge); *C. muricata* L. (Prickly Sedge) subsp. *muricata* and subsp. *lamprocarpa* Čelak.; *C. divulsa* Stokes (Grey Sedge) subsp. *divulsa* and subsp. *leersii* (Kneucker) Walo Koch. Moreover, detailed morphological descriptions and autecological data on these five taxa are provided in the latter two works, in which the authors explained the reasoning behind their taxonomic treatment of the *Carex muricata* group.

In particular, they highlighted the formidable taxonomic problems posed by *C. divulsa* sensu lato, given the considerable morphological variation exhibited by this taxon throughout its geographical range. However, as the authors felt that such variation was

essentially *clinal* in nature, they opted to formally recognise only a single species – *Carex divulsa*, of which the two morphological extremes of variation were given subspecific status. Of the two, the Western European extreme variant (a taxon usually characterised by long, pendulous, infructescences, its proximal spikes/branches wide-spaced) was named subspecies *divulsa*, while its East European/Central Asian counterpart (a very robust taxon, bearing short, stiffly erect infructescences) was named subspecies *leersii* (Kneucker) Walo Koch.

However, a continuum of morphological variation exists between the two subspecies, and in certain geographical areas this gives rise to taxonomic confusion. Such appears to be the situation in southern Britain, where the problem is exacerbated by the fact that some of these anomalous populations exhibit a high level of pollen-/utricle-sterility! Indeed, this sterility feature prompted Jermy, Chater and David (1982: 72) to suggest that such plants may be hybrids between *C. divulsa* subsp. *divulsa* and *C. divulsa* subsp. *leersii*, or between one of these subspecies and another member of the *C. muricata* group. In this connection, an event occurred in 1984, which provided a unique and enlightening insight into the potential interbreeding relationships of certain taxa within the *C. muricata* group. This event was the spontaneous occurrence of the interspecific hybrid, *Carex divulsa* subsp. *divulsa* × *C. muricata* subsp. *lamprocarpa* in my East Cork garden, adjacent to both parents, which latter had been brought into cultivation in 1981. Moreover, this fascinating F₁ hybrid proved to be variably pollen-/utricle fertile – an extremely rare phenomenon in European *Carex*, save in the *Carex nigra* group (Black Sedges) and the *C. flava* group (Yellow Sedges).

In January-February 1985, the BSBI *Carex* referees, R.W. David and A.O. Chater were sent vouchers of the Cork garden *C. divulsa* subsp. *divulsa* × *C. muricata* subsp. *lamprocarpa* hybrid, in addition to detailed data on the comparative morphology, floral biology and pollen-/utricle-fertility of this putative hybrid and its parents. After a critical examination of the Cork vouchers and their attendant biological notes, followed by prolonged discussion and cogitation on the issue, both referees finally confirmed my determination.

THE TAXONOMY OF THE *CAREX MURICATA* GROUP IN EUROPE

As mentioned at the outset, the taxonomy of the *Carex muricata* group as represented in Europe and Asia, is still far from resolved. Indeed, some of the problems are as basic as the questioning of the specific rank of *C. spicata* by some east European caricologists, who advocate its amalgamation with *C. muricata*! This is particularly ironic, bearing in mind that, in western Europe at least, *C. spicata* is the most distinctive segregate of the *C. muricata* group, differing from the remainder in leaf, leaf-ligule and utricle features. In the face of such ongoing problems, the taxonomic treatment of this group as outlined in *Sedges of the British Isles* (Jermy, Chater and David, 1982) must be seen as a pragmatic synthesis of the available data. Clearly, however, there has been little movement or progress with regard to resolving the

taxonomic problems of the *C. muricata* group in Europe or Asia, during the past 20 years.

Faced with an equally difficult taxonomic dilemma, Davies (1955: 130), in a paper entitled: "The cytogenetics of *Carex flava* and its allies", stated: "The study of the interspecific hybrids of a critical group ... is of great importance, as it frequently yields information about the relationships of the species, their age, and evolution." In this respect, however, the taxonomic insights into the *C. muricata* group that such research might reveal are handicapped from the beginning by the scarcity of available data on such putative interspecific hybrids. Moreover, the minimal data that *do* exist are often of so uncritical a nature as to be of highly dubious taxonomic value.

In his account of interspecific hybrids within the *C. muricata* group in the work, *Hybridization and the flora of the British Isles*, Wallace (in Stace, 1975) provided the following data on four hybrid combinations:

1. *Carex muricata* L. × *C. spicata* Huds. "Has been recorded from Au [Austria]."

2. *C. divulsa* Stokes × *C. spicata* Huds. "Has been recorded from Ga [France] and Ge [Germany]. A specimen collected from Westmonkton, v.c. 5 [S. Somerset] was identified *in situ* as this hybrid by E.S. Marshall, and another from Wimbotsham, v.c. 28 [W. Norfolk] by J.E. Little, but neither has been confirmed. Little (1931) later considered that the latter plant was, in fact, *C. divulsa* ..."

3. *C. divulsa* Stokes × *C. polyphylla* Kar. & Kir. "Was recorded from Unhill Wood, v.c. 22 [Berks.] by Bowen (1968). The record was based on a specimen (**OXF**) collected by G.C. Druce in 1890, and identified as this hybrid by Nelmes. In view of the uncertainty of the nomenclature and taxonomy of *C. polyphylla*, this record should be regarded as doubtful."

4. *C. divulsa* Stokes × *C. muricata* L. "Was, in the opinion of some workers, the identity of a plant collected in 1919 in v.c. 28 [W. Norfolk] by J.E. Little, but this was never confirmed."

While the above records for four, putative interspecific hybrids within the *Carex muricata* group are of considerable intrinsic interest, they are, nevertheless, of little or no taxonomic value, as they appear to lack any detailed observations on pollen-utricule-fertility, etc.

In a brief review of the scant European literature and vouchers on this subject, David and Kelcey (1985: 1027) stated: "Hybrids between *C. spicata* and *C. divulsa* have been reported periodically in Britain, as on the Continent, but all the specimens

examined in the present study could well be no more than aberrant forms of the putative parents.”

Following on the 1984 discovery of the spontaneous Cork garden hybrid, R.W. David (the acknowledged British expert on the *C. muricata* group) stated (in litt. February 1985): “If, as I now think probable, this [i.e. the Cork garden taxon] is indeed *C. divulsa* ssp. *divulsa* × *C. muricata* ssp. *lamprocarpa*, there would be momentous consequences. First, it would indicate that the *C. muricata* L. aggregate is constitutionally the same as B. Schmid [1983] has now shown the *C. flava* L. complex to be: a group of taxa able, by interbreeding, to produce crosses that are sufficiently fertile (unlike most sedge hybrids) to make backcrossing possible, with all the added taxonomic complications that this implies.” “Secondly, as I would certainly (had I not been briefed as now) have lumped your specimens with my ‘East Anglian intermediate’, and believed them to be the same, this may indicate that this cross is not so rare as might be supposed ...”

At this time however, A.O. Chater’s views on the Cork garden taxon were distinctly downbeat. For example, he still held some niggling doubts about its identification as *C. divulsa* × *C. muricata*, given its totally unexpected pollen-/utricle-fertility – a seemingly unprecedented observation/event in the taxonomy of the *C. muricata* group in Europe. Moreover, in communication with me, he stated (in litt. April 1985): “... I do not see why the genesis of one hybrid in a garden is going to change one’s views of the whole group! Breeding experiments, plus cytological examination, would give one much more to go on.” (Note: on the latter point, everyone was in agreement – the crux of the matter, however, was that there was no candidate either willing, or able, to undertake such time consuming, highly skilled, technical research.) As it transpired, however, A.O. Chater’s doubts about the Cork garden hybrid identification were to prove totally groundless, as two subsequent events clearly demonstrated the hybrid nature of the Cork plant. First, in September 1985, utricles from the F₁ Cork garden hybrid were sown, and in 1987 *these gave rise to segregating F₂ hybrid progeny* (some of the F₂ plants being remarkably similar in appearance to *C. muricata* subsp. *lamprocarpa*, their spikes with 0-3 sterile utricles, and up to nine, patent, fully developed, broad-based utricles), thus attesting to the accuracy of the original F₁ hybrid determination. Second, the *wild* F₁ *C. divulsa* subsp. *divulsa* × *C. muricata* subsp. *lamprocarpa* cross was found in two East Cork sites in 1987 and 1988, respectively, this hybrid being new to science, and identical in all characteristics to the Cork garden F₁ hybrid (O’Mahony, 1989). Indeed, *all* additional populations of *C. divulsa* × *C. muricata* found in the wild in Ireland (Co. Cork only) up to 2003, have also proved to be first-generation hybrids, identical to the garden F₁ hybrid in appearance and in pollen-/utricle-fertility parameters.

On the basis of these observations and results, the potential for backcrossing, and the production of segregating F₂ hybrid progeny, has been demonstrated in the case of the spontaneous Cork garden F₁ hybrid, *C. divulsa* subsp. *divulsa* × *C. muricata* subsp. *lamprocarpa*. Such potential is surely latent also in its wild F₁ counterpart, all populations of which are variably pollen-/utricule-fertile. This raises the intriguing question as to why, to date, only the F₁ hybrid has been found in the wild in Co. Cork? It would seem that the absence of complex hybrid populations is attributable to the corresponding absence of a suitable range of ecological niches needed to accommodate such biological diversity. For the Cork sites in which the F₁ *C. divulsa* × *C. muricata* hybrid occurs are essentially just linear strips of grassy hedgebank, bearing tightly-closed plant communities.

The genesis, and very localised distribution of *Carex divulsa* × *C. muricata* in Ireland, appears to be intimately bound up with the phytogeography of the *Carex muricata* group here: *C. divulsa* subsp. *leersii* being virtually or wholly absent; *C. spicata* very rare, though widespread; *C. muricata* subsp. *lamprocarpa* scarce, and essentially southern/eastern in distribution; while *C. divulsa* subsp. *divulsa* proves to be the only gregarious and locally common segregate in Ireland (Jermy, Chater and David, 1982; David and Kelcey, 1985; O'Mahony, 1986, 1989; Preston, Pearman and Dines, 2002). Given this pattern of distribution and frequency for the segregates of the *C. muricata* group in Ireland, cohabitation between any two of these taxa is generally an uncommon or rare event, and must considerably reduce the chances of interspecific hybridisation. Yet ironically, this very situation seems to have facilitated the genesis of *C. divulsa* × *C. muricata* in Co. Cork (the stronghold for *C. muricata* in Ireland), where the usually tiny populations of *C. muricata* (consisting of just 1-12 plants) are frequently accompanied by an abundance of *C. divulsa*. Under such conditions, the protogynous inflorescences of *C. muricata* subsp. *lamprocarpa* receive liberal quantities of pollen from the earlier-flowering, protandrous inflorescences of *C. divulsa* subsp. *divulsa*, resulting, on occasion, in the production of their interspecific hybrid.

At the present time, the interspecific hybrid *Carex divulsa* subsp. *divulsa* × *C. muricata* subsp. *lamprocarpa* is only definitely recorded from four hectads in Co. Cork, and is unknown elsewhere in Ireland (see Appendix 1 for an update on its Irish distribution). Furthermore, this hybrid is not reported from Continental Europe by either Wallace (in Stace, 1975) or David and Kelcey (1985), while I am unaware of any other literature sources that claim its occurrence on the European mainland. With regard to the presence of *Carex divulsa* subsp. *divulsa* × *C. muricata* subsp. *lamprocarpa* in Britain, the evidence, at present, is equivocal. In an earlier paper (O'Mahony, 1989) I suggested that this hybrid may yet prove to be widespread in East Anglia and southern England in general. This view was based on the comments of R.W. David (in litt. February 1985) and on his published statement (David and Kelcey,

1985: 1037): “Many of the East Anglian plants that are intermediate between the two subspecies [of *C. divulsa*] are at least partially sterile, and in many respects match the plant reported by T. O’Mahony as *C. divulsa* ssp. *divulsa* × *C. muricata* ssp. *lamprocarpa* ...” “They may conceivably be of hybrid origin from these parents.” Most regrettably, the critical taxonomic research required to confirm or refute this hypothesis of R.W. David was never undertaken in Britain.

R.W. David’s other contention, that the *C. muricata* group might be constitutionally the same as the *C. flava* group (as mentioned previously) must, for the moment, remain in the realm of speculation. The fact is that adequate biological data, on the breeding relationships of the segregates of the *C. muricata* group in Europe, does not exist at the present time: therefore no valid comparison between the *C. flava* and *C. muricata* groups is currently possible. In this regard, I had hoped that the publication of my paper on the Cork F₁ *C. divulsa* × *C. muricata* hybrid (O’Mahony, 1989) might act as a catalyst for similar hybrid studies in Britain. In the interim fifteen-year period however, no such work has taken place, and consequently knowledge of the occurrence of interspecific hybrids within the *C. muricata* group in Britain, remains virtually non-existent. Indeed, the identification of such putative hybrids in Britain is likely to prove far more problematic than is the case in Ireland, given that *five* taxa rather frequently cohabit in southern and eastern England, namely: *C. divulsa* subsp. *leersii*; *C. divulsa* subsp. *divulsa*; *C. muricata* subsp. *lamprocarpa*; *C. spicata*; and at least one possible hybrid, which may be either *C. divulsa* subsp. *divulsa* × *C. divulsa* subsp. *leersii* (Jermy, Chater and David, 1982), or *C. divulsa* subsp. *divulsa* × *C. muricata* subsp. *lamprocarpa* (David and Kelcey, 1985).

At the present time, work is in progress on a proposed new handbook of the British and Irish *Cyperaceae*, which in turn has prompted a review of the *Carex muricata* group by A.C. Jermy and A.O. Chater. While in correspondence with me on this matter, A.C. Jermy has recently suggested (in litt. May 2003) that both he and A.O. Chater were of the opinion that the Cork hybrid, *Carex divulsa* subsp. *divulsa* × *C. muricata* subsp. *lamprocarpa*, might in actuality only be a form of *C. divulsa* subsp. *leersii*! I wish to state that such speculation has absolutely no basis in scientific fact. While it *is* true that the infructescences of the Cork hybrid are very similar in appearance to those of *C. divulsa* subsp. *leersii*, this resemblance *is purely superficial*, both taxa being fundamentally different in origin. Appendix 2 contrasts some of the main differences between *C. divulsa* subsp. *leersii* and *C. divulsa* subsp. *divulsa* × *C. muricata* subsp. *lamprocarpa*, and clearly demonstrates the hybrid nature of the Cork taxon.

In any case, the above suggestion is untenable, as *C. divulsa* subsp. *leersii* is *not* recorded for Ireland in the *New atlas of the British and Irish flora* (Preston, Pearman and Dines, 2002), while I have never encountered *C. divulsa* subsp. *leersii* in southern

Ireland in some thirty years (1973-2003) of *Carex* fieldwork. (Note: for the record, R.W. David (in litt. August 1984) informed me that vouchers of *Carex divulsa* material in **DBN**, collected by R. Lloyd Praeger in Co. Down (H38) in July 1903, strongly suggest *C. divulsa* subsp. *leersii*. Such material was collected at two sites: Saltwater Bridge, Ards Peninsula, and near Blackstaff? Bridge, Ards Peninsula.)

ACKNOWLEDGEMENTS

The late Dick (R.W.) David was a regular and very helpful correspondent on matters dealing with the taxonomy of the *Carex muricata* group in Europe, during the period 1984-1988. His death in 1993 effectively brought to an end (hopefully only temporarily!) the critical study in Britain of this intriguing group. I also wish to thank Arthur (A.O.) Chater for his correspondence on the *C. muricata* group in 1985.

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APPENDIX 1: UPDATE OF THE IRISH RECORDS FOR THE F₁ HYBRID, *CAREX DIVULSA* × *C. MURICATA*

W7.7

1. H5, W75.76. Four plants scattered over c. 121 m of grassy roadside verges, at Brooklodge, Riverstown: 20 May 1987 (O'Mahony, 1989). Cohabiting here with an abundance of *C. divulsa* subsp. *divulsa*, while *C. muricata* subsp. *lamprocarpa* was rare in the area. This hybrid population was reduced to two plants by June 1997, and has not been seen in recent years, following on the construction of a new house in the immediate area, and the regular mowing of the remaining strips of grass verge.

2. H5, W71.74. One plant at the base of a roadside hedgebank, on Churchhill, Glanmire, within 2 m of both parents: 7 July 1988 (O'Mahony, 1989). Not seen here since the mid-1990s.

3. H5, W71.75. One plant at the base of a roadside hedgebank, near the entrance to Old Christians Rugby Club, Rathcooney: May/September 2003. *C. divulsa* occurred here frequently, but *C. muricata* was not seen, though likely to be present in the vicinity.

4. H4, W71.70. A single plant on the Blackrock Amenity Walkway, near a ruined railway bridge, at Bessboro, Blackrock: July 1990. *C. divulsa* was common here, with occasional clumps of *C. muricata* nearby (O'Mahony, 1991). Last seen here in May 1998, though the plant may still be extant.

W5.6

1. H4, W54.69. Seven plants on a grassy embankment beside the Cork-Macroom road, near Ovens Bridge: July 1992 (O'Mahony, 1993). Population still present in 2003, consisting of ten plants scattered over 36 m of ground (O'Mahony, 2004). *C. divulsa* occurs commonly here, while *C. muricata* is rare.

2. H4, W59.68. Two disjunct clumps on a roadside hedgerow south-west of Maglin Crossroads, Ballincollig: November 1996 (O'Mahony, 1997). Both subpopulations were still present in 2003, while two additional plants were found widely scattered on the nearby Maglin Bridge-Kilnaglory road (H4, W59.68 and W58.68) (O'Mahony, 2004). *C. divulsa* occurs frequently in this area, but *C. muricata* was not seen.

W7.6

1. H4, W75.64. Many plants on a limestone outcrop at Shanbally, Cork Harbour: May/August 1994 (O'Mahony, 1995). Neither parent was seen in the immediate area of the hybrid, though *C. divulsa* is of common occurrence in this hectad. This site needs rechecking.

R7.0

1. H5, R75.06. Four plants on the eastern branch of Ballykenly Crossroads, adjacent to Ballykenly Bridge on the River Funchion, near Glanworth: June 2002 (O'Mahony, 2003). Associated with plenty of *C. divulsa*, and a few plants of *C. muricata*. Two further disjunct subpopulations of the hybrid were located on the northern branch of this crossroads (same 1-km square) in November 2003, associated with an abundance of *C. divulsa*, though *C. muricata* was very sparsely distributed here (O'Mahony, 2004).

APPENDIX 2: SOME COMPARATIVE DIAGNOSTIC DATA ON THE CORK F₁ HYBRID, *C. DIVULSA* × *C. MURICATA* AND *C. DIVULSA* SUBSP. *LEERSII*

1. (Note: In 1981, I planted side by side in my garden, typical material of *C. divulsa* subsp. *divulsa* and *C. muricata* subsp. *lamprocarpa*. In 1984, their interspecific hybrid arose spontaneously next to its parents – *completely ruling out* the involvement of *C. divulsa* subsp. *leersii* in the genesis of this hybrid!)

2. This garden hybrid displayed *enormous variation* in pollen fertility/sterility in the individual spikes of any given inflorescence – a sure sign of genetic dysfunction, and thus attesting to its hybrid nature. By contrast, the spikes/inflorescences of *C. divulsa* subsp. *leersii* are uniformly fertile, with virtually all pollen grains perfectly formed and viable.

3. The hybrid inflorescences were clearly intermediate between those of its parents, and therefore superficially like those of *C. divulsa* subsp. *leersii*.

4. At the fruit stage, the individual spikes of all infructescences of the F₁ hybrid were chequered in appearance, as they bore a combination of pale-brown, flattened, sterile utricles, and stout, glossy, *blackish*, viable utricles – again highly indicative of a

hybrid origin. Moreover, most utricles were erect-appressed to their spike-axis. In stark contrast, the infructescences of *C. divulsa* subsp. *leersii* are fully fertile, usually all of the glossy, *dark red-brown* utricles being fully developed and viable, and *strongly patent* to their spike-axis.

5. Fertile utricles from the garden F₁ *C. divulsa* × *C. muricata* cross, gave rise to segregating F₂ progeny – an unknown phenomenon in a normal, genetically balanced, fully pollen-/fruit-fertile taxon such as *C. divulsa* subsp. *leersii*. In the major work, *Hybridization and the flora of the British Isles*, Stace (1975: 72) commented that the detection of F₂ segregation *is a valuable aid in hybrid diagnosis*, where hybridisation experiments cannot easily be carried out.

6. The free tissue of the ligule (i.e. the ligule flange) in *C. divulsa* × *C. muricata* is identical in character to that of its parents, being hyaline, soft, and delicate in texture. By contrast, the ligule flange in *C. divulsa* subsp. *leersii* is described by David and Kelcey (1985: 1033) as: "... a hard yellowish ring of tissue."

7. In my experience, the leaves of *C. divulsa* × *C. muricata* *are always a matt, dark-green* colour on the upper face, whilst the micromorphology and anatomy of this upper face (unpublished observations) is variably intermediate between that of its parents. The leaf colour of *C. divulsa* subsp. *leersii* is described as yellow-green by Jermy, Chater and David (1982) and David and Kelcey (1985).

8. The fruit spikes of *C. divulsa* × *C. muricata* bear 6-17 utricles (O'Mahony, 1989), whereas David and Kelcey (1985: 1037) state that a fruit spike of *C. divulsa* subsp. *leersii* bears 21-46 utricles.

9. In *Carex divulsa* × *C. muricata* flowering and fruiting extends up to August or later, while infructescences can be found intact up to November-December, provided they have not fallen victim to the ravages of the hedgerow-cutter. In regard to *C. divulsa* subsp. *leersii* however, David and Kelcey (1985: 1037) state: "Fruit is set by the end of May: the utricles colour in July, and fall in August. There is no sign of continuous flowering as found in ssp. *divulsa*."

10. *C. divulsa* × *C. muricata* frequently occurs on circumneutral, moderately base-rich soils in Co. Cork, whereas *C. divulsa* subsp. *leersii* is described by David and Kelcey (1985: 1035) as: "... an exacting calcicole, most frequent on pure chalk or other limestone, and is never found on even moderately acidic soils."

THE FLORA OF AN ANCIENT FORT

M. O'Sullivan

Knockavota, Milltown, Co. Kerry

Fort Agnes Grove is situated in the Townland of Kilcolman a short distance from Milltown on the main road to Killorglin. This site is only 0.5 ha in size and is dominated by *Quercus petraea* (Sessile Oak), *Fagus sylvatica* (Beech), *Fraxinus excelsior* (Ash), and *Betula pendula* (Silver Birch) with the understorey sprinkled with *Ilex aquifolium* (Holly), *Corylus avellana* (Hazel) and *Crataegus monogyna* (Hawthorn).

The fort is bivallate, that is enclosed by double ramparts and includes an underground cave that is used from time to time by badgers and foxes. The cave entrance overlooks a bowl shaped depression 50 m at the top and 10 m deep. This is the result of subsidence that must have taken place some time after the demise of the last of the fort's inhabitants. At the centre of the platform within the ramparts stands an ivy-clad ruin of what was once a hunting lodge used by the local gentry for nights of wine and piano music.

The flora of this ancient site is typical of woodland and 40 species have been recorded. The flora includes *Silene dioica* (Red Campion), *Anemone nemorosa* (Wood Anemone), *Hyacinthoides non-scripta* (Bluebell), *Veronica montana* (Wood Speedwell), *Ajuga reptans* (Bugle), *Potentilla sterilis* (Barren Strawberry), *Angelica sylvestris* (Wild Angelica), *Circaea lutetiana* (Enchanter's-nightshade), *Epilobium montanum* (Broad-leaved Willowherb) and *Solidago virgaurea* (Goldenrod).

However, it is for the height of its *Pteridium aquilinum* (Bracken) that the site is best known. In 1998 a stand of Bracken was discovered growing up through *Crataegus monogyna* (Hawthorn) with an average height of 4 m – one specimen reached a record 5.76 m. The height record for Bracken in England appears to be 4.83 m (Oliver, 2001).

To complement the flora of this old fort, the gateway to the field in which the fort is sited is dominated by a large old specimen of *Quercus ilex* (Evergreen Oak), the only one of its kind in the area.

REFERENCE

Oliver, J. (2001). Bracken height record? *BSBI News* **87**: 43.

T. O'Mahony

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In January-February, preparations were made for fieldwork in 2003. This included a review of my Cork data on alien genera – particularly those taxa that may be termed 'borderline naturalised' in Co. Cork. For example, *Oxalis* taxa which are semi-naturalised but greatly under-recorded in Co. Cork include: *O. articulata* (Pink-sorrel); *O. incarnata* (Pale Pink-sorrel); and the *O. corniculata* group (Yellow-sorrels). Of *Campanula* species, *C. portenschlagiana* (Adria Bellflower) is a favourite Cork garden plant, grown abundantly on walls, and also utilized as an edging for garden-borders. However, in my experience it only very occasionally seeds itself beyond such habitats in Cork City, such as onto adjacent footpath margins on Alexandra Road (H4,W68.72) and Mercier Park (H4, W67.70). *Campanula poscharskyana* (Trailing Bellflower) is much less frequently seen on walls in Co. Cork, as on Evergreen Street, Cork City (H4, W67.71), where a single large clump poses as 'naturalised'.

A review was also undertaken of the data accumulated to date on the occurrence and autecology of *Veronica polita* (Grey Field-speedwell) in the Cork City flora. This is a ten-year survey, which will span the period 1995-2005. The results so far suggest that Cork City holds the largest concentration of populations of *V. polita* in Ireland. Here, the species is found mainly in footpath cracks, and in garden borders, and occasionally on walls. Moreover, it shows fidelity to certain areas, where it has been recorded consistently each year since 1995. *V. polita* is of locally frequent occurrence about Cork City, and is most frequent in those areas (situated on the carboniferous limestone) that were market-garden sites up to the late 1940s, such as Ballypheane, Turner's Cross, Blackrock and Douglas, on the south side of the River Lee.

In early-March, the collation of Cork data on *Veronica crista-galli* (Crested Field-speedwell) once again showed that the habitat description provided for this very distinctive annual species in the literature (i.e. arable ground) is grossly misleading. In Co. Cork (the headquarters for this species in Europe), *V. crista-galli* characteristically frequents grassy roadside verges and hedgebanks, where it germinates en masse during the period August to October, and overwinters as dense, coalescing mounds, to flower and fruit during the following March to June. This species has long been an integral feature of the Cork flora, where it continues to spread and consolidate its hold over a considerable area. There is some evidence to suggest that *V. crista-galli* is also starting to spread in Kerry, Limerick and Waterford.

On 10 April, a tiny population of *Sedum dasyphyllum* (Thick-leaved Stonecrop) was seen on the riverside walltop, bordering the left bank of the River Lee, near the Sunday's Well/Hyde Park junction (H4, W65.71). This is the sixth site recorded for

this stonecrop in the Sunday's Well area since 1993. On 14 April, a small, budding population of *Hieracium maculatum* (Spotted Hawkweed) was rechecked on the brewery wall bordering the Sunday's Well/North Mall junction (H4, W66.72). A few seed-derived plants of *H. maculatum* were also established on the road margin here, while *Vulpia myuros* (Rat's-tail Fescue) and *Sisymbrium orientale* (Eastern Rocket) occurred about the nearby Winter's Hill/Sunday's Well junction. On 23 April I received a letter from a Mr R. Stern (of the Sussex Botanical Recording Society) reporting a new East Cork site for *Draba muralis* (Wall Whitlowgrass), found growing in crevices of stone steps leading to Annesgrove House, Castletownroche (H5, R68.04) on 13 April 2003. This is only the second known extant site for *D. muralis* in Co. Cork.

On 8 May, Paschal Sweeney contacted me regarding his find of *Pinguicula grandiflora* (Large-flowered Butterwort) growing plentifully along the pathway margins of some coniferous plantations on the western bank of the River Araglin, near Castlecooke (H5, R88.03). Ironically, *P. grandiflora* populations in East Cork have been decimated since the 1980s, by the never-ending encroachment of such conifer plantations on its peatland habitat. On 19 May, *Geranium purpureum* (Little-Robin) was seen in flower on hedgebanks near Rathcooney Cemetery (H5, W71.75), Glanmire, where I first recorded it in May 1998, this being only the second extant East Cork site for the species. Particularly thrilling, however, was the discovery of two plants of the F₁ interspecific hybrid, *G. purpureum* × *G. robertianum* (Herb-Robert) cohabiting with both its parents here.

Moreover, a single flowering tussock of the F₁ *Carex* hybrid, *C. divulsa* (Grey Sedge) × *C. muricata* (Prickly Sedge) was found nearby, in a hedgebank facing the entrance to Old Christians Rugby Club. Hectad W7.7 thus boasts the unique distinction of holding two, 1-km sites for the extremely rare F₁ interspecific hybrids *Geranium purpureum* × *G. robertianum* and *Carex divulsa* × *C. muricata*, both taxa being recorded as new to science from this hectad, in the period 1987-1988.

On 29 May, a special trip was made to Ballingearry, at the south-western end of Lough Allua – the lake-like expansion of the River Lee, close to its source at Gougane Barra. The aim was to search for additional West Cork sites for *Carex aquatilis* (Water Sedge), which I added to the Cork flora from the northern shore of Lough Allua in May 1997. Parking at Inchinossig Bridge (H3, W14.66), I examined both banks of the narrow channel of the River Lee eastwards to the confluence of the River Lee and River Owengarriff (H3, W15.66), roughly 650 m from the bridge. At this point, the first (cropped) stands of *Carex aquatilis* were located on the right bank of the R. Lee, being associated with *Carex rostrata* (Bottle Sedge). Subsequently, magnificent stands of *C. aquatilis* were seen further east in paludal pastures and mires bordering the river, associated with *C. rostrata* and *C. vesicaria* (Bladder-sedge), the latter two species

fruiting freely, but *C. aquatilis* only sporadically. Doubtless future work on this southern shore of Lough Allua will turn up further sites for *C. aquatilis*, while I will also look for possible *C. aquatilis* × *C. nigra* (Common Sedge) (= *C. × hibernica*) populations here.

On 2 June, my objective was the rechecking of two Mid Cork sites for the sedge hybrid, *Carex divulsa* × *C. muricata* – one at Ovens Bridge (H4, W54.69), the other adjacent to Maglin Crossroads (H4, W59.68) near Ballincollig. The original find at Ovens in July 1992, produced seven hybrid plants, whereas on the present visit ten plants were found, being distributed along a 36 m stretch of grassy embankment, and looking robust and healthy. *C. divulsa* proved common here, and *C. muricata* rare. At Maglin Crossroads two disjunct tussocks of *C. divulsa* × *C. muricata* were originally found in 1996 on the byroad to the now defunct Ballyburden Reservoir. On the present visit, both hybrid plants were relocated quickly, and looked healthy. I was also very pleased to find two further hybrid plants scattered along the nearby Maglin Bridge-Kilnaglory Road (W59.68 and W58.68). *C. divulsa* occurred commonly in this area, but *C. muricata* was not seen. The vicinity of Maglin Crossroads also produced populations of *Pimpinella major* (Greater Burnet-saxifrage), *Stachys* × *ambigua* (Hybrid Woundwort), *Ribes uva-crispa* (Gooseberry), *Vulpia myuros* (Rat's-tail Fescue) and a small stand of *Mentha spicata* (Spear Mint), a mint which is surprisingly rare in Co. Cork.

On 4 June, work was undertaken in the East Cork hectad, R6.0, immediately north of Killavullen Village. Shortly east of Monanimy Crossroads (H5, R65.00) I rechecked my 2002 find of *Carex muricata* (five plants) from a grassy roadside embankment, where it occurred with *Carex divulsa* and scattered plants of *Hypericum maculatum* (Imperforate St John's-wort). To the west of Monanimy Crossroads, populations of *Symphytum* × *uplandicum* (Russian Comfrey), *Chamerion angustifolium* (Rosebay Willowherb) and *Helictotrichon pubescens* (Downy Oat-grass) occurred, while the byroad leading to Killuragh Pond (H5, R64.00) produced, among other finds, scattered bushes of *Rosa tomentosa* (Harsh Downy-rose), *Rosa micrantha* (Small-flowered Sweet-briar) and *R. micrantha* × *R. rubiginosa* (Sweet-briar) (= *R. × bigeneris*). A hedgebank at Skenakilla Crossroads (H5, R64.04) held established stands of *Carpinus betulus* (Hornbeam), a tree rarely seen in Co. Cork, while the Doneraile Road immediately west of this crossroads, yielded a 22 m ditch population of *Mentha* × *piperita* (Peppermint), an extremely local Cork mint, yet now known from four sites in hectad R6.0.

On 5 June, Beaumont Quarry (H4, W70.70 and W70.71) Ballintemple, Cork City, was examined. This formerly magnificent limestone quarry is now partly infilled with rubble (and under threat of total infill), but still holds small populations of *Geranium*

purpureum (Little-Robin), *Linum bienne* (Pale Flax), *Helictotrichon pubescens* (Downy Oat-grass) and *Trisetum flavescens* (Yellow Oat-grass), etc.

On 8 June, a trip was made to Waterloo Mire (H4, W59.77) near Blarney, the only Irish site for the sedge hybrid, *Carex diandra* (Lesser Tussock-sedge) × *C. paniculata* (Greater Tussock-sedge) (= *C. × beckmannii*). A small vegetative portion of the hybrid was collected for conservation purposes, while additions to this site were *Nymphaea alba* (White Water-lily), from a marginal band of open water, and a small population of *Myosotis discolor* (Changing Forget-me-not) growing in paludal pasture, and associated with *Myosotis secunda* (Creeping Forget-me-not).

On 17 June, the flora of the city quays (South Channel of the River Lee (H4, W67.71)) was rechecked. As in previous years, *Briza maxima* (Greater Quaking-grass) proved locally frequent on Union Quay/Morrison's Quay, associated with *Sisymbrium orientale* (Eastern Rocket), *Cochlearia anglica* (English Scurvygrass), *Cochlearia danica* (Danish Scurvygrass), etc. On the adjacent George's Quay, the flora changes abruptly, the wharf timbers being dominated by graceful stands of *Vulpia myuros* (Rat's-tail Fescue), in company with *Sedum acre* (Biting Stonecrop), *Saxifraga tridactylites* (Rue-leaved Saxifrage) and tiny populations of *Erophila verna* s. st. (Common Whitlowgrass), etc. On the channel from the South Gate Bridge westwards to Wandersford Quay (H4, W66.71), a kaleidoscope of colour is contributed by the naturalised flora, the following species occurring here cheek-by-jowl: *Mimulus guttatus* (Monkeyflower), *Senecio squalidus* (Oxford Ragwort), *Buddleja davidii* (Butterfly-bush), *Impatiens glandulifera* (Indian Balsam), *Erigeron karvinskianus* (Mexican Fleabane), white-flowered *Cymbalaria muralis* (Ivy-leaved Toadflax), mounds of *Soleirolia soleirolii* (Mind-your-own-business), *Vulpia myuros* (Rat's-tail Fescue), and the native species, *Sedum acre* (Biting Stonecrop), *Saxifraga tridactylites* (Rue-leaved Saxifrage), *Cochlearia anglica* (English Scurvygrass) and *Scrophularia auriculata* (Water Figwort), etc.

On 18 June, the extremely rare European sedge hybrid, *Carex divulsa* (Grey Sedge) × *C. remota* (Remote Sedge) (= *C. × emmae*) was rechecked in its 1990 woodland site at Bessboro, Blackrock (H4, W71.70). A one-hour search here, produced six tussocks of the hybrid, which was associated with an abundance of both its parents, and thus very difficult to detect! On 20 June, the disused limestone quarry (H5, W843.919) at Bridebridge in north Cork, was rechecked for its small populations of *Ononis repens* (Common Restharrow), *Hypericum perforatum* (Perforate St John's-wort), *Trisetum flavescens* (Yellow Oat-grass), *Helictotrichon pubescens* (Downy Oat-grass), *Rosa sherardii* (Sherard's Downy-rose), *Rosa micrantha* (Small-flowered Sweet-briar) and *R. sherardii* × *R. rubiginosa* (Sweet-briar), etc. Some twelve robust fruiting clumps of *Carex muricata* (Prickly Sedge) were found on part of the clifftop – the only recent record for hectad W8.9, and proof positive that even well-worked sites are rarely (if

ever) comprehensively surveyed! Small, very localised clumps of *Silene vulgaris* (Bladder Campion) were seen in flower on the stretch of road between the bridge over the North Bride River and Leary's Crossroads. This species is now extremely local and elusive *inland* in Co. Cork (though still frequent in coastal areas) and the populations are usually very small. About Bridebridge, the river holds plenty of *Impatiens glandulifera* (Indian Balsam), *Mimulus guttatus* (Monkeyflower) and *Mentha × gracilis* (Bushy Mint), the northern bank adjacent to the bridge with a small population of the distinctive *Dipsacus fullonum* (Wild Teasel), originally recorded here in 1970, in its only known inland Cork site. The abutting scrubwood holds some fine plants of naturalised *Daphne laureola* (Spurge-laurel), a species recorded from just a handful of Cork sites, such as the limestone outcrop below Mallow Castle on the River Blackwater (H5, W56.98), known as 'Lovers Leap'. Scattered bushes of the rose hybrid, *R. canina* (Dog-rose) × *R. tomentosa* (Harsh Downy-rose) (= *R. × scabriuscula*) were seen in both hedgebanks of the road from Leary's Crossroads west to Rathcormack Bridge, in the 1-km squares, H5, W82.90 and W83.90.

On 1 July, my three Cork City sites for the hybrid, *Senecio cineraria* (Silver Ragwort) × *S. jacobaea* (Common Ragwort) (= *S. × albescens*) were rechecked: 1. A single plant on a limestone wall in Marina Park (H4, W68.71), the *S. cineraria* parent in nearby gardens; 2. A single plant on the eastern (limestone) boundary wall of St Finbar's Cemetery (H4, W65.70); and 3. A single plant on a limestone wall on Lough View Terrace (H4, W665.709). On 7 July, I rechecked a long-established population of *Sasa palmata* (Broad-leaved Bamboo) from the margin of the N72 (Mallow-Killarney Road) shortly east of Roskeen Bridge (H4, W44.98). *S. palmata* overlooks the northern bank of the River Blackwater here. Other taxa of interest in the immediate area include *Primula veris* (Cowslip) on a rock outcrop, *Prunus avium* (Wild Cherry) saplings, associated with *Rosa × scabriuscula* and *Rosa arvensis* (Field-rose), together with roadside stands of *Eupatorium cannabinum* (Hemp-agrimony), which latter seems to have decreased greatly in its inland Cork sites in recent years.

On the R576 to Kanturk, the very local Cork species, *Equisetum telmateia* (Great Horsetail) was present in abundance on the southern branch of Bannagh Crossroads (H4, R42.00), while shortly south of this crossroads a few bushes of *Rosa rubiginosa* (Sweet-briar) and *Taxus baccata* (Yew) were seen in the roadside hedgebanks, both being of very rare occurrence in Co. Cork. At the junction of the R576/R580 at Kanturk, a bit of rough grassland held two established clumps of *Centaurea montana* (Perennial Cornflower), while the paludal left bank of the River Allow yielded *Mentha arvensis* (Corn Mint), *M. × verticillata* (Whorled Mint), *Ranunculus sceleratus* (Celery-leaved Buttercup), *Mimulus guttatus* (Monkeyflower) and *Impatiens glandulifera* (Indian Balsam), etc. My nearby, 2001 site for *Carex spicata* (Spiked Sedge) close to Sally's Crossroads (H4, R39.02) was rechecked, and two disjunct fruiting clumps were seen.

On 27 July, I was contacted by Dr Tom Gittings, who passed on the following records for rare Cork species: 1. *Milium effusum* (Wood Millet): five, scattered, small populations in Ballyannan Wood (H5, W87.72) near Midleton, 12 July 2003 – T. Gittings & S. van der Sleen; 2. *Parentucellia viscosa* (Yellow Bartsia): bordering a brackish tidal lagoon at Clogheen Marsh (H3, W379.387) near Clonakilty, 19 July 2003 – T. Gittings; and 3. *Inula crithmoides* (Golden-samphire): Some 15 clumps in an area measuring c. 5 m x 5 m, in a former reedbed at Ballycotton (H5, W982.651), 27 July 2003 and subsequently – T. Gittings. *Inula crithmoides* (Golden-samphire) was associated with *Aster tripolium* (Sea Aster), *Puccinellia maritima* (Common Saltmarsh-grass) and stunted *Phragmites australis* (Common Reed). This is only the second East Cork record for Golden-samphire and, as far as I am aware, the only saltmarsh habitat for this species in Co. Cork, all other populations occurring on coastal rocks or coastal cliffs.

On 30 July, work in the vicinity of Ballynadrideen Bridge (H4, R54.17) on the River Awbeg near Charleville, produced an abundance of *Pimpinella major* (Greater Burnet-saxifrage) on roadsides, the hedges with occasional bushes of *Rosa × scabriuscula*, and the damp ditches and pastures with a local abundance of *Carex riparia* (Greater Pond-sedge) and *Carex disticha* (Brown Sedge), both sedges being of very local occurrence (though doubtless somewhat under-recorded) inland in Co. Cork.

Fieldwork in the Liscarroll (H4, R4.1) area of north Cork on 30 July and 3 August, proved varied and rewarding. Single clumps of *Carex muricata* (Prickly Sedge) and *Agrimonia procera* (Fragrant Agrimony) were found in hedgebanks immediately north of Liscarroll on the Knawhill Road in 1-km squares R44.12 and R44.13, respectively, together with two disjunct stands of *Juncus × diffusus* at, and close to, Knawhill junction (H4, R43.13). Both branches of the Knawhill junction held populations of *Rosa tomentosa* (Harsh Downy-rose), *R. × scabriuscula* and *R. tomentosa × R. rubiginosa* (= *R. avrayensis*), this latter hybrid possibly being new to the Irish flora. Knockaneda junction (H4, R42.14) produced a third find of *Juncus × diffusus* (a single clump), while south of this occurred small populations of *Briza media* (Quaking-grass), *Prunus cerasus* (Dwarf Cherry) and *Equisetum sylvaticum* (Wood Horsetail).

In August, an attempt was made to update old (c. 1970) records for *Mentha suaveolens* (Round-leaved Mint) from about Cork City. It was gratifying to find that at least some of these populations were still extant, as: 1. at the base of Fagot Hill (H4, W62.74); 2. at Kilcully T-junction (H5, W68.75); and 3. in the Shournach River-valley (H4, W56.77). Moreover, it was exhilarating to discover that the long established colony of *M. suaveolens* at Glennamought Bridge (H5, W67.75) had spread dramatically in recent years (no doubt assisted by disturbance of its roadside grass-verge habitat) and

now covered c. 1200 m of ground to beyond Kilcully Crossroads (H5, W66.76). This must surely be one of the largest extant populations of Apple Mint in Co. Cork.

On 13 August, a resurvey of part of the Blackrock Amenity Walkway (the former Cork-Crosshaven Railway Line) was undertaken. The section of Walkway examined runs from the Atlantic Pond (H4, W70.71) south-eastwards to Skehard Road (H4, W71.70). Close to the Atlantic Pond, the hedgebanks still held single bushes of *Rosa micrantha* (Small-flowered Sweet-briar) × *R. rubiginosa* (Sweet-briar) (*R. × bigeneris*) and *R. tomentosa* (Harsh Downy-rose) × *R. corymbifera* (Hairy Dog Rose), together with scattered bushes of *R. micrantha* (Small-flowered Sweet-briar) and *R. stylosa* (Short-styled Field-rose), this latter beautiful rose being particularly frequent on the southern periphery of the impounded, brackish marsh here. *Apium graveolens* (Wild Celery) occurred on the western bank of this marsh, where *Buddleja davidii* (Butterfly-bush) was established.

At Blackrock Bridge, the imposing limestone wall overlooking the Walkway held an abundance of *Aubrieta deltoidea* (Aubretia), and plenty of double-flowered *Chelidonium majus* (Greater Celandine). *Carex divulsa* (Grey Sedge) occurred commonly throughout the Walkway, with an excellent display of flowering *Linaria vulgaris* (Common Toadflax) close to Skehard Road, associated with *Silene vulgaris* (Bladder Champion), *Daucus carota* (Wild Carrot) and *Hypericum maculatum* (Imperforate St John's-wort). The small, defunct section of Old Skehard Road, running eastwards to a tiny limestone quarry-park, held an interesting mix of species. The road embankments boasted long established *Hypericum hircinum* (Stinking Tutsan) which is now seeding freely here, cohabiting with *Delairea odorata* (German-ivy), *Veronica crista-galli* (Crested Field-speedwell), *Valerianella locusta* (Common Cornsalad), *Valerianella carinata* (Keeled-fruited Cornsalad) and *Orobanche hederæ* (Ivy Broomrape). The quarry-park produced: *Geranium rotundifolium* (Round-leaved Crane's-bill) and *Verbascum thapsus* (Great Mullein) together with naturalized *Aquilegia vulgaris* (Columbine), *Linaria purpurea* (Purple Toadflax), *Tanacetum parthenium* (Feverfew), *Malva sylvestris* (Common Mallow) and *Centranthus ruber* (Red Valerian).

On 2 September, a trip was made to the western side of Kilcolman Fen (H5, R57.10) near Buttevant, to recheck my 1994 records for *Rosa rubiginosa* (Sweet-briar), *R. micrantha* (Small-flowered Sweet-briar), and their interspecific hybrid, *R. × bigeneris*. All three taxa were refound here, in addition to *Rosa × scabriuscula* and *R. sherardii* (Sherard's Downy-rose) × *R. rubiginosa* (Sweet-briar), some fine fruiting stands of the latter hybrid also being seen on the byroad which gives access to the fen. Hedgebank populations of *Prunus cerasus* (Dwarf Cherry) also occurred here. An impromptu stop along the byroad from Ardeen Junction to Buttevant, in 1-km square H5, R56.11, turned up an excellent find – three fruiting bushes of *Rosa agrestis* (Small-leaved

Sweet-briar)! This is only the second Cork hectad for *R. agrestis*, the species being found in H5, R6.0 in the mid-1990s. Both of these hectads support four taxa of the *R. rubiginosa* group – *R. agrestis*, *R. micrantha* (Small-flowered Sweet-briar), *R. rubiginosa* (Sweet-briar) and *R. × bigeneris*.

Hectad recording in Milford Village (H4, R4.2) on 21 September, produced massive flowering stands of *Mentha × piperita* (Peppermint) on damp roadsides of a minor road (1-km squares R41.21 and R41.20) running from the village to Joe's Crossroads. *Rosa tomentosa* (Harsh Downy-rose) populations were also present. Hectad R4.2 is one of a suite of hectads on the Cork/Limerick border which have received very little attention from me to date – a situation I hope to remedy in the near future.

On 16 October, sections of the Argideen River from Lisselane Bridge (H3, W40.44) downriver to Inchy Bridge, near Timoleague, were examined for possible new populations of the F₁ interspecific hybrid, *Myosotis laxa* (Tufted Forget-me-not) × *M. scorpioides* (Water Forget-me-not) (= *M. × suzae*), but with no success on this occasion. Nevertheless, this survey extended the known ranges of certain naturalised species on the river. For example, *Selaginella kraussiana* (Krauss's Clubmoss) and *Soleirolia soleirolii* (Mind-your-own-business) were found to be distributed over at least a 4500 m stretch of the river, from a weir at H3, W42.44 westwards to below Inchy Bridge (H3, W46.45). Also present, at the weir site, was a large naturalised population of *Lamiastrum galeobdolon* subsp. *argentatum* (Yellow Archangel) and at least one clump of the sedge hybrid, *Carex paniculata* (Greater Tussock-sedge) × *C. remota* (Remote Sedge) (= *C. × boeninghausiana*). This site may also be the source of the as yet unidentified garden *Aster* recorded downriver in previous years.

On 2 November, the left (i.e. Mid Cork) bank of the River Bandon at Inishannon was targeted for fieldwork. Firstly, however, Shippool Wood (H4, W56.54) was visited to recheck my 1982 site for the sedge hybrid, *Carex divulsa* (Grey Sedge) × *C. remota* (Remote Sedge) (= *C. × emmae*). Only one of the original three clumps of this hybrid is still extant here. At Inishannon Village, a playing pitch opposite a church (H4, W54.57) gave easy access to the River Bandon. Commonly naturalised riverine taxa included *Mimulus guttatus* (Monkeyflower) and *Mentha × gracilis* (Bushy Mint). The shaded, humid, vertical bank of the river held a local abundance of *Soleirolia soleirolii* (Mind-your-own-business) and *Selaginella kraussiana* (Krauss's Clubmoss), both of which also occurred as epiphytes on an *Alnus glutinosa* (Alder) tree. A very small, naturalised colony of *Cystopteris fragilis* (Brittle Bladder-fern) was also found on the riverbank. All three of these species were found by me on the opposite (West Cork) bank of the river in 1984, and are very likely still present there. This is the first (albeit naturalised) Mid Cork record for *Cystopteris fragilis*. Below Inishannon Bridge, I took the opportunity to cross the river and examine the putative population of *Cornus sanguinea* (Dogwood) recorded from the H3 riverbank in 1951, by O'Donovan and

O'Regan (1952). However, as I had long suspected on ecological grounds, this *Cornus* taxon (three subpopulations) proved to be only the frequently naturalised (and invasive) pest, *C. sericea* (Red-osier Dogwood).

On 16 November, my June 2002 find of the F₁ hybrid, *Carex divulsa* × *C. muricata*, was rechecked from the eastern branch of Ballykenly Crossroads (H5, R75.07), near Glanworth. On the present visit, two, further, scattered clumps of the hybrid were located on the northern branch of the crossroads (same 1-km square) cohabiting with an abundance of *C. divulsa*, and a little of *C. muricata*.

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RECORDING IN 2003 FOR A *FLORA OF CO. WATERFORD* (V.C. H6)

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I spent twelve weeks in total recording in Waterford (v.c. H6) during 2003, three times the amount of time I normally spend each year. This was five weeks more recording than I spent on the county for the new *Atlas* (Preston, Pearman and Dines, 2002). The aim in 2003 was to make sure that each tetrad had been visited since I started recording for the *Flora* in 1997. This was almost achieved, with just seven now needing to be visited (all of which have no road access), two in the Comeragh Mountains and five in the Knockmealdown Mountain range.

The new *Atlas* gives three pre-1970 hectads for *Hymenopyllum tunbrigense* (Tunbridge Filmy-fern). Special searches by myself with the help of John Wallace, means it is now recorded from nine hectads and 18 tetrads. Until 2003 I had only recorded the fern from rocky wooded river valleys. In February 2003 I was on Bodmin Moor in Cornwall on top of one of the rocky tors with my head stuck down a rock crevice looking for *H. wilsonii* (Wilson's Filmy-fern). To my surprise I found Tunbridge Filmy-fern. This made me start wondering – had I over looked it in the Comeragh Mountains? This was certainly the case; it was found to grow in the bottom of the coums, always in crevices amongst boulders where it had shelter from the elements. Where I found it high in the mountains it always grows in deep rock crevices often making it hard to reach. Another success story is *Sorbus hibernica*. The new *Atlas* has no dots for Waterford, even though Keith Ferguson recorded it in the

county in 1975 from near Cheekpoint. *S. hibernica* is now known from five hectads and six tetrads with a total of 61 trees.

The records detailed below were made by myself unless otherwise stated. NCR = new county record. * = records not believed native to Co. Waterford. **DBN** = National Herbarium, Glasnevin, Dublin. **TCD** = Trinity College, School of Botany, Dublin. **NMW** = National Museum of Wales, Cardiff. All dates are 2003 unless otherwise stated.

Alisma lanceolatum (Narrow-leaved Water-plantain). Single plant in newly dug ditch, Bawnard (S25.23), 19 September. NCR.

**Aster lanceolatus* (Narrow-leaved Michaelmas-daisy). Small patch on roadside, Ahaunboy North (X00.96), 29 September. NCR. Det. P.F. Yeo.

Atriplex × *taschereaui* (*A. glabriuscula* × *A. longipes*) (Babington's Orache × Long-stalked Orache). Very common on tidal banks of River Suir from Ballynakill to Cheekpoint (S6.1), 25 October 2002, Paul and Ian Green and Declan McGrath. NCR. Conf. Dr John Akeroyd, 2003.

**Capsicum annuum* (Sweet Pepper). Three self-sown plants growing in sand at top of beach, Passage East (S70.10), 17 July. NCR. Growing with *Lycopersicon esculentum* (Tomato). First Irish record.

Carex pseudocyperus (Cyperus Sedge). Many clumps on bank of ditch in damp field next to River Bride, Curraheen South (X02.94), 29 September. NCR.

Coeloglossum viride (Frog Orchid). Two flowering spikes on road verge, Knocknabrone (R94.03), 7 June. Single spike on grassy slope, Ballydowane Bay (X41.97), 26 July, Catrina Brady. Recorded from Ballydowane Bay in 1882 by H.C. Hart. Fifth and sixth county record and the first since the 1950s.

**Duchesnea indica* (Yellow-flowered Strawberry). Large patch on road verge, Faithlegg (S67.12), 21 March. NCR.

**Echinochloa frumentacea* (White Millet). Single specimen on roadside, Hickey's Cross Roads (S66.05), 6 October. NCR. Growing with *Setaria viridis* (Green Bristle-grass) and *Amaranthus retroflexus* (Common Amaranth).

Epilobium roseum (Pale Willowherb). Weed of flower borders, Mountcongreve Garden, Mountcongreve (S53.10), 12 June. NCR.

- **Galinsoga quadriradiata* (Shaggy-soldier). Single specimen growing at base of wall, Parnell Street, Waterford (S60.12), 30 May. NCR.
- **Geranium pusillum* (Small-flowered Crane's-bill). Single specimen growing on newly sown road verge, Cullenagh (S49.10), 26 May. Third county record, first since 1928.
- **Helleborus foetidus* (Stinking Hellebore). Two plants on rock face below castle, Kilmanahan (S14.19), 19 September. NCR.
- **Hydrangea sargentiana* (Sargent's Hydrangea). Plentifully self-sown on walls of Mountcongreve Garden, Mountcongreve (S53.10), 12 June. NCR.
- **Hypericum forrestii* (Forrest's Tutsan). Many self-sown bushes on stonework of bridge, Bewley Bridge (X12.95), 15 July. NCR. First Irish record.
- **Hypericum* 'Hidcote'. Bush self-sown on old city wall, The Mall, Waterford (S61.12), 10 July. NCR. Conf. Dr Norman Robson.
- Juncus acutus* (Sharp Rush). Single large clump, bank of River Suir, Ballynakill (S63.11), Dominic Berridge. Otherwise only known from Dungarvan harbour and Fornaght Strand.
- **Lactuca serriola* (Prickly Lettuce). Three plants on heaps of soil in gravel pit, Bawnard (S25.23), 19 September. NCR.
- **Malva pusilla* (Small Mallow). Single specimen in centre of gravel forest ride, Killineen West (X28.99), 18 September. NCR. Conf. Dr Norman Robson.
- Montia fontana* subsp. *chondrosperma* (Blinks). Gravelly forest ride, The Gap (S03.09), 21 July. NCR. Det. John Wallace.
- Montia fontana* subsp. *fontana* (Blinks). Bank of stream on roadside, Killeagh (S18.01), 11 June. NCR. Det. John Wallace.
- **Ornithogalum angustifolium* (Star-of-Bethlehem). 100+ clumps in grass on site of ruin, Passage East (S70.10), 15 March. NCR.
- **Ornithopus perpusillus* (Bird's-foot). Single plant on heap of soil in disused quarry, Kilcaragh (S63.07), 11 July. The new *Atlas* (Preston, Pearman and Dines, 2002) gives a record for (X2.8) for 1971; no other information is available.

- **Oxalis exilis* (Least Yellow-sorrel). Weed of pavement cracks, Morley Terrace, Waterford (S59.12), 8 August. Declan McGrath. Third county record.
- **Physocarpus opulifolius* (Ninebark). Bush on the edge of forest ride, Russelstown (S16.19), 25 May, Paul Green, Alastair Stevenson and John Wallace. NCR.
- Plantago major* subsp. *intermedia* (Greater Plantain). Damp path leading to Ballyshonock Reservoir, Ballyshonock (S45.09), 24 September. NCR.
- Potamogeton coloratus* (Fen Pondweed). Plentiful in pond, Rocketscastle (S47.17), 12 June. NCR. Det. Dr Nigel Holmes. Growing with *Groenlandia densa* (Opposite-leaved Pondweed).
- Rosa mollis* (Soft Downy-rose). Single bush in roadside hedge, Knockroe (S68.10), 17 July. NCR. Conf. Rev. A.L. Primavesi.
- Rosa* × *pseudorusticana* (*R. arvensis* × *R. stylosa*) (Field-rose × Short-styled Field-rose). Bush on top of road bank, Quarter (X12.96), 15 July. NCR. Conf. Rev. A.L. Primavesi.
- Sagina nodosa* (Knotted Pearlwort). Plentiful, damp grass on edge of dunes, Whitehouse Bank (X27.89), 14 July, Gillian Read.
- Salicornia nitens* (Shiny Glasswort). Plentiful over salt-marsh, Back Strand, Tramore (S60.00), 2 October. Det. Dr Keith Ferguson. Listed in the *Census catalogue* (Scannell and Synnott, 1987) for Waterford (H6); this is the only other information I have been able to trace for the county.
- **Solanum sisymbriifolium* (Red Buffalo-bur). Single flowering specimen on heap of soil in field, Ballyard (X14.98), 30 September. NCR.
- **Sorbus croceocarpa* (Orange-berried Whitebeam). Single tree in field hedge, Carrignore (S55.12), 26 August 1997. NCR. Originally named as *Sorbus devoniensis* – renamed 2003, Dr Tim Rich, **DBN**, **TCD** and **NMW**. First Irish record.
- **Trachelium caeruleum* (Throatwort). Abundantly self-sown on walls of Mountcongreve Garden, Mountcongreve (S53.10), 29 July. NCR. Det. Dr Alan Leslie. First Irish record.
- **Tropaeolum majus* (Nasturtium). Self-sown on roadside, Waterford (S60.10), 5 October, John Wallace. An ever-frequent casual on waste ground and roadsides.

**Verbascum blattaria* (Moth Mullein). Two plants with white flowers in sugar beet field, Abaunboy North (X00.96), 29 September. Second county record.

**Veronica crista-galli* (Crested Field-speedwell). Abundant, roadsides ditches, Blenheim (S65.09), 25 March, Declan McGrath.

Wahlenbergia hederacea (Ivy-leaved Bellflower). One large and several small patches in mountain flush, Coum Tay (S30.07), 11 July. NCR.

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INTERESTING PLANTS FROM CO. TYRONE (V.C. H36), 2000-2003

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In the post-Stage era, we have been encouraged to take much greater interest in recording alien plants and garden escapes. All to the good, perhaps, but I am beginning to find that nearly all new plants found in Tyrone are in this somewhat fringe area and good new truly-native plants are no longer turning up – inevitable, I suppose, that after 20 years botanising in the county, there must be a law of diminishing returns.

Here are some of the better finds of the last four years:

Acaena ovalifolia (Two-spined Acaena). In considerable quantity at Aughtentaine House, N of Fivemiletown, presumably arising by natural colonisation from accidentally introduced material. J.S. Faulkner and I had noted it here several years ago, but no specific identification was made until I revisited the site in 2003. Only *A. ovalifolia* site in Tyrone.

Adiantum capillus-veneris (Maidenhair Fern). On wall of walled garden in the Caledon estate (J.S. Faulkner and author, 2000). Presumably this had escaped from greenhouses within the walled garden. In Ireland, this fern is native only in the mildest coastal areas of the W and SW, and it is rather surprising that it should be capable of surviving outside in an area of Ulster likely to be at considerable risk from severe frost. Only record for Tyrone.

Allium neapolitanum (Neapolitan Garlic). On waste ground at Milltown, Dungannon, 2001. Identification agreed with P. Hackney. Only county record.

Anagallis minima (Chaffweed). Recorded at Baronscourt during BSBI outing in June 2001. 2nd county record; the other record in the late 1980s from Curran's Glen, only a couple of km away.

Anthriscus caucalis (Bur Chervil). A plant from a mushroom compost site in the Fury valley, SSE of Clogher (J. Harron and author, 2002). No sign of it in July 2003.

There is an old Tyrone record of *A. caucalis* from Cookstown (R. Adair, 1925).

Atriplex prostrata (Spear-leaved Orache). Seen at a waste ground site about 1 km W of Castlecaulfield, September 2003. First recent county record. This site also produced *Myosoton aquaticum* (Water Chickweed) and *Trifolium campestre* (Hop Trefoil) (see below).

Borago officinalis (Borage). There have been a couple of temporary garden escape records of Borage in the Cookstown area in recent years, but it was found in much greater quantity in 2002 at a former municipal dump site at Carricklee, near Strabane. The area had been levelled, and, as a result, only a few typical dump plants remained, yet the Borage seemed to survive the levelling process remarkably well. It is almost certain that the next move will be to convert the land back into agricultural use or perhaps zone it for housing development, so I do not anticipate a long-term future for the plants.

Carex lasiocarpa (Slender Sedge). Recorded by J. Harron and myself at Corcloghy Lough, on the northern foothills of Slieve Beagh, S of Clogher, 2002. In July 2003, I found it at a neighbouring lake, Lough-an-oid, and then, in August 2003 I recorded it again at Loughany, a small lake very near the Donegal border, lying a few km N of Ederny. It is probable that this spate of records derives from having learnt a certain appropriate habitat and searching specifically for it in that habitat – on the very edge of a lake where quaking bog runs right up to the water.

The only other current record is from Lough Corr, NW of Drumquin (BSBI outing, 1995).

There was an old 1930s record from Ardpatrik Lough, near Stewartstown. We have searched for it here without success. This lake lies in alkaline fen, rather than in bog, but there is the appropriate quaking mat of material at the edge of the water, and the presence of *Myrica gale* (Bog-myrtle) might suggest that formerly the environment was more acid.

Ceratophyllum demersum (Rigid Hornwort). This species is continuing to spread in Tyrone. It was first recorded in the county by R. Weyl in 1982 at Ballagh Lough (near Fivemiletown). Weyl then found it on Lough Neagh at several stations on the Tyrone shore in 1988, and it is now a characteristic plant along this shore. In 2002 it was in the lake in Dungannon Park, already at an invasive level and likely to be a serious nuisance to the amenity angling popular on that lake.

Fraxinus excelsior 'Diversifolia' (Ash). Noted on roadside at Urbal, near Coagh, 2001. Dr Gillespie, of Ballygawley, had a record of this from Tullybryan, near his home, in 1966.

Lemna minuta (Least Duckweed). Recorded from a flooded gravel-pit at Mount Stewart, SSE of Fintona, in October 2003. First county record.

Lilium pyrenaicum (Pyrenean Lily). Abundant along a 30-40 m stretch of roadside running alongside the grounds of Greenmount Lodge, SE of Seskinore, 2000. Presumably someone planted some bulbs here many years ago, but the abundance of the plants today suggests that considerable natural extension has taken place. Only Tyrone record.

Myosoton aquaticum (Water Chickweed). This plant was found by J. Harron and myself at a waste ground site in the Fury valley, SSE of Clogher (August 2002). It was growing on spent mushroom compost. First Tyrone record. I revisited the site in July 2003, and all trace of the plant appeared to be gone. However, in September 2003, it turned up in a new location, and once more on spent mushroom compost, at a waste ground site about 1 km W of Castlecaulfield. Here it was in considerable quantity, more or less dominant over an area of 20 m².

Rosa multiflora (Many-flowered Rose). Noted in 2001 along roadside at Carrickrom, not far from Beaghmore (of Stone Circle fame), and seen again just a couple of days later at Cloghfin, a few km W of Cookstown. Presumably both arising from garden reject material (or possibly bird-sown?). First Tyrone records.

Rubus odoratus (Purple-flowered Raspberry). Growing among garden throw-out material in Mountfield Quarry, 2001. The question remains: who would have this rather weedy plant in their garden in the first place? First county record.

Sambucus nigra (cut-leaved variety, possibly var. *lacianata*) (Elder). Recorded in Parkanaur Forest Park, 2000. The bush was growing in an area of little-managed woodland, and not along with any planted selection of unusual

shrubs or trees. Could it have been a rogue natural seedling? Only record for Tyrone.

Scilla liliohyacinthus (Pyrenean Squill). Marginally escaping from a garden at Drumlegagh, 2001. Only Tyrone record.

Symphytum tuberosum (Tuberous Comfrey). At Baronscourt (BSBI Field Meeting, June 2001). Possibly planted, although the setting (in the *Rhododendron* garden) suggested it had come in unintentionally with other plants. Not recorded elsewhere in Tyrone.

Trifolium campestre (Hop Trefoil). Recorded from the waste ground site W of Castlecaulfield (mentioned above under *Myosoton aquaticum*) in September 2003. Kerr, in the 1940s, gave *T. campestre* as a Tyrone plant, but did not quote any sites, and, probably significantly, added that he had not seen it himself. It was first recorded in the county at a named site in 1998 (near Coalisland, R. Irvine and myself). This 2003 record is, therefore, the second specific record.

Trifolium micranthum (Slender Trefoil). Observed on my own lawn in Cookstown, and on that of a neighbour a few doors away, 2001. Only one previous Tyrone record: Strabane Glen (M.J.P. Scannell, BSBI Field Meeting, 1981). It may well occur more often, but minute examination of other people's lawns is not a recommended activity!

I wish to thank Paul Hackney for helping with the identification of many of the above plants.

A REPORT FOR CO. DOWN (V.C. H38), 2003

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Many hours were spent during winter nights in preparation of a rare and threatened species list for Co. Down. In the spring, this was passed to the co-author, Paul Hackney of the Ulster Museum. I hope it will be published during the coming winter (to include a full Co. Down species list), courtesy of CEDaR and the Ulster Museum.

Inclement weather prevented useful recording before 10 May when I attended a Belfast Naturalists' Field Club (BNFC) meeting at the Quoile near Downpatrick. Our leader, Shaun D'Arcy-Burt took us to Shooter's Island to see a large isolated

woodland colony of *Hyacinthoides non-scripta* (Bluebell). Among the true plants there were several specimens of the hybrid *H. non-scripta* × *H. hispanica*. The appearance of the hybrid in such a remote population indicates that pollination can take place over considerable distances and suggests that much of our wild bluebell population will become hybridised. Also visited was Turmennan Fen near Crossgar. The Environment and Heritage Service, Northern Ireland now own this very rich site and, I understand, will in due course open it to the public.

On 18 May I led a BSBI field meeting at Murlough NNR near Newcastle. We had permission from the National Trust to visit restricted areas of the reserve to relocate *Vicia lathyroides* (Spring Vetch), last recorded about 10 years ago. We searched a large proportion of the Reserve but failed to find this Vetch. We were delighted to re-find *Botrychium lunaria* (Moonwort), with thanks to Marion Allen's good memory, and *Filago minima* (Small Cudweed), *Myosotis ramosissima* (Early Forget-me-not) and *Teesdalia nudicaulis* (Shepherd's Cress).

On 10 June I led a BNFC meeting at Scrabo quarries near Newtownards where time was taken to look at peregrine falcons and to discuss differences between *Hedera* 'Hibernica' (Irish Ivy – I've taken a liberty with the common name here!) and *H. helix* (Ivy) with Paul Hackney.

For personal reasons I was not able to record in Co. Down again until over a month later when on 17 July a visit to the Odyssey site at Belfast docks produced *Lepidium ruderale* (Narrow-leaved Pepperwort), a plant that is not uncommon in parts of Belfast. At the site of the recently demolished Belfast Institute there were three flowering plants of a species new to Down, *Clinopodium ascendens* (Common Calamint). It is unclear how this species, native to southern Ireland, should have arrived at this site. The only other record from Northern Ireland is from Benbredagh Mountain in the Sperrins in November 1993.

On a visit to Ballymacormick Point (sometimes you just have to visit nice sites) on 21 July I relocated a large population of *Blysmus rufus* (Saltmarsh Flat-sedge) and a small population of *Eleocharis quinqueflora* (Few-flowered Spike-rush).

On 22 July Paul Hackney and I went to the River Bann below the Spelga Dam to look for *Hieracium stewartii*. Paul had visited the site of the colony below the dam in 2002 to find it had been largely destroyed by works reinforcing the river bank. We found only one plant at this site. We then went to Hilltown and searched upstream where *H. stewartii* had been recorded by Praeger, Stewart and others in about 1891, but without success. It therefore appears that this species, once frequent in parts of the Mourne, is now reduced to a single specimen. Searching the Bann, however, did produce a significant find in an unlikely spot. On a landslip in the river, centimetres above the water, were two flowering spikes of *Spiranthes romanzoffiana* (Irish Lady's-tresses).

No other plants were found despite careful searching. This is the fourth record of this species in Co. Down and the first since 1989. All the other known stations of this plant in Co. Down have been destroyed.

On 25 July I went to record at a cut-over bog near Donaghadee. This was dominated by *Molinia caerulea* (Purple Moor-grass) and *Calluna vulgaris* (Heather) and had a developing woodland of *Betula pubescens* (Downy Birch) and *Salix cinerea* (Grey Willow). Something of special interest often turns up and at this site there was a particularly high density of *Dryopteris carthusiana* (Narrow Buckler-fern).

The *Crambe maritima* (Sea-kale) site S of Newcastle was visited on 30 July when plants were in flower and apparently setting seed. Previously there have been two separate colonies of sea-kale, but this year I could only find one colony. There was evidence of coastal erosion and this may account for the loss.

On 2 August my wife and I visited Coney Island near Killough and recorded over 200 species in the 1-km square. This was the highest number I have found in a 1-km in Co. Down, but we did not find several species previously recorded there including *Crithmum maritimum* (Rock Samphire).

John Harron and I went to Big Copeland, an island off the NE coast, on 9 August. The centre of the island was too sheep-shorn, but the coastal fringe was very interesting. We made many new records and found several species that I do not see regularly on the Down coast including *Anagallis minima* (Chaffweed), *Atriplex littoralis* (Grass-leaved Orache) and *Carduus tenuiflorus* (Slender Thistle). In cobbles on the upper shore was a large colony of *Scutellaria galericulata* (Skullcap). We also found a colony of 15 plants of *Glaucium flavum* (Yellow Horned-poppy) that is probably the largest in Co. Down. Also found were specimens of the hybrid bluebell, *Hyacinthoides non-scripta* × *H. hispanica* in a natural situation.

A visit to Edenderry near Scarva on 14 August proved that *Mercurialis perennis* (Dog's Mercury) is still doing well at this site where it has been known since before 1895.

On 29 August the third Co. Down record was made for *Salix* × *meyeriana* (*S. pentandra* × *S. fragilis*) (Shiny-leaved Willow) at Lisbane Lough near Saintfield, and on 30 August the fourth Co. Down record was made for *Matricaria recutita* (Scented Mayweed) near Hillsborough.

On 31 August *Crassula helmsii* (New Zealand Pigmyweed) was found at a new site, Lough Island Reavy, this being one of the largest fresh-water bodies in Co. Down.

Ceratophyllum submersum (Rigid Hornwort) was present on 2 September in large quantities at Ballydargan Lough near Ballykinler, where the second Irish record was made in 1989. This is a beautiful site and well worth further visits.

Rosa × *rothschildii* (*R. canina* × *R. sherardii*) was found on 15 September near Banbridge, this being the fifth Co. Down record.

On 20 September Wesley Semple and I went to Rostrevor to relocate *Linaria repens* (Pale Toadflax) where Stewart had recorded it in 1886 on Spelga above Killowen. We were unsuccessful and little recording was done here as it is now very heavily sheep-grazed. Late in the day we went to Killowen and found only a single toadflax plant where only a few years ago it had been numerous.

Recording along the shore south of Portaferry on 28 September provided another alien first record, *Cortaderia richardii* (Early Pampas-grass). It had undoubtedly been dumped, though when is uncertain as the plant looked thoroughly established.

On 30 September I visited Newcastle to confirm the first Co. Down record for *Tamus communis* (Black Bryony). The finder, Mrs Anne McComb, had known about the plant for some years and suggested that it had been imported by an adjacent demesne during the Victorian period. That evening I went to Murlough House near Dundrum and found *Panicum miliaceum* (Common Millet), the first Down record since 1928. Remarkably the same species was found on derelict land in Newtownards town centre on 5 November.

There remain a few noteworthy items. During the spring I imported soil from the Bangor area into my garden and along with the 'usuals' there appeared a single specimen of *Claytonia perfoliata* (Springbeauty). This plant was found and identified by my wife, Julia Nunn, and is a first record for Down. Roy Anderson reported finding *Ceratocarpus claviculata* (Climbing Corydalis), a first record for Down, in the sycamore wood by Murlough House in 1996. Lastly, Paul Hackney went to Downpatrick in the spring and records that *Cruciata laevipes* (Crosswort) is no longer to be found at the well-known site at the cathedral where it was previously established (first recorded in Harris's 'Down' of 1744).

G.V. Day

Cherry Cottage, 11 Ballyhaft Road, Newtownards, Co. Down, BT22 2AW

Ten field meetings took place in 2003. I led the first field meeting of the year on dunes at Murlough, Co. Down (v.c. H38) on Sunday 18 May. An account of this meeting should appear in *BSBI News*. Briefly, however, the meeting attracted seven members and *Erodium cicutarium* (Common Stork's-bill), *Filago minima* (Small Cudweed), *Myosotis ramosissima* (Early Forget-me-not), *Teesdalia nudicaulis* (Shepherd's Cress) and *Botrychium lunaria* (Moonwort) were found.

The second meeting was led by Fiona Devery on 7 and 8 June in the Burren (v.c. H9). The botany was wonderful! On the Saturday, after finding *Epipactis atrorubens* (Dark-red Helleborine) and *Ophrys insectifera* (Fly Orchid) by Lough Gealain, we climbed Mullaghmore for superb views over the Burren. On Sunday, we found *Cerastium arvense* (Field Mouse-ear) close to the start of a Green Road east of Carran that again provided wonderful views over the Burren.

John Conaghan has provided the following report on the field-trip in West Galway (v.c. H16) on 14 and 15 June. This field-trip sampled a wide variety of habitats over two days with ten people in attendance on the Saturday and seven on the Sunday. On the Saturday morning areas of conifer plantation, mixed woodland and calcareous lakeshore on the north-western shores of Ross Lake were visited. Noteworthy plant species recorded included the orchids *Neottia nidus-avis* (Bird's-nest Orchid) and *Epipactis helleborine* (Broad-leaved Helleborine). After lunch, an area of limestone pavement to the north of Moycullen was visited. In addition to the usual limestone pavement flora, a nice area of prostrate Juniper heath was noted along with large numbers of *Gymnadenia conopsea* (Fragrant Orchid) and a population of *Rubia peregrina* (Wild Madder). This is one of the most northerly sites for *Rubia peregrina* in the country.

On Sunday, two sites on the Carna peninsula were targeted. In the morning, an area of sand-dune on Mweenish Island was visited, whilst in the afternoon, an area of blanket bog to the north of Derryrush was explored. This latter site produced a number of noteworthy plants including *Eriocaulon aquaticum* (Pipewort), *Rhynchospora fusca* (Brown Beak-sedge) and the alien rush *Juncus planifolius* (Broad-leaved Rush) that still appears to be spreading in the Connemara region.

Gerry Sharkey led the meeting in Co. Mayo (v.c. H26 and H27) on 28 and 29 June and his report appears elsewhere in this publication (pp. 37-38).

Aideen Austin provided the following account of the meeting in Co. Offaly (v.c. H18) on 19 and 20 July. Five members met at Clonmacnoise and set out south for Crevagh. During the morning the party botanised along a track that led westwards from the esker to the flat Shannon floodplain (Callows). The area traversed included a birch wood, an expanse of bog with *Myrica gale* (Bog-myrtle), *Osmunda regalis* (Royal Fern), *Drosera rotundifolia* (Round-leaved Sundew), *Carex dioica* (Dioecious Sedge) and *C. rostrata* (Bottle Sedge) were seen in the wet marshy areas. *Galium uliginosum* (Fen Bedstraw) and *G. palustre* (Common Marsh-bedstraw) were recorded in the ditches. Also noted was *Lathyrus palustris* (Marsh Pea) in bloom. *Lysimachia vulgaris* (Yellow Loosestrife) and *Lythrum salicaria* (Purple Loosestrife) were growing among stands of *Phragmites australis* (Common Reed) bordering the Shannon. The afternoon was spent further south at Clorhane. Here a track leads to the quarries and ponds and continues through the dense *Corylus avellana* (Hazel) scrub and a plantation to the Shannon floodplain. The quarries have not been in use since the 1950s and the area is much overgrown. *Asplenium adiantum-nigrum* (Black Spleenwort) was seen in the hedge adjacent to the quarry entrance. *Nuphar lutea* (Yellow Water-lily), *Typha latifolia* (Bullrush), *Schoenoplectus lacustris* (Common Club-rush) were growing in the water in the quarry. *Listera cordata* (Lesser Twayblade) and *Carex caryophyllea* (Spring-sedge) were recorded from the stony ledges overhanging the water. Large clumps of *Bromopsis ramosa* (Hairy-brome), *Deschampsia cespitosa* (Tufted Hair-grass) outlined the track in the plantation. *Euonymus europaeus* (Spindle), *Rhamnus cathartica* (Buckthorn) and *Frangula alnus* (Alder Buckthorn) were recorded in the natural woodland as one emerged on to the Callows. Clonfinlough, 3 km east of Clonmacnoise was visited on the second day. Access to the site is by a wide BNM (Bord na Mona) railtrack. The area is bounded to the north and east by the Clonfinlough esker ridge and to the south by Finlough and Blackwater Bog. The esker ridge slopes south to Finlough. Formerly the lake was much larger but due to drainage work by farmers in the eighteenth century and in recent times intensive agriculture in the surrounding eskers and the drying out of the peat caused by operations on the bog, the lake is reduced to a small shallow expanse of water. Nevertheless, a diverse flora was noted in the limey flushes and wetlands of the area around the lake. *Selaginella selaginoides* (Lesser Clubmoss) and *Ajuga reptans* (Bugle) were recorded at base of the esker. *Anagallis tenella* (Bog Pimpernel), *Pedicularis palustris* (Marsh Lousewort) and *Parnassia palustris* (Grass-of-Parnassus) were recorded in the fen areas and *Samolus valerandi* (Brookweed) in the mud. Surrounding the lake there is dense growth of *Phragmites australis* (Common Reed), *Typha latifolia* (Bulrush) and *Schoenoplectus lacustris* (Common Club-rush).

The calcium rich soil of the eskers influences the flora of the trackway. *Antennaria dioica* (Mountain Everlasting), *Blackstonia perfoliata* (Yellow-wort), *Centaureum erythraea* (Common Centaury), *Carlina vulgaris* (Carline Thistle), *Thymus polytrichus* (Wild Thyme), *Koeleria micrantha* (Crested Hair-grass) and *Danthonia decumbens* (Heath-grass) were all content in this environment.

Paul Green led the meeting at Coum Iarthar Loughs and Ballydowane Bay, Co. Waterford (v.c. H6) on 25 and 26 July and his report follows. Nine of us met to record for a Flora of the county. Friday was spent surveying Coum Iarthar Loughs in the Comeragh Mountains. Eighty eight species were recorded for the tetrad S3.1B including *Listera cordata* (Lesser Twayblade) and *Euphrasia micrantha* (Eyebright). Saturday was spent on the coast; even though this tetrad (X4.9D) is three quarters sea 201 species were seen. My cap blew off and when a member picked it up there beneath it was *Carex punctata* (Dotted Sedge) – the reason we had come to Ballydowane Bay to see if we could find this sedge. Catriona Brady made the find of the day when she found a single spike of *Coeloglossum viride* (Frog Orchid), last recorded from the bay in 1882 by H.C. Hart. Two days of perfect weather for recording.

On 3 August Dave Riley led a meeting near Limavady in Co. Derry (v.c H40). The morning was spent at the salt-marsh at the Roe National Nature Reserve and in the afternoon we went to the *Hypochaeris glabra* (Smooth Cat's-ear) site at Magilligan.

I would like to thank the leaders of the 2003 field meetings and those who attended.

REPORT ON THE BSBI FIELD MEETING BASED IN TURLOUGH, CO. MAYO
(V.C. H26), 28-29 JUNE 2003

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On Saturday 28 June 2003 a small (but elite!) group of 'the usual Mayo suspects' met in the grounds of the National Museum of Country Life in Turlough, Co. Mayo. Mindful of a forecasted deterioration in the weather, we spent the first day on the Doon Heritage Peninsula on the NE shore of Lough Carra. We were met there by the owner, Mr Tom Quinn, who kindly allowed us unfettered access to the limestone headland, which abounds in the archaeological remains of thousands of years of continuous human use.

The area is fairly densely covered with mainly deciduous woodland, traversed by a network of maintained pathways, which give spectacular views of the lake, and allow access to the shoreline. In the woodland the late remains of a rich spring flora included *Anemone nemorosa* (Wood Anemone), *Ranunculus auricomus* (Goldilocks Buttercup), *Orchis mascula* (Early-purple Orchid) and *Neottia nidus-avis* (Bird's-nest Orchid), along with *Galium odoratum* (Woodruff) and *Melica uniflora* (Wood Melick).

Nearer the lakeshore the woodland gives way a shrubby band including *Rhamnus cathartica* (Blackthorn) and *Euonymus europaeus* (Spindle), and the calcareous theme continues through a species-rich lakeshore with *Euphrasia salisburgensis* (Eyebright), *Equisetum variegatum* (Variegated Horsetail), *Rosa pimpinellifolia* (Burnet Rose) and *Epipactis palustris* (Marsh Helleborine). *Cladium mariscus* (Greater Fen-sedge) grows among the reed-swamp vegetation out on the white marl bed of the lake.

Among the orchid flora, plants closely approaching descriptions of *Dactylorhiza fuchsii* (Common Spotted-orchid) × *Gymnadenia conopsea* (Fragrant Orchid), and *Dactylorhiza fuchsii* × *D. maculata* (Heath Spotted-orchid) (= *D. × transiens*) were found, and also the *Dactylorhiza fuchsii* var. *okellyi* taxon, with pure white flowers and unspotted leaves.

The non-botanical interests of the group were also well catered for; nine species of dragonfly/damselfly were recorded along with many butterflies and moths. Indeed the highlight of the day was probably the good views of a young pine marten, who seemed distinctly uncomfortable with a camera- and binocular-wielding audience. On the whole it was a very successful day, the enjoyment of which was helped enormously, as so often on previous Mayo meetings, by Don Cotton's knowledge of a vast range of diverse species.

Although the promised bad weather failed to arrive on Sunday, the group had been reduced in number, and we spent the day recording a heathland site to the S of Lough Cuillin, and another site on the S shore of the lake itself, where the flora did not contain anything spectacular.

Neither at the heathland site did the flora contain anything unexpected, though we did find some more of the putative *Dactylorhiza fuchsii* × *D. maculata* (*D. × transiens*) material, and we found an unusually robust and dense roadside stand of *Listera ovata* (Common Twayblade), and two more were added to our weekend count of dragonfly species.

MEMBERS' WEEKEND, 28-30 AUGUST 2004

The BSBI Committee for Ireland are intending to hold a Members' Weekend from Saturday 28 August to the lunch time of 30 August 2004. This will be held at Derrygonnelly Field Centre, Co. Fermanagh, which is operated by the Field Studies Council. The Centre is situated in the Carboniferous limestone country to the west of

Lough Erne – a particularly beautiful part of Northern Ireland with a variety of unspoilt habitats.

The general programme will consist of a mixture of plant identification workshops given by BSBI referees, talks on recording practice and field outings, and it is aimed to provide something for all levels of interest and expertise. The meeting has been set up primarily for BSBI members and other field botanists resident in Ireland, but we hope that it may attract interest from BSBI members from Great Britain as well.

BSBI members in Ireland will receive further details in due course, but if you are interested in attending and would like further information now, please write (Paul Hackney, 146 Gobbins Road, Island Magee, Larne, N. Ireland, BT40 3TX) or e-mail (paul.hackney.um@nics.gov.uk).

REQUEST: *SALIX REPENS*

A letter has been received from a BSBI member, Michael Wilcox (21 Burscough Road, Ormskirk, L39 2XE; e-mail 10122999@edgehill.ac.uk; telephone 01695 578 144) who is hoping to visit Ireland in summer 2004 in connection with his undergraduate dissertation. He is looking at subspecific variation in *Salix repens*, particularly var. *fusca*. As far as I am aware, this does not occur in Ireland but the other two varieties (*repens* and *argentea*) certainly do. If you know of good populations of these two varieties or material that might come close to var. *fusca* can you make contact with Michael to pass on details.

ADVERTISEMENT

If you did not know already, Sylvia Reynolds' catalogue of alien plants in Ireland was recently published. The details are:

Reynolds, S.C.P. (2002). *A catalogue of alien plants in Ireland*. National Botanic Gardens, Glasnevin.
ISSN 0792 0422, 414 pages, price £25 soft bound and £40 hard bound (including postage and packing from the National Botanic Gardens, Glasnevin, Dublin 9).

ERRATA

A minor error crept into the article by Maura Scannell in the last edition of *Irish Botanical News* due to scanning of the original typescript (Scannell, M.J.P. (2003). *Cardamine pratensis* L. in suburban Dublin, with a note on the underground Swan River. *Irish Botanical News* **13**, 20-22) – on page 21, it should have been Dr Ralph Horne who was thanked not Dr Ralph Home.

In the article which followed (Scannell, M.J.P. (2003). The rim decoration of the Irish silver strawberry dish derives from the flower of the Wild Strawberry, *Fragaria vesca* L. *Irish Botanical News* **13**, 22-24), the word ‘Street’ was omitted from the sentence towards the bottom of page 23: “The present writer has seen a plate in Molesworth Street with a design of ten leaves ...”.

MINUTES OF THE BSBI – IRISH REGIONAL ANNUAL GENERAL MEETING HELD IN GLASNEVIN, DUBLIN ON 4 OCTOBER 2003 (Unapproved)

ATTENDANCE

Seventeen members attended, welcomed by the Chair, Fiona Maitland.

APOLOGIES

Apologies were received from Anne Carter, Don Cotton, Alan Hill, Rob Lynch, Jenny Neff, Michael Neff, Patrick O’Hara, David Pearman, Raymond Piper, Richard Pryce, Maura Scannell, Wesley Semple, Donal Synnott, Faith White, Mark Wright.

MINUTES OF THE IRISH REGIONAL AGM 2002 held in Belfast on 14 September 2002 were circulated to those members present, read, approved and signed.

CHAIR’S REPORT

Fiona Maitland referred to the highlight of the past year: the Irish launch of the new *Atlas* in Glasnevin, and reported that the Committee had now decided to organise a Members’ Conference in Fermanagh over the last weekend in August 2004.

SECRETARY’S REPORT

This was circulated to members and is appended to these minutes.

FIELD SECRETARY’S REPORT

Graham Day reported that there had been ten field meetings during the year, and that the highest number of persons attending had been ten.

FUTURE DEVELOPMENTS

There was some prolonged discussion on the subject of Republic of Ireland records. The Committee for Ireland had decided on a policy of setting up an independent RoI BSBI database/records centre. John Faulkner expressed a note of caution, hoping that it would not be too independent in case that would inhibit obtaining funding. The subject of Irish records held at BRC Monks Wood was raised, and Caroline Mhic Daeid, as the new representative for the Republic on the BSBI Records Committee, undertook to raise this issue at the next Records Committee Meeting the following week.

VICE COUNTY RECORDERS' REPORTS

Reports for Cos Down, Limerick, Mayo and Kerry were delivered orally.

ELECTION OF COMMITTEE MEMBERS

Retiring at this AGM were Fiona Maitland, Graham Day, Declan Doogue and Alan Hill.

Three new committee members were elected unopposed: Caroline Mhic Daeid, Wesley Semple and Gerry Sharkey (all proposed by Fiona Maitland, seconded by Paul Hackney).

A.O.B.

The meeting recorded its thanks to the outgoing Chair, Fiona Maitland, for her services during her year of office.

The AGM was followed by two talks:

- Paddy Reilly on his recently published *Flora of Cavan*
- Ian McNeill on ongoing work preparing the *Flora of Tyrone*

APPENDIX – Secretary's Report 2002-3

Committee met three times during the year.

There have been a number of recent changes to county recorders:

Sharon Parr has taken over Co. Sligo

Betsy Hickey and Fiona Magowan are to take over Co. Carlow

Neville McKee and Wesley Semple have taken over as joint recorders for Co. Antrim

Paul Green is to join Lady Ro Fitzgerald as co-recorder for Wexford

David McNeill and Ralph Shepherd had been appointed as joint recorders for West Donegal

The highlight of the year was probably the grand Irish launch of the new *Atlas* in this room in December of last year, a highly enjoyable and successful event graced by the presence of the Taoiseach, the actual launch being performed by our president, Richard Pryce.

There have been changes to the representatives from both EHS and Dúchas: Michael Wyse Jackson replaces Colman O'Criodain as NPWS representative and Mark Wright replaces Paul Corbett as EHS representative.

Some proposals did not proceed but remain in abeyance; these include the suggested Irish flora website and the *Epipactis palustris* survey. There are other developments, however, which we have discussed and hope to progress; these are the Irish Members' Weekend in 2004 and the setting up of a BSBI Records Centre for the Republic of Ireland.

Alan Hill has represented Ireland on the BSBI's Records Committee for some time now, but it was felt by both Alan and others that a second representative would be helpful, so that we had representatives for both N. Ireland and the Republic. Caroline Mhic Dhaeid has agreed to fulfil this role and was duly co-opted to the Committee for Ireland in this capacity.

A number of significant changes at the centre of BSBI are in the offing or happened during the year. Ailsa Burns has indicated her desire to retire as General Secretary and is currently awaiting a replacement. Mark Walpole retired as Membership Secretary and has been replaced in that capacity by Gwynn Ellis. BSBI is now looking for a permanent paid executive secretary and Scottish Natural Heritage are said to be enthusiastic about hosting this post.

Following the death of our Royal Patron, the late Queen Elizabeth the Queen Mother, Council had invited Prince Charles to become our new Patron, but he had declined. When Council discussed this again it was felt that it should take no further action to seek a new Patron.

Paul Hackney, Honorary Secretary and Representative on BSBI Council