



Irish Botanical News

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Editor: Alexis FitzGerald



Lycopodium clavatum (Stag's-horn Clubmoss) plant near Clermont Cairn, Co. Louth (H31). Photo C. Flynn
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Committee for Ireland

2021 –2022

The following is the Committee as elected at the Annual General Meeting via Zoom on 25th September 2021. Office bearers were subsequently elected at the first committee meeting. The Committee is now:

Cliona Byrne (Chair, Irish Officer Steering Group)

Ralph Sheppard (Vice-Chair)

Edwina Cole (Hon. Secretary)

Mark McCorry (Field Meetings Secretary)

Oonagh Duggan (Hon. Treasurer)

Shane Brien

Alexis FitzGerald

Jessica Hamilton

David McNeill

Robert Northridge (Irish Officer Steering Group)

John Faulkner attends Committee for Ireland meetings as a BSBI Board of Trustees member

The following are nominated observers to the committee:

Abigail Kilgore (Northern Ireland Environment Agency)

Mike Wyse Jackson (National Parks & Wildlife Service)

Draft Minutes of the BSBI Irish Branch AGM 2021 are available at:

<http://governance.bsbi.org/ireland>

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Front cover photo: *Gentianella amarella* (Autumn Gentian) plant in flower near the Grand Canal at Gallen, Fermanagh, Co. Offaly (**H18**). Photo F. Devery © 2021 (p. 49).

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Notes from the Ireland Officer – Paul Green

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I only had a short break from the job as BSBI acting Ireland Officer, as I finished in October 2021, when Sarah Pierce returned from maternity leave. It is very sad to have to report that Sarah stepped down as the Ireland Officer due to ill health, and I took over again from late February 2022. Sarah has done an exceptional job over the last three years, and will be missed by all. I would like to take this opportunity on behalf of BSBI to thank Sarah for all she has done for BSBI.

Spring Conference 2022

Again, this year it is going to be an online webinar on Saturday 2nd April from 10am through to 1pm. There will be talks on Strawberry-tree (*Arbutus*), Seagrass (*Zostera*), etc. There will be a 15-minute coffee/tea break at half time, where there will be a slideshow of botanical images. If you would like some of your photos to be included, please do send them to the above email address.

Aquatic Plant Project 2022

There will be some online webinar training, and about ten days of field training this year.

In 2021 Nick Stewart did three online webinars for us which were on the topics of Water-starworts (*Callitriche*), Water-crowfoots (*Ranunculus* subgenus *Batrachium*) and Pondweeds (*Potamogeton*) with broad leaves.

Nick Stewart also led six aquatic plant training days for us, three days in Co. Cork, two in Co. Waterford, and one in Co. Kilkenny. John Faulkner led a day on large riparian sedges in Co. Monaghan, and Cilian Roden and John Conaghan led a training day in Co. Galway. In total 51 different people attended the training days.

Irish Grasslands Project

There were four online webinar training days in 2021. The first one was by the Ireland Officer on 'Eight Yellow Members of the Daisy Family'. The second was by Dr Fionnuala O'Neill on 'Meadow-grass and Bent ID'. Brenda Harold did two on Cinquefoils (*Potentilla*), one was aimed at beginners, and the other at the more advanced botanist, and Richard Bateman gave two talks on Fragrant Orchids (*Gymnadenia*).

Five grass ID field training days also took place. These were led by the Ireland Officer, with Edwina Cole (Cork & Kildare), Fiona MacGowan (Laois) & Brian O'Connor (Wexford x 2) assisting.

We have decided to put on hold the Irish Grassland Project this year, but hopefully pick it up again in 2023.

Our YouTube video talks from 2021 on the BSBI website, from the above two projects, our Spring Conference, and our Autumn meeting have been viewed over 5000 times between them, which is very impressive!

I hope I will get the chance to meet many of you on field meetings this year.

***Irish Botanical News* Editorship**

Irish Botanical News is a much-anticipated publication each Spring for its readers. Paul Green successfully edited IBN for 15 years and has now retired following the publication of the previous 2021 issue. Mr. Alexis FitzGerald joint-edited the 2021 issue of *Irish Botanical News* and now takes over the position of Editor fully for the present issue and going forward. Paul continues to serve a mentorship and advisory role for Alexis, which has been greatly appreciated by the latter.

Death

Dr. Don Cotton died in Sligo on 13 January 2022, aged 71 years. Don was appointed as the Vice-county recorder (VCR) for Leitrim (**H29**) in 1995, and in 2006 he became VCR for Sligo (**H28**). His pre-2000 records were a valuable contribution to the *New Atlas of the British and Irish Flora* (2002), and his more recent records will be incorporated in the yet-to-be published Third Atlas. He will be greatly missed by all those involved in Irish botany. A full obituary will appear in *BSBI News*.

Vice-county Recorder vacancies

We currently have four Vice-counties vacant, namely, Co. Waterford (**H6**), Co. Cavan (**H30**) and more recently, Co. Limerick (**H8**) and Co. Sligo (**H28**) (see **Death** above).

Sylvia Reynolds has retired from her position as Vice-county recorder (VCR) for Co. Limerick (**H8**) as of 1st March 2022, after nearly 40 years of service in the county, and to the BSBI more broadly. Her contributions in that county (including her 2013 publication, *Flora of County Limerick*) have been extensive and detailed and will greatly aid botanical research and conservation work there for years to come.

If you would like to coordinate records for either Waterford, Cavan, Limerick or Sligo, with a view to becoming a VCR, or want more details about what is involved, please get in touch with our Ireland Officer, Paul Green – paul.green@bsbi.org.

Introduction from newly appointed Vice-county Recorders

West Mayo (H27)

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Eoin was reared in Westport, within the Vice-county (**H27**), and has always had a general interest in all aspects of Irish natural history. After studying aquatic and woodland ecology he originally worked in various fisheries roles before joining the National Parks & Wildlife Service in 1999. He has been the Conservation Ranger for SW Mayo since 2004 and is

especially interested in the ecology of uplands, islands, lakes and seashores. He has been a member of the BSBI since 2013 and is very much looking forward to taking on the role of Vice-county recorder (VCR) as it will give him an excuse to explore and record the lesser-known areas of this large and diverse Vice-county and to improve his botanical skills. Some interesting finds that he has recorded include first Vice-county records for *Lathraea squamaria* (Toothwort), *Datura stramonium* (Thorn-apple) and *Atriplex portulacoides* (Sea-purslane). He is a keen gardener with a particular interest in Japanese Maples who has always had a fascination with the great plant collectors of the past and has made botanical pilgrimages to areas such as Sichuan, Nepal and Patagonia where some of their iconic discoveries were made. Other particular wildlife interests include moth distributions and seabird populations.

Royal Irish Academy Praeger Grants in Natural History

The Royal Irish Academy Praeger award scheme has recently been revived. Its purpose is to ‘provide support for costs directly connected with Ireland’s field natural history’.

As it is in honour of perhaps our most famous natural historian, Robert Lloyd Praeger (1865–1953), it is for field-based projects within the area of natural history. Applications are welcome for projects on any aspect of natural history, which, as well as flora, includes fauna, geology and related subjects. Applications must be for expenses to carry out a discrete piece of work, e.g. studying the field ecology of an unusual species or the species associated with a specific habitat within Ireland. Results must be written as a report and aim to be published in a journal, such as the Irish Naturalists’ Journal. Grants usually do not exceed €2,000.

Applications have been open since February 2022 and the grant scheme will close for applications on 14th April 2022. Applicants should be notified before the end of May. Further details will be available on the Royal Irish Academy website here: <https://www.ria.ie/praeeger-grants-natural-history>.

Micheline Sheehy Skeffington

The taxonomy of *Rosa corymbifera* Borkh. and the morphological description of four of its interspecific hybrids in the Irish and British flora, with special reference to the cross *Rosa corymbifera* x *R. sherardii* Davies

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Abstract

Within the genus *Rosa* L. section *Caninae* DC., subsect. *Caninae* (Dog-roses) as represented in the European Flora, the taxon *Rosa corymbifera* Borkh. has long been

considered a valid, morphologically distinct species in Continental Europe. In Britain and Ireland by contrast, the taxonomy of this species has had a chequered history, which is reviewed in detail in this paper. Data is also provided for *four* interspecific hybrids involving *Rosa corymbifera* in the Irish and British Flora, namely: *R. corymbifera* x *R. agrestis* Savi; *R. canina* L. x *R. corymbifera* (and its reciprocal); *R. squarrosa* (A. Rau) Boreau x *R. corymbifera* (= *R. x hemitricha* Ripart ex Déségl.) and *R. corymbifera* x *R. sherardii* Davies – this latter hybrid receiving a detailed treatment, while relevant photographs are included (see pages 36-38 for Plates 1-5), to illustrate many of its distinctive diagnostic characters.

Introduction

With the publication of the monograph, *Roses of Great Britain and Ireland* (Graham & Primavesi, 1993), a *revised* taxonomic treatment of *Rosa* L. sect. *Caninae*, subsect. *Caninae* (Dog-roses) came into operation and, in my opinion, far from it clarifying the taxonomy of dog-roses for rhodologists, this treatment *greatly added* to the problems of accurate identification of interspecific hybrids within subsect. *Caninae*. The major changes within this work that led to this unfortunate situation, were as follows:

1. The morphologically distinctive species, *Rosa corymbifera* Bork. (Hairy Dog-rose) was relegated to informal taxonomic rank under *R. canina* L. (Dog-rose) as ‘group *PUBESCENTES*’.
2. The species, *R. caesia* Sm. (Northern Dog-rose) and *R. vosagiaca* (N.H.F. Desp.) Déségl. (Glaucous Dog-rose) were relegated to subspecific rank under *R. caesia*, as: *R. caesia* subsp. *caesia* and *R. caesia* subsp. *glauca* (Nyman) G.G. Graham & Primavesi, respectively.

A regrettable consequence of this taxonomic treatment was, that *all* of the previously recorded binary interspecific hybrids that involved *R. corymbifera* as either pollen or seed parent in the British and Irish Flora, were ‘lost’ to the modern generation of botanists and rhodologists! For example, in the account of *Rosa* interspecific hybrids in the major work, *Hybrid Flora of the British Isles*, Maskew (in Stace *et al.*, 2015), did *not* include *R. corymbifera* hybrids, as the taxonomic treatment of the genus *Rosa* in this work, followed that of Graham & Primavesi (1993). The aim of this current paper, is to demonstrate the validity of *Rosa corymbifera* Borkh. (Hairy Dog-rose) as a distinct species within *Rosa* subsect. *Caninae*, and to provide an account of its four interspecific hybrids: *Rosa corymbifera* x *R. agrestis* Savi (Small-leaved Sweet-briar); *Rosa canina* L. *s.s.* x *R. corymbifera* (and its reciprocal); *R. squarrosa* (A. Rau) Boreau (Glandular Dog-rose) x *R. corymbifera* (= *R. x hemitricha* Ripart ex Déségl.) and *corymbifera* x *R. sherardii* Davies (Sherard’s Downy-rose). (**Note:** In recent years, there has been a *major U-turn* by British rhodologists, with regard to the taxonomy of *Rosa* subsect. *Caninae*, in order to bring it more in line with its treatment in Continental Europe. This pragmatic reversal in attitude has come about, in order to hopefully obtain a consensus among European rhodologists, as to the list of species to be universally recognised in both mainland Europe and in Britain and Ireland – thus leading to a more coherent and scientifically rigorous and meaningful

taxonomy of caninoid roses. The ‘end’ aim, is to facilitate the accurate recording of dog-rose species and their interspecific hybrids throughout this region, rather than to have ongoing disputes as to the morphological circumscription of certain taxa within *Rosa* sect. *Caninae*. An initial, online (Bakker *et al.*, 2017) presentation of this consensus proposal (and the subsequently published paper – Bakker *et al.*, 2019) recognised *fifty-three* interspecific hybrids within *Rosa* sect. *Caninae* as occurring in the British and Irish Flora – in contrast to the previous *thirty-five* recognised by Maskew (in Stace *et al.*, 2015). This upsurge in interspecific hybrid numbers, was attributable to the British acceptance of the following four species (and their hybrids) as occurring in the British and Irish Flora: *Rosa corymbifera* Borkh. (Hairy Dog-rose); *R. caesia* Sm. (Northern Dog-rose); *R. vosagiaca* (N.H.F. Desp.) Déségl. (Glaucous Dog-rose) and *R. squarrosa* (A. Rau) Boreau (Glandular Dog-rose). This important change in the British taxonomy of *Rosa* subsect. *Caninae*, was flagged by Maskew (2017) and Maskew & Stace (2018).

The taxonomic treatment of the pubescent-leaved counterparts of *R. canina* L. in the European Flora

Throughout mainland Europe, Britain and Ireland, the ubiquitous and abundant *glabrous*- and *non-glandular*-leaved *Rosa canina* L. (Dog-rose), commonly cohabits with a range of superficially similar *non-glandular* taxa that differ from it in possessing a variable quantity of pubescence – particularly on their leaves and leaf-rachides (see later notes). On the European mainland, this latter taxon was treated as a single, distinct species, and named *Rosa corymbifera* Borkh. – a taxonomic treatment still rigidly adhered to there, up to the present day. In Britain, by contrast, species status for this entity has long been disputed (resulting in a convoluted taxonomic history for this taxon) though for pragmatic reasons, both Wolley-Dod (1931-1932) and Melville (in Stace, 1975) retained it at species rank (as *R. dumetorum* Thuill.), and listed its interspecific hybrids separately from those of *R. canina*. Similarly, Wigginton & Graham (1981) also recognised *Rosa dumetorum* as a distinct species, and incorporated it into their innovative key to the genus *Rosa* as represented in the British Flora. However, in his account of the genus *Rosa* for the second edition of the work, *Flora of the British Isles*, Warburg (in Clapham *et al.* 1962) did *not* recognise *R. dumetorum* as a distinct entity, but rather included its features within an expanded morphological circumscription of *R. canina*, in which the leaves of this latter species varied from glabrous to pubescent. The chequered taxonomic history of *Rosa corymbifera* (as *R. dumetorum*) in these islands is similarly mirrored in Irish literature accounts of the genus *Rosa*. For example, Scannell & Synnott (1987), in the second edition of the work, *Census Catalogue of the Flora of Ireland*, accepted the species status of *R. dumetorum*, and recorded it from seventeen of the forty Irish Vice-counties, while also giving the distributions of its two, recorded, interspecific hybrids. Yet Professor David Webb did *not* recognise a pubescent-leaved counterpart to *R. canina* (i.e. *Rosa dumetorum*/*R. corymbifera*) as occurring on the island of Ireland and, consequently, it is absent from all eight editions of his work, *An Irish Flora*, which span the period 1943-2012. (Note: However, it has to be said that the taxonomically formidable genus *Rosa*, hardly sparked the interest of David Webb, and this is reflected in his *minimalist* treatment of this genus in the various editions of his Flora, wherein incomplete keys, and some species descriptions, hardly improved in quality or usefulness, between publication of, for example,

the 4th revised edition of his Flora (Webb, 1963) and the 7th revised edition (Webb *et al.*, 1996), the overall effect resulting in *Rosa* accounts that are of little value as identification aids for Irish botanists.)

The post-1990 taxonomic treatment of *Rosa corymbifera* in the British & Irish Flora

Prior to the publication of the *Rosa* monograph, *Roses of Great Britain and Ireland* (Graham & Primavesi, 1993), the authors' (then, both BSBI Referees for the genus *Rosa*) had to resolve a range of issues pertaining to rose nomenclature, while also deciding which taxa were to be accorded specific rank. The results of their deliberations were subsequently incorporated into a paper entitled: 'Notes on some *Rosa* taxa recorded as occurring in the British Isles' (Graham & Primavesi, 1990). In particular, this research revealed a number of unexpected confounding factors relating to the taxonomic status of *Rosa dumetorum* Thuill. and *Rosa corymbifera* Borkh.! With regard to *R. dumetorum*, they stated: "The lectotype without doubt consists of a hybrid of *R. canina* and *R. obtusifolia* Desv. [i.e. *R. tomentella* Léman]. So also does most Continental material labelled *R. dumetorum* at **K**, including one specimen labelled by Crépin as having been collected by Thuillier. The original description of *R. dumetorum*, though somewhat inadequate, confirms the determination. The British 'hairy *canina*' hitherto named as *R. dumetorum*, does not correspond with Thuillier's material. As far as we know, *R. x dumetorum* is the earliest (and therefore correct) name for the hybrid *R. canina* x *R. obtusifolia*." In the same paper (1990: 120-121) they stated in relation to *R. corymbifera* Borkh.: "Specimens from **PR** so determined by Kláštersky, and seen by us, are without doubt the hybrid of *R. canina* and *R. obtusifolia*, with *R. obtusifolia* as the seed parent. Kláštersky's (1968) description of *R. corymbifera* in *Flora Europaea* [volume 2], though somewhat inadequate, also appears to refer to this hybrid. However, Borkhausen's very clear and detailed description cannot possibly be applied to this hybrid. Except for the pronouncedly corymbose inflorescence, which is unusual but not unknown in British material, Borkhausen's description points unequivocally to the pubescent variety of *R. canina* ... which some British rhodologists have hitherto named *R. dumetorum* Thuill. It is unfortunate that there is no type specimen. Kláštersky's species concept for *Rosa* seems to be largely pragmatic, in that he assigns specific status to several hybrids. We do not know whether he consulted Borkhausen's description, but we cannot see how this description could be interpreted as applying to the specimens which we saw determined by Kláštersky as *R. corymbifera*. We do not think there is any justification for separating from *R. canina*, at species level, plants which differ from it only by the pubescence (often slight) of the leaves. However, if this distinction were to be made, the correct name for the taxon is *R. corymbifera* Borkh."

In keeping with their above viewpoint, *Rosa corymbifera* was subsequently relegated to the informal taxonomic rank of 'group *Pubescentes*' within the species *Rosa canina*, in the monograph, *Roses of Great Britain and Ireland* (Graham & Primavesi, 1993); moreover, in the same work, the authors' also reduced the species *R. caesia* Sm. (Northern Dog-rose) and *R. vosagiaca* (N.H.F. Desp.) Déségl. (Glaucous Dog-rose) to subspecific status under *R. caesia*. This new taxonomic treatment of British *Rosa* was subsequently faithfully followed in the 2nd and 3rd editions of *New Flora of the British Isles* (Stace, 1997, 2010) and, in relation to the subsuming of *R. corymbifera* within *R. canina*, Stace disparagingly commented: "Hairy plants ... are often separated as a species [distinct from

R. canina], but every intermediate exists; they are best treated as an informal group ‘*Pubescentes*’.” Unfortunately, these regressive taxonomic decisions subsequently triggered the law of unintended consequences in a number of ways. Firstly, the highly polymorphic *Rosa canina* had its morphological boundaries greatly expanded, thus transforming it into a ridiculous ‘super-polymorphic’ species, that bore *no* relationship to the lectotype of *R. canina* L. s.s., which is a *wholly glabrous* taxon. Secondly, records for the interspecific hybrid cross, *R. canina* x *R. tomentosa* Sm. (= *Rosa* x *scabriuscula* Sm.), a hybrid that always, or virtually always, displays *glabrous* leaves and leaf-rachides (cf. O’Mahony, 2003), now *also* inadvertently incorporated material of the cross, *R. corymbifera* x *R. tomentosa* and its reciprocal, which latter hybrid bears pubescence on *both* leaflet surfaces, and displays densely crispate-pubescent or puberulent, variably stipitate-glandular leaf-rachides and leaf-petioles (these glands emitting a *resinous* scent on rubbing). This unintended amalgamation of two, quite different, interspecific hybrids, clearly lacks scientific rigour, and hardly bodes well for the production of accurate distribution maps of interspecific hybrids within *Rosa* section *Caninae* in Britain and Ireland. (**Note:** It could also be reasonably argued that the reduction of *R. caesia* and *R. vosagiaca* to subspecific status under *R. caesia* had no practical merits whatever, but instead unnecessarily confounded the taxonomy of British *Rosa* in the years after publication of the work, *Roses of Great Britain and Ireland*.) Yet, this untenable taxonomic situation remained unchanged (and unchallenged) up to the account of interspecific hybrids within the genus *Rosa* in the monumental tome, *Hybrid Flora of the British Isles* (Maskew in Stace *et al.*, 2015), where, in the Introduction to this *Rosa* account, attention is drawn to the fact that *Rosa corymbifera* Borkh. is regarded as a distinct species on the European mainland, and also in Ireland, by the rhodologist T. O’Mahony.

Towards a consensus taxonomy on European *Rosa* L. sect. *Caninae* DC species: setting the wheels in motion

On 28 August 2014, I received an email from Professor Clive Stace, informing me that he, Roger Maskew (the current BSBI *Rosa* referee) and the two Dutch rhodologists, Piet Bakker and Bert Maes, were working on a document that would seek to obtain a consensus among European rhodologists regarding the species within the genus *Rosa* L. section *Caninae* DC, that occur in northern, western and central Temperate Europe, including Britain and Ireland. In this respect, among the compromises to be made by British and Irish rhodologists (in order to accommodate the divergent taxonomic views of European mainland rhodologists) *was a major taxonomic U-turn*; namely, the recognition of the four species, *Rosa corymbifera* Borkh. (Hairy Dog-rose), *R. caesia* Sm. (Northern Dog-rose), *R. squarrosa* (A. Rau) Boreau (Glandular Dog-rose) and *R. vosagiaca* (N.H.F. Desp.) Déségl. (Glaucous Dog-rose). Moreover, a concomitant to this course of action, was the need to record the many interspecific hybrids involving the above four species in the British and Irish Flora. With regard to Ireland, Clive Stace requested data on (a) the morphological diagnostic characters I use for delimiting *Rosa corymbifera* from *R. canina*; and (b) the interspecific hybrids I have recorded, that involve *R. corymbifera* (see data on these taxa below). On providing him with a detailed description of Irish *R. corymbifera*, Clive Stace felt that it essentially agreed with the British taxon, then attributed to *R. canina* ‘group *Pubescentes*’.

An Irish study of *Rosa corymbifera*, suggests it is a valid species, distinct from *R. canina* s.l.

I first began a study of the genus *Rosa* in Ireland in 1973, as a complete novice, and during the time period 1975-1978, I initially concentrated on the taxonomy of *Rosa corymbifera* (this taxon then being known and recorded as *R. dumetorum* Thuill.) and the \pm *non-glandular* taxa within *R. canina* s.l. (i.e. *excluding* Wolley-Dod's (1931-1932) informal taxonomic group 'DUMALES'), given that these were the two commonest rose species in the Cork Flora. This field study revealed that the *only* common denominators between the various *R. canina* populations, *was that they all displayed glabrous, non-glandular foliage*. Yet, in stark contrast to these two points of uniformity, was the remarkable fact that the leaves of this species proved *bewilderingly polymorphic*, my observations recording considerable morphological plasticity in leaflet shape, dimensions, tothing, texture and colour – not only between populations, but often between individual, adjacent bushes in hedgebanks and hedgerows. Moreover, *no* correlation could be found between these leaf forms and other features of these bushes. This chameleon-like visual leaf effect, contrived to suggest that I was dealing with a range of different, cohabiting, dog-rose species – an erroneous initial impression that soon evaporated after detailed study of these bushes. (Note: In his monograph, *A Revision of the British Roses*' Wolley-Dod (1931-1932) attempted to address the extraordinarily difficult taxonomy of the *glabrous-leaved taxa* within *Rosa canina* s.l. by recognising *three* informal groups within this complex, which he named: (1) Group LUTETIANAE (a uniserrate-eglandular taxon, corresponding with the lectotype of *R. canina* L. in LINN); (2) Group DUMALES (a taxon with biserrate-glandular or multiserrate-glandular leaflets, its leaf-rachis *moderately to densely stipitate-glandular* all over); and (3) Group TRANSITORIAE (a taxon morphologically transitional between groups (1) and (2), and possibly representing hybrids between them). The present-day taxonomic treatment of this complex (e.g. Maskew, 2017; Maskew & Stace, 2018; Stace, 2019; Bakker *et al.*, 2019) now combines groups *Lutetianae* and *Transitoriae* within the circumscription of *Rosa canina* L. s.s., while group *Dumales* is given species status as *Rosa squarrosa* (A. Rau) Boreau (Glandular Dog-rose) – a rank it has long held on the European mainland.)

However, from the start of my study, *R. corymbifera* impressed me as a remarkably morphologically stable and distinct species, *exhibiting a strongly correlated suite of morphological features*, as I highlighted in a brief paper at that time (O'Mahony, 1977). Moreover, this favourable initial impression that *R. corymbifera* is a distinctive dog-rose taxon deserving of species rank, has been bolstered and strengthened over the intervening years and decades, following on my critical examination of thousands of bushes of this taxon from numerous localities in southern Ireland. (Unexpectedly, it soon became clear that vegetative (1st-year) leaf shoots of *R. corymbifera* could be identified with some confidence from a moving car, an observation that I have corroborated on many occasions over the years.) Furthermore, despite *R. corymbifera* and *R. canina* commonly cohabiting in hedgebank habitats throughout southern Ireland and the island of Ireland generally, their interspecific hybrid (see description of this taxon, below), seems surprisingly scarce (overlooked?) though of widespread occurrence in at least Mid Cork (H4) and East Cork (H5). Indeed, I suspect that the reciprocals of this hybrid may well be of frequent occurrence (if equally overlooked) in Britain, and that their largely unrecognised presence there,

accounts for the misgivings expressed by Stace (1997, 2010) and the long-standing doubts of other British botanists, as to the recognition of *Rosa corymbifera* as a valid dog-rose species. I provide below, a description of Irish material of *Rosa corymbifera*. Additionally, I list the two interspecific hybrids involving this species that have previously been recorded in Ireland, together with most of those that I have recorded to date, and which latter are the source for the published Irish records in the 4th edition of the work, *New Flora of the British Isles* (Stace, 2019).

A morphological description of Irish material of *Rosa corymbifera*

A robust, arching shrub to 4 m high; **stem prickles**: arcuate to hooked, broad-based; **leaflets**: predominantly broadly ovate-acute to suborbicular-acute, the *adaxial* (upper) face *glabrous* and (in some 80%-90% of bushes) coated with a greyish-green or subglaucous waxy covering that, on removal, reveals a bright, glossy-green epidermis; **leaflets**: *pubescent* on the lower (abaxial) midrib and lateral veins, their teeth *coarsely uniserrate-eglandular*, and often irregular in size; the *teeth- and stipule-margins with a fringe of short, hairs*; **leaf-rachis and petiole**: *always with either spreading, densely crispate hairs, or minute puberulence*, and either *wholly eglandular*, or with a few stout stipitate-glands *confined to the rims of the rachis-channel*; **hip-disc**: domed, subconical or conical, its stylar orifice *c.* 0.4-0.7 mm in diameter, and 1/5-1/6 the width of its disc; its small head of styles variably pubescent, and *breaking* on attempting to remove them intact, from their hip.

The contrasting morphological characters of *Rosa corymbifera* and *R. canina* s.s.

(1) The *large, broadly ovate or suborbicular, predominantly acute* (rather than acuminate) leaflets of *Rosa corymbifera* (particularly those of the sterile, 1st-year shoots) are *stable in shape*, while their adaxial (removable) waxy covering is a characteristic feature of this species in *c.* 80-90% of its populations and, when present, gives this species a very distinctive appearance, setting it apart from all other taxa within the genus *Rosa* subsect. *Caninae*. The densely crispate-pubescent or puberulent \pm eglandular leaf-rachis is also a very distinctive feature, while, as outlined above, leaflet pubescence is present abaxially, and also occurs on the margins of the leaf-teeth and stipules.

(2) As stated earlier in this paper, the leaf morphology of *Rosa canina* s.s. is *notoriously polymorphic*, and it is a common experience to find cohabiting hedgebank bushes of this species, that diverge from each other in a wide spectrum of leaf characters, the leaflets of these bushes differing in shape, dimensions, colour, texture and tothing (the teeth either neatly serrate or serrulate and apically-directed, *or* irregular-sized and outcurved, thus giving a *ragged outline* to the leaflets. Moreover, the adaxial face of the *glabrous* leaflets may vary from green and glossy, to matt, *or display a permanent greyish or glaucous cast* (a feature *absent* in *R. corymbifera*) or, alternatively, bear a thin, adaxial, waxy covering that, on removal reveals a shiny epidermis – yet, *none* of these characters seem remotely correlated, in contra-distinction to the suite of vegetative characters in *R. corymbifera*, which are tightly correlated. Bearing in mind the phenomenal range of leaf-polymorphism displayed by *R. canina* s.s. it comes as no surprise to occasionally discover leaf variants of this species that closely mimic those of (a) *Rosa stylosa* Desv. (Short-styled Field-rose) in

shape, dimensions and colour; or **(b)** those of *R. corymbifera* – but these *R. canina* mimics, lack the leaf- and rachis-pubescence of these two species. Little wonder then, that while examining herbarium material of the *R. canina* complex, Graham & Primavesi (1990:120) commented: “It is difficult to determine from the accounts of Continental authors, exactly *what* [my emphasis] is included under this name [i.e. *R. canina* L. s.s.]”

***Rosa corymbifera* interspecific hybrids in the British and Irish Flora**

In the *Rosa* account for the *Hybrid Flora of the British Isles*, Maskew (in Stace *et al.*, 2015) included *no* interspecific hybrids involving *Rosa corymbifera*, as this species was not recognised as a distinct species in that work, in which the *Rosa* taxonomy was based on the treatment employed in *Roses of Great Britain and Ireland* (Graham & Primavesi, 1993). Some twenty-four years later, however, specific status was once again given to this taxon (cf. Bakker *et al.*, 2017, 2019) and, at the same time, Stace (2019) listed *twelve* interspecific hybrids involving *R. corymbifera* within *Rosa* sect. *Caninae* in the British and Irish Flora, and a further two with *R. arvensis* Huds. (Field-rose) and *R. spinosissima* L (Burnet Rose). In Ireland, to date, only two interspecific hybrids involving *R. corymbifera* (as *R. dumetorum*) have been published, the records appearing in the work, *Census Catalogue of the Flora of Ireland* (Scannell & Synnott, 1987). These records are as follows (*seed*-parent given first):

- *R. pimpinellifolia* L. [*R. spinosissima* L.] x *R. dumetorum* – Fermanagh (**H33**), Down (**H38**), Antrim (**H39**).
- *R. dumetorum* x *R. sherardii* – East Cork (**H5**).

In the course of my long-term study of the genus *Rosa* in Ireland (1973-2021), I have always regarded *R. corymbifera* as a distinct rose species, and most of the additional interspecific hybrids I have since recorded involving this species, are published in this present paper. (**Note:** in all cases, the *seed* parent is given first, in each binary combination listed below.)

***Rosa corymbifera* x *R. agrestis* Savi (Small-leaved Sweet-briar):**

In late-June 1995, while visiting Doohyle Lough and surrounding alkaline fen (**H8**, R37.43.) near Rathkeale, Co. Limerick, with the late Michael Troy, I found a large stand of *Rosa agrestis* bordering a section of the lough, while *two*, flowering bushes of the rose cross, *R. corymbifera* x *R. agrestis* occurred in a nearby field-boundary hedgebank. The description of this hybrid is as follows: a robust, arching shrub with the general facies of *R. corymbifera*; **leaflets:** ovate-acute, with multiserrate-glandular teeth, the subfoliar (abaxial) face pubescent and with scattered, *apple-scented*, sweet-briar-type stipitate-glands on the midrib and sometimes on the lateral veins (these *viscous*, *apple-scented* stipitate-glands contributed by *R. agrestis*); **leaf-rachis and petiole:** densely crispate-pubescent (an *R. corymbifera* character) and stipitate-glandular (*R. agrestis*); **bract- and stipule-margins:** with an *admixture* of glands of both parent species; **petals:** large, white, *c.* 20-28 x 20-24 mm; **outer sepals:** 5-6 mm broad at their base, their pinnae linear-elliptic and sparsely and neatly fringed with *large-headed*, *apple-scented* stipitate-glands. *In contrast* to this hybrid, the flowers of the nearby *R. agrestis* population were *small*, the *narrow* petals initially pink-

flushed, but fading to white after anthesis, and *c.* 16-20 x 15-16 mm; **outer sepals:** *narrow, 3.5-4.5 mm wide at base, unarmed dorsally*, their **pinnae** *foliose* and coarsely stipitate-glandular on their margins, their glands (and the subfoliar stipitate-glands of the *cuneate*-based leaflets) large, and apple-scented.

Stace (2019) only listed the Co. Limerick (**H8**) record for *R. corymbifera* x *R. agrestis*, this interspecific hybrid cross (not recorded by Melville, 1975) apparently being unknown elsewhere in Ireland or Britain at the present time, though no doubt new stations will be found for it in coming years. Maskew (in Stace *et al.*, 2015) recorded *Rosa agrestis* as involved (as pollen or seed-parent) in *six* other interspecific hybrids in the British and Irish Flora. Most of these hybrids are rare, given the rarity of *R. agrestis* itself over much of Britain and Ireland. Of these, the cross *R. agrestis* (female) x *R. canina* is known from eight hectads in Britain, and one in Ireland.

R. canina* x *R. corymbifera (and its reciprocal) (= ***R. x semiglabra*** Ripart ex Crép.)

Both crosses of this interspecific hybrid are of scattered occurrence throughout Co. Cork (**H3-H5**), but no doubt are under-recorded throughout Britain and Ireland, as they are easily overlooked unless deliberately searched for. At the present time, the cross *R. corymbifera* x *R. canina* seems the rarest in Co. Cork, and is best distinguished from typical *R. corymbifera*, by the presence of *some* leaves with *near-glabrous rachides and sparse leaflet pubescence*, distributed amongst an abundance of leaves with typically densely crispate-pubescent or puberulent rachides. The reciprocal cross, *R. canina* x *R. corymbifera* generally has narrower, *R. canina*-like, ovate-acuminate leaflets with *sparse* abaxial hairs, such hairs also occasionally occurring on the margins of the stipules and/or of the leaflet teeth; the **leaf-rachis** *varies from glabrous, to sparsely pubescent, to densely pubescent* on leaves from the same bush. (**Note:** *Rosa squarrosa* and its hybrids with *R. corymbifera* and *R. canina* usually display many (*scentless*) stipitate-glands distributed all around the leaf-rachides, while the leaflet margins are generally biserrate-glandular or multiserrate-glandular, *all* glands being *scentless*.) Stace (2019) recorded *R. x semiglabra* only from MW England and SW Ireland, but commented: “[It] is probably common and widespread” – a viewpoint with which I fully agree.

Rosa squarrosa* x *R. corymbifera (= ***R. x hemitricha*** Ripart ex Déségl.)

I have found this cross to be of widespread, if seemingly scarce occurrence, in Mid Cork (**H4**) and East Cork (**H5**), but to date it has not been recorded elsewhere in either Ireland or Britain, though Stace (2019) reported its reciprocal (i.e. *R. corymbifera* x *R. squarrosa*) from Salop (**VC40**). The Cork *R. squarrosa* x *R. corymbifera* material displays ovate-acuminate or lanceolate-acuminate leaflets with multiserrate-glandular teeth, their adaxial (upper) face glabrous and the abaxial sparsely pubescent and with occasional (*scentless*) stipitate-glands; the leaf-rachides are rather densely stipitate-glandular and variably (often densely) crispate-pubescent or puberulent, as in *R. corymbifera*.

R. corymbifera* x *R. sherardii Davies

This hybrid cross was added to the East Cork (and Irish) flora in July 1977, when I discovered it in flower and early-fruit on a roadside hedgebank bordering the R614 (Cork-Rathcormack Road), close to Keam Bridge (**H5**, W71.88.) on the North Bride River, shortly

east of Glenville village. Although this stretch of roadside is frequently flailed by subcontractors employed by Cork County Council, the hybrid was – against all expectations – displaying some ripe hips here, on 25 September 2021, some forty-four years after its original discovery (see included photograph). This hedgebank population is now augmented with some six, small bushes derived, presumably, from dropped hips from the mother plant over the years. My vigilant searches elsewhere in southern Ireland for this nationally rare hybrid cross, during the period 1977-2003, finally produced a *second* East Cork site for it in July 2003, shortly NW of Ballyvolane Crossroads (**H5**, W 68.74.), Cork City, in a roadside hedgebank *also* bordering the R614 (i.e. the Cork-Rathcormack Road). Here, also, dropped hips over the years from the upright mother plant on the hedgebank, had produced some nine, roadside verge progeny. However, the latter bore *prostrate* stems – seemingly in an effort to survive from year-to-year, from the biannual ravages of hedgebank and road verge flailing. Yet, even under these gruelling conditions, these grossly distorted shrubs usually manage to produce a few ripe hips each year. Despite the fact that these two, highly disjunct populations of the cross *Rosa corymbifera* x *R. sherardii* are *tenuously linked* by their connection to the R614 (both populations are separated along this road by a distance of *c.* 17 km, or an *aerial* distance of *c.* 15 km), and that they are remarkably similar in visual appearance and morphology – both may still be of *polytopic* origin, as the *hip shapes* of each are different, the Glenville plants invariably displaying *subglobose* hips, while the Cork City population constantly produces *narrowly-ovoid* hips (cf. the included, comparative hip photographs in this paper). (**Note:** A fascinating phenomenon in respect to both East Cork (**H5**) populations of *R. corymbifera* x *R. sherardii*, is that, while the hips of each are found to be *highly achene-sterile* on vertical-sectioning, yet there is *no* outward indication of this situation, as the hips are *perfectly formed!* This feature markedly contrasts with the hips of most infertile interspecific *Rosa* hybrids, which are generally *obviously malformed*.)

This hybrid cross (both populations) exhibits the following, shared, *Rosa sherardii* (pollen parent) features: **stems:** ± stiffly upright, the branches short, straight and subpatent; slender, arcuate, *Rosa sherardii*-like prickles scattered on the bushes; **flowers:** with *deep rose-pink petals*; **sepals:** only 3.5-4.5 mm wide at their base, and, at the **fruit stage**, rigid, *erecto-patent* and *tardily deciduous*, though occasional sepals remain feebly attached to the ripe hips; **outer sepals:** with *apically-directed*, ± *eglandular*, *rabbit-ear-like pinnae*; **disc:** *concave*, its **stylar orifice** *c.* 1.2-1.5 mm in diameter and varying from 1/4-1/3 the width of its disc; **styles:** densely pubescent-sericeous, *forming a short, wide bundle*, measuring *c.* 5 x 1.5 mm, and usually easily removable intact from the hip by means of a thumbnail or a needle; **exserted styles + stigmas:** forming a compact, domed, pubescent head, *that covers c. 2/3 of the disc*; **pedicels:** very short (5-10 mm long), *mostly unarmed*, but occasionally bearing a few short (*c.* 0.75 mm long) stipitate-glands; **vertically-sectioned hips:** *displaying numerous blackened, aborted achenes and only 1-4 (-6) fully developed achenes*. The *R. corymbifera* (seed-parent) acquired morphological features in this hybrid cross are distinctive and definitive and, apart from the *broad-based, arcuate or hooked stem prickles* (see photograph) are predominantly provided by the leaves: **leaflets:** *matt, grey-green* adaxially, due to a *fine, waxy coating* which, on removal, reveals a *glossy-green epidermis*; moreover, *both leaflet surfaces are pubescent and eglandular*, while their **teeth** are *uniserrate-eglandular*, and the **stipule-margins** are *devoid* of *R. sherardii*-like

stipitate-glands; additionally, the **leaf-rachis** of this hybrid cross, also displays the abundant, spreading, *crispate* hairs and \pm lack of stipitate-glands, that are *so* characteristic of its *R. corymbifera* parent, while most **pedicels** are *unarmed*; **sepals**: either *unarmed*, or some displaying a *variable quantity of minute glandular-setae on their dorsal face*.

(**Note:** This hybrid displays some fascinating, if anomalous, features. For example, the *wholly unexpected* preponderance of *pollen*-parent inherited characters over those contributed by the seed-parent, totally bucks the usual trend in hybrids within section *Caninae*, in which *seed*-parent features dominate in the hybrid, as a consequence of their much greater genomic contribution. Yet, the possibility that this hybrid represents the *reciprocal* cross, *R. sherardii* x *R. corymbifera*, can safely be ruled out, given the *absence* of stipitate-glands on the abaxial face of the leaflets and on the stipule-margins, and their rarity on the leaf-rachis, pedicels and sepals; the uniserrate-eglandular leaflet teeth (rather than multiserrate-glandular as in *R. sherardii*); the presence of a *removable waxy coating* on the adaxial face of the leaflets (*never* present in *R. sherardii*, the adaxial face of its leaflets being *permanently matt-glaucous*); and the leaf-rachis tomentum consisting of spreading, *crispate* hairs (an *R. corymbifera* character), rather than the *minute puberulence* (mixed with a few longer hairs) so typical of *R. sherardii*. The presence of pubescence on *both* surfaces of the leaflets of the hybrid is an *additive* feature, inherited from both parents.) Two other interesting features of this hybrid need comment. Firstly, while the hips of the cross, *R. corymbifera* x *R. sherardii* are *highly achene-sterile*, as noted above, the few achenes that develop fully are generally *atypical*, as they *often lack the angular outline and flat or shallowly-concave lateral faces* of normal achenes, as seen in most taxa within *Rosa* sect. *Caninae*. Instead, these fertile achenes are *frequently symmetrical in shape, being ovoid or lanceoloid, with rounded faces*, and are *c.* 5-6 x 2.5-3 mm in overall dimensions. (**Note:** The symmetry of the very few fully-developed achenes in the *highly achene-sterile* interspecific hybrid *Rosa* cross, *R. stylosa* x *R. arvensis* (= *R. x pseudorusticana* Crépin ex Preston) is even more pronounced, while these developed achenes are *large-dimensioned*, at *c.* 5.5-7 x 2.75-4.5 mm (O'Mahony, 2020)). Secondly, the *offspring* that arise from the cross, *Rosa corymbifera* x *R. sherardii*, are *identical* in vegetative morphology – resembling ‘clones’ of the parent plant, rather than displaying F2 segregation. As a consequence, such vegetative similarity cannot even be tentatively attributed to *apomixis*, as the presence of this latter phenomenon should ensure that the hips are fully fertile, rather than being highly sterile, as is the case with the two East Cork (**H5**) populations of this hybrid cross.

The European distribution of *Rosa corymbifera* x *R. sherardii*

The interspecific hybrid cross, *Rosa corymbifera* x *R. sherardii* is currently only known from its two East Cork (**H5**) sites in Ireland, with *no* recorded extant sites for this taxon in Britain (Melville, 1975; Stace 2019), while Bakker *et al.* (2017, 2019) record it as *absent* in Germany and the Netherlands, and provide no indication of its presence elsewhere in Europe. This is a quite remarkable, counter-intuitive situation, as both parent species cohabit frequently over much of Britain, Ireland, and parts of mainland Europe. However, with regard to the *accuracy* of identification of the cross, *R. corymbifera* x *R. sherardii*, Stace (2019) stated: “... extremely difficult to distinguish from *R. canina* x *R. sherardii* [= *R. x rothschildii*].” I stress that there is **no** evidential basis for this statement, as the following description of the cross, *R. canina* x *R. sherardii* (= *R. x rothschildii*) in Graham

& Primavesi (1993), *amply* demonstrates the differences between both of these interspecific hybrids: “Habit and armature of *R. canina*. Leaflets are glabrous or slightly pubescent, often suffused with crimson, sometimes glandular-biserrate. Reddish, aromatic *sherardii*-type glands are usually found on the under-surface of the leaflets. At least a few glandular-hispid pedicels are normally present. Sepals are usually reflexed, but may fall late. Stigmas are usually very hispid, and in a small head.” My photographs accompanying the description of *R. corymbifera* x *R. sherardii* in this present paper, capture many of the distinctive diagnostic features of this seemingly extremely rare interspecific hybrid cross, in Ireland and Britain.

Now that *Rosa corymbifera* Borkh. (Hairy Dog-rose) has been reinstated to the British and Irish rose-flora, it is interesting to note that it has been recorded as hybridising with *ten* of the remaining twelve species within *Rosa* section *Caninae* in these islands (Bakker *et al.*, 2019; Stace, 2019), the apparent exceptions being *Rosa rubiginosa* (Sweet-briar) and *R. micrantha* (Small-flowered Sweet-briar). However, I suspect that some or many of these are *historical* records, dating back to the years or decades prior to publication of the rose monograph, *Roses of Great Britain and Ireland* (Graham & Primavesi, 1993). In contrast to this situation, *four* of the included hybrids are described for the first time in this current paper, not having previously been recognised/recorded in the British or Irish Flora, namely: *R. corymbifera* x *R. canina* and its reciprocal (= *R. x semiglabra*); *R. corymbifera* x *R. agrestis*; *R. squarrosa* x *R. corymbifera* (= *R. x hemitricha*) and *R. corymbifera* x *R. sherardii*. Within the British and Irish Flora, *R. corymbifera* has also been recorded as hybridising with *Rosa arvensis* Huds. (Field-rose) (= *R. x déségliisii*) and *R. spinosissima* L. (Burnet Rose) (= *R. x hibernica* Templeton).

Addendum

The editor of *Irish Botanical News*, Alexis FitzGerald, has informed me that vouchers of *Rosa* material he collected in two locations in Co. Monaghan (**H32**) in 2016, were subsequently examined in 2019 by the BSBI *Rosa* referee, Roger Maskew, and attributed to the cross, *R. corymbifera* x *R. vosagiaca*. Full information on this addition to the Irish Flora (including a detailed description) will be published in due course. In Britain, the cross *R. corymbifera* x *R. vosagiaca* is currently only recorded from MW England (Stace, 2019).

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The chance discovery of *Carex punctata* (Dotted Sedge), a new native sedge for Co. Wexford

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I was looking at the distribution map in my database for *Cochlearia danica* (Danish Scurvygrass), and noticed that there were two monads that had Danish Scurvygrass recorded in them that joined the neighbouring hectad S61 at Ballyhack, the head of Waterford Harbour. Danish Scurvygrass had not yet been recorded from the Co. Wexford (H12) part of the hectad. It has been known from one site, in the Co. Waterford part of the hectad since 2003.

It was late March 2021 when I set out to find the Danish Scurvygrass. I could see the stretch of coast I wanted to walk. The problem was how to get to it, as there is no public access. A boat or kayak would have been the best option, but I don't have either. In the end I decided the best and quickest solution was to drop down through a steep dense 100m gorse slope to the top of the sea-cliff, and walk along the cliff top until I could find a way to get

down onto the beach. It didn't take long before I found the Danish Scurvygrass, on the bare dry rocky areas of the cliff-face. It was surprisingly abundant, but only near the east side of the monad, and I couldn't find it in any other monads in the hectad.

Whilst walking along the beach I noticed a number of sedge rosettes on the rock-face, and instantly thought they could be *Carex punctata* (Dotted Sedge), just because of the greenish-yellow colour of the leaves. I had no field guides on me, and I didn't want to collect a specimen. On returning home and checking my database I was surprised, as I had forgotten, that I had found one clump of Dotted Sedge on the Co. Waterford side of the estuary at Creadan in 2005.

I returned in early July to take a look at my sedge. Sure enough it was as predicted, *Carex punctata*, a new native sedge for Co. Wexford. It was fruiting nicely, and it was found in two separate small populations, one consisting of 14 clumps, and the other of seven.

Carex punctata is fairly common on the Irish coast in the far southwest, South Kerry (**H1**), North Kerry (**H2**) and West Cork (**H3**). It is rare along the rest of the coast of Co. Cork, and hasn't been seen for over 20 years from Mid Cork (**H4**), and over 120 years from East Cork (**H5**). It is known from 17 sites in the neighbouring county of Waterford (**H6**). There is also a cluster of sites on the west coast from West Galway (**H16**), and one from Co. Clare (**H9**).

As the new site for *Carex punctata* was from the most eastern county along the south coast I thought I must have the most eastern site in Ireland. I was shocked to find it can be claimed by Co. Waterford. The headland of Creadan Head stretches out in Waterford Harbour for over 1km. Where the Dotted Sedge grows is 2 metres east of the Ballyhack site. 2 metres isn't much, but it is just enough to be able to say Co. Waterford has the most easterly site in Ireland for Dotted Sedge.

An open letter to the BSBI President-elect, Micheline Sheehy Skeffington

John Faulkner, *Orchard Road, Lough Gall, Co. Armagh*

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Dear Micheline

Congratulations on becoming BSBI's President-elect! Your election is very opportune, and I hope you are looking forward to the challenge of taking over when Lynne Farrell steps down at the next AGM.

Being President is a wonderful role as you have no job description to follow and you set your own targets. The staff and Board of Trustees do the donkey work. Your boss is the membership as a whole, but three thousand people can't tell you what to do, so you just listen and get on with it. The downside, of course, is that you are not paid a cent but what does that matter when you are enjoying yourself?

You will have the aftermath (we all hope!) of Covid to cope with. Despite the devastation it's caused, it has given BSBI opportunities no one could have anticipated. Who better to take these on than you? You will be only the third President in the Society's long history from Ireland, and only the second from "Ireland" in the geopolitical sense. The first was, of course, the inimitable David Webb.

That was something I only realised when, a few years ago, I was invited to take on the task. Another was that there had been only one female president, Mary Briggs. To me, that was even more surprising and disappointing, mainly on principle, but also because it did not at all reflect the enormous contribution that so many women have made to botany and to BSBI. All that was, of course, before Lynne's election, but you will understand much better than I that there remains more to do to redress that particular balance.

I found the prospect of taking on the Presidency from a base in Ireland was indeed somewhat daunting: frequent travel to GB to mingle with myriads of other botanists steeped in the British flora and the history, haunts and habits of the Society. My familiarity was mainly with the modest scale of the botanical community of Ireland and particularly with the intimate but tiny one in the North. But it was an opportunity not to be sneezed at. The travel could be combined with visits to family living in GB. So I took the plunge!

One of the targets I set was to attend at least one meeting of each of the BSBI Committees over the two-year term, and also both of the AGMs. This experience was enlightening. For example, in Ireland we tend to think that Vice-counties in GB have hundreds of active botanical recorders. We forget that, like Ireland, many parts of GB are also sparsely populated with botanists; we are not unique in that regard. It's worth bearing in mind that more than 50% of all BSBI Vice-counties are in Scotland or Ireland, and only 37% are in England. On the other hand, our flora is somewhat different and our social and legal environment – both North and South – is in some ways very different. I found that the Country Committees reflected well the differences within the domain of BSBI – which is of course their *raison d'être*. The Standing Committees, however, sometimes struggled to do so. Most of them were dominated by botanists from England, with few or none from Ireland, and their discussions often ignored us.

Covid has changed the rules of engagement. Within Ireland, we have hardly been able to meet face-to-face for 2 years. On the other hand, on-line meetings have burgeoned. Whereas attending a meeting in, say, London could take up the best part of two whole days, cost a small fortune, and pump many kilos of carbon into the atmosphere, it can now be done from the comfort of your home for negligible cost. It is not a full substitute for meeting in person, but the relative convenience is amazing, and as a consequence you can do so much more.

You will have your own agenda. I am sure it will share at least one feature with mine: ensuring that Ireland and Irish botanists play a full role as equal partners in the BSBI enterprise. We've come a long way in recent years. The total membership of BSBI has grown substantially, the Irish membership even more so. The Society has improved its structures, embraced the IT revolution, and is on the verge of launching an exciting new Atlas. Our staff are superb at complementing the input from volunteers. Is this a time to consolidate? Or to look outwards to those who hardly notice plants? Or to seek closer ties with other botanists in Europe? Or with those whose responsibility is conservation? Or just

to enthuse about plants everywhere? Whatever causes you decide to champion, I am sure you will enjoy yourself and meet goodwill wherever you go.

Wishing you the very best of luck, and a consistent tailwind,

John Faulkner (President 2015-2017)

A selection of Co. Monaghan (H32) specimens donated to the National Herbarium (DBN), National Botanic Gardens, Glasnevin: 2015-2020

Alexis FitzGerald

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In preparation for an upcoming *Flora of County Monaghan* publication (currently in its final editing stages), I have been donating voucher specimens for new county records or otherwise rare plant records from Co. Monaghan (**H32**) made by myself to the National Herbarium (**DBN**), National Botanic Gardens, Glasnevin, in Dublin. These donations were made annually from 2015 to 2020. The main aims of the donations were to create as broad a representation as possible of the Monaghan flora within the National Herbarium, to support rare/new county records with representative voucher specimens and also to facilitate further detailed research on the particular groups/species collected. In total, 381 vascular plant specimens and 17 charophyte specimens were donated to the National Herbarium during this period. Below is presented a selection of these aforementioned specimens. Summary details of the donated specimens are given, however, full information for the records (including higher resolution grid references) may be requested from myself or from the National Herbarium (notes on records below: grid references are presented in Irish Grid; taxonomy, order and nomenclature follows Stace (2019), whilst for *Rubus*, *Taraxacum* and *Hieracium*, Sell & Murrell (1996-2018) is followed; det. = determined by; conf. = confirmed by; AF = Alexis FitzGerald; **NIR** = new Irish record; **NCR** = new county record).

Chara aculeolata Kütz. – Tullyallen Lough, N85.99, 2018 (AF – conf. Nick F. Stewart, 2018)

Chara curta Nolte ex Kütz. – Lough Corcrin, H86.04, 2016 (AF – det. Claudia C. Ferguson-Smyth, 2018).

Equisetum hyemale L. (Rough Horsetail) – in woodland by a tributary of the River Blackwater near Straclevan, H551.396, 2017 (AF)

Equisetum × *litorale* Kühlew. ex Rupr. (*E. fluviatile* × *E. arvense*) (Shore Horsetail) – SE shore of Muckno Lough near Toome, H863.175, 2018 (AF – conf. Declan Doogue, 2018)

Azolla filiculoides Lam. (Water Fern) – Blackraw Lough, H642.269, 2017 (AF) (**NCR**)

Thelypteris palustris Schott (Marsh Fern) – E edge of Drumreaske Lough, H643.350, 2015 (AF)

Polystichum × *bicknellii* (Christ) Hahne (*P. setiferum* × *P. aculeatum*) – a single plant amongst dominant *P. setiferum* on a bank in woodland by S edge of River Blackwater just NE of Faulkland Bridge (Upper), H693.371, 2017 (AF – conf. Fred Rumsey, 2017)

Ceratophyllum demersum L. (Rigid Hornwort) – abundant at E edge of Hollywood Lough, H60.35, 2015 (AF)

Ceratocarpus claviculata (L.) Lidén (Climbing Corydalis) – roadside hedgerow NW of Lough Nahinch, H781.269, 2015 (AF)

Fumaria purpurea Pugsley (Purple Ramping-fumitory) – grassland by trackway at Mullanarry at the SW edge of Carrickmacross, H835.035, 2019 (AF – conf. Tim C.G. Rich, 2019) (NCR)

Ranunculus trichophyllus Chaix (Thread-leaved Water-crowfoot) – Tullyallen Lough, N85.99, 2018 (AF)

Ranunculus circinatus Sibth. (Fan-leaved Water-crowfoot) – NE edge of Ballyhoe Lough, N85.95, 2017 (AF – conf. Colin Kelleher, 2017) (NCR)

Melilotus altissimus Thuill. (Tall Melilot) – wasteground at Ummerafree, H764.080, 2017 (AF) (probably introduced with dumped soil/gravel) (NCR)

Cotoneaster lacteus W.W. Sm. (Late Cotoneaster) – roadside bank at Drumgoan, H830.034, 2017 (AF – det. Jeanette Fryer, 2017) (NCR)

Cotoneaster bullatus Bois (Hollyberry Cotoneaster) – wasteground beside a drain in front of Carrickmacross Workhouse, H837.040, 2015 (AF – det. Jeanette Fryer, 2015) (NCR)

Cotoneaster moupinensis Franch. (Moupin Cotoneaster) – self-sown on wasteground in the SE of Clones, H505.255, 2017 (AF – det. Jeanette Fryer, 2017) (NIR & NCR)

Rubus nessensis Hall – edge of trackway near Corleadargan Bog, just NW of Drumillard Lough, H811.213, 2015 (AF – det. David E. Allen, 2016) (NCR)

Rubus platyacanthus P.J. Müll. & Lefèvre – wasteground near a roadside just NE of Knockatallan, H567.399, 2017 (AF – det. David E. Allen, 2017; Allen ms. 2020) (NCR)

Rubus prolongatus Boulay & Letendre ex Lefèvre – roadside near Eshveragh, Slieve Beagh, H592.455, 2017 (AF – det. David E. Allen, 2017) (NCR)

Rubus lamburnensis Rilstone – scrubland at edge of disused quarry at Killygally, N839.991, 2017 (AF – det. David E. Allen, 2017) (NCR)

Rubus winteri P.J. Müll. ex Focke – acidic scrubland near E edge of Crinkill Lough, H767.196, 2016 (AF – det. David E. Allen, 2016; Allen ms. 2020) (NCR)

Rubus griffithianus W.M. Rogers – near Lough Fea, H82.01, 2018 (AF – conf. David E. Allen, 2018) (NCR)

Rubus euryanthemus W.C.R. Watson – edge of trackway just NW of Drumillard Lough, H810.213, 2017 (AF, David E. Allen & David Nash – det. David E. Allen; Allen ms. 2020) (NIR & NCR)

Rubus bloxamii (Bab.) Lees – bank by minor road just E of Coolberrin Hill, H621.476, 2018 (AF – conf. David E. Allen, 2018; Allen ms. 2020) (NCR – second Irish record)

Potentilla × *suberecta* Zimmeter (*P. erecta* × *P. anglica*) – trackway through felled forestry plantation near Drumgeeny, N884.984, 2015 (AF – det. Brenda Harold, 2015) (NCR)

Potentilla × *mixta* Nolte ex Rchb. (*P. anglica* × *P. reptans*) (Hybrid Cinquefoil) – roadside verge SE of Lough Naglack, H859.023, 2015 (AF – conf. Brenda Harold, 2015) (NCR)

Rosa corymbifera Borkh. × *Rosa vosagiaca* (N.H.F. Desp.) Déségl. – hedgerow near road at Mullaghrafferty, N847.976, 2016 (AF – det. Roger Maskew, 2019) (NIR & NCR)

Ulmus × *hollandica* Mill. (?*U. glabra* × *U. minor*, or *U. glabra* × *U. minor* × *U. plotii*) (Dutch Elm) – edge of minor road just S of Drumboory Lough, N86.99, 2019 (AF – det. Max Coleman, 2019) (NCR)

Salix × *capreola* Jos. Kern. ex Andersson (*S. caprea* × *S. aurita*) – by a ditch in an area of cutover blanket bog near Carricknabrock, Slieve Beagh, H553.433, 2017 (AF – conf. Irina Belyaeva, 2017) (NCR)

Epilobium × *floridulum* Smejkal (*E. parviflorum* × *E. ciliatum*) – wasteground by a service station in the E of Clones, H505.260, 2017 (AF – det. Geoffrey Kitchener, 2017) (NCR)

Epilobium × *rivulare* Wahlenb. (*E. parviflorum* × *E. palustre*) – S edge of Drumreask Lough, H643.349, 2016 (AF – det. Geoffrey Kitchener, 2016; FitzGerald 2017a) (NCR)

Rorippa islandica (Oeder ex Gunnerus) Borbás – roadside by a bridge over the Ulster Canal near Gransha More, H545.271, 2019 (AF – conf. Tim C.G. Rich, 2019) (NCR)

Rorippa × *anceps* (Wahlenb.) Rchb. (*R. sylvestris* × *R. amphibia*) (Hybrid Yellow-cress) – near W edge of Rahans Lough, N832.978, 2016 (AF – conf. Tim C.G. Rich, 2016)

Brassica napus L. subsp. *oleifera* (DC.) Metzg. (Oil-seed Rape) – wasteground at the edge of Lakeland Nursery, H770.197, 2016 (AF – conf. Tim C.G. Rich, 2016) (NCR)

Brassica juncea (L.) Czern. (Chinese Mustard) – contaminant in a *Brassica* crop in Alsmeed, H887.242, 2018 (AF – det. Tim C.G. Rich, 2018) (NCR – otherwise only known in Ireland in Co. Limerick (H8) (Botanical Society of Britain and Ireland, 2022))

Rapistrum rugosum (L.) Bergeret (Bastard Cabbage) – wasteground on building site at Drumbeo, H762.326, 2017 (AF) (NCR)

Reynoutria sachalinensis (F. Schmidt) Nakai (Giant Knotweed) – roadside at Drumgristin, H762.233, 2017 (AF) (NCR)

Rumex × *digeneus* Beck (*R. hydrolapathum* × *R. conglomeratus*) – Drumreask Lough, H643.349, 2016 (AF – conf. Geoffrey Kitchener, 2016; FitzGerald 2017a) (NIR & NCR)

Rumex × *weberi* Fisch.-Benz. (*R. hydrolapathum* × *R. obtusifolius*) – Feagh Lough, H591.229, 2017 (AF – det. Geoffrey Kitchener, 2017) (NCR)

Rumex × *schulzei* Hausskn. (*R. crispus* × *R. conglomeratus*) – marshy grassland by SW edge of Drumcaw Lough, H679.389, 2016 (AF – conf. Geoffrey Kitchener, 2016) (NCR)

Rumex × *dufftii* Hausskn. (*R. sanguineus* × *R. obtusifolius*) – by wooded path near a stream in Rossmore Forest Park, H654.313, 2017 (AF – det. Geoffrey Kitchener, 2017) (NCR)

Montia fontana L. subsp. *variabilis* Walters (Blinks) – Lough Avaghon, H68.13, 2015 (AF – det. Michael Wilcox, 2015) (NCR)

Galium uliginosum L. (Fen Bedstraw) – growing by heavily vegetated floating fishing platforms on S shore of Drumganny Lough, H887.085, 2015 (AF)

Calystegia × *lucana* (Ten.) G. Don (*C. sepium* × *C. silvatica*) – with both parents on a hedgebank by the Ulster Canal on the E side of Monaghan town, H676.336, 2016 (AF – conf. Paul Green, 2016) (NCR)

Calystegia × *howittiorum* Brummitt (*C. pulchra* × *C. silvatica*) – roadside near Crove, H662.343, 2016 (AF – conf. Paul Green, 2017) (NIR & NCR) (see page 43)

Datura stramonium L. (Thorn-apple) – contaminant in *Cannabis sativa* (Hemp) crop just N of Burdautien Lough, H495.286, 2018 (AF) (NCR)

Callitriche hermaphroditica L. subsp. *macrocarpa* (Hegelm.) Lansdown (Autumnal Water-starwort) – Greaghlonge Lough, H75.02, 2015 (AF – conf. Richard V. Lansdown, 2015) (NCR)

Stachys × *ambigua* Sm. (*S. sylvatica* × *S. palustris*) (Hybrid Woundwort) – on wet shaded ground at edge of plantation woodland by Lakeland Nursery, H770.197, 2016 (AF)

Mentha × *villosa* Huds. (*M. spicata* × *M. suaveolens* Ehrh.) (Apple-mint) – grassy bank near N edge of Dromore River behind a service station in the W of Ballybay, H716.208, 2015 (AF – det. Ray Harley, 2015) (NCR)

Euphrasia officinalis L. subsp. *anglica* (Pugsley) Silverside (English Eyebright) – heathland near Tassan Lough, H79.26, 2017 (AF – conf. Chris Metherell, 2017) (NCR)

Euphrasia arctica Lange ex Rostrup subsp. *borealis* (F. Towns.) Yeo × *E. nemorosa* (Pers.) Wallr. – grassland by W edge of Lough Corcrin, H864.044, 2015 (AF – det. Chris Metherell, 2015) (NCR)

Euphrasia micrantha Rchb. × *Euphrasia salisburgensis* Funck var. *hibernica* Pugsley – heathland W of Lough Nahinch, H781.269, 2015 (AF – det. Chris Metherell, 2015; FitzGerald 2016) (NCR – otherwise only known in Ireland in West Galway (H16) (Metherell & Rumsey, 2018))

Cirsium × *forsteri* (Sm.) Loudon (*C. dissectum* × *C. palustre*) – with both parents in wet grassland near N edge of Lough Meenish, Slieve Beagh, H569.416, 2018 (AF) (NCR)

Helminthotheca echioides (L.) Holub (Bristly Oxtongue) – dumped soil on wasteground by a newly built house just E of Drumboory Lough, N871.972, 2019 (AF) (NCR)

Cicerbita macrophylla (Willd.) Wallr. (Common Blue-sowthistle) – roadside bank near Scoil Mhuire Muineachán in Monaghan town, H677.337, 2018 (AF) (NCR)

Taraxacum inclinorum A.J. Richards – on a bank by the Mountain Water W of Coyles Bridge, H592.463, 2016 (AF – det. A. John Richards, 2016; Richards & Doogue 2017) (*this is the holotype of the species, which was new to science*) (see page 43)

Taraxacum pietii-oosterveldii H. Øllg. – wet acidic grassland by W edge of Lough Corcrin, H864.044, 2016 (AF – det. A. John Richards, 2016; Richards & Doogue 2017) (NCR)

Taraxacum gaelorum A.J. Richards – margin of pathway by N edge of Annaghmakerig Lough, H589.207, 2017 (AF – det. A. John Richards, 2017)

Taraxacum incisum H. Øllg. – Carrickashedoge Church graveyard, N844.989, 2016 (AF – det. A. John Richards, 2016) (NIR & NCR)

Pilosella officinarum F.W. Schultz & Sch. Bip. subsp. *trichosoma* (Peter) P.D. Sell & C. West (Mouse-ear-hawkweed) – growing on a ruined church near NE edge of Lough Egish, H787.140, 2016 (AF – det. Tim C.G. Rich, 2016) (NCR)

Hieracium spilophaeum Jord. ex Boreau – abundant on bank by side of disused railway bridge at Clonfad, H448.185, 2016 (AF – det. Tim C.G. Rich & David J. McCosh, 2016)

Hieracium scotostictum Hyl. – on a gravel trackway in the SE of Carrickmacross, H848.034, 2018 (AF – det. Tim C.G. Rich, 2018) (NCR)

Erigeron karvinskianus DC. (Mexican Fleabane) – on a wall beside a drain in front of Carrickmacross Workhouse, H837.040, 2015 (AF) (NCR)

Erigeron floribundus (Kunth) Sch. Bip. (Bilbao's Fleabane) – wasteground at Ummerafree, H764.080, 2017 (AF) (probably introduced with dumped soil/gravel) (NCR)

Galinsoga parviflora Cav. (Gallant-soldier) – growing as a weed in Lakeland Nursery, H770.197, 2016 (AF) (NCR)

Acorus calamus L. (Sweet-flag) – well naturalised and in abundance at Peter's Lough, Monaghan town, H67.33, 2015 (AF)

Baldellia ranunculoides (L.) Parl. (Lesser Water-plantain) – abundant at SW edge of Greaghlonge Lough, H754.026, 2018 (AF)

Butomus umbellatus L. (Flowering-rush) – Convent Lough, Monaghan town, H66.33, 2015 (AF)

Stratiotes aloides L. (Water-soldier) – abundant at Annagheane Lough, H468.181, 2015 (AF)

Potamogeton gramineus L. (Various-leaved Pondweed) – E edge of Moyduff Lough, N698.094, 2017 (AF – det. Chris Preston, 2017)

Potamogeton pusillus L. (Lesser Pondweed) – Lough Naglack, H85.02, 2017 (AF – det. Chris Preston, 2017)

Allium paradoxum (M. Bieb.) G. Don (Few-flowered Garlic) – roadside verge just NW of Corcuilloge Lough, H852.049, 2016 (AF) (NCR)

Sparganium erectum L. subsp. *oocarpum* (Čelak.) Domin (Branched Bur-reed) – Derry Lough, N84.96, 2016 (AF – det. Richard V. Lansdown, 2016) (NCR)

Juncus × *surrejanus* Druce ex Stace & Lambinon (*J. articulatus* × *J. acutiflorus*) – with both parents on a wet slope by a tributary of the River Blackwater SW of Lough Bradan, Slieve Beagh, H565.423, 2016 (AF – conf. Tom Cope, 2016) (NCR)

Juncus × *kern-reichgeltii* Jansen & Wacht. ex Reichg. (*J. effusus* × *J. conglomeratus*) – damp rushy grassland with both parents on the E slope of Coolberrin Hill, H620.478, 2018 (AF – conf. Michael Wilcox, 2018) (NCR)

Luzula multiflora (Ehrh.) Lej. subsp. *hibernica* Kirschner & T.C.G. Rich (Heath Wood-rush) – edge of forestry trackway just SW of Dromore Lough, H603.163, 2017 (AF – conf. Tim C.G. Rich, 2017) (NCR)

Trichophorum × *foersteri* (Swan) D.A. Simpson (*T. cespitosum* × *T. germanicum*) – abundant in a raised bog remnant E of Kilmore Lough, H562.376, 2018 (AF – conf. Jeremy Roberts, 2018) (NCR)

Eleocharis quinqueflora (Hartmann) O. Schwarz (Few-flowered Spike-rush) – base-rich fen by Kilroosky Lough, H495.273, 2015 (AF; FitzGerald 2016)

Eleogiton fluitans (L.) Link (Floating Club-rush) – Drumgallan Bog, H813.283, 2018 (AF)

Carex × *boeninghausiana* Weihe (*C. paniculata* × *C. remota*) – with both parents in wet woodland near N edge of Hollywood Lough, H608.358, 2016 (AF – conf. Mike Porter, 2016; FitzGerald 2017b) (NCR)

Carex elongata L. (Elongated Sedge) – abundant in wet woodland by SW shore of Dromore Lough, H606.160, 2017 (AF)

Carex lasiocarpa Ehrh. (Slender Sedge) – transition mire on S shore of Lough Meenish, Slieve Beagh, H569.416, 2018 (AF)

Carex riparia Curtis (Greater Pond-sedge) – in wet woodland by SW shore of Dromore Lough, H605.160, 2017 (AF)

Carex pseudocyperus L. (Cyperus Sedge) – fairly abundant in wet woodland just W of a minor road at Annahean, N882.983, 2015 (AF)

Carex × *involuta* (Bab.) Syme (*C. rostrata* × *C. vesicaria*) – with both parents by N edge of Ballyhoe Lough, N849.957, 2017 (AF – conf. Mike Porter, 2017) (NCR)

Carex strigosa Huds. (Thin-spiked Wood-sedge) – by a wooded pathway along the E edge of Glaslough, H726.416, 2015 (AF – conf. John Faulkner, 2015)

Carex × turfosa Fr. (*C. nigra* × *C. elata*) – with both parents by N edge of Ballyhoe Lough, N849.957, 2017 (AF – conf. Mike Porter, 2017) (NCR)

× *Schedolium loliaceum* (Huds.) Holub (*Schedonorus pratensis* × *Lolium perenne*) (Hybrid Fescue) – within *Cannabis sativa* (Hemp) crop just N of Burdautien Lough, H495.286, 2018 (AF) (NCR)

Lolium × boucheanum Kunth (*L. perenne* × *L. multiflorum*) – with both parents on a bank by the side of a disused railway bridge just N of Newbliss, H564.241, 2016 (AF – conf. Tim C.G. Rich, 2016) (NCR)

Festuca ovina L. subsp. *ophiolicola* (Kerguelen) M.J. Wilk. (Sheep’s-fescue) – bank by a ruined church near NE edge of Lough Egish, H787.140, 2016 (AF – det. Arthur Copping, 2016) (NCR – population confirmed by cytological analysis to be tetraploid (2n = 28))

Festuca brevipila R. Trace (Hard Fescue) – on rubbly ground at the edge of *Ulex europaeus* (Gorse) scrub near a road W of Lough Nahinch, H780.269, 2016 (AF – det. Arthur Copping, 2017; FitzGerald 2018a) (NCR and second Irish record – population confirmed by cytological analysis to be very likely hexaploid (2n = 42))

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Antrim’s rare plants – Part 2

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In Part 1 of this series of articles, I drew attention to 41 species which, to my knowledge, had not been recorded in County Antrim (H39) since 2000. Since publication, I have heard from Paul Hackney that *Brachypodium pinnatum* has been seen more recently at both Garron Tower (2016) and Muckamore (circa 2007).

Whilst preparing the earlier article, I identified approximately 90 other species which have been seen in no more than three sites in the county since 2000. As previously explained, I excluded neophytes and many species which require more critical determination than I have been able to bring to bear. However, I believe the species list is sufficiently interesting for me to continue sharing my experiences of searching for and documenting the locations of these rare plants. I hope that disseminating this information might uncover some previously unpublished sightings and stimulate others to search for these species.

In this article, I will consider the rare plants of Antrim's mountains and glens. The mountains are concentrated in the eastern half of the county. There are no particularly high summits but the lonely expanse of the Garron Plateau and the steep-sided glens make this challenging terrain to explore.

Perhaps because of its proximity to Belfast, botanists have always been drawn to this landscape. All of the rare plants were first discovered by the intrepid botanists of yesteryear. Their records provide a tantalising glimpse of what we may have lost. John Harron's frequent visits to the glens shone a light on what remains. I now carry the torch (and a GPS).

High summits

There is only one truly rare species of the high summits. *Salix herbacea* was first recorded on Slievenanee by John Templeton in 1809. It has never been recorded anywhere else in the county. Apart from a single record in 1920, it wasn't seen again until John Harron's sightings in 1992 and 2013. I have made repeated searches for it without success. The lack of records in the intervening years suggests that the plant is confined to a very small spot, and there seems no reason to believe that the plant is any rarer today than it was in Templeton's time.

Another plant of the high summits is *Diphasiastrum alpinum*. I have seen healthy populations of this species on Trostan, Slievenanee and Knocklayd and a smaller population on the slopes above Glenariff. There is a single unconfirmed post-2000 record from Divis in the Belfast Hills. This species seems to be holding its own in many sites.

Garron Plateau

The Garron Plateau, designated as a Ramsar wetland of international importance, is famed as a site for *Saxifraga hirculus*, which survives inside a fenced enclosure to protect it from potential over-grazing. The small population is monitored closely by the Northern Ireland Environment Agency and the RSPB. Many botanists, including myself, have searched in vain for the plant at its other old sites nearby (1886 and 1914). Indeed, the original finders could not relocate the plant there when they went back in 1920. In such a vast and featureless landscape, this is easy to understand. Nevertheless, one cannot help but feel that the plant now relies on constant protection for its survival. There is another, less well documented, historical site for *Saxifraga hirculus* on the Long Mountain near Lough Naroon (last seen in 1884). The exact location is not clear, and I have failed to find the plant there. Peat extraction, drainage, conifer plantation and wind farm installation are gradually squeezing out any remaining suitable habitat.

The two rare sedges of the Garron are seldom recorded nowadays, probably due to the remoteness of the site. *Carex pauciflora* is a distinctive sedge, but with post-2000 records only from Big Trosk and near Loughgarve. It is likely to still be found at other spots nearby. *Carex magellanica* could easily be confused with *Carex limosa* and may have been over-recorded. There are post-2000 records from only three sites. I have never seen it on the Garron.

Hammarbya paludosa has been recorded since 2000 at six sites on and near the Garron Plateau and may yet be found at further sites. *Thalictrum alpinum* is still only known from beside the Pollan Burn where it was first discovered by Arthur Stelfox in 1949. The most recent record is from 2016.

Lobelia dortmanna has always been rare but was seen by John Harron at Craighfad Loughs in 2005. The last record from Denny's Lough was in 1988 and the last records from Fair Head in 1989. *Isoetes lacustris* has been recorded at three loughs on the Garron Plateau since 2000. Two of these loughs also have recent records for *Potamogeton praelongus*. The last record for *Isoetes lacustris* from Fair Head was in 1989. I haven't seen any of these species in the county. Further fieldwork on the Garron Plateau is high on my list of priorities.

Cliffs and Rocks

The basalt scarp has many fine cliffs with a rich flora. Many of these species such as *Sabulina verna* and *Saxifraga hypnoides*, although local, occur rather frequently. For example, I have found *Sabulina verna* at approximately 10 sites in the past 10 years, so it does not seem under immediate threat.

Only one line of cliffs at Knockdhu features *Dryas octopetala* but it is in some abundance. *Orthilia secunda* has not been seen at Knockdhu since 1910 and the record from Agnew's Hill goes back to 1835. However, the site beside the waterfall on the Cranny Burn, first seen in 1920, was rediscovered in 1996 and the latest record is from 2009. I visited both of the older sites recently without success, but the habitat still looks suitable.

I have recently reported the rediscovery of *Arctostaphylos uva-ursi* on cliffs at Fair Head and it also survives on a rocky scarp south of Lough Naroon. Agnew's Hill is another old location for this plant. On my recent visit to that site, I couldn't help feeling that a drone would be the only way to look for the plant safely. Another species which requires a good head for heights is *Sorbus rupicola*. This occurs on cliffs at Garron Point but its distribution is very hard to determine due to the inaccessibility of many of its sites and overlap in habitat with *Sorbus aria* and *Sorbus hibernica* which is rare in its own right.

I have only recorded *Cryptogramma crispa* from a large rock on Slievenanee and a rock crevice on Knockagallen. There are quite a number of records from the hills above Carnlough in the 1980s and a John Harron record from Loughgarve in 1990. The plant may still survive at some of these locations, but it always seems to be in very small quantity wherever it grows. *Lycopodium clavatum* has turned up in four sites since 2000. I have seen it on Trostan and two sites in the Belfast Hills, whilst John Harron has recorded it from Sallagh Braes. However, its distribution appears to be more restricted than in the past.

Pseudorchis albida seems to have disappeared from its former sites around the basalt scarp and since 2000 has only been found at Slievenacloy on the edge of the Belfast Hills. It is hard to spot and there is still much apparently suitable habitat in the uplands. Its

apparent disappearance from lowland sites, in contrast, is likely to be due to agricultural improvements.

The status of *Pyrola media* is difficult to judge. There has been apparent confusion in the past with *Pyrola minor* and that confusion continues to some extent, due to the fact that *Pyrola media* seldom seems to flower. There are five post-2000 records for *Pyrola media*. At one site in the Belfast Hills, it is abundant in an old basalt quarry and flowers readily. At another site near the north coast, there are just two rosettes and no flowers. An old site on a wooded scarp on the Long Mountain has been rediscovered recently by James Rainey – just a few rosettes and no flowers. John Harron has recorded it from two other sites which I hope to visit. It could be showing a decline or it could possibly have been over-recorded in the past. At both its Belfast Hills site and on the Long Mountain, it is under threat from development.

Glens

There are some magnificent glens in County Antrim. The steep-sided wooded glens are often difficult to explore. There are very few with public paths and many are completely fenced off and becoming overgrown.

There are many old *Pyrola* records from the glens but very few recent sightings. In the past two years, I have rediscovered *Pyrola minor* in two lost sites in the Belfast Hills – Cave Hill (last seen in 1985) and Crow Glen (last seen in 1947). In both cases, the wintergreen forms very small patches at the upper edge of old hazel woods on steep slopes. There have been records of both *Pyrola media* and *Pyrola minor* from these sites in the past, so further exploration is in order.

I have seen *Milium effusum* in Woodburn Glen but not at John Harron's other sites in Crumlin Glen (2017) and at Buckna (2012). *Phegopteris connectilis* is still abundant in Glenariff and occurs on the hills above Carnlough, but John Harron's 1999 site in Glendun needs to be refound. *Melampyrum sylvaticum* has only been recorded since 2000 from Glen Burn by John Harron and Ian McNeill (most recently in 2015). This site is an Area of Special Scientific Interest (ASSI) and is high on my list of priorities for a visit. This species is now believed to have been over-recorded in the past. However, John Harron recorded this species many years ago in another glen at Lynn's Bridge in Glenwhirry. On a return visit, John found the site to have been severely damaged and the plant could not be found. Another visit is a priority. *Hymenophyllum tunbrigense* has only ever occurred at one site in Glendun, where it is still to be found. At the Cranny Falls above Carnlough, Ireland's only site for *Hordelymus europaeus* occurs. The grass grows in a very inaccessible spot and has only been recorded on 3 occasions in 1898, 1949 and 2011.

In conclusion, the mountains and glens of County Antrim still offer spectacular scenery. Their rare plants have been cherished by generations of botanists. Today, these same plants are largely unknown and unloved. It is remarkable that a generation, made so aware of biodiversity loss and climate change, has so little knowledge of the world at its feet.

Are you overlooking Overlooked Sorrel (*Rumex acetosa* subsp. *biformis*)?

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I had never heard of Overlooked Sorrel (*Rumex acetosa* subsp. *biformis*) until Mike Wyse Jackson gave me a record for it growing on Helvick Head, Co. Waterford (**H6**), and Saltee Island Great, Co. Wexford (**H12**) in 2016. I kept promising myself that I would go and take a look, but this didn't happen until May 2021.

The *New Flora of the British Isles* (Stace, 2019) lists four subspecies of *Rumex acetosa*. They all occur in Ireland. The only one that is common is subsp. *acetosa* (Common Sorrel), which grows in a wide variety of grassland habitats, and on roads banks, etc. Subsp. *hibernicus* (Irish Sorrel) is restricted to sand dunes around the coast, mainly in the south and west, is a much smaller plant, and is covered in yellow papillose (gland-like) hairs. The fourth is subsp. *ambiguus* (Garden Sorrel), and is grown as a vegetable. It is a very rare escape from cultivation in Ireland.

Stace (2019) lists Overlooked Sorrel as occurring in one Vice-county each in England (West Cornwall **VC1**), Wales (Cardiganshire **VC46**), and Ireland (Co. Clare **H9**). The BSBI handbook, *Docks and Knotweeds of Britain and Ireland* (Akeroyd, 2014) adds North Kerry (**H2**). The BSBI database (DDb) has two additional Vice-counties for the UK listed: East Cornwall (**VC2**), and Pembrokeshire (**VC45**), both with Overlooked Sorrel recorded from one hectad each. The DDb doesn't have any records for North Kerry and Co. Clare, but does include the Counties Waterford and Wexford records mentioned above, a record for South Kerry (**H1**), and my records made in 2021 for Counties Waterford and Wexford.

The earliest Irish record

The DDb would suggest a 2002 record by Mike Wyse Jackson from coastal grassland on Helvick Head (X3088), Co. Waterford is the first Irish record. In a strange twist Helvick Head is correct, as a specimen held in the herbarium at the National Botanic Gardens, Dublin (**DBN**), has a specimen collected by Donal Synnott in 1964 which is in my opinion *R. acetosa* subsp. *biformis*. Did Synnott collect this specimen because he realised the plants were different?

Distribution in Ireland

It is likely that Overlooked Sorrel is extremely under recorded around the Irish coast (Figure 1). I expect it will be found to be frequent, especially where the sea-cliffs are rock, as it mostly occurs where the soil is shallow and there isn't too much competition from other species.

South Kerry (**H1**)

Tearaght Island (V19), 1975, G.A. Walton, **DBN**, confirmed J.R. Akeroyd.
Fahamore, Magharee Peninsula (Q600190), 2017, A. O'Connor, M. Wyse Jackson, S. Wyse Jackson.

North Kerry (**H2**)

Kerry Head (Q63), *Docks and Knotweeds of Britain and Ireland* (Akeroyd, 2014).

Waterford (H6)

Helvick Head – see above – seen here in 2021 by me.

Ardmore Head (X27), 1964, D. Synnott, **DBN**, det. P.R. Green. I found it to be abundant amongst the cliff-top vegetation in 2021.

Plentiful on top of sea-cliffs, Ram Head (X199767), 2021, P.R. Green.

Little on cliff edge, Paulsworth (X212803), 2021, P.R. Green.

At top of beach, and on low sea-cliffs, Ballymacart Cove, (X252810), 2021, P.R. Green.

Clare (H9)

Sea-cliffs, south of car park, Cliffs of Moher (R09), 1971, M.J.P. Scannell, **DBN**, confirmed J.R. Akeroyd.

Wexford (H12)

Saltee Island Great (X947966), 2016, A. O'Connor, M. Wyse Jackson, S. Wyse Jackson. I found it to be very abundant on the island in 2021, and in places it formed large red carpets, and was the dominant plant (see page 41).

One large clump on dune, Carnsore Point (T115039), 2021, P.R. Green.

A few on steep slope above sea-cliff, Broomhill (S745048), 2021, P.R. Green.

Coastal grassland on top of sea-cliff, Baginbun Head (S798031), 2021, P.R. Green.

Five in herb-rich pasture, Churchtown (X739984), 2021, P.R. Green. This site is the only one where it is not directly next to the sea, as it is 0.5km inland. It is the only field left on the Hook Peninsula which has good semi-natural grassland. Species include: *Bromus racemosus* (Smooth Brome), *Dactylorhiza fuchsii* (Common Spotted-orchid), *D. kerryensis* (Irish Marsh-orchid) and *Linum bienne* (Pale Flax).

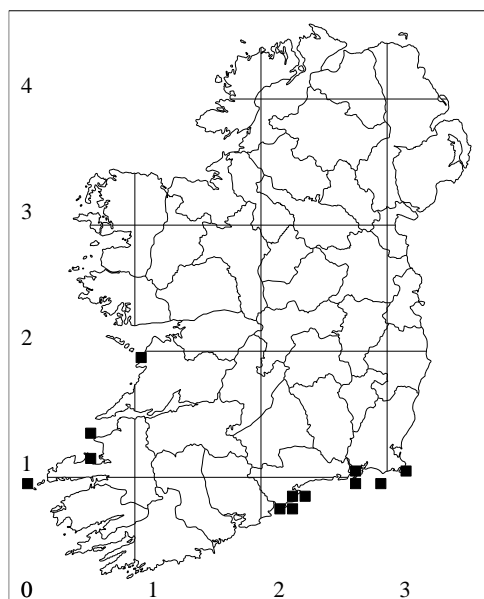


Figure 1. Vice-county map showing known hectads for Overlooked Sorrel

How to identify *Rumex acetosa* subsp. *biformis* (Overlooked Sorrel)

Often when in the field with botanists they will use the term ‘jizz’. In the case of Overlooked Sorrel once you get to know how the plant grows, and what it looks like, the ‘jizz’ really is a valued tool to identify the plant.

<i>Rumex acetosa</i> subsp. <i>biformis</i>	<i>Rumex acetosa</i> subsp. <i>acetosa</i>
Habitat: short grassland on sea-cliffs, dunes, at the top of shingle beaches, and herb-rich pastures. This subspecies does not seem to compete well in tall dense vegetation. In most sites it was confined to the very short turf on the top of the sea-cliff.	Habitat: all types of grassland, road verges, road and field banks, in open woods, sea-cliffs, etc. This subspecies grows in a very wide range of habitats, often amongst rank vegetation.
Stems: usually only up to 30cm tall, but can occasionally be up to 50cm tall. The stem is thicker and stouter. Many stems in a cluster.	Stems: stems usually 60cm to 100cm tall. Only a few stems per plant.
Leaves: thick and succulent. Snapping when bent in half. Basal usually just over twice as long as wide, 30-40 x 15-20mm. Usually 2-4 per stem. With very short, acute, sometimes obtuse and reduced basal lobes.	Leaves: thin and not succulent. Not snapping when bent in half. Basal usually 2-4 times as long as wide, 20-50 x 40-100mm, or even longer. Often more than 4 per stem. With obvious lobes.
Flower head: panicle dense, with a few simple branches.	Flower head: panicle lax, with a few simple branches.

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The case against ‘wildflower’ seed mixtures – Position Paper No. 1

Prepared on behalf of Dublin Naturalists' Field Club by the Conservation Sub-committee:
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Swathes of ‘wildflowers’ originating from commercial seed mixtures have become a common feature on roadsides and in other open spaces, amidst a growing perception that

such areas benefit bees and other pollinating insects and counteract biodiversity loss. Plants that are deliberately sown are not, of course, ‘wild’ and the use of these commercial seed mixtures is harmful to the natural environment: it damages native habitats and is of no long-term value to pollinators or other wildlife. Instead, flora and fauna — including pollinators — are best served by recognising and conserving *in-situ* natural habitats and adopting low-intensity management methods.

The use of ‘wildflower’ seed mixtures fails to address and even aggravates the real issues of biodiversity loss because:

- Packets of ‘wildflower’ seed mixes branded ‘native’ frequently contain non-native species. These displace native flora if sown in the wild. Alien species are potentially invasive and there is a risk of importing pests and diseases.
- Seeds of non-local origin — even if the species are native — introduce new genetic strains which may displace or compromise the local, naturally-occurring flora.
- Local, native species do not need to be sown. Native plants colonise suitable habitats by natural means. Sadly, many have recently been removed and replaced by beds of commercial ‘wildflowers’.
- Pollinators and other invertebrates need a complex set of conditions to survive. Simply introducing colourful flowers does not meet their requirements. At best, it provides a short-term food supply for some common insects that are not threatened.
- The typical mix of plant species contained in ‘wildflower’ seed packets is never found growing together in the wild. Natural habitats form in response to local conditions such as soil, climate, water availability and historical factors. The resulting plant communities are adapted to their conditions, unlike ad hoc introductions.

Nature conservation is best served by working with what already occurs naturally and by avoiding excessive disturbance, rather than by attempting to introduce new species. Low-intensity management methods, for example mowing grass less often, allow species already present in the soil seed bank to flower and set seed. Long established, indigenous flora and fauna should not be disturbed.

Background

Biodiversity loss has been well documented and there is increasing public awareness and concern surrounding it and other environmental matters. Addressing the loss of flora and fauna, and promoting nature conservation in a holistic and sustainable way, begins with understanding natural habitats and biogeography.

Native plant species occupy differing positions in the landscape. Their presence indicates the occurrence of particular combinations of environmental conditions. These conditions include the character and disposition of bedrock, glacial deposits, water availability and soil chemistry, moulded by the over-arching effects of climate and countryside management.

Natural habitats and native flora have been lost throughout most of the land area of Ireland. Species-rich wetlands have been lost through drainage. Woodlands and hedgerows have been cleared. Most of our farmable land has been converted to highly intensive livestock production, either for direct grazing or for silage production, driven by

large inputs of synthetic fertilizers with Perennial Rye-grass (*Lolium perenne*) reseeded and broadleaf herbicide application. Tillage areas are also heavily treated with biocides. Roadside verges show the signs of agricultural pollution in the form of excessive growth of coarser vegetation as the result of nutrient run-off, which then chokes the living space for less vigorous species. This homogenisation of the countryside results in a much-degraded spectrum of biodiversity as the ecological support systems of the more specialised and vulnerable plants and animals are lost.

Naturally occurring plant communities form characteristic patterns in response to local conditions. The occurrences of individual or combinations of species indicate the nature of the soil beneath and testify to the historical lineage and continuity of each site. For example, formerly widespread and familiar species such as Cowslip (*Primula veris*) indicate the presence of dry, unploughed, unfertilised, lime-rich grassland. Fragments of permanent grassland still survive in long-established settings such as graveyards and old lawns and native species such as Pyramidal Orchid (*Anacamptis pyramidalis*) occasionally appear. Hedges and their roadside verges retain populations of former woodland species, such as Primrose (*Primula vulgaris*) and violets (*Viola* spp.). Deep-rooting rushes are often the only surviving evidence indicating the former presence of much wetter habitat conditions now lost due to drainage.

Unravelling the factors accounting for the increasingly fragmented contemporary patterns of distribution of these iconic and less obvious species is the task of the plant geographer. Using the occurrence patterns disclosed by distribution studies to inform nature conservation and habitat restoration becomes the duty of the plant ecologist.

Wildflower Seed Mixtures

A recent trend to seed streetscapes and unutilised lands with ‘wildflower’ mixtures has emerged (see pages 39-40 for Plates 6-9). These mixtures have become widely available through the horticulture and gardening trade, marketed as being ‘wild’ and of benefit to nature. Seeds which are commercially produced and deliberately sown cannot, by definition, be wild and introducing them to the natural environment does not contribute to addressing biodiversity loss.

Well-intentioned customers purchase these mixtures in the belief that they are doing some good for insects such as bees and butterflies. Some common species of pollinating insects will visit these flower beds and may benefit in the short-term, but the local occurrence of most species is dictated by a more complex set of requirements which these mixtures will do little to support. The larval stages of insects often rely on entirely different or a very limited number of specific host plant species than the adult stages which feed on nectar-rich or pollen-rich plants; these host plants are not generally contained in ‘wildflower’ mixtures. For instance:

- Butterflies such as Speckled Wood, Meadow Brown, Ringlet, Small Heath and less widespread species such as Gatekeeper and Wall Brown lay their eggs on certain grasses; Small Tortoiseshell on nettle family; Orange Tip mainly on Cuckooflower (*Cardamine pratensis*) and Small Blue is confined to Kidney Vetch (*Anthyllis vulneraria*).
- Some hoverfly larvae feed, for example, by mining certain plants and others feed on invertebrates. Certain species acquire their necessary food in a wet or aquatic

environment (for example, wet, decomposing wood). So a diverse, heterogeneous habitat is required for the success of populations of this very diverse group.

Introducing swathes of short-lived ‘wildflowers’ onto roadsides and so-called waste ground is at best cosmetic and palliative; at worst, it is destructive. It distracts from recognition of the real problems facing our native flora and fauna. The floristic and biogeographical consequences of these actions will not stabilise, restore or enhance our native biodiversity. The introduction of non-local plant species into areas where they have never naturally occurred displaces native species, contaminates the genetic integrity of the species which are truly native to the area and disregards (and often destroys) the pre-existing biogeographical evidence and ecological significance of the site into which the seeds have been sown.

The contents of wildflower seed mixtures are determined by the horticultural trade. Plants are selected for these mixes on the basis of being colourful with high visual human impact — the resulting assemblage of plants would never be found growing together in the wild. They are often labelled as ‘native wildflowers’, but many of the commonly included species are not, in fact, native to Ireland, least of all to the place where the seed is sown. (All true species are native somewhere on our planet.) These alien species displace the native Irish flora, they have the potential to disrupt faunal populations, and they present floral cues which native pollinating species may not recognise. They may carry pests and diseases and there is a risk of invasive alien species being introduced inadvertently: for example, Black-grass (*Alopecurus myosuroides*) — an invasive alien species of arable fields — was recently discovered in an imported ‘wildflower’ mixture at the Teagasc research centre at Oak Park, Co. Carlow (Robb & Walsh, 2021).

Planting mixtures of ‘native’ species is also problematic. The seed is often of non-native provenance (imported from abroad and sometimes grown on) and therefore genetically different to local, indigenous populations of the same species. Risks associated with such introductions are:

- Mal-adapted genotypes could hybridize with and compromise Irish populations, e.g. imported plants could have a different phenology (timing of flowering etc.). Rather than aiding the conservation of rare Irish species, this could undermine locally adapted populations by introducing non-local genotypes.
- Imported genotypes might become invasive in Ireland, as with the European Common Reed (*Phragmites australis*) genotype introduced into the USA, which outcompetes native genetic strains (Saltonstall, 2003).
- Invasive genotypes could emerge through hybridization with native genetic strains, such as through the introduction of cryptic species from continental populations (perhaps composed of different cytotypes or chromosome numbers). For example, *Achillea millefolium* agg. (Yarrow) represents an aggregate of at least four different cytotypes in the Iberian Peninsula (López-Vinyallonga *et al.*, 2015).

The genetic integrity of what remains of our rare and ecologically significant native species is, therefore, threatened by the introduction of seed from external sources. Pollen from these geographical insertions and intrusions cannot be prevented from fertilising the local native stock of the same species or causing hybridisation with other closely related species.

Modern science, at the molecular level, has discovered that differing patterns of genetic lineage of certain species reveal the different routes by which they arrived into



Rosa corymbifera x *R. sherardii* – pages 36-38. For captions see page 76.
Photos T. O'Mahony © 2021 (for article see page 6)



Plate 3



Plate 4



Plate 5

Plate 6



Plate 7



Problematic 'wildflower' seed mixture examples – pages 39-40. For captions see page 77.
Photos Dublin Naturalists' Field Club © 2021 (for article, '**The case against 'wildflower' seed mixtures – Position Paper No. 1**', see page 32)

Plate 8



Plate 9



Rumex acetosa subsp. *biformis* (Overlooked Sorrel), Saltee Island Great, Co. Wexford
(H12). Photo P.R. Green © 2021 (p. 30)



Members looking at *Sarcocornia perennis* (Perennial Glasswort), Bannow Bay, Co. Wexford (H12). Photo P.R. Green © 2021 (p. 76)

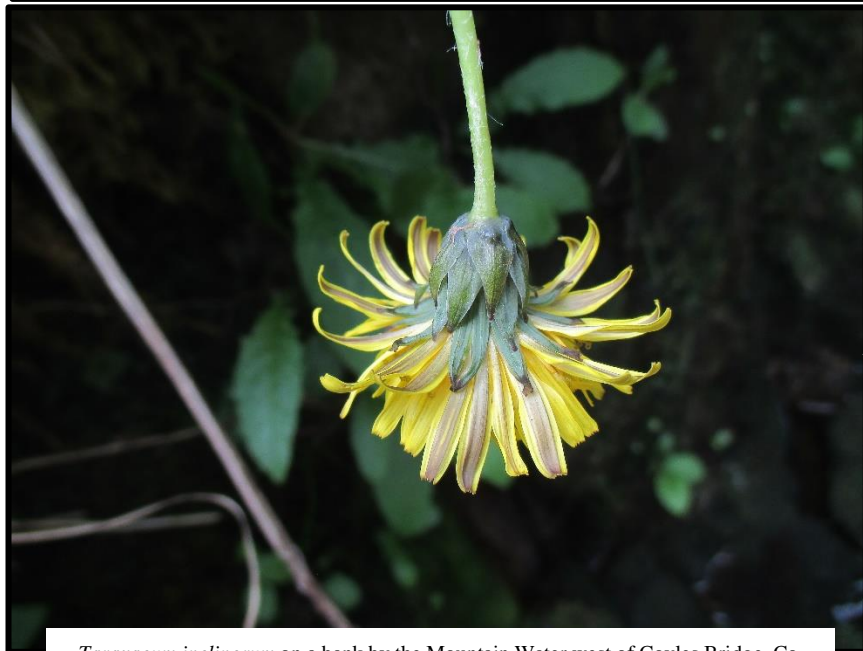


Botanists at *Lycopodium clavatum* (Stag's-horn Clubmoss) population near Clermont Cairn, Co. Louth (H31).
From left to right: Ciarán Flynn, Cliona Byrne, Kate Harrington – Photo C. Flynn © 2021 (p. 46)



Limosella aquatica (Mudwort) population at Lough Allen, Co. Leitrim (H29). Photo E. Gaughan © 2021 (p. 67)

Calystegia × *howittiorum* (*C. pulchra* × *C. silvatica*) on a roadside near Crove, Co. Monaghan (H32) (new Irish record). Photo A. FitzGerald © 2016 (p. 21)



Taraxacum inclinorum on a bank by the Mountain Water west of Coyles Bridge, Co. Monaghan (H32) (published by Richards & Doogue (2017) as a new species to science) Photo A. FitzGerald © 2016 (p. 21)

different areas. This type of research informs us as to how our island was colonised naturally by the various plant and animal species. Introducing seeds from external sources makes nonsense of the historical and geographical evidence inherent in their uncontrived distribution patterns. Corn Marigold (*Glebionis segetum*), Corncockle (*Agrostemma githago*) and Cornflower (*Centaurea cyanus*) — common components of ‘wildflower’ mixtures — were, as their names suggest, former contaminants of cereal crops. Some, such as Corn Marigold, still persist on base-poor, arable ground. The plant-geographer is increasingly confronted and confounded by the newly introduced, commercial plantings.

More serious, however, is the representation as being native of species which though they might so be in certain areas, are most definitely not of the same genetic stock as those which persist in the hinterland into which they have been seeded. How it will be possible for future environmentalists to differentiate between the two or more sources is not clear. Thus, valuable and irreplaceable biogeographical evidence is being contaminated or lost.

Preparing the ground for sowing seeds requires the removal of pre-existing vegetation (sometimes using toxic sprays) and disturbance to naturally occurring soils which support not just the flora but a wide variety of long-established microbes and invertebrates. We are aware of situations where:

- vegetation was removed from existing roadside verges in order to plant ‘wildflowers’, without any expert survey of either the plant species present and/or the dependent fauna;
- existing vegetation was removed and ‘fresh’ soil imported to facilitate the broadcasting of ‘wildflower’ seed on roadside verges;
- it was proposed to remove existing roadside vegetation in a highly sensitive location — and only through fortunate circumstances were we able to interact with the well-intentioned civic group and persuade them to desist from going ahead with the ‘wildflower’ planting.

Rather than counteracting biodiversity loss, therefore, the use of ‘wildflower’ seed mixtures constitutes a further anthropogenic disturbance to what remains of the natural world. It is a tokenistic horticultural response intended to mitigate and ameliorate past and present habitat loss by introducing a pastiche of irrelevant species to places in which they do not naturally occur. This activity is effectively a diversionary action which deflects attention from the real issues.

The Way Forward

Rather than attempting to forge nature’s signature by the introduction of seed mixes in fruitless endeavours to create new habitat or to “improve” existing habitat, there is scope for the stimulation of dormant or suppressed seed banks by appropriate management of both small and larger areas where biodiversity has not been totally sterilised by either maltreatment or abandonment. More benign management of grasslands in both public and private ownership, including lawns, parks, roadsides and motorway verges by, for example, the introduction of appropriate mowing regimes, will help to rescue fragments of our indigenous flora and fauna. In some instances, the ‘turning over’ of soil will be quite productive. Similarly, pockets of farmland and open countryside which have not been

devastated by over-intensive management (including “reseeded”), will have areas which have the potential of at least a partial restoration of their former biodiversity.

The indigenous flora of Ireland is under considerable pressure and is losing out. If we wish to retain what we still have, the causes of the decline need to be understood and addressed urgently. Nature, by definition, is not something we can create, nor should we try. Instead, by managing the landscape less intensively and by leaving some areas untouched, native species can maintain their populations on site. This is rewilding, in the true sense, and it requires no additional resources. The resulting species combinations thus become the sustainable, enduring and authentic botanical expression of the local habitat types.

If people wish to attract insects to their suburban and urban gardens, a supply of flowering trees, shrubs and long-flowering herbaceous perennials will provide a diverse cocktail of food sources for the insects that find this menu congenial. However, generic interventions will not restore the ecological support system upon which the rarer plants, insects and other invertebrates depend.

Some colonising species are spreading without contrivance as they have the ability to track the movements of humankind, from the Neolithic era to the Anthropocene, spreading or being spread as environments alter or are altered. Many of our native species are now in serious decline, unable to withstand land-use changes brought about by agricultural intensification and drainage, farm price-support mechanisms and land abandonment. ‘Wildflower’ mixtures engender visions of a fantasy world which bears little resemblance to the natural one. Their deployment disguises the real character and consequences of landscape change by misrepresenting the indigenous expression of the character of the flora of an area and supplanting it with whatever the commercial sector provides.

In conclusion, we are of the view that the distribution of ‘wildflower’ seed mixtures will not enhance Ireland’s natural biodiversity, it is damaging to what remains and it will divert attention and funding from addressing the underlying causes of the ongoing destruction of our flora and fauna.

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Rediscovering *Lycopodium clavatum* (Stag's-horn Clubmoss) in Co. Louth (H31)

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Lycopodium clavatum (Stag's-horn Clubmoss) was last recorded in Co. Louth (H31) (hectad J11) by Dónal Synnott in 1968 (Botanical Society of Britain and Ireland, 2011) and is a near threatened species on the Irish Red List (Wyse Jackson *et al.*, 2016). Records exist for both the J10 and J11 hectads but there is no further information available to locate the J10 record. Hence, searches for *L. clavatum* have been focussed in J11. Vice-county recorders (VCR) Kate Harrington and Cliona Byrne have searched for this plant near Clermont Cairn where *Diphasiastrum alpinum* (Alpine Clubmoss) is found. Cliona also searched for it at the Windy Gap where it was previously recorded. Enda Flynn and I have kept an eye out for it too whilst in the Cooley Mountains. Unfortunately, it was not refound for Atlas 2020.

As part of the Rare Plant Project Ireland (RPPI) initiative, four of us (Cliona, Kate, Enda and I) searched for any remaining populations near Clermont Cairn in December 2021. Cliona obtained more detail on the location from Synnott's 1968 specimen deposited in the National Botanic Gardens, Glasnevin (DBN) herbarium. Having met at the mast near the summit, our first task was not to get blown over by the gale-force winds! We checked the *Vaccinium vitis-idaea* (Cowberry) population growing on the cairn before descending to a flat area where *D. alpinum* grows. We slowly descended towards a river valley east of Clermont Cairn and gained some respite from the wind. Above the valley were flushes containing *Sphagnum*. This habitat seemed ideal for *Hammarbya paludosa* (Bog Orchid) which has been found in multiple areas on this mountain.

The valley itself was steep-sided due to active erosion processes. Some of these slopes have been eroded quite recently. These contain little vegetation relative to the other parts of the valley and coloniser species such as *Epilobium brunnescens* (New Zealand Willowherb) are found here. Whilst surveying the slopes, Enda spotted *L. clavatum* growing on a small bare patch (see page 42) with some of the plant growing among vegetation including *Festuca* sp. (Fescue) and *Blechnum spicant* (Hard-fern). The population appeared to be one plant which had spread vegetatively to form 4-5 clumps in a small area (approximately 1m²). The steepness of the slope and the wetness of the area it was growing in may have helped protect it from grazing by sheep and burning respectively. We continued our search downstream but didn't find any more populations that day.

In early January 2022, Enda and I continued searching this valley, starting from where we finished last time. We also searched a smaller valley to the south-west that connected to the larger one. In this smaller valley, we found another small population of *L. clavatum* growing through *Sphagnum*. Like the first population, perhaps this wet area protected the plant from burning. *Ulex europaeus* (Gorse) was growing nearby and could be a threat at this site. What appears to have been previously suitable sites have been encroached by *U. europaeus* in this valley.

Future monitoring of these sites, and those of other species found through the RPPI, could help prevent local biodiversity losses which would otherwise be unknown

without a dedicated search for such taxa. Hopefully our finds can help inspire others to survey for threatened species which haven't been recently recorded in their local area.

Acknowledgements

Many thanks to Cliona and Kate for coordinating the RPPI initiative in Co. Louth. Thanks to John Faulkner who has provided Cliona and Kate with lots of guidance on botany in Co. Louth, including *Lycopodium*.

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***Anacamptis morio* (Green-winged Orchid): one of the rarest native plant species in Co. Monaghan (H32), on the brink of local extinction**

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Anacamptis morio (L.) R.M. Bateman, Pridgeon & M.W. Chase (syn. *Orchis morio*) (Green-winged Orchid) is one of the rarest surviving native vascular plant species occurring in Co. Monaghan (**H32**). This pretty, photogenic orchid species occurs in just one known site in the county. It is found in open, cattle-grazed, semi-natural, calcareous grassland over limestone outcropping in an agricultural field just west of Carrickashedoge Church in Carrickashedoge townland, south of Carrickmacross in south-east Co. Monaghan (see back cover). This region of the county is underlain by Dinantian shale and limestone bedrock, and above it, lime-rich drumlin till substrate is locally frequent, which together facilitate the existence of such (locally) rare habitats and species in this region. This is one of the most species-diverse regions of Co. Monaghan and its diversity was only truly realised in recent decades, particularly since the field surveys of the current BSBI President Lynne Farrell there in the 1970's, in her seminal efforts to locate and record sites of scientific interest in the county (Farrell, 1972). I have also focussed a significant amount of recording effort in this region of Monaghan since I took up my role as Vice-county recorder (VCR) in 2015, with the added benefit that it is also the closest part of the county to Dublin, where I live, so is amenable to quicker day trips!

Anacamptis morio was first recorded at this site in 1978 by Donal Synnott (VCR for Co. Monaghan from 1982 to 2001), who collected and pressed a voucher specimen of the population which was donated to the National Herbarium, National Botanic Gardens, Glasnevin (**DBN**). The population was then refound during a subsequent BSBI field meeting in 1981 which was attended by Donal Synnott and Con Breen, and the record was later published by Synnott & Breen (1982). No population numbers were noted by them in

the article, nor in their field notes, however, they noted that the species at that time was “heavily grazed”. I visited the site in 2017 and refound the species for the first time since it was noted in the early 1980’s (after a gap of nearly 40 years). During that survey, I completed a full population count for the species, which totalled at that time, only two known surviving plants (one plant at Irish Grid reference N84302.98980 and another plant nearby at Irish Grid reference N84332.98877).

This species grows directly adjacent to and scattered amongst a larger population of *Orchis mascula* (Early-purple Orchid), which occurs somewhat unusually here in open exposed grassland, especially on the thinner soil where the limestone protrudes out from the surrounding deeper soil, which micro-habitat is also favoured by *Anacamptis morio*. Like *A. morio*, *O. mascula* has significantly declined in this grassland habitat in recent years in Ireland and Britain, but unlike *A. morio*, its decline has been buffered by its relative persistence in woodland habitats (Stace *et al.*, 2015). During a second 2019 visit (on which the same two plants were located once again and no further plants were seen), I made a careful (but nonetheless unsuccessful), plant-by-plant search for the rare hybrid between these two closely related (Bateman *et al.*, 2003) species, × *Anacamptorchis morioides*, which has never been recorded before in Ireland and is very rare in Britain (Stace *et al.*, 2015). Unfortunately, slurry had evidently been applied to the field prior to my visit. Despite the failed searches to date, it is not inconceivable that this hybrid may occur at the site, and perhaps genetic sampling of the populations here would reveal more than meets the botanist’s eye morphologically. Perhaps with time, only hybrid material will be left to indicate the former presence of *A. morio* in the area, as an (ephemeral) genetic artefact.

A number of other locally rare calcareous grassland species have been recorded in this area in the past but have not been seen in recent years, including *Clinopodium acinos* (Basil Thyme), *Primula veris* (Cowslip), *Gentianella amarella* (Autumn Gentian) and *Antennaria dioica* (Mountain Everlasting). These species have likely also suffered greatly from the same degrading processes that are negatively affecting the survival of *Anacamptis morio* today. With just two known surviving plants, this population is under significant threat of local extinction in the county, without immediate targeted conservation measures on site. These would include reducing grazing pressure in the field (possibly fencing off the area where the species occurs and only cutting this area by hand once in late summer) and ceasing all slurry/fertiliser application unless and until the population re-establishes itself. Annual monitoring would then track the progress of the population over time following the changes in the local management regime. Seed could also be sampled from the population (e.g. following ENSCONET, 2009) and donated to the National Seed Bank in the National Botanic Gardens, Glasnevin, in order to facilitate potential future re-introduction of the species here, thus ensuring that the population is not lost to posterity.

Anacamptis morio is threatened more widely in Ireland and has been in significant decline in recent years (Stace *et al.*, 2015), and thus is red-listed as Vulnerable by Wyse Jackson *et al.* (2016). The Monaghan population is one of the most northern localities in Ireland for this predominantly central Irish species, and so is a notable outlier population (Botanical Society of Britain and Ireland, 2022).

Semi-natural calcareous grassland in Ireland is also under significant threat (National Parks and Wildlife Service, 2019). The grassland on site is classified as dry neutral to calcareous grassland (GS1), according to the Heritage Council classification

(Fossitt, 2000). Furthermore, there are sufficient positive indicator species (including at least two aforementioned “less-common” orchid species) (National Parks and Wildlife Service, 2019) in the grassland in order to justify its classification as the EU Habitats Directive priority Annex I habitat [*6210] Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometea) (*important orchid sites).

The landowner farmer was very amenable to my visits to the site, and was generally appreciative of and concerned with the rare natural treasures within his local area, as well as with their protection for posterity. However, even with a well-meaning landowner, there is significant pressure (including from younger, more ambitious generations taking over the farm duties) to adhere to the modern farming practices of excessively high cattle stocking numbers on fields (and the resulting over-grazing and trampling), over-zealous slurry/fertiliser application, repeated cutting of grasslands for silage, etc. and the site in question has suffered significantly from these pressures over recent decades. Many local farmers, even well-meaning ones, often see maximising yields on their land as a victimless (and even forward-looking) pursuit, not realising the cumulative impacts of their individual actions upon the health of their land and of the wider countryside. Or if they do realise it, they all too often fall prey to a ‘tragedy of the commons’ scenario.

The population was last visited in 2019, and has not been re-visited since the coronavirus pandemic. I intend to return to the site in a post-pandemic world to see how this period has fared for the species. However, I fear that even a global pandemic will not have slowed the onslaught of modern farming practices upon our rarest flora and habitats.

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Notes from Co. Offaly, H18

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It was decided to focus on aquatic habitats in Offaly in 2021 with the emphasis on recording *Chara* species. The season started on 2/5/2021 with a visit to Tobar na bPearla, the Well of the Pearls, near Birr, beside the Silver River, once an area of eskers and now a disused sandpit with a pond. The principal finds were the charophytes *Chara aculeolata*, *C. vulgaris* and *Tolypella glomerata*, as well as *Potamogeton coloratus* (Fen Pondweed), *Mercurialis perennis* (Dog's Mercury), *Rosa agrestis* (Small-leaved Sweet-briar) and a nice colony of *Orphys apifera* (Bee Orchid).

Other charophyte records in 2021 include, *C. curta*, *C. hispida*, *C. glomerata*, *C. vulgaris* and *Nitella flexilis* on the Grand Canal, Ballyshane, Cloghan (15/8/21) and *C. hispida* and *C. contraria* at Mcarthey's Aqueduct, Ferbane (16/8/21).

A note from Stephen Heery (ecologist and author of 'The Shannon Floodlands') to say he found *Viola canina* (Heath Dog-violet), in the callows at Kilmeecheron, near Banagher, prompted a visit to the site at the end of May. This added to the list *Anacamptis morio* (Green-winged Orchid), *Dactylorhiza incarnata* subsp. *incarnata* and subsp. *pulchella* (Early Marsh-orchid) and *Ophioglossum vulgatum* (Adder's-tongue). Stephen also recorded *Groenlandia densa* (Opposite-leaved Pondweed), near its original site at Shannon Harbour.

Mullinroe, Moystown, an area of bog and callows near the River Shannon was visited in mid-July and yielded *Carex pseudocyperus* (Cyperus Sedge), *Frangula alnus* (Alder Buckthorn), *Hydrocharis morsus-ranae* (Frogbit) and *Rumex hydrolapathum* (Water Dock).

A walk from Victoria Lock to the new walkway across the River Shannon at Meelick on the Galway border at the end of July produced *Potamogeton x angustifolius* (Long-leaved Pondweed), a New County Record, with *Sium latifolium* (Greater Waterparsnip) and *Butomus umbellatus* (Flowering-rush).

On the first of August a trip to Shannonbridge to check on *Lathyrus palustris* (Marsh Pea), was successful and *Sium latifolium* was also recorded.

The Grand Canal at Gallen, Ferbane (15/8/2021) proved to be an exciting site with *Parnassia palustris* (Grass-of-Parnassus), *Selaginella selaginoides* (Lesser Clubmoss) and *Gentianella amarella* (Autumn Gentian), and the highlight of the day was finding a good population of *Nitella tenuissima* greatly extending its distribution across H18.

The final visit of the year to L. Finnamore at the end of September yielded *Chara aculeolata*, *C. rudis*, *C. curta*, *C. virgata*, *C. contraria* and over a thousand plants of *Gentianella amarella*.

Special thanks to Nick Stewart for his determination of the charophyte species and *Potamogeton x angustifolius*.

Further records of *Rubus* L. subgenus *Rubus* in Ireland

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The potential for further recording of *Rubus* L. subgenus *Rubus* in Ireland was evidenced by the publication of the *Atlas of British and Irish Brambles* (Newton & Randall 2004). For many years David Allen had been investigating the bramble flora of Ireland, his studies including collaboration with members of the Dublin Naturalists' Field Club on the brambles of Co. Dublin (Doogue *et al.* 1998). Subsequently DNFC members joined Allen in fieldwork covering many vice counties, concentrating on those previously under-recorded. Additionally, they initiated a programme of collecting specimens for determination by Allen, the records thus generated to be included in a projected review of the Brambles of Ireland.

The following is a selection of records by MN not previously reported (Allen & Norton 2008, 2010 & 2013 and Norton 2021). It also includes a small number of records by other botanists whose names are included with the appropriate entries. It consists of species found mainly between 2009 and 2014 in West Cork (**H3**), Mid Cork (**H4**), South Tipperary (**H7**), Limerick (**H8**), Clare (**H9**), North East Galway (**H17**) and Wicklow (**H20**). All determinations were by Allen (DEA) and, where indicated, confirmed by Alan Newton (AN). Taxonomy, order and nomenclature (including English names) follows Sell & Murrell (2014), with synonyms where relevant from Edees & Newton (1988). Place names are listed as they appear on the Discovery Series maps (Ordnance Survey Ireland), the accompanying Irish National Grid references are given at 1km or 100m resolution. Voucher specimens of the more significant records were lodged by Allen in **BM** with duplicate specimens, when available, lodged by MN in **DBN**. The designation as a New County Record (NCR) or a New Irish Record (NIR) is based on the vice county distributions listed in Newton & Randall (2004) in addition to notes *in litt.* by Allen. The latter also supplied supplementary comments on the distribution of some species.

Section *Rubus*, Subsection *Hiemales* E.H.L. Krause

Series *Sylvatici* (P.J. Müll.) Focke

Rubus albionis W.C.R. Watson (Pink-flowered Bramble)

H9: base of N-facing slope of Slieve Bearnagh at Croaghmagower (R6478 at 240m, 2009).

Rubus calvatus Lees ex A. Bloxam (Cuspidate-leaved Bramble)

H8 (NCR): Glenstal Woods, 4.5km NE of Moroe (R759576, 2012, **BM**, **DBN**); roadside hedge by felled coniferous plantation, 1km NW of Glenstal Woods (R755582, 2012). Unexpected this far south, where it was accompanied by *R. dasyphyllus* and *R. anisacanthos*, all three species exhibiting a predominantly northern distribution (DEA *in litt.* 2013).

Rubus crudelis W.C.R. Watson (Curved-prickle Bramble)

H17 (NCR): roadside by Tiaquin Demesne, 4km SE of Monivea (M569347, 2010, **BM**, **DBN**).

Rubus hesperius W.M. Rogers (Connemara Bramble)

H4: Duke's Wood, by Scartnamuck Bridge near Bandon (W4759, 2013, **BM**). The second record for the county, having been previously found by DEA (2009) at Kinsale (DEA *in litt.* 2014).

Rubus plymensis (Focke) Edees & A. Newton (Devon Bramble)

H3: Clashnacrona woods, 5.5km SW of Dunmanway (W190487 at 114m, 2012).

Rubus purbeckensis W.C. Barton & Ridd. (Purbeck Bramble)

H20: common at Hollywood Glen (N9301, 2014, DEA & MN).

Rubus pyramidalis Kaltenb. (Pyramidal-flowered Bramble)

H20: Hollywood Glen, a single patch (N9301, 2014, DEA & MN).

Rubus questieri Lefèvre & P.J. Müll. (Questier's Bramble)

H7 (NCR): felled coniferous plantation 0.8km W of The Turntable, Glen of Aherlow (R879309, 2007, MN, herb. MN).

Series *Rhamnifolii* (Bab.) Focke

Rubus altiarquatus W.C. Barton & Ridd. (Dark-stemmed Bramble)

H9: S margin of Glenvagalliagh Mountain, 6.5km W of Killaloe (R6372 at 269m, also at R6472, 2012).

Rubus boudicca A.L. Bull & Edees (East Anglian Bramble)

H8 (NCR): Glenstal Woods, 4.5km NE of Moroe (R759576, 2012, **BM**).

Rubus cissburiensis W.C. Barton & Ridd. (Abundant-fruited Bramble)

H4 (NCR): Duke's Wood, by Scartnamuck Bridge near Bandon (W4759, 2013, **BM, DBN**).

Rubus dumnoniensis Bab. (Western Bramble)

H20 (NCR): Hollywood Glen, a single clump (N9301, 2014, DEA & MN).

Rubus nemoralis P.J. Müll. (Boreal Bramble)

H3: Clashnacrona woods, 5.5km SW of Dunmanway (W190487 at 114m, 2012); dismantled railway line on S side of Bandon River, 4km NE of Bandon (W5257 at 173m, 2012).

H17 (NCR): in quantity by bog track off N84 road near Addergoole [=Eadargóil] (M324342, 2010, **BM, DBN**).

Rubus rhombifolius Weihe ex Boenn. (Rhombic-leaved Bramble)

H17 (NCR): in quantity by bog track off N84 road near Addergoole [=Eadargóil] (M324342, 2010, **BM, DBN**). A species with few previous records outside of east Ulster (DEA *in litt.* 2011).

Rubus rubritinctus W.C.R. Watson (Purple-ribbed Bramble)

H9 (NCR): base of N-facing slope of Slieve Bearnagh at Ballybroghan (R661796 at 250m, 2009, herb. MN).

Series *Vestiti* (Focke) Focke

Rubus bartonii A. Newton (Barton's Bramble)

H3 (NCR): Clashnacrona woods, 5.5km SW of Dunmanway (W1948, 2012). Hitherto unrecorded from the southern half of Ireland, it appears to be a comparatively recent arrival in the country as a whole, probably as a garden escape (DEA *in litt.* 2013).

Rubus boreaeus Genev. (Boreau's Bramble)

H3: frequent by dismantled railway on S side of Bandon River, 4km NE of Bandon (W5257, 2012, **BM, DBN**); Clashnacrona woods, 5.5km SW of Dunmanway (W190487, 2012).

H8 (NCR): frequent at Glenstal Woods, 4.5km NE of Moroe (R759576, 2012, **DBN**).

Rubus criniger (E.F. Linton) W.M. Rogers (Pruinose-stemmed Bramble)

H3 (NCR): dismantled railway on S side of Bandon River, 4km NE of Bandon (W5257, 2012, **BM**).

Rubus lanaticaulis Eedes & A. Newton (Lanate-stemmed Bramble)

H17 (NCR): near entrance to Monivea Forest (M535362, 2010, **BM, DBN**); Glennaveel, 2.5km S of Abbey village (M5040, 2012).

Rubus orbis W.C.R. Watson (Red-stemmed Bramble)

H3 (NCR): in quantity, Clashnacrona woods, 5.5km SW of Dunmanway (W190487, 2012, herb. MN). One of only two records from the southern half of Ireland, the other being from East Cork (AN, **BM**) (DEA *in litt.* 2014).

Rubus ordovicum A. Newton (Ordovician Bramble)

H20: patches at Hollywood Glen (N9301, 2014, DEA & MN).

Rubus vestitus Weihe (Soft-haired Bramble)

H17: Monivea Forest, the red-flowered form (M535362, 2010); Mountbellew Demesne, the red-flowered form (M6646, 2012).

Series *Mucronati* (Focke) H.E. Weber

Rubus melanocladus (Sudre) Ridd. (Dull Green Bramble)

H20: frequent by woodland trackway at Woodenboley in Hollywood Glen (N9301, 2014, DEA & MN, **BM, DBN**).

Rubus mucronulatus Boreau (Long-pedicelled Bramble)

H17 (NCR): track by cutover bog at Knockcorrando, 3km E of Monivea (M565366, 2010, **BM, DBN**).

Series *Micanthes* Sudre ex Bouvet

Rubus griffithianus W.M. Rogers (Griffith's Bramble)

H4: plentiful in Duke's Wood, by Scartnamuck Bridge near Bandon (W4759, 2013).

Rubus micans Godr. (Anglosaxon Bramble)

H17 (NCR): Mountbellew Demesne (M6646, 2012, **BM, DBN**). A widespread species in Ireland, hitherto unrecorded from NE Galway (DEA *in litt.* 2013).

Rubus moylei W.C. Barton & Ridd. (Moyle Roger's Bramble)

H4: Duke's Wood, by Scartnamuck Bridge near Bandon (W4759, 2013, **BM**).

Rubus raduloides (W.M. Rogers) Sudre (Densely-hairy Bramble)

H17 (NCR): S of the Ffrench Mausoleum at Monivea Forest (M542358, 2010, **BM, DBN**).

Series *Anisacanthi* H.E. Weber

Rubus anisacanthos G. Braun (Densely-armed Bramble)

H8: Glenstal Woods, 4.5km NE of Moroe (R759576, 2012). A mainly northern species, unusual this far south (DEA *in litt.* 2013).

Rubus pascuorum W.C.R. Watson (Meadow Bramble)

H4 (NCR): Duke's Wood, at Scartnamuck Bridge near Bandon, shade form (W4759, 2013, **BM**). Previously only recorded in Ireland from Achill Island (1998, DEA), it was subsequently found in several other vice counties (DEA *in litt.* 2014 & 2015).

Series *Radulae* (Focke) Focke

Rubus subadenanthus P.D. Sell (Broad-toothed Bramble) (= *Rubus adenanthoides* A. Newton)

H17 (NCR): trackway by cutover bog at Knockcorrando, 3km E on Monivea (M565366 at 83m, 2010, **BM**); felled area of Monivea Forest (M537363, 2010); Mountbellew Demesne (M6646, 2012); Glennaveel, 2.5km S of Abbey village (M5040, 2012). A widespread species in Ireland, hitherto unrecorded from NE Galway (DEA *in litt.* 2013).

Rubus botryeros (Focke ex W.M. Rogers) W.M. Rogers (Striated-stem Bramble)

H20: frequent by woodland trackway at Woodenboley in Hollywood Glen (N9301, 2014, DEA & MN, **BM**).

Rubus echinatoides (W.M. Rogers) Dallman (Notched-petal Bramble)

H4 (NCR): wooded slope by roadside 4km NE of Bandon (W520576, 2013).

Rubus fuscicaulis Eedes (Fuscous-stemmed Bramble)

H17 (NCR): two patches at Monivea Forest (M540362 at 87m & 99m, 2010, **BM, DBN**). Previously only recorded in Ireland from H25 (1984, Newton 1986) and H4 (1992, Newton 1994), although subsequently found in several additional vice counties (DEA *in litt.* 2011).

Rubus largificus W.C.R. Watson (Short-stemmed Bramble)

H3: Clashnacrona woods, 5.5km SW of Dunmanway (W190487, 2012).

H9 (NCR): several sites at base of N-facing slope of Slieve Bearnagh: Ballybroghan, 2 patches (R661796 at 250m, 2009, **DBN**), Caherhurlly (R621783 at 200m, 2009) and Croaghmagower (R640788 at 240m, 2009).

Rubus longithyriger Lees ex Focke (Slender-prickled Bramble)

H3: Clashnacrona woods, 5.5km SW of Dunmanway (W190487 at 114m, 2012, **DBN**).

Rubus pallidus Weihe (Pallid Bramble)

H17 (NCR): Glennaveel, 2.5km S of Abbey village (M5040, 2010, **BM**); near the Ffrench Mausoleum at Monivea Forest (M5435, 2010).

Series *Hystrices* Focke

Rubus angusticuspis Sudre (Narrow-toothed Bramble)

H9 (NCR): S margin of Glenvagalliagh Mountain, 6.5km W of Killaloe (R639725 at 269m, 2012, **BM**). One of only two Irish records, it having been previously collected in 1939 from Loughinisland, Co. Down (Brenan & Simpson 1949, **BM**), (DEA *in litt.* 2014).

Rubus asperidens Sudre ex Bouvet Miles's Bramble (= *R. milesii* A. Newton)

H4: Duke's Wood, by Scartnamuck Bridge near Bandon (W4759, 2013, **DBN**).

Rubus breconensis W.C.R. Watson (Brecon Bramble)

H9 (NIR): locally common at base of N-facing slope of Slieve Bearnagh, both at Caherhurlly (R621783 at 200m, 2009, conf. AN, **BM, DBN**) and at Ballybroghan (R661796 at 250m, 2009, conf. AN, **BM, DBN**). Hitherto only known from S Wales (Brecon to Swansea) (DEA *in litt.* 2010).

Rubus dasyphyllus (W.M. Rogers) E.S. Marshall (Retrorse-toothed Bramble)

H8: Glenstal Woods, 4.5km NE of Moroe (R759576, 2012). A mainly northern species, unusual this far south (DEA *in litt.* 2013).

H17 (NCR): Mountbellew Demesne (M6646, 2012).

Rubus naldretti (J.W. White) W.C.R. Watson (Naldrett's Bramble)

H17 (NCR): trackway S of the Ffrench Mausoleum at Monivea Forest (M542358, **BM**).

Rubus pallidisetus Sudre (Pale-haired Bramble)

H3 (NCR): by dismantled railway on S side of Bandon River, 4km NE of Bandon (W5257, 2012, **BM**). A Herefordshire specialty that has proven to be surprisingly widely scattered in the southern two thirds of Ireland (DEA *in litt.* 2014).

Rubus rilstonei W.C. Barton & Ridd. (Rilstone's Bramble)

H3 (NCR): Clashnacrona woods, 5.5km SW of Dunmanway (W190487 at 114m, 2012, **DBN**).

Rubus segontii A. Newton & M. Porter (Segontium Bramble)

H17 (NCR): Mountbellew Demesne (M6646, 2012, **BM**, **DBN**).

Series *Glandulosi* (Wimm. & Grab.) Focke

Rubus scaber Weihe (Scabrous Bramble)

H3 (NCR): dismantled railway line on S side of Bandon River, 4km NE of Bandon (W5257, 2012, **BM**).

H8 (NCR): Glenstal Woods, 4.5km NE of Moroe (R759576, 2012, **BM**, **DBN**).

H17 (NCR): roadside by Tiaquin Demesne, 4km SE of Monivea village (M569347, 2010, **BM**, **DBN**); by trackway at Monivea Forest (M541360, 2010).

Section *Corylifolii* Lindl.

Rubus adenoleucus Chaboiss. (Merrow Downs Bramble)

H17 (NCR): Mountbellew Demesne (M6646, 2012, **BM**). A rare bramble, possible introduced with forestry saplings (DEA *in litt.* 2014).

Rubus britannicus W.M. Rogers (British Bramble)

H17 (NCR): large thicket in felled area of Monivea Forest (M537363, 2010, **DBN**).

Rubus conjugens (Bab.) W.M. Rogers (Bank Bramble)

H17 (NCR): near the shore of Lough Corrib, 0.7km W of Annaghdown [=Eanach Dhúin] (M278383, 2010, **DBN**, **BM**). A member of the section *Corylifolii* Lindl., whose species are typical of lime-rich soils as occur to the E of Lough Corrib.

Rubus pruinosus Arrh. (Pruinose Bramble)

H17 (NCR): Clonboo, 4km SE of Annaghdown [=Eanach Dhúin] (M312367, 2010, **BM**, **DBN**). Another member of the section *Corylifolii* Lindl., and thus not unexpected on the lime-rich soils to the E of Lough Corrib.

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An annotated checklist of *Salix* L. in Co. Meath (H22)

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The predominantly lowland character of Co. Meath's topography is well suited to the establishment of *Salix* taxa. Spanned by many rivers, the most extensive of which are the Boyne, Blackwater and numerous tributaries within their catchments, it also boasts the Boyne Canal and Royal Canal. Furthermore, the drumlin belt of N Meath, poor-draining kame and kettle landscape of NW Meath, and plentiful peatlands of W Meath all provide ample wetlands for *Salix* to flourish. While the emphasis of this checklist is on naturally occurring willows within the county, some may be grown as ornamental trees, as materials for basket-making, to help stabilise river banks or as a biomass crop for renewable energy.

The following list employs the taxonomy and nomenclature adopted by Stace (2019). The status (native or otherwise) given usually follows Jebb (2019). A general statement on the distribution and relative frequency of each taxon is followed by a list of its main habitats within the county. The first record may be an herbarium specimen, a hitherto unpublished field record or a published record. In the latter two instances, the first published record may also be cited. Place names are as stated in the original record and in most cases are not closely localised. No attempt has been made to apply Irish National Grid references to such records. Place names for post 1987 records follow the Discovery Series maps (Ordnance Survey Ireland) where possible, the River Blackwater referring to that which joins the River Boyne at Navan rather than the smaller River Blackwater near Longwood. Initials are used to identify recorders and collectors as follows: DLK (Daniel L. Kelly), MN (Margaret Norton), FHP (Franklyn H. Perring), RLP (Robert L. Praeger), DHR (Dave H. Riley) and DS (Donal Synnott). Surnames are given for determiners and authors of published works. Lond. Cat. = Praeger's unpublished annotated copy for Meath of *The London catalogue of British plants* (Praeger manuscript 1895).

Salix pentandra L. (Bay Willow)

Native. Localised and rare. Habitats include lakes shores within the drumlin belt of N Meath, hedgerows on margins of reclaimed raised bogs, a wet woodland and the margin of a calcareous marsh.

First record: Enfield & near 1896 (RLP Lond. Cat.); Enfield (Praeger 1899).

Salix euxina I.V. Belyaeva (Eastern Crack-willow)

The status of *S. euxina*, recently described at species level (Belyaeva 2009), is as yet unclarified for Meath. Localised by watercourses, it is most certainly under-recorded. Currently known from the Boyne catchment area, River Nanny and Royal Canal.

First record: Ballyhoe Bridge 1978 (DS **DBN**, det. Synnott as *S. fragilis* L., further det. Chmelar 1983 as 'True *S. fragilis* L.!').

Continental authors regarded the majority of plants previously known as *S. fragilis* L. to be hybrids between *S. alba* and the then named *S. fragilis* var. *decipiens* (Meikle 1984). Chmelar's determination of the Ballyhoe Bridge plant as 'True *S. fragilis* L.' would have referred to the taxon now known as *S. euxina*.

Salix x fragilis L. = *S. euxina* x *S. alba* (Hybrid Crack-willow)

Archaeophyte. Widespread and very common on banks of the River Boyne, its associated canal and its major tributary the River Blackwater. Elsewhere it occurs as isolated trees on river banks and lake shores, and in peaty ground on bog margins. Within *S. x fragilis*, plants previously determined as *S. fragilis* var. *russelliana* are the most common in Meath. This variety only bears female catkins (Meikle 1984) and thus must either be planted or propagate vegetatively. It is possible that it established on the rivers Boyne and Blackwater during the Boyne Arterial Drainage Scheme of 1969-1986, spreading downstream by twigs which readily break from the main branches.

First record: 1.5 miles S of Trim 1978 (DS **DBN**, det. Synnott as '*S. fragilis* L. (var?)'; redet. Chmelar 1983 as *Salix alba* x *S. fragilis*).

Salix alba L. (White Willow)

Archaeophyte. Widespread and common. Frequent as isolated trees in the Boyne catchment including banks of the rivers Barora, Boyne, Blackwater and Deel, and the Boyne Canal. Occasional in other river catchments including the Broadmeadow, Delvin, Kilmainham, Lagan and Nanny; also present by the Royal Canal. Recorded from many of the lakes within the drumlin belt of N Meath, and the kame and kettle topography of NW Meath. Frequent on margins of wetlands and by roads bordering reclaimed raised bogs; occasional in woodlands; also occurring as a self-seeding primary coloniser of derelict sites, disused quarries and abandoned railway lines.

Only *S. alba* var. *alba* has been detected in specimens determined to varietal level.

First record of *Salix alba*: Beuparc 1900 (RLP Lond. Cat.); H22 (Praeger 1901).

First record of *Salix alba* var. *alba*: S bank of River Boyne, below Newgrange O0171, 1989 (MN, det. Meikle 1989).

Salix triandra L. (Almond Willow)

Archaeophyte. Localised, often plentiful where present, its importance as a basket-making willow (Meikle 1984) possibly influencing its distribution in Meath. Clusters of trees, which may be relics of cultivation, are frequent in the vicinity of Drumcondra within the drumlin belt of N Meath. Such clusters are also frequent on the River Blackwater from below Bloomsbury Bridge to its confluence with the River Boyne at Navan, and thence downriver

at intervals as far as Drogheda. An outlying record from near Curragha may indicate an original point of cultivation before or during drainage of this previously boggy area.

First record: roadside near Curragha, Co. Meath 1967 (FHP & DS **DBN**, det. Newmann 1973 as *S. alba* x *S. fragilis*, redet. Meikle 1976 as *S. triandra*).

Salix x sepulcralis Simonk. = *S. alba* x *S. babylonica* (Weeping Willow)

Neophyte, frequently planted in gardens.

First record: a single mature tree by Tiernan's Lock at Oldbridge, as *S. x sepulcralis* nothovar. *chrysocoma* (Dode) Meikle, most probably a garden relic O0575, 2020 (MN).

Salix purpurea L. (Purple Willow)

Listed as a neophyte for Ireland (Jebb 2019), it is a possible candidate for archaeophyte (denizen) status in Meath. Localised and occasional. Frequent at intervals along the Royal Canal; occasional by the River Boyne and its associated canal; scattered in the drumlin belt of N Meath by lakes margins and in roadside hedges, including in a field hedge at Mentrim Lough where dominant and clearly planted. Other sites include: edge of a reclaimed raised bog; margin of an artificial woodland pond; roadside by the tuck mill on the River Nanny, W of Julianstown, with *S. euxina*, *S. viminalis* and *S. cinerea*.

First record: Boyne Monument, riverside 1896 (RLP **DBN**, det. E.F. Linton); near Boyne Monument (Praeger 1899).

Salix viminalis L. (Osier)

Archaeophyte. Widespread and common, often planted. Frequent in the Boyne catchment including banks of the rivers Athboy, Blackwater, Boyne, Deel, Knightbrook, Mattock and Moynalty, and the Boyne Canal; elsewhere it is present on the rivers Delvin, Nanny, and Upper Inny. Occasional by lakes and marshes, roadside hedges and woodland margins, and edges of reclaimed raised bogs. Often abundant as a self-seeding primary coloniser of disused quarries, abandoned railway lines, and derelict sites. More recently, cultivars of *S. viminalis* have been used as a biomass crop (Cashin *et al.* 2015) but as yet have not spread beyond where planted in Meath.

First record: Drogheda to Boyne Obelisk 1896 (RLP Lond. Cat.); H22 (Praeger 1901).

Salix elaeagnos Scop. (Olive Willow)

Neophyte, a recent introduction. Single location.

First record: below pedestrian bridge over River Boyne at Brú na Boinne where almost certainly planted, at least 10 additional trees in the adjoining field hedge O0272, 2020 (MN).

Salix x smithiana Willd. = *S. viminalis* x *S. caprea* (Broad-leaved Osier)

A hybrid between the archaeophyte *S. viminalis* and the native *S. caprea*. Localised and occasional. Habitats include: roadside hedges, margins of raised bog and fen peat, and a river bank.

First record: Enfield & near, as *S. viminalis* x *caprea* 1896 (RLP Lond. Cat.); H22 (Praeger 1951). Confusion in the application of the name *S. x smithiana* was not resolved until the 1990s (Larsson 1995). However, Praeger's 1896 record clearly indicates the parentage.

Salix x calodendron Wimm. = *S. viminalis* x *S. caprea* x *S. cinerea* (Holme Willow)

A triple hybrid involving the archaeophyte *S. viminalis* and two native species. Localised and very rare. This taxon only bears female catkins and is completely sterile (Meikle 1984), a characteristic which limits its dispersal ability and distribution.

First record: strip of land subject to periodic inundation between the Boyne River and canal at Tiernan's Lock, Oldbridge O052755, 1994 (DHR, Riley 1998).

Riley postulated that the additional presence of the unusual willows *S. x laurina* and *S. myrsinifolia* at this site indicated all three taxa may have been planted at the same time.

Salix x stipularis Sm. = *S. viminalis* x *S. caprea* x *S. aurita* (Eared Osier)

A triple hybrid involving the archaeophyte *S. viminalis* and two native species. Localised and very rare, usually as isolated trees. This taxon only bears female catkins, with male catkins unknown (Meikle 1952), thus limiting its capacity for dispersal and hence its distribution. Habitats include stream banks, hedgerows and margins of lakeside scrub woodland.

First record: a single tree in field hedgerow by stream just W of Laytown Station O160713, 2003 (MN, det. Riley 2019).

Salix x holosericea Willd. = *S. viminalis* x *S. cinerea* (Silky-leaved Osier)

A hybrid between the archaeophyte *S. viminalis* and the native *S. cinerea*. Localised and rare.

First record: Kildalkey, as *S. viminalis* x *cinerea* 1900 (RLP, Praeger 1902).

Uncertainty regarding the nomenclature of this hybrid was not resolved until the 1990s (Larsson 1995). However, Praeger's 1900 record clearly states the parentage.

Salix caprea L. (Goat Willow)

Native. Widespread on dry to moist base-rich soils. Habitats include woodland margins and roadside hedges; scrub by cutover bogs; drier ground by rivers, canals and lakes; disused quarries and railway lines; recently disturbed and abandoned sites. It also occurs within the shrub layer on esker ridges in SW Meath, a habitat where it is locally abundant in central Ireland (Cross 1992).

Meikle (1984) considered pure *S. caprea* to be distinctly less common than generally supposed because of the extent of hybridisation and introgression with *S. cinerea*. Many of the *S. caprea* records for Meath may have been its hybrid *S. x reichardtii*.

First record: Kildalkey 1900 (RLP Lond. Cat.); H22 (Praeger 1901).

Salix caprea x S. cinerea = *S. x reichardtii* A. Kern.

A hybrid between two native species. Widespread. Scrub woodland on lake shores and wetland margins; roadside hedges bordering wetter ground; scrub by river banks; disused quarries and abandoned railway lines; disturbed ground in towns and villages.

Meikle (1984) indicated that this hybrid is linked with both parents by an unbroken series of intermediates, and considered *S. x reichardtii* to be more plentiful than *S. caprea*. The hybrid coexists with *S. cinerea* at all its Meath sites. However, pure *S. caprea* is not always evident.

First record: by the Boyne Canal to the E of Navan N86, 1989 (MN, det. Meikle 1989).

Salix cinerea L. subsp. *oleifolia* Macreight (Grey Willow)

Native. Widespread and abundant. The dominant component, often with *S. x multinervis*, of scrub woodland on lake shores and wetland margins. Common by canals, rivers and streams; margins of raised bog and fen; fringes of broadleaved and coniferous woodlands; roadside hedges bordering wetter ground; damp hollows of sand dunes. A frequent coloniser of recently cleared forestry, abandoned sites in towns and villages, and disused quarries and railway lines.

First record: Enfield & near 1896 (RLP Lond. Cat.); H22 (Praeger 1901).

Salix cinerea x S. aurita = *S. x multinervis* Döll

A hybrid between two native species, usually accompanied by one or both parents. Widespread and common in wet scrub. Most frequent by the inter-drumlin lakes of N Meath, also present by the lakes of the kame and kettle topography of NW Meath; occasional by canals, rivers and streams; also occurring in scrub margins of raised bogs, wet woodland, fringes of broadleaved and coniferous woodland, and hedgerows on base-poor wet soil.

First record: small tree in swampy woodland at Thomastown Bog below Drumman Ho., W of Duleek 1986 (DLK **DBN**).

Salix aurita L. (Eared Willow)

Native. Widespread and occasional. Damp base-poor soils, avoiding the lime-rich and intensely drained area of SE Meath. Scrub margins of raised bogs; cutover peat; uppermost fringe of scrub by lake shores; margins of damp woodland; occasional by rivers and canals.

First record: Navan & westward 1896 (RLP Lond. Cat.); H22 (Praeger 1901).

Salix aurita* x *S. repens = *S. x ambigua* Ehrh.

A hybrid between two native species. A single record from Lough Freehan. This lake is located within the Lough Shesk area where both parents were also recorded.

First record: L. Freehan, L. Shesk area 1971 (DS **DBN**, conf. Forrest 2007).

Salix* x *laurina Sm. = *S. cinerea* x *S. phylicifolia* (Laurel-leaved Willow)

A nineteenth century introduction (Riley 1998). One known site.

First record: 10 shrubs on the banks of the River Boyne at Oldbridge by Tiernan's Lock O052755, 1994 (DHR, Riley 1998).

The strip of land here between the canal and river is subject to inundation due to its position just downriver of the uppermost tidal limit on the Boyne. The additional presence here of the unusual willows *S. x calodendron* and *S. myrsinifolia* caused Riley (1998) to postulate that all three taxa may have been planted at the same time. Additional records from 1994 to 2020 (DHR/MN) include *S. triandra*, *S. viminalis*, *S. x fragilis* and *S. x sepulcralis*, bringing to seven the number of *Salix* taxa within this small area. Willows may have been planted here to consolidate the periodically inundated soil, or alternatively the wet soil may have been exploited to cultivate willows whatever their end use. Ó Gibne (2012) in his description of the Boyne Currach (constructed from alder and willow rods) refers to the willow beds at Oldbridge.

Salix myrsinifolia Salisb. (Dark-leaved Willow)

Considered native elsewhere in Ireland (Jebb 2019), but most probably introduced in Meath. Known from only one site.

First record: the strip of land subject to periodic inundation between the Boyne River and canal by Tiernan's Lock, Oldbridge O052755, 1994 (DHR, Riley 1998).

S. myrsinifolia was no longer evident here in 2019 (*pers. comm.* DHR), much of the dense undergrowth of trees and shrubs having been cleared to enlarge the garden section of the site (MN 2020).

Salix repens L. (Creeping Willow)

Native. Localised and rare. Several records only which, apart from that of Praeger's, are all either 1970 or 1971. Inland on peaty ground by two of the inter-drumlin lakes in N Meath; on fen peat by two lakes in NW Meath, also at two locations in S Meath, the latter four sites all much drier now than hitherto. Not recorded from coastal dunes, a habitat which it frequents in other parts of Ireland.

First record: H22, 'one station only' (Praeger 1901).

Unfortunately, there are no Meath records for *S. repens* in Praeger's annotated copy of the Lond. Cat., nor are any locations cited in his subsequent publications. The first recorded location is Mentrím Lough(s) 1970 (N98, DS).

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Woodlands, bilberry, and the border

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The importance of native woodland is getting a lot of attention recently, and deservedly so. These habitats are important refuges for many rare species, represent the climax vegetation for most of Ireland, and can act as little pockets of wildness in an otherwise human dominated and managed landscape. The temperate rainforests in the west and southwest often steal the limelight, rich in mosses and liverworts, with tree limbs smothered in epiphytes. It can at times be easy to forget about the drier woodlands to the east. These woodlands are also a sight to behold, and what they lack in bryophytes they make up for in their vernal flower displays in spring and early summer.

My love of woodlands was influenced by two locations. The first was my granny's stories of growing up at the edge of the Clara Vale in Wicklow. A highlight of the year was collecting the berries of *Vaccinium myrtillus* (Bilberry). When she was a child, the tradition in late summer was to head to the woods with friends to fill jars of 'fraughans', to be sold in town. One year, adding a little water to the bottom of the jars to give the appearance of a larger volume, led to a scolding from a shopkeeper. Growing up I would often head to Wicklow with the family in summer, and there were always visits to the woods. The second location was the woods near home, the tiny fragments of native woodland around Lough Muckno in Monaghan and the border region. As a child I was always searching for 'fraughans' in the small woodlands around Muckno, but there was none and at the time I couldn't understand why. It soon sparked an interest in why plants grow where they do, and later an obsession with woodland classifications.

Most of the old estate woodlands around Lough Muckno have been converted to conifer plantations, agricultural grassland, and a golf course. However, there are still some tiny fragments along the lake shore that are very special indeed. The woods in the area are transition woodlands between acidic oak woodlands and ash dominated woodlands on calcareous soils (Cross, 2006, Perrin *et al.*, 2008). *Quercus* and *Betula* dominate the canopy, with a *Corylus* and *Ilex* understory. The field layers typically include *Hyacinthoides non-scripta* (Bluebell), *Silene dioica* (Red Campion), *Stellaria holostea* (Greater Stitchwort) and *Primula vulgaris* (Primrose), but the presence of *Hypericum pulchrum* (Slender St John's-wort), *Teucrium scorodonia* (Wood Sage), and patches of *Luzula sylvatica* (Great Wood-rush) give a nod to the slight acidity in the soil. In a small linear woodland that runs along a road, there is quite a large patch of *Galium odoratum* (Woodruff), which is locally scarce.

The small, wooded lake islands take on a completely different appearance. When canoeing out to these islands, you are entering a different world. They are like little fortresses of wildness, protected by the lake, and I often feel an imposter. The largest of these is Crane Island, which has a very dense undergrowth of *Rubus fruticosus* agg. (Brambles), *Urtica dioica* (Common Nettle) and *Sambucus nigra* (Elder). Like a patch of dense tropical rainforest, a machete would come in handy to get from one end of the island to the other. Unlike the woods along the shore, the canopy on this island is almost exclusively made up of *Acer pseudoplatanus* (Sycamore). There are different processes at work on this island contributing to *Acer* dominance and the dense undergrowth, and it used to baffle me. The soils are the same, and the lack of grazers was unlikely the answer as some woodlands on the shore also lacked grazers and were nowhere near as dense, so why here? It all became a little clearer when I was sent a paper from the 60's on lake islands in Connemara. There, guano from roosting Cormorants had completely altered the vegetation on some of the islands, the addition of nutrients favouring nitrophile species (Webb &

Glanville, 1962). An interesting process, and it appeared the same was occurring on Crane Island, where Cormorant guano often turns the trees white. It was so obvious, but I was looking down for the answers when I should have been looking up.

Further south in the county, you enter limestone country, the most notable features in the area being turloughs. Here, little ash woods are scattered about the place. One small ash wood I have gotten very attached to has regenerated on an old lime quarry. It's off the old Carrickmacross Road, and once you jump the gate you are every time greeted by friendly horses, who you would like to think are as happy to see you as you are to see them. In an area with good agricultural soil, where fields of rye grass are the norm, a little oasis of semi-natural grassland is refreshing. It has an amazing display of *Leucanthemum vulgare* (Oxeye Daisy) in summer, and it is a refuge for the Common Blue butterfly, due to the abundance of its larval food plant, *Lotus corniculatus* (Common Bird's-foot-trefoil). Up behind the old lime kiln, you enter the woods, and I am immediately struck by how different in appearance they are to the woods further north. *Fraxinus excelsior* (Ash) dominates the canopy, but what truly separates them from the woodlands to the north is the abundance of *Euonymus europaeus* (Spindle) in the understory. The field layer includes *Hyacinthoides non-scripta* (Bluebell), *Alliaria petiolata* (Garlic Mustard), *Primula vulgaris* (Primrose), and *Conopodium majus* (Pignut). The woodland floor is carpeted in *Thamnobryum alopecurum* and in a couple of spots the limestone rocks are festooned in *Anomodon viticulosus*, with only a couple of records of the latter in the county.

To find *Vaccinium myrtillus*, you must travel a little further north and east, to the higher drumlins along the border. Mullyash at 300m, provides a view to Slieve Gullion and the Mourne, the sea to the east, the southern shores of Lough Neagh to the north, and on a clear day, the Dublin Mountains to the south. The presence of *V. myrtillus* on Mullyash has a cultural significance, as it was once a popular location for the festival of Lughnasa celebrations. The plant was a central feature of the festival, as locals would climb the hill to gather the juicy berries, their ripeness representing the beginning of the harvest season (MacNeill, 2008). Today, a small number still ascend Mullyash on the last Sunday of July to collect the berries, now known as Blaeberry Sunday. The botany books call it Bilberry, I call them Fraughans, but the locals call it Blaeberry. Like most places in the North, it's probably the Scottish influence.

Just over the border at Darkley Wood, your typical conifer plantation gives way to a steep gorge and in it, a gorgeous patch of woodland of mostly *Quercus* and *Corylus*. Again, *Hyacinthoides non-scripta* and *Stellaria holostea* carpet the woodland floor with some *Luzula sylvatica*. Along the lip of the gorge, you find the odd patch of *V. myrtillus*, before dense conifers shade out the field layer. Just outside Crossmaglen is Annaghmare, my favourite little patch of wildland in the country. Here, beyond a conifer plantation, natural processes dominate, but ever so slightly on a fragment of land around 300m in length, which is the best you can hope for these days I suppose. You can walk in a straight line from the lakeshore, through a sea of *Myrica gale* (Bog-myrtle), waist deep in places. The land then rises a little, and on the slope, a sliver of woodland, mostly *Corylus* with some very old *Quercus*, with spreading twisted limbs stretching out over the *Corylus* underneath. The wood gives way to raised bog, then bog woodland, with fallen *Betula* branches smothered by enormous cushions of *Sphagnum*. The woods get drier again, *Betula* dominated with a dense carpet of *V. myrtillus* in the field layer, and it almost feels like I

have been transported back to Wicklow. So many natural habitat transitions and ecotones in such a small area. It's land beyond human control and it's powerful to stand among it all. In late summer you leave that little wild place with a clear mind and a purple tongue.

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Amendments to the *Flora of County Limerick* (2013)

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A number of errors in my *Flora of County Limerick* have come to light since publication in 2013, some resulting from redetermination of voucher specimens. Such errors are dealt with below and records in the BSBI's database (DDb) have been adjusted as necessary.

While compiling details of pre-2000 Limerick records for the DDb in spring 2020, I came across additional historical records, including some unpublished new first records made by Praeger in 1900. Most of these are not of particular significance and they are all available in the DDb. It was also an opportunity to re-evaluate a few historical records in the *Flora*.

Many records of taxa in the *Flora* have been updated since 2013, new sites found and new taxa added to the county's flora. Again, nearly all these records have been submitted to the DDb and a selection published in annual Limerick reports in *Irish Botanical News*. Detailed records of defined internationally, nationally and locally rare and scarce taxa in the *Flora* and since its publication are documented in the *County Limerick Rare Plant Register* (Reynolds 2021), available online on the BSBI website.

Amendments follow systematic order in the Limerick *Flora*, with page numbers.

121. *Ophioglossum vulgatum* (Adder's-tongue): 'Foynes (RDOB)', probably Mullagh SE of Foynes 1900 (R24; see later record and as for *Botrychium lunaria*).

121. *Botrychium lunaria* (Moonwort): 'near Feenagh 1900 (RDOB)', probably Mullagh SE of Foynes (R24; see later record and as for *Ophioglossum vulgatum*).

133, 134. *Polypodium interjectum* (Intermediate Polypody) and *P. cambricum* (Southern Polypody): specimen of '*P. vulgare* f. *semilacerum*' from Mullagh 1900 (R24) is the first record for *P. cambricum*, not *P. interjectum*; image of specimen checked by Martin Rickard in 2014 and named *P. cambricum* var. *semilacerum*; deeply serrate pinnae are apparently rare in *P. interjectum*.

146. *Ranunculus omiophyllus* (Round-leaved Crowfoot): SW of Broadford 1987 (R3219; not SE of Broadford).
157. *Myriophyllum verticillatum* (Whorled Water-milfoil): the Bratton reference gives incorrect information about turions (corrected in a later publication), which do not occur in *M. spicatum* (Spiked Water-milfoil).
173. *Prunus padus* (Bird Cherry): Glenstal Abbey 2006 (R7356; not 2007).
178. *Rubus saxatilis* (Stone Bramble): Praeger's record from glen of Bilboa River 1900 (R85) seems unlikely; this species is otherwise confined to the northern limestone area in Limerick.
181. *Rubus hesperius* (Bramble microspecies): (1) all records of '*Rubus leptothyrsos*' from NW Limerick (R14) are transferred to *R. hesperius* (D.E. Allen, pers. comm. 2013); (2) voucher specimen of '*Rubus hesperius*' from Combaun Wood 2007 (R8118) redetermined as *R. silurum* by DEA (pers. comm. 2014); so *R. hesperius* is still in the current Limerick flora.
181. *Rubus leptothyrsos*: all records are transferred to *R. hesperius* (DEA, pers. comm. 2013); so no confirmed records of *R. leptothyrsos* in Limerick.
184. *Rubus riddelsdellii*: voucher specimen for record from SE of Prospect Hill 1988 (R1846) redetermined as *R. rubritinctus* by DEA (pers. comm. 2014); so *R. rubritinctus* now in the current Limerick flora.
187. *Rubus bercheriensis*: voucher specimens for records from Foynes Yacht Club 1988, 2010 (R2451) redetermined as *R. rilstonei* by DEA (pers. comm. 2017); so no confirmed records of *R. bercheriensis* in Limerick.
192. *Agrimonia eupatoria* (Agrimony): mapped record in R75 is in error for *A. procera* (Fragrant Agrimony) found on the roadside just N of Eyon Hill (R7350).
226. *Viola reichenbachiana* (Early Dog-violet): record from Foynes Island 1990 (R2552) is now considered doubtful; only *V. riviniana* (Common Dog-violet) has been found at the same site in recent years.
232. *Hypericum elodes* (Marsh St John's-wort): first record was from Coolavehy, SE Coolfree Mtn 2000 (R6815, Rob Lynch).
255. *Arabis hirsuta* (Hairy Rock-cress): record from Hospital 1999 (R7036) in error for *Arabidopsis thaliana*, Thale Cress (adjacent scientific name on field card crossed out by mistake; *A. thaliana* found again on wall there).
279. *Cerastium diffusum* (Sea Mouse-ear): some identifications of inland plants may have been confused with *C. glomeratum* (Sticky Mouse-ear).
280. *Sagina nodosa* (Knotted Pearlwort): near Glenastar, W of Ardagh 2005 (R2439; not 2006).
282. *Spergularia rupicola* (Rock Sea-spurrey): early records by the Shannon Estuary and on roadside near Glin Castle 1990 were almost certainly in error for *S. media* (Greater Sea-spurrey); *S. rupicola* is a maritime species unlikely to be found along the estuary in Limerick and it has not been found despite searches in recent years.
340. *Mentha x piperita* (*M. aquatica* x *M. spicata*, Peppermint): first record from Bilboa River glen 1900 (R85) may refer to *M. x gracilis* (*M. arvensis* x *M. spicata*, Bushy Mint) which was reliably recorded by the same river more recently; *M. x gracilis* was not a taxon included by Praeger in *Irish Topographical Botany* (1901).

341, 342. *Euphrasia officinalis* agg. (Eyebrights): historical records for microspecies are unreliable unless supported by voucher specimens checked by Chris Metherell since publication of the *Flora*.

392. *Apium x moorei* (now *Helosciadium x moorei*, *H. nodiflorum* x *H. inundatum*, Fool's-water-cress x Lesser Marshwort): record from Reboge 2004 (R6057, Tony O'Mahony) was inadvertently omitted from the *Flora*; now added as a current record for Limerick.

466. *Festuca ovina* subsp. *hirtula* (Sheep's Fescue subspecies): a poor voucher specimen for record by Attychraan River 2008 (R8718) was checked by Alexis FitzGerald in 2019 and considered not reliably this subspecies.

473. *Gaudinia fragilis* (French Oat-grass): specimen from 'Newbridge' Farm, Patrickswell 1976 was probably determined by P.J. Trist of Kew in 1976 and not collected by him; this species was found at Newboro, Patrickswell in 1965.

485. *Brachypodium pinnatum* (Heath False-brome): source of pre-1970 map record was from near Patrickswell 1965 (Austin O'Sullivan), traced via NPWS database in 2019.

485. *Elymus caninus* (Bearded Couch): early 1900s record from Poultallin Point by the Shannon Estuary near Foynes (R25), in the absence of a voucher specimen, is doubtful; it may have been in error for awned *E. repens* (Common Couch) which is known there.

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A new location for *Juncus planifolius* (Broad-leaved Rush) in West Mayo (H27)

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Juncus planifolius (Broad-leaved Rush) is an alien plant species which resembles a robust form of *Luzula multiflora* (Heath Wood-rush) with conspicuous dark red/brown leaf colouration. The species is native to the southern hemisphere but has recently been recorded in a number of locations in the northern hemisphere (Balsev, 1980, Wagner *et al.*, 2005) where it is considered to be invasive. In Europe the species is only known from Ireland, and within the island it has a very restricted distribution, being mainly recorded from West Galway (H16). The species was first noted by Maura Scannell in 1971 from the Carna Peninsula in south-west Connemara (Scannell, 1973). Since its initial discovery in the Carna area the distribution of the species appears to be increasing throughout Connemara. During recent recording for Atlas 2000 the species was recorded as far north as Leenane village and as far east as Cloosh forest, south-west of Oughterard. During a BSBI field meeting in 2018 the species was recorded from a cutover bog drain on Inishbofin, which was the first record for an Irish offshore island. The main habitat of the species in Connemara appears to be shallow drains which occur along gravel paths within areas of blanket bog however

the species is also commonly found along the margins of gravel tracks within conifer plantations. Within these habitats the species can be locally frequent in West Connemara and there is little doubt that it is outcompeting and displacing native vegetation in these areas. The species has also been noted growing occasionally in more natural situations such as along the stony shores of lowland oligotrophic lakes (personal observation) and on quaking rafts of vegetation along lake margins (Lockhart *et al.*, 1989).

According to the BSBI Distribution Database the species has been recently recorded in West Mayo (**H27**) and East Mayo (**H26**), both of which adjoin West Galway. On the 5th of July 2021, I found a population of the species growing in a trackside ditch which runs through an area of blanket bog in the north-west of Achill Island (Irish Grid reference F 62430707). Approximately 150 plants were noted growing along 30 metres of trackside drain to the north-west of a gravel track which runs between the Deserted village at Slievemore and Dooagh. This new site is located approximately 36 kilometres north-west of the closest reported population of the species in an area of conifer plantation at Lough Namucka, south of Louisburgh. At this new Achill Island location the species grows on damp, mineral/peat soil close to the bottom of the ditch, which is periodically scoured by water. Frequent plant species which grow in association with *Juncus planifolius* at this location include *Juncus bulbosus* (Bulbous Rush), *Calluna vulgaris* (Heather), *Erica tetralix* (Cross-leaved Heath), *Potentilla erecta* (Tormentil), *Anagallis tenella* (Bog Pimpernel), *Nardus stricta* (Mat-grass), *Carex binervis* (Green-ribbed Sedge) and the moss *Sphagnum denticulatum*. In view of this discovery of the species in the west of Achill Island it is considered likely that further locations for the species await detection in lowland blanket bog areas in the south Mayo area.

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Vice-county Reports

Recording in Leitrim (H29) 2021

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2021 was another bumper year for recording in Leitrim. Over 16,000 records collected and uploaded to the database. Our Leitrim group met up several times between May and September. In particular, Patricia McHugh accompanied me on about 20 occasions and spotted some uncommon plants I might have missed on my own. I always believe that two or more pairs of eyes are better than one. On many days, monads with few or no records

were picked and some with older records produced new sites for uncommon species. Some significant finds are outlined below.

In January, the rare *Equisetum hyemale* (Rough Horsetail) was spotted in a hedgerow near Kinlough by a local person Maggie Beal. I visited the site in March to confirm the sighting. This is the only post 1999 record for Leitrim. It is one of two notable species that didn't get an updated post 1999 record for Atlas 2000, the other being *Carex elongata* (Elongated Sedge) which I re-found last year.

In October, *Epilobium pedunculare* (Rockery Willowherb) was spotted in woods south of Carrigeencor Lough in an otherwise uninteresting area and is a first county record (see back cover). Unsurprisingly perhaps, as I found it in Sligo for the first time in 2020 and there are now three Sligo sites.

In August I found the large aquatic sedge *Carex riparia* (Greater Pond-sedge) in two places at Carrick on Shannon near the busy N4. There was just one old unlocalised record for this sedge in Leitrim.

Other significant finds included;

Carex canescens (White Sedge) 2 new sites including a new hectad. *Carex pallescens* (Pale Sedge) 1 new site (see back cover). *Carex otrubae* (False Fox-sedge) 2 new sites. (This sedge is rare in Leitrim). *Carex pseudocyperus* (Cyperus Sedge) 3 new sites. *Eleocharis acicularis* (Needle Spike-rush) at Lough Scur in a new hectad. *Equisetum variegatum* (Variegated Horsetail) 2 new sites including a new hectad. *Hypericum humifusum* (Trailing St John's-wort) 12 new sites all since August when I started recognizing it and looking for it in its typical habitats of forest clearings and peaty banks.

In July Patricia and I found plenty of the rare aquatic plant *Ceratophyllum demersum* (Rigid Hornwort) at the jetty on Lough Erril. It was last recorded there by Don Cotton *et al.* in 2000. Otherwise known in Leitrim only from Lough Melvin.

In early August I visited Lough Allen to search for *Limosella aquatica* (Mudwort) at its two known Leitrim sites. This time successfully at one site, having failed to find it in the last two summers (see pages 42 and 78).

Ferns were well represented this year with new sites for uncommon or rare species such as *Asplenium viride* (Green Spleenwort), *Polystichum aculeatum* (Hard Shield-fern), *Dryopteris aemula* (Hay-scented Buckler-fern) and lots of *Oreopteris limbosperma* (Lemon-scented Fern) in Glenaniff seen by Patricia and I in October (see back cover). On that October day we climbed a bit to re-find *Polystichum lonchitis* (Holly-fern) on limestone karst (recorded there by Don Cotton in 2002) (see page 78).

In 2021 I didn't devote much time searching for Orchids but did stumble on a new site for *Platanthera chlorantha* (Greater Butterfly-orchid) and Patricia and I saw *Dactylorhiza incarnata* subsp. *pulchella* (Early Marsh-orchid) in a new hectad by the River Shannon in June.

Of the group outings this year I would single out a visit to Lough Bran as one of the most enjoyable and is summarised in the paragraph below.

On Sunday Aug 22nd, Sandie McCanney & Mary McCormack joined me in recording the west side of Lough Bran about 3km NE of Carrick on Shannon. 130 taxa were recorded all from the monad G9602. Nearby limestone outcrops added several species including some uncommon in Leitrim. Don Cotton had recorded this lake (I don't know which side) in 1997 and I recorded the east side in September 2018. Notable species that

day from the lake or marsh were *Ranunculus lingua* (Greater Spearwort), *Rumex hydrolapathum* (Water Dock), *Cicuta virosa* (Cowbane), *Samolus valerandii* (Brookweed) along with the less rare *Triglochin palustris* (Marsh Arrowgrass) and frequent *Sagina nodosa* (Knotted Pearlwort) in flower. The limestone outcrops had an abundance of *Galium verum* (Lady's Bedstraw) (not common in Leitrim), *Geranium molle* (Dove's-foot Crane's-bill), *Sedum acre* (Biting Stonecrop), *Alchemilla filicaulis subs. vestita* (Hairy Lady's-mantle) and the rarely recorded *Aphanes arvensis* (Parsley-piert). There are only three modern Leitrim records for *Sedum acre*, including this one.

I cannot conclude this article without mentioning the late Don Cotton who contributed many valuable records while he was Vice-county recorder (VCR) for Leitrim (a few alluded to above). In the last 10 years, I got to know him well as a teacher and good friend during our several outings in various parts of Sligo. He will be missed not least among field botanists throughout Ireland and further afield.

A report on Limerick (H8) botanical work in 2021

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Another year of living with Covid. I took advantage of the lockdown early in the year to work on a Rare Plant Register for Limerick and so the main aim of fieldwork in 2021 was to update records of selected taxa – and as in recent years I was ably assisted by Julian Reynolds. Also in 2021 our three friends and colleagues Mike Quirke, Paul Murphy and Tom Harrington did their own exploring and botanising, and some of their good finds are mentioned below.

In 2016 I had drawn up a draft list of taxa for a proposed Rare Plant Register for all of Co. Limerick, including the part north of the River Shannon near Limerick city which falls within Vice-county **H9**. Following *BSBI Guidelines* (2017) and adding records from fieldwork since 2016, that list was modified in February to include natives and archaeophytes which are internationally rare, nationally and locally rare or scarce, and extinct in the county. From March to mid-May I drafted accounts and compiled records for over 300 taxa, erring on the side of inclusion of some hybrids and subspecies for which distribution in Limerick is not well known.

Soon after restrictions on inter-county travel were lifted, Julian and I headed out of Dublin to Limerick. During the season we spent 12 long days in the field, a few shorter ones, and only three overnights, adding over 130 updates or new finds for the Rare Plant Register; over 40 more were added by others. Our first stop was at Curragh Chase (R1949) where we re-found *Lathraea squamaria* (Toothwort) already dying down under Portugal Laurel and Ash near the ruined house. At Barrigone (R2950) we looked for elusive *Neotinea maculata* (Dense-flowered Orchid) without success, but instead saw a large patch of *Rubus saxatilis* (Stone Bramble) coming into flower and a few plants of *Ophrys insectifera* (Fly Orchid). The rest of the day was spent visiting sites along the Shannon Estuary. *Cochlearia officinalis s.s.* (Common Scurvygrass) persists near Glin Pier (R1247) and *C. danica* (Danish Scurvygrass) at Kiltteery Pier (R1749), at their only known Limerick

sites, and *Sagina maritima* (Sea Pearlwort) intermittently by the estuary as far up as Ringmoylan Quay (R6057).

On 22 June we started at Kilkeedy graveyard near Clarina (R5054) where large fronds of *Polypodium x shivasiae* (*P. interjectum* x *P. cambricum*, Intermediate Polypody x Southern Polypody), a rare fern hybrid in Ireland, are still growing on a high wall. We then met up with Mike, Paul and Tom on the outskirts of Limerick city at Rootiagh (R5451) to further explore the extensive unimproved wet grasslands on peaty soil where they had been botanising earlier in June. Scattered *Platanthera bifolia* (Lesser Butterfly-orchid) were in full flower as was the endemic *Dactylorhiza incarnata* subsp. *pulchella* (Early Marsh-orchid subspecies). Several large patches of *Thalictrum flavum* (Common Meadow-rue), also in flower, were conspicuous at that time of year. New finds there were *Carex viridula* (= *C. oederi*, Small-fruited Yellow-sedge) and, more unexpectedly, *C. pilulifera* (Pill Sedge) in heathy vegetation among Gorse bushes – the latter is otherwise mainly known in the Galty Mountains in Limerick.

A record of *Lemna gibba* (Fat Duckweed) in a brackish ditch at Durnish near Foynes (R2651) was updated on 29 June. Then on our way to Aughinish Island I measured the height of a *Ficus carica* (Fig) tree, previously noted growing beside the former railway, by lowering a weighted string from the high bridge – it is about 8m tall and may have originated from fruit thrown out of a train many years earlier. Somewhat unusually, a patch of *Eriophorum angustifolium* (Common Cottongrass) was growing with scattered *Carex distans* (Distant Sedge) at the edge of Hunt's Lough near the Shannon Estuary on Aughinish Island (R2853), this pond with dense stands of *Phragmites australis* (Common Reed) and some *Cladium mariscus* (Great Fen-sedge) as well as *Potamogeton coloratus* (Fen Pondweed) and charophytes. After an overnight on Foynes Island, we checked some plants in Askeaton, refinding *Apium graveolens* (Wild Celery) and *Verbena officinalis* (Vervain) at the abbey (30 June, R3350) as well as *Vulpia myuros* (Rat's-tail Fescue) on a high wall in the town (R3350, R3450), all three species noted at Askeaton by Praeger in 1900. Due to restoration works at Askeaton Castle it was not possible to check for the *Salvia verbenaca* (Wild Clary) known there since the 19th century, but I could see part of the grassy slope where it had been growing - and binoculars were used too to watch young peregrine falcons flying between the ruins. *Petroselinum crispum* (Garden Parsley) was recorded on the castle ruins in 1897 and continues to self-seed on the walls.

Small trees of *Salix x alopecuroides* (*S. euxina* x *S. alba* x *S. triandra*, Eastern Crack-willow x White Willow x Almond Willow), another rare hybrid in Ireland, are thriving on low banks by the River Deel at Accrour Bridge N of Dromcolliher (12 July, R3825). The rest of the day was spent in W Limerick. *Carex strigosa* (Thin-spiked Wood-sedge) is only known at two sites and was refound at both – in overgrown roadside ditches S of Newcastle West (R2831, R2832) and in woodland at Castle Demesne in Newcastle West (R2633, R2733), growing with the grass *Elymus caninus* (Bearded Couch) in one place at the latter site (R2733). The bog at Glenbaun-Knockfinnisk in the western uplands W of Carrigkerry (R1939) is wet and springy, with patches of *Pinguicula grandiflora* (Large-flowered Butterwort), at the edge of its range in SW Ireland; and *Drosera anglica* (Great Sundew) occurs on the same bog. Moyreen Bog S of Ballyhahill (R1942) with abundant *Rhynchospora alba* (White Beak-sedge) is drier. A few small plants of *Carex*

limosa (Bog-sedge) were seen in a shallow pool, but *D. intermedia* (Oblong-leaved Sundew) was not refound there.

Having overnighted in Adare, we first went looking, unsuccessfully, for *Carex aquatilis* (Water Sedge) by the River Shannon between Corbally Baths and Athlunkard Bridge near Limerick city (13 July, R5859), where there is dense growth of *Urtica dioica* (Common Nettle), *Oenanthe crocata* (Hemlock Water-dropwort) and *Impatiens glandulifera* (Himalayan Balsam). Instead a treat was to find a second site for *Elymus caninus* in the county, growing by the river on an old tree stump as it was also doing in Newcastle West. Trying to refind *Ranunculus circinatus* (Fan-leaved Water-crowfoot) in the River Shannon at Shannon Fields (R5958) was unsuccessful too. We were at the exact same spot where we had grabbed out healthy aquatics in 2006, but this time the water was murky and only *Myriophyllum spicatum* (Spiked Water-milfoil), *Elodea nuttallii* (Nuttall's Waterweed) and a filamentous green alga were seen. The upper Shannon Estuary is accessed easily along the embankment W of Barrington's Pier, but it is much less easy and even treacherous to walk on the soft tidal mud among the vegetation bordering the estuary, including extensive stands of *Typha angustifolia* (Lesser Bulrush) at Clonmacken (R5456 in H9). Finally that day we wanted to check aquatics in the Limerick Canal (R5857, R5957). The high steep sides are now overgrown with Willows and the water, even with a grab on a long rope, was nearly inaccessible, so records were only updated for *Hydrocharis morsus-ranae* (Frogbit) and *Potamogeton lucens* (Shining Pondweed), but not for *Groenlandia densa* (Opposite-leaved Pondweed), *Ranunculus circinatus* (Fan-leaved Water-crowfoot) etc.

Just one fruiting plant of *Carex pseudocyperus* (Cyperus Sedge) was seen by Glenisca Lough at Curragh Chase (R4150) on 1 August, and tantalisingly *Utricularia vulgaris* s.l. in flower was out of reach in the marly lake; flowers are needed to separate *U. vulgaris* s.s. (Greater Bladderwort) from *U. australis* (Bladderwort). At Shanid Castle S of Shanagolden (R2445) *Arabis hirsuta* (Hairy Rock-cress) still grows on fallen stonework, but there was no sign of *Silybum marianum* (Milk Thistle) which was collected there in the early 1900s. First found by Tony O'Mahony in 2005, *Trifolium medium* (Zigzag Clover) was again noted in a damp hollow in an area of calcareous grassland at Mullagh near Creeves Cross (R2847). Other searches that day were less successful, such as for *Eleocharis quinqueflora* (Few-flowered Spike-rush), *E. uniglumis* (Slender Spike-rush) and *Juncus ranarius* (Frog Rush) at a brackish pond near Poulaweala Creek (R2952), visited by Maura Scannell and Lynne Farrell with a BSBI group in 1974. The pond margins are now heavily poached by cattle and fairly disgusting!

Celebrating my and Julian's 50th wedding anniversary, 28 August was a more satisfying day out. We found a new site for *Ophioglossum vulgatum* (Adder's-tongue) at the N end of Graigues Lough, the turlough SE of Askeaton (R3648); *Juncus ranarius* (Frog Rush) and *Isolepis cernua* (Slender Club-rush) in poached marshy ground at Kiltteery Pier (R1749), the latter previously only seen near Ringmoylan Quay in 1990; *Trifolium fragiferum* (Strawberry Clover) near Long Rock NE of Glin (R1549); one plant of *Asplenium marinum* (Sea Spleenwort) in stonework of Glin Pier (R1347), nearly lost due to repointing; and more *T. fragiferum* and the protected species *Hordeum secalinum* (Meadow Barley) at Goleen Bridge N of Askeaton (R3353).

A few days later on 31 August we revisited the floodplain lake cut off from the River Shannon at Reboge on the E side of Limerick city (R6057). We were looking for *Rorippa x erythrocaulis* (Thames Yellow-cress) at its only Irish site, but only found the parents *R. amphibia* (Great Yellow-cress) and *R. palustris* (Marsh Yellow-cress) in nearby shallow muddy ditches. *Persicaria mitis* (Tasteless Water-pepper) still occurs in the same area. On our way to another overnight in Adare, we made our easiest update by parking right beside the low grassy bank and hedgerow with abundant *Rubus caesius* (Dewberry) at the T-junction W of Friarstown (R5649). Our final stop that day was to check *Equisetum variegatum* (Variegated Horsetail) at Clogh fen NE of Rathkeale (R3843), just surviving in very poached ground at the edge of the fen.

On 1 September we again found *Equisetum variegatum*, a new Limerick site at Mornane Lough ENE of Askeaton (R3852). Open water there is now largely infilled with *Cladium mariscus* (Great Fen-sedge) etc. and bordering calcareous grassland has not been grazed recently, resulting in less plant diversity than formerly. Then on to Lough Gur and to find that visitors were discouraged by a high wire fence from walking along the N side of the lake or up Knockfennell - but there was a small gap in the fence! We looked for *Rumex maritimus* (Golden Dock) at its only Limerick location without success. The area beside the lake where formerly there were many plants of it has been enclosed for several years past by an electric fence and there is now dense and tall *Phalaris arundinacea* (Reed Canary-grass), *Typha latifolia* (Bulrush) etc. Otherwise, *Rumex hydrolapathum* (Water Dock) is quite common along the lake edge (R6441), also *Ranunculus lingua* (Greater Spearwort), *Bidens cernua* (Nodding Bur-marigold) and less *B. tripartita* (Trifid Bur-marigold). Bilboa Bridge is in the NE of the county; we did not re-find *Epipactis helleborine* (Broad-leaved Helleborine) there, but Julian spotted several spikes of this orchid in the grass verge NE of Bilboa Bridge near the confluence of Bilboa and Gortnageragh Rivers (R8252), and *Rosa sherardii* (Sherard's Downy-rose) persists at the entrance to the old quarry.

Further searches for the protected species *Groenlandia densa* (Opposite-leaved Pondweed) on 6 September were unsuccessful, probably because it was late in the season and ditches where it was known to occur were very overgrown, as in a shallow ditch near Doohyle Lough (R3643) and deeper drainage ditches at Ferry Bridge (R4752, R4852). Nor was this species re-found in runnels over tidal mud with *Zannichellia palustris* (Horned Pondweed) at Shannon Bridge in Limerick city (R5756 in H9) where hundreds of plants were seen in 1993 and where it occurred more sparingly in 2006. *Potamogeton praelongus* (Long-stalked Pondweed) was not re-found either at its only Limerick site in the deep channel through marl from Doohyle Lough to the former marina and lido, probably because it was almost impossible to throw the grab in due to dense growth of Willows along the channel. On the other hand *Brachypodium pinnatum* (Heath False-brome), widely scattered in Ireland, was still conspicuous on a grassy roadside bank just W of Doohyle Lough (R3643). We stopped at Castleconnell Bog on our way home. This bog is cut-over and quite degraded now, with only small plants of *Andromeda polifolia* (Bog-rosemary) seen and flowering *Utricularia minor* (Lesser Bladderwort) in deep drains (R6863), and I was pleased to find a few plants of *Drosera intermedia* (Oblong-leaved Sundew) at the N end of the bog (R6864). *Betula pubescens* (Downy Birch) is abundant at the bog edge and although some *B. pendula* (Silver Birch) was recorded there in the past, no convincing trees were seen this time. Recent work in Britain shows that F1 hybrids are apparently rare, but

considers introgression from *B. pendula* into *B. pubescens* widespread (Amphlett 2021), and this may explain why it can be difficult to separate the species.

Our penultimate trip to Limerick on 15 September was to meet Mike Quirke and check one of the lakes in the grounds of Glenstal Abbey at Murroe (R7356). Not having been there since 2008, it was a shock to find the lake almost completely overrun by *Elodea canadensis* (Canadian Waterweed) and we saw no *Potamogeton obtusifolius* (Blunt-leaved Pondweed) or *Ranunculus circinatus* (Fan-leaved Water-crowfoot), previously found there. We noticed that slurry had been spread in bordering pasture and Mike told us that the lake had a dense covering of green algae in May and June. Also in E Limerick, non-native *Prunus cerasus* (Dwarf Cherry) is well established along the shaded grass verge and in the hedgerow by a lane at Castlegarde SE of Cappamore (R7949). Then we wanted to check if *Potamogeton alpinus* (Red Pondweed) was still in the large artificial pond beside Griston Bog near Ballylanders (R7523), but it was not seen. It had been introduced accidentally with *Lagarosiphon major* (Curly Waterweed) which quickly became invasive and is the dominant aquatic in the pond. *P. alpinus* was last recorded as native in the county near Limerick city in 1900. Heading for home it was good to find that many plants of the archaeophyte *Lamium album* (White Dead-nettle) had survived beside the ruined church on the hill top at Ardpatrick (R6320), although they were quite stunted as a result of grass cutting there.

25 September was our final day of fieldwork in 2021 and was worth the 200 plus kilometre drive from Stillorgan. We refound *Lemna gibba* (Fat Duckweed) among other Duckweeds in a deep drainage ditch on the E side of King's Island (R5858) and many small trees of *Salix triandra* (Almond Willow), the latter in the same area where specimens had been collected over a century earlier. There was also a large tree of *S. triandra* on the embankment at Clonmacken and *Rorippa x anceps* (Hybrid Yellow-cress) still at Barrington's Pier (both R5556 in H9). And at last we were able to update *Groenlandia densa* (Opposite-leaved Pondweed) for the county when, with binoculars, I could see submerged plants at low tide at two places in the tributary of Ballynacloagh River (R5754) – easily from a low bridge and much less easily by walking over soft mud in wellies and with a walking pole at the second place until it wasn't safe to go further.

Again in 2021, Mike Quirke, Paul Murphy and Tom Harrington contributed new and useful Limerick records. Tom reported a new site for *Lathraea squamaria* (Toothwort) beside a large Ash tree just SW of Monaster (12 April, R5440). Then in response to my suggestion, the trio went looking for that parasitic species in the Castleconnell area where there had been a vague record. To their and my pleasure they found two patches by the path in woodland along the River Shannon near the old mill canal SW of Castleconnell (7 May, R6461); and records of *Eleocharis uniglumis* (Slender Spike-rush) and *Oenanthe fistulosa* (Tubular Water-dropwort) were updated by them at Loughmore Common (9 July, R5452). Miscellaneous garden escapes and casuals were recorded in Limerick city by Paul, such as *Pilosella aurantiaca* (Fox-and-cubs) on a wall top at Ballinacurra (R5655) and *Pseudofumaria lutea* (Yellow Corydalis) on a wall at St Munchin's church (R5755) on 31 May; and at Raheen (R5552) *Erodium cicutarium* (Common Stork's-bill) at a pavement edge (22 June) and one plant of *Echinochloa crus-galli* (Cockspur) on a kerbside (18 October). *Rapistrum rugosum* (Bastard Cabbage) was found by Paul and Mike at the train station (22 July, R5756), a new Limerick record.

An interesting and enjoyable project of theirs was to walk stretches along the Shannon Estuary from Ringmoylan west to Ballinvoher Point and south to Goleen Creek where they noted some of the rarer species, e.g. *Apium graveolens* (Wild Celery), *Artemisia maritima* (Sea Wormwood), *Oenanthe lachenalii* (Parsley Water-dropwort), *Silene uniflora* (Sea Campion), *Trifolium fragiferum* (Strawberry Clover) and *Hordeum secalinum* (Meadow Barley). A particularly good find was fertile *Asplenium marinum* (Sea Spleenwort) in rock crevices facing west on Bushy Island NE of Ballysteen (17 August, R3756), much further up the estuary from the only other known site at Glin Pier. They also found new sites for the robust grass *Elymus athericus* (Sea Couch) at Ballynash W of Goleen Bridge (21 September, R3253, R3353).

I appreciated receiving records from other people too. Paul Green told me that *Cochlearia danica* (Danish Scurvygrass), normally a coastal plant, was abundant by the M7 near Castleconnell (21 April, R66), perhaps spreading along roadsides here as it is known to do in Britain; also about *Viscum album* (Mistletoe) on trees at the Adare Golf Club (20 October, R4745), introduced to nearby Adare Manor nearly a hundred years before. Margaret Jackson emailed me about *Scutellaria galericulata* (Skullcap) by a stream near the Glenstal Woods carpark (11 July, R7557), and John Hardiman about finding *Dactylorhiza kerryensis* (Irish Marsh-orchid) in wet meadow at Lacka N of Castleconnell (11 May, R6664), the record of that endemic confirmed by Richard Bateman from John's photographs. Geoff Hunt updated records of *Spiranthes spiralis* (Autumn Lady's-tresses) on Aughinish Island (23 August, R2852) and reported a new site for *Rhamnus cathartica* (Buckthorn) and *Bidens tripartita* (Trifid Bur-marigold) by a pond at Callow near Cappagh (1 September, R3846). At some distance away from its range in the SW of Ireland, John Conaghan found the little orchid *Neottia cordata* (Lesser Twayblade) in dry heath with dominant *Calluna vulgaris* in Grouselodge townland NW of Ardagh (25 August, R2541), a very good new county record.

Two of Tony O'Mahony's hybrid records were inadvertently omitted from the Limerick Flora (Reynolds 2013). One was for *Rosa corymbifera* x *R. agrestis* (Hairy Dog-rose x Small-leaved Sweet-briar) from near Doohyle Lough (R3743) in 1995, a single bush beside a *R. agrestis* thicket at the fen edge and a second bush in a nearby hedgerow. Stace (2019) includes this hybrid in his Flora, listing it only for Co. Limerick in the British Isles. The other was for *Helosciadium x moorei* (*H. nodiflorum* x *H. inundatum*, Fool's-water-cress x Lesser Marshwort) at Reboge (R6057) in 2004, presumably near the floodplain lake where both parents occur. The only earlier record was from the River Shannon at Castleconnell in 1903.

Altogether fieldwork in 2021 resulted in about 175 updates and new records of taxa included in the Rare Plant Register for Limerick, and only about 20 searches were unsuccessful. There are accounts for some 335 native and archaeophyte species, subspecies and hybrids (following Jebb 2019 for status), and mentions of a further 15 taxa native in Ireland but considered only introductions in Limerick. Excluding microspecies, 27% of the 1070 taxa in the current Limerick flora since 1987 are listed in the Rare Plant Register, and of those over 80% are natives and about a third internationally rare, nationally rare or scarce and/or assigned a national threat status in the *Ireland Red List* (Wyse Jackson *et al.* 2016). The year 1987 was chosen as the earlier cut-off date (the first year of the BSBI's Monitoring Scheme) because it seemed likely that most native and archaeophyte taxa would have been

found during the period up to 2021. Taxa not refound since 1987 were categorised as extinct – about half were rare arable weeds or casuals (mainly archaeophytes), a few were hybrids (often difficult to identify) and the remaining were natives nearly all found only at single sites in the past.

Accounts in the Rare Plant Register include the latest year date when a taxon was found; whether internationally rare (including endemics), nationally or locally rare or scarce (including protected species); a brief summary of distribution in Ireland; distribution and habitats in Limerick; any threats or other comments; and first records. Records are listed with sites, dates, recorder(s) and often more detailed grid references than submitted to the BSBI's database (DDb). I included records from other people which I could stand over, some from consultants and fewer 'citizen science' records. In some cases records were summarised, e.g. there were many hundreds of detailed records in the DDb for the protected species *Schoenoplectus triqueter* (Triangular Club-rush) from professional surveys. On the whole I decided that it is better to provide than withhold details and my hope is that the information in the Rare Plant Register will be useful to those involved in conservation and planning in Limerick, and to others interested in the county's flora, and that it provides a good baseline against which future surveys of Limerick rare plants can be compared.

Having completed the Rare Plant Register (see page 78) I am now resigning as Vice-county recorder for Limerick. It was Daniel Kelly, Chair of the BSBI Irish committee in 1983, who suggested that I be appointed, and I had no idea what I was letting myself in for, nor for how long I would hold that position! Since then and until very recently I have participated in all the BSBI projects and complied with what was expected of VCRs, such as the Monitoring Scheme, systematic recording for *Atlas 2000* and *Atlas 2020* (also helping record in Longford and Wicklow), the Threatened Plants Project and Irish Species Project, checking and validating records in the DDb for *Atlas 2020*, and responding to numerous botanical queries. I have written *A catalogue of alien plants in Ireland* (2002), the *Flora of County Limerick* (2013) and compiled an *Inventory of County Limerick sites of botanical and habitat interest* (2020). Over the years I have been a member of the Irish committee (including Field Meetings Secretary), the Irish representative to Council, a member of Council, an Honorary Vice-president and in 2015 I was made an Honorary Member of the Society, which meant a lot to me. What I have valued most about the BSBI has been the friendships and interactions with many fine Irish and British field botanists, and I have a very special appreciation for all the Society's referees I have consulted over nearly 40 years. Now it is time to step down as VCR and, health and head willing, pursue my own botanical and non-botanical interests.

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Field meeting reports – 2021

Saintkierans, Co. Wexford (H12), Saturday 18th September

13 members from across Ireland, and 2 from Scotland joined me to learn how to identify *Salicornia* (Glasswort) and *Atriplex* (Orache) along the north shore of Bannow Bay at Saintkierans. A key I had put together on *Atriplex* was handed around, along with another on *Salicornia*. We started by looking at the top of the strand where *Atriplex x gustafssoniana* was by far the commonest *Atriplex*. We also saw both parents (*A. longipes* (Long-stalked Orache), *A. prostrata* (Spear-leaved Orache)) of the hybrid, as well as *A. laciniata* (Frosted Orache) and *A. littoralis* (Grass-leaved Orache).

A saltmarsh was visited where the legally protected *Sarcocornia perennis* (Perennial Glasswort) was abundant in the drier areas (see page 41). Five annual and one hybrid *Salicornia* (Glasswort) species also occurred in the saltmarsh. *S. disarticulata* (One-flowered Glasswort) (as the name suggests this species has single flowers), and *S. ramosissima* (Purple Glasswort) (this species has flowers in groups of three), as well as their hybrid, were common. The hybrid can be distinguished from the two parents by having groups of either one, two or three flowers together.

A stubble field was explored to look at arable weeds. Here there was a large number of species seen that are rare in Ireland, but are still fairly common in parts of Co. Wexford: *Kickxia elatine* (Sharp-leaved Fluellen), *Mentha arvensis* (Corn Mint), *Silene gallica* (Small-flowered Catchfly), and *Stachys arvensis* (Field Woundwort), etc.

I really enjoyed leading this meeting, as I lost count of how many times I heard people say 'that is a new plant for me'.

Paul R. Green

Captions for pages 36-40 (see page 6 for article relating to Plates 1-5, and page 32 for article relating to Plates 6-9)

Plate 1. Glenville: *R. corymbifera* x *R. sherardii*: (26/09/2021)

Infructescence leaf (the leaflet teeth uniserrate-eglandular) + ripe, subglobose hip, with tardily deciduous sepals and a wide head of styles; stipules of leaves and infructescence-bracts very broad.

Plate 2. Cork City: *R. corymbifera* x *R. sherardii*: (19/09/2020)

Ripe hips narrowly-ovoid, their sepals tardily deciduous; the domed, densely hairy head of styles almost covering the hip disc; pedicels short and unarmed; leaflet teeth uniserrate-eglandular.

Plate 3. Cork City: *R. corymbifera* x *R. sherardii*: (11/09/2021)

A mosaic of dissected diagnostic features: (a) a vertically-sectioned hip; (b) a stylar bundle; (c) 2 sepals, with dorsal glandular-setae; (d) 2 hip discs (concave) with a wide stylar orifice.

Plate 4. Cork City: *R. corymbifera* x *R. sherardii*: (19/09/2020)

2 vertically-sectioned hips, the smaller (inner) wholly achene-sterile; the larger (outer) with an admixture of many aborted, and only 3 fully-developed, achenes.

Plate 5. Cork City: *R. corymbifera* x *R. sherardii*: (11/09/2021)

2 stem prickles, these broad-based and strongly arched, as in their *R. corymbifera* parent.

Plate 6. The grassy area in the foreground contains Cuckooflower (*Cardamine pratensis*), a native species of damp grassland in Dublin and a major food plant of Orange Tip butterfly larvae. The conspicuous purple and white flowers further along the bank are the related, non-native Dame's-violet (*Hesperis matronalis*), apparently recently sown and displacing Cuckooflower. Growing amongst the Dame's-violet are the non-natives Honesty (*Lunaria annua*), Flax (*Linum usitatissimum*), and Californian Poppy (*Eschscholzia californica*). St Mobhi Drive, Dublin 9, June 2021.

Plate 7. Mass plantings of eye-catching, fast-growing, quick-flowering plants (Yarrow, Campion, Poppy, Oxeye Daisy, etc.) at Trinity College Dublin, June 2021. This grouping misrepresents the species assemblages that would occur in nature and does not meet the complex habitat requirements of threatened insects.

Plate 8. A pastiche of predominantly non-native annual species – an impossible assemblage in nature – growing along roadsides in Portrane, Co. Dublin, July 2020. This mixture was inserted into the traditional territory of Prickly Poppy (*Roemeria argemone*), a rare species of sandy fallow ground near the sea, now in serious decline due to suburban encroachment.

Plate 9. Clare Island was selected by the Royal Irish Academy as the site for a seminal study of flora and fauna, on account of its almost uncontaminated condition, in the early 1900s, and a series of studies was conducted by distinguished national and international experts, led by Robert Lloyd Praeger. Sowings of exotic species (photograph from 2010) have not enhanced its natural attributes.

Captions for page 78 & back cover:

Plate 1. *Equisetum hyemale* (Rough Horsetail) population on a roadside near Lough Eske, West Donegal (H35), incorrectly labelled as an “invasive weed”! Photo R. Northridge & H. Northridge © 2021.

Plate 2. *Polystichum lonchitis* (Holly-fern) on limestone karst at Glenaniff, Co. Leitrim (H29). Photo P. McHugh © 2021.

Plate 3. Sylvia Reynolds with *Limerick Rare Plant Register*, 1 February 2022, and other main contributors – Paul Murphy, Tom Harrington, Mike Quirke and Julian Reynolds. Photo M. Quirke © 2022.

Plate 4. *Limosella aquatica* (Mudwort) plant close-up from population at Lough Allen, Co. Leitrim (H29). Photo E. Gaughan © 2021.

Plates 5. *Oreopteris limbosperma* (Lemon-scented Fern) at Glenaniff, Co. Leitrim (H29). Photo P. McHugh © 2021.

Plates 6. *Anacamptis morio* (Green-winged Orchid) at Carrickashedoge, Co. Monaghan (H32). Photo A. FitzGerald © 2017.

Plates 7. *Epilobium pedunculare* (Rockery Willowherb) in woods near Carrigeencor Lough, Co. Leitrim (H29). Photo E. Gaughan © 2021.

Plates 8. *Carex pallescens* (Pale Sedge) near Dromahair, Co. Leitrim (H29). Photo E. Gaughan © 2021.

Plate 1 (p. 77)



Plate 2 (p. 67)



Plate 3 (p. 69)



Plate 4 (p. 67)



