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Neotinea maculata (Dense-flowered Orchid) at Knocknarea, Co. Sligo. Photo E. Gaughan © 2020 (p. 82)

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Committee for Ireland
2020 –2021

The following is the Committee as elected at the Annual General Meeting via Zoom on 26th September 2020. Office bearers were subsequently elected at the first committee meeting. The Committee is now:

Edwina Cole (Chair, Irish Officer Steering Group)
Ralph Sheppard (Vice-Chair)
Vacant (Secretary)
Mark McCorry (Field Secretary)
Rory Hodd (Hon. Treasurer)
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Jessica Hamilton
David McNeill
Robert Northridge (Ireland Officer Steering Group)

The following are nominated observers to the committee:
Abigail Maiden (Northern Ireland Environment Agency)
Mike Wyse Jackson (National Parks & Wildlife Service)

Draft Minutes of the BSBI Irish Branch AGM 2020 are available at:
http://governance.bsbi.org/ireland

Irish Botanical News is published by the committee for Ireland, BSBI and edited by P.R. Green and A. FitzGerald.

Any opinions expressed in the articles below are those of the authors and do not necessarily reflect the views of BSBI.

Front cover photo: Elsie Reynolds, age 6 ½, examining a Dandelion during a FaceTime session with her grandmother Sylvia Reynolds. Photo Owen Reynolds © 2020 (p. 82).
All species and common names in *Irish Botanical News* follow those in the database on the BSBI website http://rbg-web2.rbge.org.uk/BSBI/ and Stace, C. (2019). *New Flora of the British Isles*. 4th edition. C & M Floristics, Suffolk.

Notes & Articles

Notes from the acting Ireland Officer – Paul Green

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This is my first report for IBN as the acting Ireland Officer. I have been in the role since October, when Sarah Pierce took maternity leave. I have been working remotely from home because of the Covid-19 lockdowns and travel restrictions. Even so, being part of the BSBI team, means I have been having a very busy social life via zoom, often having three meetings a week.

Eoin McGreal has taken the vacant position as our new Vice-county Recorder for W. Mayo **H27**. Eoin can be contacted at Eoin.McGreal@chg.gov.ie. Eoin takes over from Gerry Sharkey who stepped down from the post at the end of 2020. We thank Gerry for all his hard work over the years, and wish him all the best in his retirement.

All of the planned field meetings were unfortunately cancelled in 2020, but it is hoped that some will be able to go ahead this year.

We had planned to have more aquatic plant field meetings again in 2020 with Nick Stewart. These were cancelled, and replaced by online webinars. We ran two webinars and one online workshop. The Intro to Aquatic Plant ID webinar was attended live by 91 people, and the Stonewort ID webinar by 52. Videos of these were also posted online, and together have been viewed over 600 times. The workshop was attended by 19 (limit was 20) and was more interactive. It received excellent reviews from attendees and showed we are able to offer effective, interactive online botanical learning. There were also four days of aquatic plant recording (see p. 58).

The Irish Grassland Project had hoped to have some field training, but all was done as webinars. The training included five webinars, with 500 unique individuals joining at least one webinar, including more than 20 members of NPWS staff. Live attendance at each webinar ranged from 116 to 327, and the recordings combined have been viewed 5,800 times.

We are hoping that both of the above projects will run again in 2021, but at the time of writing, we have only heard that our bid has been successful for the Aquatic Plants project.

Last year the Irish Spring Conference was cancelled completely due to Covid-19 restrictions. This year it is going to be a webinar on 27th March from 10am through to 1.30pm, with ten short talks, and a 20 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.

Finally I would like to end with the New Year Plant Hunt, which again was a great success, with members and non BSBI members taking part over the first four days of the year. 98 lists from Ireland were submitted. 72 different species in flower was the longest list from Ireland. The four species most frequently recorded in flower in 2021 were identical to previous years: in rank order these were Daisy (*Bellis perennis*), Groundsel (*Senecio vulgaris*), Dandelion (*Taraxacum* agg.) and Annual Meadow-grass (*Poa annua*). If you

would like to find out more and see the full analysis by Kevin Walker, visit bsbi.org/new-year-plant-hunt.

Thank you to everyone for your support for my first six months as acting Ireland Officer. Hopefully once we are able to wander freely again, I will be able to meet some of you on field meetings, and at workshops later in the year.

'Irish Botanical News' Editorship

The Irish Botanical News is a much-anticipated publication each Spring for its readers, due in no small part to the wonderful and tireless work of its editor, Paul Green. Paul has edited IBN for 14 years and has done an amazing job coordinating articles, images and editing this publication over the years. Paul intends to retire from the position after the present 2021 issue. Alexis FitzGerald has joint-edited the present issue of Irish Botanical News and will take over the position of Editor fully for the 2022 issue. We all owe Paul a great debt of gratitude for his contribution to Irish Botanical News, and to Irish botany in general, over these many years, and we wish him the best of luck in his role as the acting BSBI Ireland Officer.

Vice-county Recorder vacancies

We currently have two Vice-counties vacant. Paul Green has now retired as VCR for Co. Waterford (**H6**) after 16 years at the helm, and Co. Cavan (**H30**) remains officially vacant, despite the able work of Robert Northridge (VCR, Co. Fermanagh **H33**) who recorded widely in the county for Atlas 2020.

If you would like to coordinate records for either Waterford or Cavan, 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

Co. Clare H9

Hannah Mulcahy, Phoebe O'Brien and Donncha Ó Catháin

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Hannah Mulcahy, Phoebe O'Brien and Donncha Ó Catháin are the newly appointed VCRs for Co. Clare (**H9**). All three of us are graduates of the National University of Ireland Galway where we got our start in Botany under the tutelage of Micheline Sheehy Skeffington. We joined the local Clare recorders group where we gained practical experience under the previous VCRs Dr Stephen Ward and Dr Sharon Parr. A bit about us: Donncha's Bachelor's degree in Environmental Science and MSc in Ecological Assessment

from UCC led him to a career in Ecology. He now works for Ennis-based consultancy Inis Environmental Consultants, where he specialises in botany and birds. A member of the BSBI since 2013, Donncha enjoys recording plants throughout Clare, in particular the lesser-explored parts of mid and west-Clare. He is now looking forward to continuing his botanical recording as new co-Vice County Recorder with Phoebe and Hannah.

After her Bachelor's degree in Botany and Plant Science Hannah went on to study an MSc degree in Biodiversity and Taxonomy of Plants at the University of Edinburgh and now works for JBA Consulting as an Ecologist.

Phoebe also has a BSc. in Botany and Plant Science. She has been a member of BSBI since 2011 and is now a self-employed Botanist.

Hannah and Phoebe live in East Clare, allowing them to boost records from the area. Together with Donncha, we look forward to thoroughly exploring the flora of County Clare and supporting other members of BSBI who live in or visit the area.

Please contact us if you would like to botanise with us or have any records from Co. Clare or any other recording related queries/information: phoebeob@gmail.com, don.ocathain@gmail.com, hannahmulcahy@gmail.com

If you need to post us anything, please send to: *Phoebe O'Brien, Lower Lecarrow, Feakle, Co. Clare, V94 WK0V*

Longford (H24)

Ciaran Bruton, *15 The Rise, Knocknacarra, Galway, H91FDX7*

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Ciaran is a Galway native, and a relative latecomer to botany. After several years working in local hospitals, he returned to education as a mature student, gaining a BSc from NUIG in 2016; yet another Vice County recorder from the NUIG Botany production line! The field work for this course, as well as the Botany Society, fired his interest in Ireland's flora. Since 2018, he has helped to establish and organise the BSBI Galway local group, which brings together a diverse group to explore the county. Areas of particular interest are the somewhat overlooked *Rubus* and *Cotoneaster* genuses, as well as our ever increasing alien flora. He is very keen to take on the role of VCR for Longford, a much under-appreciated botanical locale, and wants to build on the work there of previous recorder Sean Howard, as well as that of Sylvia and Julian Reynolds.

Co. Tyrone (H36)

Sharon Spratt. E-mail: blackcatbotany@gmail.com

Sharon was raised in east county Tyrone, where she attended high school. Her interests in the natural world were passed on largely from her late father, and she found sanctuary within

nature and through efforts to understand our human space as part of it. It wasn't until later, during her studies at Ulster University that the names of our local flora started to reveal themselves. Fortunately, during her undergraduate degree in environmental science, Sharon was taught and influenced by enthusiastic botanist members of staff, including Dr Brian Rushton and Dr Alan Cooper. In 2008, this led her to a PhD studying plant community ecology of grasslands, during which time she became a member of the BSBI to better learn botany in her spare time. After years in various research, non-profit and government posts, Sharon is now a freelance ecologist. Sharon describes her interest in botany as holistic, describing plants as: beings of beauty to inspire poetry and art: healers for the mind as well as the body: sources of knowledge and understanding through their association with other plants and the habitats they form. Guided and encouraged by the ever-helpful network of Irish VC recorders, not least Tyrone's Ian McNeill, Sharon is continually aiming to increase her botanical knowledge and is looking forward to continuing her VCR training in 2021.

Saxifraga hirculus L. Marsh Saxifrage, with particular reference to status and conservation in Northern Ireland

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This article summarises the findings of a number of research papers and reports by other authors and any errors or omissions are solely this authors' responsibility.

Introduction

Now restricted to upland, and often inaccessible, locations, for botanists finding this species is a real treasure. Even in its remaining range, its distribution is now very restricted, generally limited to small areas within mineral 'flushes' with particular hydrological and edaphic characteristics. These flushes allow plants not normally found in the surrounding ombrotrophic, acid mires to flourish.

Fortunately, the conservation significance of this plant is now being recognised, and conservation efforts to maintain and restore populations are being developed, as will be seen from the work being led by the Northern Ireland Environment Agency (NIEA).

Appearance and reproduction

Erect leafy flowering shoots usually reach 10 – 20cm in height, distinguished by short reddish hairs along the stem. Usually each plant is made up of a floral shoot and several vegetative runners. Superficially the young vegetative stages can resemble young *Ranunculus flammula* (Lesser Spearwort). However, in flower it is very distinctive. Vibrant yellow five-petalled flowers (up to seven but two-three are more common), often with distinctive orange spotting near the base. The ovary is superior and the sepals are turned downwards. The leaves are alternate and oblong, with long stalks on the lower leaves (Stace 2010, Webb *et al*. 1996).

S. hirculus can reproduce sexually by insect pollination, with gravity dispersed seeds, or clonally by means of slender rhizomes formed from decumbent stems (normally 1–5). Moss often covers these rhizomes which decay after one season thus separating ramets (After Muldoon *et al*. 2015) (see p. 48).

Distribution of European, UK & Irish populations

The species originated in central Asia, but the sole phylogeographic study carried out to date identified Alaska as the centre of genetic diversity, suggesting survival in an Alaskan/Beringian refugium during the Pleistocene glaciations (after Beatty *et al.* 2012).

S. hirculus currently has a wide circumpolar distribution in the northern hemisphere. However, outside the Northern Polar regions, *S. hirculus* is now highly fragmented and experienced a sharp decline in the 19th century due to a variety of reasons including habitat degradation and fragmentation, afforestation, drainage and overgrazing (Muldoon *et al.* 2015).

It is now restricted to around 20 sites in approximately ten 10 km squares throughout northern England, Northern Ireland and Scotland. The northern Pennines in England hold the main concentration of sites, with 80 – 90% of the UK population (cf. www.jncc.gov.uk). Scotland has only around four sites recorded in the past 80 years (Welch, 1995).

Its population in Ireland has shown similar declines as in other areas across Europe. In Ireland, *S. hirculus* had a much broader altitudinal range when recorded by that great founding figure of Irish natural history, R.L. Praeger, in the 1930s. However, it is now considered to be an exclusively upland/montane species due to the loss of its lowland habitats, in common with most of Northern Europe (Muldoon *et al*. 2015).

It is now one of the rarest flowering plants in Ireland. It currently occupies nine sites in the uplands of Mayo and one in Sligo in the Republic of Ireland (Muldoon *et al.* 2015) and its only known remaining location in Northern Ireland is on the Garron Plateau Special Area of Conservation (SAC) on the Antrim Plateau, in the north-east of the province. In 2017 there were 142 individuals, with 82 ramets and 60 flower heads recorded at this location.

Habitat of *S. hirculus* and community and species associations

In Ireland, *S. hirculus* is found to be restricted to mineral flushes in blanket bog. Flushes are areas of rising groundwater seepage found in bog and generally on sloping ground. The groundwater forms small streams which are the principle source of electrolytes and other minerals to the flushes which allow plants not normally found in an ombrotrophic bog to flourish (Kelly 2005).

On the Garron Plateau, the remaining population occurs in a calcareous flush, at an altitude of 355m, and is the only remaining stand of several sites located by Praeger in the 1920s. By October 1999 the population was counted at only 130 vegetative plants in an area approximately 7m by 10m, with no signs of flowering observed that year.

Interestingly, chemical analysis of this flush demonstrated values for calcium and magnesium considerably lower (<10 and 5mg/l respectively) than those found on the English and Scottish sites. Relatively low pH values of 6.5 – 6.7 (although these may have been skewed by conditions during sampling) and relatively high levels of iron and manganese also contrast with other analysed sites. This data is valuable in demonstrating that a 'one-size-fits-all' approach to conservation efforts is not always a suitable approach and how subtle factors may determine the success of local re-population efforts. The NVC community associated with this stand is predominantly S27 *Carex rostrata-Potentilla palustris* tall herb fen, with elements of M15b *Trichophorum cespitosum-Erica tetralix* wet heath and M4 and M6b *Carex-Sphagnum* mires.

Other NVC types probably more commonly associated with *S. hirculus* sites include M9 *Carex rostrata-Calliergonella cuspidata/giganteum* and M10 C. *dioica-Pinguicula vulgaris* mires. In the north Pennines M38 – *Crataneuron commutatum-Carex nigra* spring vegetation is the associated community type.

At Garron, the plant is found associated with 'sedge lawns' amongst taller vegetation in the flush area. A high constancy and diversity of *Carex* species is notable. A 'carpet' of bryophytes is also a feature, including *Sphagnum* spp, particularly *S. contortum, Calliergon cuspidatum, Philonotis fontana* and *Brachythecium* spp.

Conservation Work

Given its restricted distribution, Ireland has an international responsibility to protect this species. It is designated under the EU Habitats Directive 92/43/EEC and is protected under Schedule 8 of the Wildlife (NI) Order 1985 and the Wildlife and Natural Environment (NI) Act 2011.

Grazing management is now recognised to be a crucial factor in maintaining reproductively viable populations of the species. Heavy grazing can be tolerated for short periods, but lack of flowering and physical damage to vegetation by livestock may lead to population and/or genetic attrition (NIEA 2008).

The following results summarise work undertaken on Garron by NIEA between 2001 and 2016.

While the erection of an enclosure fence in 2001 was initially successful in that it enabled *S. hirculus* to flower, peaking at 12 flowering shoots in 2006, thereafter the number of flowering shoots gradually decreased to zero by 2009, with a corresponding decrease in the number of ramets until there were only 13 recorded in 2012. This suggested that although conditions in the enclosure were initially favourable and allowed the shoots to flower, they did not provide the correct ecological conditions to enable seeds produced by the flowering shoots to germinate and develop.

If reproducing by seed, it needs open pioneering substrata, not occupied by moss or other plants since it requires light to germinate and is a weak competitor. This may explain why the plant population did not increase when grazing was excluded entirely from the flush.

In 2011, because *S. hirculus* had stopped flowering and the overall population had decreased to only 13 ramets, NIEA instigated a temporary programme of carefully cutting the vegetation around the ramets using scissors. Initially, the aim was to stabilize the population, with a view to re-introducing grazing. However, when the flush was visited in August 2013 with the intention of peeling back part of the fencing to facilitate grazing, four flowering shoots were recorded and it was decided that re-introduction of grazing should be postponed to allow seeds to be collected and stored, with the long-term aim of establishing an ex-situ population in the future.

Since 2013, seed capsules have been collected by NIEA every year and sent for storage in Kew's Millennium Seed Bank. In April 2016, the Millennium Seed Bank tested the viability of 10 of the seeds. Initially there was a 70% germination rate. However, by August 2017 only one seedling remained and although sturdy, had not flowered.

The initial 70% germination rate was very good news because a recent QUB genetic study of extant populations and herbarium specimens of *S. hirculus* in Ireland found that the extant Garron population has low genetic diversity (Beatty *et al.,* 2012). The fact that only one seedling now survives at the Millennium Seed bank may be related to low genetic diversity, or it may be that the environmental conditions in which it is being grown are sub-optimal in some way.

A total of 129 *Saxifraga hirculus* ramets and flowering shoots were recorded in 2016. The number of ramets has increased seven-fold since 2007 and the number of flowering shoots has increased from 18 to 30. This indicates the success of ongoing hand cutting of vegetation around the *S. hirculus* shoots which was instigated in 2011. This is supported by the absence of *S. hirculus* outside of the enclosure area where no cutting management has been implemented.

Now that there is a collection of 965 *S. hirculus* seeds from the Garron population stored at Kew, the necessity to exclude grazing animals to ensure flowering and seed set has diminished. Furthermore, grazing levels have now been reduced and the alkaline fen feature which includes the flush is in favourable condition.

It is therefore recommended that the enclosure is opened up again to sheep grazing as the vegetation outside of the cut area within the enclosure has become quite rank. This would provide a more long-term and sustainable management option at the Garron site and is in line with current research. Vittoz *et al.* (2006) state that *S. hirculus* requires low competition from sedges and peat mosses. Pearman and Walker (2012) suggest that *S. hirculus* depends on grazing to keep the flush habitat open. Experimental work in the north Pennines also identified the importance of grazing and trampling to the species' long-term survival (Robinson 2012). Muldoon *et al.* (2015) suggest optimal grazing levels where the vegetation shows some evidence of grazing and some small open areas are present through the sward but, critically, where flowering can still occur.

Future Prospects

In conclusion, while the hand cutting programme has been successful in stabilising the population and promoting flowering, it can be viewed only as a short-term measure. Long-term continued survival of this species at this site is likely to be dependent on 2 factors:

- the re-introduction of carefully monitored grazing into the fenced enclosure.
- increasing the genetic diversity within the population by considering the introduction of plants from elsewhere in Ireland.
- The establishment of an ex-situ population in a Botanical Garden using seed collected from the Garron and stored at the Millennium Seed Bank at Kew is another measure that should be undertaken to protect the population.
- Kelly (2000) also identified a previous site nearby the existing site on Garron which appeared to show suitable habitat and edaphic conditions. This and other potentially suitable sites should be considered as trial host sites for translocation of plants, possibly supplied from ex-situ populations.

Other factors requiring a 'national-effort' approach which are likely to impact the *S. hirculus* population and which require action if conservation work on this vulnerable and sensitive species is to be effective in the long term, include:

- climate change (particularly as this species is considered to be a post-glacial relic)
- nitrogen deposition coupled with acidification (Garron SAC has been demonstrated to be exceeding critical loads)

References

Beatty, G.E., Reid, N., Thurgate, G. and Proven, J. (2012). *Conservation genetics of the Yellow Marsh Saxifrage (Saxifraga hirculus) in Ireland.* Report prepared by the Natural Heritage Research Partnership (NHRP) between Quercus, Queen's University Belfast and the Northern Ireland Environment Agency (NIEA) for the Research and Development Series.

Kelly, P. (2000). *Northern Ireland Marsh Saxifrage Project, 1999. Final Report.* Cumbria, UK.

Muldoon, C.S., Waldren, S. and Lynn, D. (2015). Monitoring recommendations for Marsh Saxifrage *Saxifraga hirculus* L. in the Republic of Ireland. *Irish Wildlife Manuals,* No. 88. National Parks and Wildlife Service, Department of the Arts, Heritage and the Gaeltacht, Ireland.

Northern Ireland Environment Agency (NIEA) 2008 – 2017 Condition Assessment and Monitoring Reports. Unpublished. Northern Ireland Environment Agency.

Pearman, D. and Walker, K. (2012). Wildlife Reports. *British Wildlife* **443**: 443-444.

Robinson, L. (2012). Observations on the decline of *Saxifraga hirculus* (Marsh Saxifrage) in the north Pennines. *BSBI News* **121**. Botanical Society of Britain and Ireland.

Stace, C. (2010). *New Flora of the British Isles.* 3rd Edition. Cambridge University Press, UK.

Vittoz, P., Wyss, T. and Gabot, J. (2006). Ecological conditions for *Saxifraga hirculus* in Central Europe: A better understanding for a good protection. *Biological Conservation* **131**: 594-608.

Webb, D.A, Parnell, J. and Doogue, D. (1996). *An Irish Flora*. Dundalgan Press Ltd., Dundalk.

Welch, D. (1995). Habitat preference and status of *Saxifraga hirculus* L. in Northeast Scotland. *Botanical Journal of Scotland* **48**: 177-186.

Wolfe-Murphy, S. A. (1996). *A census of (Saxifraga hirculus L) and proposed monitoring programmes for rare plants on the Garron Plateau, Antrim (VC H39) J22 and J21.* WM Associates, Belfast, UK.

Antrim's Rare Plants – Part 1

David McNeill. E-mail: dw.mcneill13@gmail.com

It is hard to remember a life before Covid-19. The frenzy of botanical recording prior to the BSBI Atlas deadline is long forgotten, but much was done during these past few years, not least in Ireland. We have achieved a fantastic coverage of our island and looked in more detail than ever before at local plant distribution. Hopefully, this hard work will enable those who come after us to more easily appreciate and look after what grows both in their own backyard and in Ireland's wild places.

I decided to review the status of Antrim's native plant species following the end of atlas fieldwork, with a particular interest in plants which hadn't been recorded in the county since 2000. My hope was that disseminating a list of lost plants might uncover some previously unpublished sightings and stimulate new searches for these species. For practical reasons, I excluded neophytes and many species which require more critical determination than I have been able to bring to bear. However, in carrying out the review, I listed many other plants, which although recorded post-2000, have been seen in only a handful of sites. These very rare plants will be the subject of a later paper. The current article will concentrate on the species with no sightings in the county since 2000.

When compiling the list, the County Antrim Rare Plants Register (published by Stan Beesley in 2006) and the Flora of North East Ireland (edited by Paul Hackney in 1992) were able to provide considerable detail on the historic sites. The BSBI database has been invaluable in reviewing recent fieldwork.

In summary, 127 species or aggregates were listed, which fall into one of 3 categories, as defined in Table 1.

Table 1. Breakdown of Antrim rare plant list by category

Presumed extinct	**13**	Species, previously recorded in County Antrim, with no records since 1950 (detailed in Table 2 of this article)
No recent records	**29**	Species, previously recorded in County Antrim, with no records since 2000 (detailed in Table 3 of this article)
Very few recent records	**85**	Species with records from no more than three sites in County Antrim since 2000 (covered in separate paper)

At face value, Table 1 suggests that 29 species may have disappeared from County Antrim since 1950, compared to only 13 species which were lost before that date. However, there are some reasons to believe that the actual losses are fewer than the raw data suggests. Indeed, later in this article, I will recount how one of the 29 missing species has been rediscovered since the list was compiled.

Table 2 lists the 13 species for which there have been no county records since 1950. These are listed in the order of their disappearance, as implied by the date of the last record. There are a number of observations which can be made.

1. Almost half of the species listed in Table 2 were virtually confined to the Lough Neagh basin. The level of the lough was artificially lowered by 0.75 m in the mid-nineteenth century and by a further 1.25 m in the mid-twentieth century. It seems probable that some species (e.g. *Carex buxbaumii* and *Thelypteris palustris*) did not survive this shock. Their sites (along with those for *Pilularia globulifera* and *Myriophyllum verticillatum*) were well documented and have been searched repeatedly. Indeed, the whole Lough Neagh area was carefully surveyed by John Harron primarily in the 1970s. *Mentha pulegium* survives on the western shore of Lough Beg, so further searches on the eastern shore may still bear fruit. It is not known precisely where *Cephalanthera longifolia* grew, but it may have succumbed to woodland clearance.
2. Another three species (*Echium vulgare*, *Carlina vulgaris* and *Epipactis palustris*) were seen only once each at different coastal sites. They are unlikely to have been subsequently overlooked. Golf course development in the late nineteenth century might possibly have contributed to the demise of the last two of these.
3. The remaining four species (*Chamaemelum nobile*, *Carduus tenuiflorus*, *Hypericum hirsutum* and *Torilis nodosa*) were always perhaps associated with disturbed ground and their native status in the county may be in some doubt.

Table 2. Plants considered extinct in Co. Antrim listed in order of their disappearance

Species name	First record	Last record	Considered extinct. Historically confined to a small area near the eastern shore of Lough Neagh including Portmore Lough. The most recent sightings were from Lady Bay.
Pilularia globulifera	pre-1837	1950	
English name	Historic hectad distribution		
Pillwort	J06, J16		
Species name	First record	Last record	Considered extinct. Once said to be frequent around Lough Neagh. Last recorded from Toomebridge.
Chamaemelum nobile	pre-1837	1944	
English name	Historic hectad distribution		
Chamomile	D12, H99		
Species name	First record	Last record	Considered extinct. The only historic sites were at Portrush and Glenariff. Native status possibly doubtful.
Carduus tenuiflorus	pre-1888	1943	
English name	Historic hectad distribution		

Slender Thistle	C84, D21		
Species name	First record	Last record	Considered extinct. The most recent sightings were at Macedon Point on the shore of Belfast Lough.
Hypericum hirsutum	1807	1937	
English name	Historic hectad distribution		
Hairy St John's-wort	J37, J38		
Species name	First record	Last record	Considered extinct. The most recent sighting was at Ballyscullion East on the shores of Lough Beg.
Mentha pulegium	pre-1837	1937	
English name	Historic hectad distribution		
Pennyroyal	H99		
Species name	First record	Last record	Considered extinct. Historically confined to drains at Portmore Lough.
Myriophyllum verticillatum	pre-1864	1915	
English name	Historic hectad distribution		
Whorled Water-milfoil	J16		
Species name	First record	Last record	Considered extinct. Historically at several coastal sites.
Torilis nodosa	1797	1893	
English name	Historic hectad distribution		
Knotted Hedge-parsley	6 hectads		
Species name	First record	Last record	Considered extinct. The only historic site was at the Three Islands on the northern shore of Lough Neagh.
Carex buxbaumii	1835	1886	
English name	Historic hectad distribution		
Club Sedge	J08		
Species name	First record	Last record	Considered extinct. The only historic site was at Cushendun.
Echium vulgare	ca. 1864	ca. 1864	
English name	Historic hectad distribution		
Viper's-bugloss	D23		

Species name	First record	Last record	Considered extinct. The only historic site was in dunes at Ballycastle.
Carlina vulgaris	pre-1864	pre-1864	
English name	Historic hectad distribution		
Carline Thistle	D14		
Species name	First record	Last record	Considered extinct. Historically confined to Selshan and Portmore Lough near the eastern shore of Lough Neagh, with a curious outlier near Ballyclare.
Thelypteris palustris	1794	pre-1864	
English name	Historic hectad distribution		
Marsh Fern	J29, J18, J06, J16		
Species name	First record	Last record	Considered extinct. Historically confined to a handful of sites not far from Lough Neagh.
Cephalanthera longifolia	1835	pre-1860	
English name	Historic hectad distribution		
Narrow-leaved Helleborine	J09, J18, J17		
Species name	First record	Last record	Considered extinct. The only historic site was near Portballintrae.
Epipactis palustris	pre-1837	pre-1837	
English name	Historic hectad distribution		
Marsh Helleborine	C94		

It may seem unusual to wait for 70 years before concluding that a species has become extinct, but there are good reasons for doing so in County Antrim.

1. The sites for old plant records are seldom given to great precision. This may have been due to a reluctance on the part of the earlier botanists to reveal these locations too readily. However, it is hard for our generation to appreciate the difficulty of pinpointing a site prior to the advent of GPS technology. Rediscovering an old site without the aid of a precise grid reference is difficult.
2. Some rare plants are very sporadic in their appearance. This was often noted by the earlier botanists, who described certain rare plants as fleeting, perhaps relocated far away by wind-blown spores or moved along the coast by churning of the sea. Once common arable weeds now appear only here and there at random.

Other species are notoriously shy to flower, which makes their detection much more difficult.

3. There are very few people looking in the right places. Although there are more contributors of plant records than ever before, most tend to visit a small number of public sites and stick to familiar paths. As a result, important botanical sites in the county have had very few visits this century.
4. It takes a lot of luck for the right person to be in the right place at the right time. A rare plant, by definition, is not going to be seen very often. So when botanists are thin on the ground, looking for plants which hide away, it's not surprising that a rare species might be seen only once in a long lifetime.

Table 3 lists a further 29 species for which no post-2000 records existed on the DDb, but which were last seen more recently than 1950. These are listed in date order of the most recent record. Most of the species fall into the same 3 broad groupings which were observed in **Table 2**.

1. Of the species listed, nine are associated exclusively with the Lough Neagh basin. Along with the six Lough Neagh species listed in Table 2, this brings to 15 the number of species which have been lost sight of in this once biodiverse landscape. The last records for *Thalictrum flavum*, *Frangula alnus, Berula erecta* and *Carex acuta* are all from protected sites, so there remains hope that they may still survive. *Hierochloë odorata* is almost certainly gone from its well-documented site due to private development. *Calamagrostis stricta* and *Subularia aquatica* grew on the eastern shore of Lough Beg, but any remaining suitable habitat is very fragmented. No search for *Chaerophyllum temulum* has been carried out, so it may still be present in its geographically restricted area. *Parentucellia viscosa* is doubtful as a native, but could appear again as an adventive. Unfortunately, all the lough-shore plant communities have been badly degraded by nutrient enrichment, coming primarily from the water of the lough itself.
2. Another nine species are almost exclusively coastal. Some of these (*Phleum arenarium*, *Cerastium arvense*) may survive within the private golf links at Royal Portrush. The old sites for *Filago germanica*, *Hypochaeris glabra* and *Salsola kali* within the dunes at Bushfoot and Whitepark Bay are not known precisely which makes rediscovery difficult. Some well-documented sites for *Linum radiola* have been searched recently without success. The records for *Euphorbia paralias* are maybe doubtful. No survey of coastal waters has been carried out recently, so it is hoped that *Zostera noltei* and *Ruppia spiralis* may still be present.
3. There are five species associated with arable and disturbed ground. By their nature, these plants are sporadic in their appearance. *Spergularia rubra* might be expected to turn up in new sites. *Stachys arvensis* and *Lamium confertum* could possibly have been overlooked, but *Omalotheca sylvatica* and *Scleranthus annuus* are declining nationwide and may have gone.

4. Of the remaining six species, one site for *Gymnocarpium dryopteris* is well documented, but recent searches have been unsuccessful. *Eleocharis uniglumis* may have been overlooked recently at its two known sites, whilst the sites for *Utricularia intermedia* agg., *Drosera intermedia*, *Brachypodium pinnatum* and *Potamogeton alpinus* have not been targeted this century.

Table 3. Plants with no recent records in Co. Antrim listed in order of their last sighting

Species name	First record	Last record	Historically widespread near the shores of Lough Beg and Lough Neagh. The most recent sightings were from Portmore Lough and Montiaghs Moss.
Thalictrum flavum	1800	1999	
English name	Historic hectad distribution		
Common Meadow-rue	7 hectads		
Species name	First record	Last record	Only two sites on dunes at Whitepark Bay and Bushfoot. Late discovery renders records doubtful until verified by updated sighting.
Euphorbia paralias	1985	1997	
English name	Historic hectad distribution		
Sea Spurge	C94, D04		
Species name	First record	Last record	Declining arable weed, recorded from scattered locations. The Rare Plants Register notes a possible record from Rathlin at the turn of the century.
Stachys arvensis	1870	1996	
English name	Historic hectad distribution		
Field Woundwort	7 hectads		
Species name	First record	Last record	Historically confined to dunes at Portrush and Bushfoot and Ushet Lough on Rathlin Island. Often associated with *Lysimachia minima*, which has a post-2000 record on Rathlin.
Linum radiola	pre-1837	1995	
English name	Historic hectad distribution		
Allseed	C84, C94, D14		
Species name	First record	Last record	The only historic site is in dunes at Portrush, from which the plant was last recorded in 1988. More recent records from other sites may be suspect.
Phleum arenarium	1882	1994	
English name	Historic hectad distribution		
Sand Cat's-tail	C84, C94		

Species name	First record	Last record	Historic records were mostly from near Toomebridge. More recent sightings have been on disturbed sites.
Spergularia rubra	pre-1888	1994	
English name	Historic hectad distribution		
Sand Spurrey	C94, H99, J39, J37		
Species name	First record	Last record	The most recent sightings were near the northern shore of Lough Neagh and the southern shore of Lough Beg e.g. Toomebridge and Creagh.
Calamagrostis stricta	1836	1992	
English name	Historic hectad distribution		
Narrow Small-reed	H99, H98, J08, J18		
Species name	First record	Last record	Recorded at two sites over a few years – Craigmacagan Lough on Rathlin Island and Skernaghan Point on Islandmagee. May have been overlooked during recent visits.
Eleocharis uniglumis	1986	1992	
English name	Historic hectad distribution		
Slender Spike-rush	D14, D40		
Species name	First record	Last record	Confined to one site at Selshan on the eastern shore of Lough Neagh. Searched for without success in 2005.
Hierochloë odorata	1946	1992	
English name	Historic hectad distribution		
Holy-grass	J06		
Species name	First record	Last record	A species which has declined drastically. The only record in the last 100 years was from Straidkilly near Glenarm.
Lamium confertum	pre-1863	1992	
English name	Historic hectad distribution		
Northern Dead-nettle	10 hectads		
Species name	First record	Last record	Historically confined to a small area near Gawley's Gate on eastern shore of Lough Neagh.
Chaerophyllum temulum	pre-1888	1991	
English name	Historic hectad distribution		
Rough Chervil	J06		

Species name	First record	Last record	The most recent sighting is from Ballycarry on Larne Lough. Older records are mostly from Larne Lough but there is also an historic record from near Garron Point.
Zostera noltei	1935	1991	
English name	Historic hectad distribution		
Dwarf Eelgrass	D22, J49		
Species name	First record	Last record	Historically confined to Dunloy area. Taxonomic revision renders the current situation uncertain. Records of *U. intermedia*, *U. stygia* or *U. ochroleuca* are desirable.
Utricularia intermedia agg.	pre-1837	1989	
English name	Historic hectad distribution		
(Intermediate) Bladderwort	D22, C91, D01		
Species name	First record	Last record	Most sightings have been from Larne Lough, including the most recent at Glynn.
Ruppia spiralis	1794	1988	
English name	Historic hectad distribution		
Spiral Tasselweed	D40, J49, J37		
Species name	First record	Last record	Historically confined to a few sites on the Garron Plateau and on lowland bog near Dunloy. Species omitted from the Rare Plants Register due to recent over-recording.
Drosera intermedia	1947	post-1987	
English name	Historic hectad distribution		
Oblong-leaved Sundew	D22, D01, D11, D21		
Species name	First record	Last record	Only two sites – near Garron Tower and on a railway bank at Muckamore. Native status possibly doubtful.
Brachypodium pinnatum	1937	1987	
English name	Historic hectad distribution		
Heath False-brome	D22, J18		
Species name	First record	Last record	Historically confined to dunes at Portrush and Lough Neagh shore near
Cerastium arvense	1893	1987	

English name	Historic hectad distribution		Antrim. The most recent sighting was at Portrush.
Field Mouse-ear	C84, J18		
Species name	First record	Last record	All of the most recent sightings were from dunes at Bushfoot. Historic distribution included other coastal sites – Ballycastle, Red Bay and Cushendun.
Filago germanica	1878	1986	
English name	Historic hectad distribution		
Common Cudweed	6 hectads		
Species name	First record	Last record	Once widespread species which has suffered a catastrophic decline. The most recent sightings were from near Dunloy.
Omalotheca sylvatica	pre-1863	1986	
English name	Historic hectad distribution		
Heath Cudweed	17 hectads		
Species name	First record	Last record	Probably extinct. Historic records were from Knocklayd and at a well-documented site on the Garron Plateau.
Gymnocarpium dryopteris	1836	1979	
English name	Historic hectad distribution		
Oak Fern	D13, D21		
Species name	First record	Last record	Two sightings beside Lough Neagh, one on the northern shore and one on the eastern shore. Not seen since at either site.
Parentucellia viscosa	1968	1978	
English name	Historic hectad distribution		
Yellow Bartsia	J06, J08		
Species name	First record	Last record	The most recent sightings were from Rea's Wood. There were also historic records from the shore of Lough Beg at Creagh and at Mainwater Foot on the Lough Neagh shore.
Frangula alnus	pre-1837	1977	
English name	Historic hectad distribution		
Alder Buckthorn	C90, H99, J08, J18		
Species name	First record	Last record	The most recent confirmed sightings were near the northern and eastern

Berula erecta	pre-1837	1971	shores of Lough Neagh e.g. Farr's Bay and Selshan.
English name	Historic hectad distribution		
Lesser Water-parsnip	J49, J08, J06, J16		
Species name	First record	Last record	Many former records are now believed to be errors. The most recent sighting was at Portmore Lough.
Carex acuta	pre-1860	1970s	
English name	Historic hectad distribution		
Slender Tufted-sedge	5 hectads		
Species name	First record	Last record	Like its frequent associate *Omalotheca sylvatica*, this species has declined greatly. The most recent sighting was at the Three Islands on the north shore of Lough Neagh.
Scleranthus annuus	1867	1970	
English name	Historic hectad distribution		
Annual Knawel	7 hectads		
Species name	First record	Last record	Historic records confined to Lough Beg and Selshan on eastern shore of Lough Neagh. The last sightings were at Ballyscullion East on eastern shore of Lough Beg.
Subularia aquatica	1800	1961	
English name	Historic hectad distribution		
Awlwort	H99, J06		
Species name	First record	Last record	Confined to Whitepark Bay. The exact location in this extensive site is not known.
Hypochaeris glabra	1944	1959	
English name	Historic hectad distribution		
Smooth Cat's-ear	D04		
Species name	First record	Last record	Historically confined to sandy seashores in north of the county. The most recent sightings were at Whitepark Bay and Portballintrae.
Salsola kali	pre-1864	1956	
English name	Historic hectad distribution		
Prickly Saltwort	5 hectads		
Species name	First record	Last record	

Potamogeton alpinus	pre-1888	1952	All of the most recent records were from the River Lagan in Belfast and Lisburn.
English name	Historic hectad distribution		
Red Pondweed	7 hectads		

I finish part 1 of this review on an upbeat note. During a family walk on Waterfoot beach in August 2020, I mustn't have been fully concentrating on the conversation. At the base of a post, I spotted a plant which was new to me in the county. I had searched for it along the entire length of the beaches at Whitepark Bay and Portballintrae without success, but there was no doubt that I was finally face-to-face with *Salsola kali*, a plant which was just a few years away from slipping out of Table 3 and into Table 2. I'm not sure that my family fully shared my excitement.

To be honest, Waterfoot wasn't somewhere I had thought of looking for *Salsola kali*. The last sightings in the county were from Whitepark Bay and Portballintrae in 1953 and 1956 respectively. There were no other records from the twentieth century, but looking further back revealed an 1865 Waterfoot record submitted by H. Robinson. Perhaps this helps to explain why a County Antrim botanist can never be sure that a plant is truly gone for good.

In October 2020, I was contacted out of the blue by Simeon Cathcart, whom I knew from a couple of field meetings in the county. Simeon informed me that he had been on an ecological survey methodology training course with Sharon Spratt, Ruth Linton and Kate Carrothers at Whitepark Bay in September 2019 when he saw *Salsola kali* just outside one of their quadrats. Such is the way with rare plants. You don't see one for 70 years and then two come along at once!

***Rosa virginiana* Mill. (Virginia Rose) cultivars naturalised in the European flora and some observations on *Rosa* Section Carolina Crépin (the *R. carolina* complex)**

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Abstract

Cultivars of the beautiful, endemic, North American rose species, *Rosa virginiana* Mill. (Virginia Rose) were formerly popular garden plants in Britain and on the European mainland, where some of these taxa are now locally established in the wild. The status of this species in the Irish Flora is reviewed here, following on from the discovery of a planted-established roadside hedgerow cultivar population in a single location each in East Cork (**H5**) and in Mid Cork (**H4**) in the period 2015-2016. A detailed morphological description is provided for the Cork cultivar (in addition to four photographs illustrating key diagnostic features of this species – see p. 43-44), while previous Irish records are reviewed. A brief

account of the taxonomy of *Rosa virginiana* within the endemic North American *Rosa carolina* (Carolina Rose) complex (i.e. *Rosa* sect. *Carolinae* Crépin), is also outlined, in order to provide context.

Introduction

The visually attractive and ornamental rose species, *Rosa virginiana* Mill. (Virginia Rose) is endemic to the North American continent to the east of the Rocky Mountains, where, from Newfoundland to New Jersey, it is a locally common subcoastal species (Lewis *et al*. 2014) of *mostly calcifuge* habitats (Fernald 1918). Within this vast geographical area, *R. virginiana* is a member of *Rosa* sect. *Carolinae* Crépin, this complex consisting of five species, namely: *R. carolina* L. (Carolina Rose), *R. virginiana* Mill. (Virginia Rose), *R. palustris* Marshall (Swamp Rose), *R. nitida* Willdenow (Red-spined Rose) and *R. foliolosa* Nuttal ex Torrey & A. Gray (White Prairie-rose). Of the five, the former two are tetraploid species (2n = 28) and occur mainly in *dry* habitats, while the latter three are diploid species (2n = 14) which are associated with the environs of *wetland* habitats. Traditionally, *Rosa* sect. *Carolinae* has been pragmatically delimited from other sections of the genus, by possessing the following, two, morphological characters: (a) **achenes:** *almost always confined to the base of the hip* (rather than also being distributed on the *inner walls* of the hip as in most *Rosa* taxa); and (b) **sepals:** often (but not invariably) shed after anthesis, or before the hips start to colour or ripen. While these two, correlated characters are certainly highly indicative aids for the recognition of the *R. carolina* complex, Erlanson (1934: 215) has cast doubt on their consistent reliability as diagnostic delimitation criteria. On the North American continent, interspecific hybridisation within the genus *Rosa* is of rampant occurrence, creating almost intractable problems with regard to the confident delimitation of species – a nightmare taxonomic situation that is similarly mirrored in the rose floras of Europe and Asia! The *Rosa carolina* complex well exemplifies such problems, as the two tetraploid species, *R. virginiana* and *R. carolina*, are fully interfertile (their offspring thus obscuring species boundaries), while the three diploid species similarly readily hybridise with each other, their progeny mostly being fully fruit-fertile and giving rise to morphologically distinctive, ecogeographically localised segregant taxa, many of which in past times were erroneously given species status (Erlanson 1929, 1934, 1938; Lewis *et al*. 2014; Joly *et al*. 2006). (**Note**: Erlanson (1929, 1934, 1938), on the basis of her own breeding experiments, fieldwork, pollen sterility observations and cytological studies, pointed out that interspecific hybrids between the diploid and tetraploid species of the *R. carolina* complex, *are generally highly pollen- and fruit-sterile triploids*.) All members of the *R. carolina* complex are *rhizomatous* species *that readily form dense thickets*, while an unusual feature is the fact that their 1st-year vegetative shoots *may go on to bear terminal inflorescences and hips* within *the same year*, thereby extending the reproductive season for the species. In such instances, both flowers and fruits may be displayed simultaneously on these plants – a phenomenon also seen in some other North American rose species, in addition to populations of the widely naturalised, rhizomatous, diploid Asian species, *Rosa rugosa* (Japanese Rose) and its interspecific hybrid cultivar, *Rosa* 'Hollandica'. *Rosa*

virginiana is the taller of the two tetraploid species within the *R. carolina* complex, often reaching to over 2m in height in suitable habitats. Another feature of this complex is that, while the *stylar orifice* of the hip *is conspicuously wide relative to the width of its disc* (commonly at least half the diameter of the disc) (Lewis *et al*. 2014), this morphological feature is *not* linked with retained or tardily deciduous fruit sepals (as it is, for example, within *Rosa* sect. *Caninae*): instead, the sepals are usually *quickly shed* after anthesis, or before the hips start to colour or ripen – as stated previously.

***Rosa virginiana* as a naturalised species in Britain and mainland Europe**

The main sources of descriptions of *R. virginiana* for British and Irish botanists are limited, brief accounts being provided by Warburg (1962) and Stace (2019), with more detailed descriptions by Klásterský (1968), Graham & Primavesi (1993) and especially Lewis *et al*. (2014), the latter in their excellent *Rosa* account for the *Flora of North America North of Mexico*. *Rosa virginiana* (in its various cultivar guises) is a visually attractive species, its deep-pink flowers (6-8 cm in diameter) being delightfully sweet-scented; its leaves bearing narrowly elliptic to oblanceolate leaflets that are glossy and glabrous adaxially, while the leaf-rachides are glabrous or slightly pubescent and *often vibrantly crimson coloured*, this colour also being present on the midvein of the *conspicuously dilated* stipules, whose margins are bluntly-serrated. The stem prickles (stout and broad-based in indigenous plants, but subulate and narrow-based in some cultivars) are distinctively *paired* at the nodes, and subtend the nodal leaf-stipules (i.e. are infrastipular). In contrast, *internodal* prickles and acicles are generally *absent or rare*, although in many cultivars acicles are usually present in abundance on 1st-year shoots, and at the base of inflorescence branchlets. Formerly a popular cultivated species in Britain and mainland Europe, *R. virginiana* subsequently became locally established in the wild in Britain in scrub and hedgerows (Graham & Primavesi 1993; Stace 2019) and in similar habitats in France and Austria (Klásterský 1968). In this regard, dispersal was perhaps most frequently effected through the agency of bird-distributed achenes, these established populations in turn being augmented to some extent by occasional hedgerow/hedgebank plantings.

***Rosa virginiana* in the Irish Flora**

In Ireland during the period 1890-2016, *Rosa virginiana* cultivars have only been recorded from a handful of widely dispersed roadside hedgerow/hedgebank sites in *four* vice-counties, namely: North Kerry (**H2**), West Galway (**H16**), East Cork (**H5**) and Mid Cork (**H4**). With the possible exception of the North Kerry record (see comment below), the status of these populations is most likely that of 'planted-established'. The first record for putative *R. virginiana* as a naturalised species in the 'wild' in Ireland, was that of R.W. Scully (1916), in his *Flora of Kerry*, who reported this species as "… rather plentiful in a roadside hedge east of Kilmorna House [**H2**, R05.32.], between Listowel [North Kerry, **H2**] and Abbeyfeale [Co. Limerick, **H8**], 1890-1905, where it appears to be spreading". Scully suggested that it may have been *bird-sown* in this site. Of particular interest is Scully's statement that: "… the Kilmorna plant exactly matches named specimens of the latter rose

[i.e. *R. virginiana* Mill., or, as he recorded it, *R. lucida* Ehrh.], in the writer's *Herbarium*". This strongly suggests that R.W. Scully's identification of the North Kerry rose was correct, although the identification seems not to have been corroborated by a *Rosa* expert. In the long interim period since the original discovery, its location has been searched for, but not re-found (pers, comm., December 2020, with Caroline Mhic Daeid and Rory Hodd, the Vice-County Recorders for North Kerry, **H2**). While this is the only Irish record for putative *R. virginiana* mentioned by Reynolds (2002) in her book, *A Catalogue of Alien Plants in Ireland*, a second new Irish record is listed for this species in the BSBI DDb, and is as follows:

1). West Galway (**H16**). Planted-naturalised in a roadside hedgerow at Ballinakill (**H15**, L658582): finder, W. McNeill. Date, 14 September 2003. Determiner, Tony Primavesi. (**Note:** John Conaghan, the Vice-County Recorder for **H16**, states that this site lies to the north of Ballinakill Lough, Connemara, but has not been updated since its original discovery in 2003 (pers. comm., December 2020).)

Stace (2019), for the fourth edition of his book, *New Flora of the British Isles*, must have accessed the BSBI DDb for the Irish records of *Rosa virginiana*, as he acknowledged the West Galway (**H15**) record, which had been determined by the late Tony Primavesi, a former BSBI Referee for the genus Rosa. However, as the North Kerry (**H2**) putative *R. virginiana* record (1890-1905) is *not* represented in the DDb, it was overlooked by Stace (2019).

***Rosa virginiana* in the East Cork (H5) flora**

On 30 June 2015, I undertook some hedgebank *Rosa* re-survey work in the immediate environs of Pound Crossroads on the R614 (the Glenville-Rathcormack Road) in East Cork (**H5**, W74.89), updating records for the following taxa: *Rosa tomentosa* (Harsh Downy-rose), *R. rubiginosa* (Sweet-briar), *R. corymbifera* (Hairy Dog-rose), *R. canina* (Dog-rose), *R. canina* × *R. tomentosa* (= *R.* × *scabriuscula*) and *R. sherardii* × *R. rubiginosa* (= *R.* × *suberecta*). In the course of this work, a thicket of a naturalised rose taxon was found in flower, and material was collected for later microscopic examination at home. This subsequent examination highlighted the following distinctive features of this taxon:

- The dense stand of this rose population strongly indicated a *rhizomatous* growth-habit.

- The rose-pink, highly sweet-scented flowers were 6-8 cm in diameter, their *large* petals *broader than long* (*c*. 32-35 x 38-40 mm) with curved sides and a yellowish-tinged base (in contrast to native British and Irish rose species and hybrids, wherein the petals are ± obovate-cuneate, and as long as broad).

- The sepals (densely glandular-setose abaxially) were *quickly shed* after the flowering period (anthesis) and certainly before the hypanthiums started to colour and enlarge. The sepals were *inordinately long* (to 45 mm) and their *shape* was very distinctive, consisting of a narrowly triangular base, an attenuated, filiform middle region, and a narrowly elliptic, blade-like apex that was disproportionately long relative to the triangular base, its margins entire, or bearing some proximal teeth or lobes.

- The stem prickles were slender (subulate), straight and patent, or very slightly curved, with a decurrent base, and were *disposed in pairs* at the nodes beneath the leaf stipules (i.e. infrastipular) but *absent* from the internodes.

- The young vegetative shoots (leaves with 7-9 leaflets) and the base of the flowering branchlets, were *densely aciculate* (see p. 43).

- The glabrous or sparsely pubescent leaf-rachides, and the midvein of the stipules, were *beautifully vermillion-tinted*, the stipules *often conspicuously dilated distally towards the auricles* (flared), their margins bluntly-serrate and *non-fimbriate*.

- The *elongate* anthers (*c*. 2-3 x 1-1.25 mm) bore *c*. 95% + perfect pollen grains (subglobose and 34-40.8 microns (µm) in diameter when measured in a water medium), which indicated a good species.

- The fact that the flower hypanthiums were *broader than long* (not longer than broad as in most rose taxa) indicated that the mature hips would prove to be *depressed-globose*, while a vertical-section of these hypanthiums showed the carpels *to be confined to the base*, and *not* also distributed up the inner walls, as is commonplace in most *Rosa* taxa.

- A subsequent (20 September 2015) collection of mature hips from this site, showed these to be *broader than long* (as anticipated) (see p. 44), *flat-bottomed*, measuring *c*. 8-11 x 9-15 mm. The mature achenes (*c*. 10-23 per hip, each measuring (3-) 3.5-4 x 2-2.5 mm), were commonly intermixed with *a variable quantity of wholly aborted, shrivelled, laterally flattened, blackened achenes* (see vertically-sectioned hips on p. 45, and also data in **Table 1**).

- The stylar orifice of the mature hips measured 3-4 mm in diameter, and was *c.* 3/4 - 4/5 the width of its *concave* disc – *the latter thus being reduced to just a very narrow circumferential rim* (see p. 44).

- The densely lanate stylar bundle was *very short, broad, and stubby*, and *partially sunk* in the stylar orifice.

This suite of distinctive morphological features irresistibly pointed to this taxon being a member of the genus *Rosa* sect. *Carolinae* – almost certainly *Rosa virginiana* – and thus a cultivar of an endemic North American species. A subsequent online, hardcopy-download of the indigenous *Rosa* account in the *Flora of North America North of Mexico* (Lewis *et al*. 2014), clinched the determination with regard to the Co. Cork taxon, as only two contenders emerged for consideration on the basis of morphology – *R. virginia* and *R. carolina*. These two species can be confidently separated utilising the following data provided by Lewis *et al*. (2014):

R. carolina: to 1 m in height; Petals 15-24 x 13-19 mm [longer than broad]; sepals 10-22 x 2-3 mm; stylar orifice 1.5-2 mm in diameter; mature achene number per hip 2-6 (-10).

R. virginiana: to 2 m in height; Petals 22-26 x 25-30 mm [always broader than long?]; sepals 20-40 x 2.5-4 mm; stylar orifice 1.5-3 mm in diameter; mature achene number per hip 8-14.

***Rosa virginiana* in the Mid Cork (H4) flora**

On 4th January 2016, while undertaking botanical work in the Carrigadrohid (**H4**, W 41.72) area of Mid Cork, I was extremely fortunate to come across a further population of a *Rosa virginiana* cultivar, which proved identical in morphology to the East Cork population. At this early time of year, only a few tardily deciduous leaves remained on the bushes, these accompanied by some hips. *R. virginiana* was present here as two, rhizomatous, planted-established thickets, on high embankments bordering both sides of a narrow, hilly road (**H4**, W413.727). Later in 2016 (and in subsequent years up to 2020), flowering and fruiting material of the Carrigadrohid cultivar of *R. virginiana* was collected for vouchers and photographing. At both the East Cork and Mid Cork locations for the *R. virginiana* cultivar, the populations appear to be long-established, and still extending their ranges incrementally through rhizome spread. So far, the Mid Cork populations seem to have escaped the ravages of flailing machines, unlike their East Cork counterpart, which, since 2016, has been severely 'pruned' two to three times a year (thus preventing flowering and fruiting) – though a reprieve came in 2020, when this destructive practise was postponed, as a consequence of Covid-19 work-restriction measures. This gave me the opportunity to collect further flowering and fruiting material for photographing and pressing of vouchers.

Table 1. A character comparison of North American indigenous *Rosa virginiana* with its Co. Cork cultivar. An asterisk* refers to anomalous observations.

Characters	North American	Co. Cork Cultivar
Growth Habit & Height	rhizomatous: to 2 m	rhizomatous: to 2 m
Stem Armature & Distribution:	**prickles**: in pairs beneath the leaves (infrastipular);	**prickles**: in pairs beneath the leaves (infrastipular);

	acicles: present on 1st-year shoots & occasional on flowering branchlets	**acicles**: abundant on 1st-year shoots & also abundant at base of the flowering branchlets
Leaf Characters:	**leaves**: with narrowly-elliptic to ovate leaflets, these lustrous and glabrous adaxially;	**leaves**: tardily deciduous late in the year, or some overwintering.
Leaflet Characters:	the **terminal leaflet** 17-32 x 6-16 mm, its base cuneate, its margins 1-2-serrate, with 10-18 (-23) teeth per side.	**leaflets**: narrowly elliptic (4-6 x 1.5 cm), apex acute, the base short-cuneate & entire-margined; adaxially glabrous and glossy-green, with 14-20 ± uniserrate-eglandular teeth per side.
Flower Diameter:	4.3 – 5.5 cm	*6 - 8 cm
Petal Dimensions:	22-26 x 25-30 mm;	*32-35 x 38-40 mm;
Petal Shape:	broader than long	broader than long, with rounded margins
Sepal Dimensions:	20-40 x 2.5-4 mm	20-45 x 4 mm
Sepal Apex Dimensions:	6-16 x 0.5-2 mm	**c*. 17-21 x 2-3 mm; narrowly elliptic and ± entire-margined
Stylar Orifice Diameter:	1.5-3 mm	*3-4 mm
Disc Width:	3-5 mm	4-5 mm
Orifice/Disc Ratio:	1/2 – 3/5	3/4 –*4/5
Hip Shape:	globose or depressed-globose;	depressed-globose (broader than long);
Dimensions:	8-12 x 9-13 mm	8-11 x 9-15 mm
Carpel Number:	26-40 (-65)	*c*. 18-53
Fully Developed & Viable Achenes:	8 – 14	*(4-) 10-23

Aborted Achenes:	18-32+? – see **table 2**	14-30
Achene Dimensions:	3-4 x 1.5-3.5 mm	(3-) 3.5-4 x 2-2.5 mm
Achene Distribution within the Hip:	predominantly basal; occasionally biparietal	basal; *absent* from the inner walls of the hip

In **Table 1**, above, the *asterisked characters for the Co. Cork cultivar of *R. virginiana*, highlight certain morphological differences from the indigenous North American taxon, and it is assumed that these differences are largely or wholly the result of horticultural developments. For example: **1**) in comparison to the indigenous species, the Cork cultivar bears larger-diametered flowers, with a concomitant increase in petal dimensions; **2**) acicles occur in abundance on the young leaf-shoots and at the base of the flowering branchlets; **3**) the infrastipular pairs of prickles are subulate, with a decurrent base, and thus accord with the plate illustration of this feature for *R. virginiana*, in both Graham & Primavesi (1993) and Lewis *et al*. (2014), whereas the American *Rosa* literature describes the infrastipular prickles of *R. virginiana* as stout, with broad bases; **4**) the pedicels of the Cork taxon (5-15 mm long), *mainly display remnant stumps* of stipitate-glands, whereas abundant stipitate-glands on the pedicels are a general feature of both the indigenous North American populations, and of some European cultivars; **5**) the stylar orifice of the Cork cultivar is 3-4 mm in diameter, and *c*. 3/4 - 4/5 the width of its *concave* disc (*the latter mostly reduced to a mere circumferential rim*), whereas in native North American populations the stylar orifice varies from 1/2 to 3/5 the width of its hip-disc (cf. Lewis *et al*. 2014), while Graham & Primavesi (1993) and Stace (2019) gave a measurement of 1/2 for this feature, the disc thus being more evident than in the County Cork cultivar; **6**) Graham & Primavesi (1993) described leaflet shape in *R. virginiana* as "obovate", yet leaflet shape in their accompanying illustrative plate, varies from obovate to lanceolate or oblanceolate: moreover, they omitted leaflet measurements, while Klásterský (1968) stated: "Leaflets 5-9, 20-60 x 12-25 mm, elliptical to elliptic-obovate". Lewis *et al*. (2014) stated that the hip shape of indigenous North American populations of *R. virginiana* is either globose or depressed-globose, yet those of presumed escaped cultivars in Europe, are described by Klásterský (1968) as "ovoid-globose to globose"; by Graham & Primavesi (1993) as "subglobose" and by Stace (2019) as "globose". As is evident from the description and photographs in this current paper, the two Co. Cork cultivar populations bear *flat-bottomed, depressed-globose* (broader than long) hips – one of the two shapes described for this species by Lewis *et al*. (2014). Interestingly, there is *no* variation in hip shape in any of the infructescences of the Co. Cork *R. virginiana* populations (although there *is* variation in hip dimensions), so it may be that some cultivars of this species *breed true* for a single hip shape. In stark contrast to this situation, even the most casual observation of infructescences of European *Rosa* sect. *Caninae* taxa, *will frequently reveal a mix of hip shapes in the same infructescence*, these varying from ovoid to obovoid to urceolate or globose. On the basis

of the above observations, it seems reasonable to conclude that a range of morphologically variable and distinctive cultivars of *Rosa virginiana* have become established in the wild in Europe, although there seems to be no reference to this fact, in the general *Rosa* literature.

Is variable self-incompatability an innate biological feature of the *Rosa carolina* complex, and other indigenous North American *Rosa* species?

Following on the discovery of a cultivar of *Rosa virginiana* in Mid Cork (**H4**) and East Cork (**H5**) in the years 2015-2016, examination of its pollen grains revealed that *c*. 95% were more or less regular in shape (i.e. subglobose, and 34-40.8 µm in diameter when examined in water on a slide) and took up acetocarmine stain, suggesting that they contained protoplasm and were fully viable. However, subsequent vertical-sectioning of mature, perfectly-formed hips from these two, disjunct populations, *revealed that most contained a variable mix of fully developed achenes and aborted, blackened achenes* (see p. 44). Moreover, in some instances, the aborted achenes *outnumbered* the cohabiting, fully-developed achenes. This situation strongly hinted at *variable self-incompatibility* as the cause of this phenomenon. This view is strengthened by the fact that the North American *Rosa* data provided by Lewis *et al*. (2014) *for hypanthium carpel number versus the mature achene complement of its hip*, show very little correspondence! The data in **Table 2** for the *R. carolina* complex (culled from the above reference source), exemplifies this phenomenon *and clearly points to variable self-incompatibility in most North American Rosa species* – although Lewis *et al*. (2014) do not explicitly state this, nor is there any mention of it in the general *Rosa* literature. In this respect, it is intriguing to contrast the pollen-/achene-fertility of the North American *Rosa* species with their apparently polar opposite – the predominantly European *Rosa* section *Caninae*. While the flowers of most American *Rosa* species commonly bear at least *c*. 70-80% of perfect, viable, pollen grains (Erlanson 1929: 487), *mature* achene number per hip *proves very low*, relative to the much higher carpel number of their floral hypanthiums (see **Table 2**) – as noted previously in this paper. In *Rosa* sect. *Caninae* however, despite the stamens of their flowers *producing a high level of abortive pollen grains* (*c*. 30-80%, pers. obs.), vertical-sectioning of their fully-developed hips reveals that the number of mature, viable achenes *generally corresponds with remarkable fidelity* to the number of carpels present in their floral hypanthiums. To what degree such high achene fertility is attributable to *apomixis* in *Rosa* section *Caninae*, remains uncertain at the present time, but it may yet prove to be a much more common phenomenon than is currently realised.

Table 2. Comparative hypanthium carpel-complement versus the fully-developed achene complement of its hip, for the species of the North American *Rosa carolina* complex, based on data published by Lewis *et al*. (2014).

Species Name	Carpel Complement of Floral Hypanthium	Mature Achene Complement of its Hip

Rosa carolina	32 - 46	2 – 6 (-10):
Rosa foliolosa	20 - 32	8 - 12
Rosa nitida	20 - 24	10 - 14
Rosa palustris	24 - 50	26
Rosa virginiana	26 – 40 (-65)	8 - 14

Acknowledgements

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References

Erlanson, E.W. (1929). Cytological conditions and evidences for hybridity in North American wild roses. *Botanical Gazette* **87** (4): 443-506.

Erlanson, E.W. (1934). Experimental data for a revision of the North American wild roses. *Botanical Gazette* **96** (2): 197-259.

Erlanson, E.W. (1938). Phylogeny and Polyploidy in *Rosa*. *The New Phytologist* **37** (1): 72-81.

Fernald, M.L. (1918). *Rosa blanda* and its allies of northern Maine and adjacent Canada. *Rhodora* **20** (233): 90-96.

Graham, G.G. & Primavesi, A.L. (1993). *Roses of Great Britain and Ireland*. BSBI Handbook No. 7. Botanical Society of the British Isles, London.

Joly, S., Starr, J.R., Lewis, W.H. & Bruneau, A. (2006). Polyploid and hybrid evolution in roses east of the Rocky Mountains. *American Journal of Botany* **93** (3): 412-425.

Klásterský, I. (1968). *Rosa* L. In: Tutin, T.G, Heywood, V.H., Burges, N.A., Moore, D.M., Valentine, D.H, Walters, S.M. & Webb, D.A. (eds.). *Flora Europaea*. Volume 2, pp. 25-32. Cambridge University Press, Cambridge.

Lewis, W.H., Ertter, B. & Bruneau, A. (2014). *Rosa* L. In: Flora of North America Editorial Committee, Eds. 1993+. *Flora of North America North of Mexico* [Online hardcopy download.]. 21+ vols. New York and Oxford. Volume 9. http://beta.floranorthamerica.org/Rosa. Accessed: June-July 2016.

Reynolds, S.C.P. (2002). *A Catalogue of Alien Plants in Ireland*. Occasional Papers No. 14. National Botanic Gardens, Glasnevin.

Scully, R.W. (1916). *Flora of County Kerry*. Hodges, Figgis & Co., Dublin.

Stace, C.A. (2019). *New Flora of the British Isles*. 4th edition. C & M Floristics, Middlewood Green, Suffolk.

Warburg, E.F. (1962). *Rosa* L. In: Clapham, A.R., Tutin, T.G. & Warburg, E.F. (eds.) *Flora of the British Isles*. 2nd edition. Pp. 405-413. Cambridge University Press, Cambridge.

A History of the Bearberry in Co. Antrim

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The story of the Bearberry (*Arctostaphylos uva-ursi*) in Co. Antrim is a somewhat melancholy one. So stated Arthur Stelfox in the first line of his article in the Irish Naturalists' Journal of July 1946 (Stelfox 1946). In this earlier history, Stelfox tells of the plant's discovery at Fair Head in 1814 by the great John Templeton. It was said to

be plentiful there. G. C. Hyndman saw the Bearberry again in 1837 “by the northern lake on Fair Head” but here the first chapter of our story comes to an end. In Stelfox’s words, no searcher has seen the plant there since.

The narrative moves on to record the finding of another Bearberry plant by C. J. Lilly on the western face of Skerrywhirry Hill in June 1908. This plant was seen by Stelfox in March 1913 and he paid further visits in 1914 and 1920. Meanwhile, Stelfox had stumbled on yet another Bearberry plant on the rugged eastern face of Agnew’s Hill in November 1912. He made successful return visits in 1913, 1914 and 1920. However, when he brought a party to County Antrim in June 1939, the Bearberry had gone from Skerrywhirry and could not be found on Agnew’s Hill. Stelfox clung to the hope that the Bearberry might reappear at Agnew’s Hill but the passage of time has brought no fresh sightings.

The final chapter in Stelfox’s account transports us to a rocky scarp SE of Lough Naroon in 1920, when he and Robert Lloyd Praeger came face-to-face with Bearberry once again. This time there was a big patch, on whose fortunes the survival of this relict species in County Antrim now depended.

There is no evidence that Stelfox revisited the Lough Naroon site. However, Pat Kertland saw the Bearberry there again in 1950. There were no further reports until September 1989, when I had the thrill of discovering the forgotten scarp and seeing the exotic *Arctostaphylos uva-ursi* for myself. Somehow, the Bearberry’s story, woven so beautifully by Stelfox, was now entwined with my story.

Like Stelfox, I was drawn back to check on the Bearberry. It was still there in a healthy state in September 2013. However, as I approached the site once more in June 2017, I found myself surrounded by whirling wind turbines. To my horror, one of these monsters was towering directly over the very scarp where history hung in the balance. The Bearberry had managed to survive but my celebration was muted.

Sunday 19 July 2020 is a day that will stay in my memory. I had spent the morning clambering amongst boulders on the steep wooded slopes above Murlough Bay. It was a relief to find a gully which provided a route out of the trees and onto the windswept expanse of Fair Head. My path was a familiar one but on this occasion I spied a couple of strange plants on the cliff ahead. My mind flew immediately to Bearberry. However, the strange plants looked out of reach. I crept closer to the cliff edge, not close enough to touch, but close enough to see the crowded upturned glossy leaves of a Bearberry mat! I must have walked past the spot 10 times and many botanists had no doubt made the same pilgrimage. But for nearly 185 years, the Bearberry had kept its secret.

Could these two mats clinging to a cliff-edge on Fair Head have been amongst those seen by Templeton? It seems more likely that the plant has spread there recently from some hiding-place on the eastern cliffs or in the treacherous boulder-field below.

Hyndman's steer towards Lough Doo and the northern cliffs had perhaps put searchers off the scent.

The history of the Bearberry in County Antrim has now come full circle. I rejoice that this beautiful plant still adorns the awesome cliffs of Fair Head and that I have been privileged to see it there. Long may it remain.

References

Stelfox, A.W. (1946). A History of the Bearberry in Co. Antrim. *Irish Naturalists' Journal* **8** (11): 380-382.

Ophrys apifera var. *atrofusca* appears at Waterford IT due to reduced mowing measures

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Spring 2020 was the final semester of my BSc in Horticulture course at Waterford Institute of Technology. My vocational area in horticulture is biodiversity and making gardens and public areas more wildlife-friendly. I am particularly an advocate of the All-Ireland Pollinator Plan as the actions and recommended measures to provide food and forage for our endangered pollinators and are good for all other wildlife. I have an obsession with reduced mowing and converting areas of lawn into semi-natural grassland. In January 2020, I walked around the Waterford IT Cork Road campus and inspected the lawns to see what plants were present. To my amazement, the lawn which runs from the main Browns Road entrance at AIB was full of native wildflowers that are known to be excellent forage for pollinators. These included many patches of Common knapweed (*Centaurea nigra*), Self-heal (*Prunella vulgaris*), Red Clover (*Trifolium pratense*), Yarrow (*Achillea millefolium*), Spear thistle (Cirsium vulgare), Creeping Thistle (*Cirsium arvense*), Cat's-ear (*Hypochaeris radicata*) Dandelion (*Taraxacum* agg.*)* and Common Ragwort (*Jacobaea vulgaris*). In excitement, I contacted my horticulture lecturer Yvonne Grace. She then requested that a large lawn section be set aside as a meadow strip for the Institute's pollinator plan. I soon got the news that we had acquired the area as a site for horticulture students to hone their biodiversity management skills. We put plans in place to carry out a once annual cut in August. I was over the moon and looked forward to seeing what other plant species would appear as the months moved on.

In late March, the government announced that all schools and third level colleges would be closing due to COVID-19 and we would be moving to remote learning. The 2km Lockdown came into effect, but lucky for me the Cork Road campus was just 100 yards down the road. Over the next few months, I visited the deserted campus daily. It wasn't just our area growing wild as there was no lawn mowing planned until after the lockdown. As a result Cuckooflower (*Cardamine pratensis*) appeared on mass due to the lack of mowing. Dandelions were in flower early too and were of particular interest to emerging red tail bumblebee queens. I also managed to spot some solitary wasp and bee species enjoying the Dandelions. During March and June I identified Germander Speedwell (*Veronica*

chamaedrys), Thyme-leaved Speedwell (*Veronica serpyllifolia)*, Greater Bird's-foot-trefoil (*Lotus pedunculatus)*, Common Bird's-foot-trefoil (*Lotus corniculatus*, Smooth Hawk's-beard (*Crepis capillaris*), Common Hogweed (*Heracleum sphondylium*), Oxeye Daisy (*Leucanthemum vulgare*) and Meadow Buttercup (*Ranunculus acris*). During the same time in an abandoned building site on the college grounds I recorded Square-stalked St John's-worts (*Hypericum tetrapterum*), Mouse-ear-hawkweed (*Pilosella officinarum*), Common Fleabane (*Pulicaria dysenterica)*, Tufted Vetch (*Vicia cracca*), Pale Flax (*Linum bienne*), Bush Vetch (*Vicia sepium*), Meadow Vetchling (*Lathyrus pratensis*) and Wild Carrot (*Daucus carota*). It was promising to see these flowers growing on the construction site as it is a clue as to what might appear in our meadow area as the fertility is reduced through annual cut and lift management. I must also mention that much of the non-native landscaping plants at WIT are beneficial to pollinators and provide great cover for birds. Such species included *Lonicera pileata* (Box-leaved Honeysuckle), and various Cotoneaster (*Cotoneaster*) and Barberry (*Berberis*) species were adorned with bees during their respective flowering periods in spring. They were also the perfect climbing frame in a number of places for Meadow Vetchling and Bush Vetch which was a joy to behold.

In June once the lockdown ended, I arranged to meet my lecturers Cara and Yvonne to show them the things I had discovered since the college had closed. We walked around the whole site and finished at the meadow area. Within seconds of stepping into the meadow, I spotted a Bee Orchid (see p. 47) and shouted to the two ladies. We were all very excited at the discovery. The flower's appearance was a great opportunity to promote the good work the college was doing to help pollinators as part of the All Ireland Pollinator Plan and promote reduced mowing in general. If I am honest, I didn't think we would get much attention given 380 had appeared in reduced mowing strips in Midleton, Cork just a few weeks prior. However, the media did take heed. After a few press releases by Dr Cara Daly and Waterford IT, my lecturer Yvonne and I appeared on RTE's Six One news where we talked about the college's pollinator plan and the orchid which appeared due to reduced mowing measures in place. As it happens some of Ireland's orchid enthusiasts were watching the news that evening. To my amazement, I had overlooked the fact that Bee Orchid (*Ophrys apifera*) has several variants. Local man and BSBI member Mr. Paddy Tobin contacted us to say he and his friend had been watching and believe it to be either var. *fulvafusca* or var. *atrofusca*. I quickly arranged to meet Paddy at the college to show him the plant. At this stage there were just two flowers left to open and it was looking a little tattered. None the less Paddy was very excited when he had seen it. After years of travelling all over Ireland to pursue rare orchids he couldn't believe his luck when one had appeared on his doorstep in Waterford, especially during this period of restricted travel with the coronavirus pandemic.

I admit to being a little embarrassed that I didn't research the flower enough and find all the different varieties it could have been. I had naively found it insignificant given all the Bee orchids' reports. I immediately began looking into its variants to submit a record for official verification at the BSBI. Both *Ophrys apifera* var. *fulvafusca* and *Ophrys apifera*

var. *atrofusca* are rare and have only been recorded a handful of times in Ireland and Britain. The *atrofusca* variant has lost almost all its markings and has a pure red labellum with just a faint yellow speculum necklace. The *fulvafusca* variant has a pure red labellum and has no markings. The speculum was present on the specimen at WIT, so I submitted the record as the *atrofusca* variant. Within weeks we had confirmation that it was indeed this variant.

The orchid set seed around the second week in August. We then cut the meadow area a week later using a strimmer with a blade attachment. After we lifted the cuttings, we created gaps of bare soil in the swards to allow the orchid seeds' germination. Bee orchids can take many years from when rosettes first appear to flower. When carrying out next year's annual cut in Autumn 2021, we will sow Yellow-rattle (*Rhinanthus minor*) seed to help combat the coarse grasses present, such as Cock's-foot (*Dactylis glomerata*), Timothy (*Phleum pratense*), Perennial Rye-grass (*Lolium perenne*) and Yorkshire-fog (*Holcus lanatus*), and further increase the orchid's chance of success. I hope *Ophrys apifera* var. *atrofusca* reappears in the years ahead so others can marvel at its beauty.

2020 took so much and gave very little in return

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The year 2020 took so much and gave very little in return. There were many negatives, very few positives and it will be long remembered as a year of devastation to the many who lost loved ones. A tiny glimmer of light that I will recall was what happened, botanically-speaking, within my home place.

My first sighting of *Senecio minimus* (Toothed Fireweed) (see back cover) had been on St Stephen's Day, 26th December 2019, when I took a short wander from my home in Dalkey, Co Dublin, to walk off some of the previous day's excesses. It was growing on the top of an old granite wall at the top of a steep embankment, the DART railway tracks some 50ft below, and I knew I had never seen the leaves of this plant before. All I could see that remained of its flowering was a few straggly bits of dead pappus. So at least it was probably a member of the Asteraceae family, I thought. It seemed like a good time to wish my friend, Paul Green, the season's greetings and also to show him my photograph of those leaves. Within a very short while, my curiosity was satisfied by an identification. But what, I wondered, would the flowers look like? Where had the plant come from and how did it get there? I had no idea when it would flower and I hoped it wouldn't be in summer as I usually desert Dalkey, at that time, for diverse parts of the country. However, other events took over.

With the devastating arrival of the coronavirus to our shores, and the threat to the health of the nation, a tight lockdown was imposed. Initially, being of an age I'd rather forget, myself and my husband, Pete, were instructed to remain firmly within our home and garden. Our garden being tiny, this was very tough but we obeyed. We had already experienced the loss of our son, Nik, who fell foul of the virus in the UK in March. We would do our best to minimize any further distress to our family.

Within a few weeks, the restrictions eased slightly and we were permitted to take exercise within a radius of 2 km of our home. I got to know every crack in every pavement within those 2kms. In fact, we didn't have the benefit of a full 2km because with Dalkey being a coastal town, half of our radius was in the Irish Sea! But those cracks in pavements generated a form of manna from heaven. With the local council also locked down, no street cleaning was taking place so the streets became fringed in green, apart from a couple of areas where 'neat-freak' neighbours had dosed their bit of pavement with herbicide and a horrible, dead, brown fringe betrayed their distaste for nature. Fumitories, Sow-thistles, Long-headed Poppy, Common Mallow, Ivy-leaved Toadflax, Welsh Poppy, Common Chickweed, Speedwells, Forget-me-nots and Purple Toadflax were among the many 'weeds' which were left in peace for several months.

However, my exercise route on most days took me past the Toothed Fireweed and I watched closely as its stems emerged from its lower leaves. Eventually I got to see the flowers. Miniscule, tight, cylindrical bundles of yellow disc florets with short, thread-like outer florets were held in abundant panicles on tough green-dark purple stems. I also found one other plant growing at the same site and even spotted a few small specimens in some pavement cracks at least 100m away. I wondered if 'my' plant would survive or would I never see that species again. Coming to this country from New Zealand and Australia where it flowers throughout the year and is predominantly coastal, it is also established on the Pacific coast of the USA.

Our lockdown was lifted in July and we left Dalkey for some months but returned in November as the weather was cooling. I couldn't find 'my' plant as the entire area had been overwhelmed by Russian-vine, but I walked further and took myself into Sorrento Park. This public space had been upgraded and landscaped in the time we were away. I was glad to see that although flowerbeds had been created and garden plants installed, large patches of wild vegetation had been left alone. I had previously found White Comfrey, White Ramping-fumitory, Heath Groundsel and Hedgerow Crane's-bill thriving among many other species. But I was absolutely amazed to see how many plants of Toothed Fireweed were spread across the wild patch. I lost count at forty.

My botanical knowledge was further increased – again with the help of Paul Green – when I found that what I had taken to be Common Ramping-fumitory growing in the grounds of a nearby convent was, in fact, Common Fumitory. Paul asked for further photographs in order to confirm the identification and eventually he discovered that not only were those two species growing in the convent grounds but there was also quite a lot of Purple Ramping-fumitory and Tall Ramping-fumitory present. If I had not been obliged to spend so much time in such a small area, I doubt I would have ever seen any of these species.

A miscellany of plant records from Co. Meath (H22) 2000-2019

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A selection of plants, encountered in Co. Meath during Atlas 2020 fieldwork, is presented. Only first county records are included, made by MN unless otherwise stated. The list is not exhaustive as it does not include all plant groups, or records made by other botanists. Nomenclature follows Stace (2019).

Larix* x *marschlinsii = *L. decidua* x *L. kaempferi* (Hybrid Larch) in mixed woodland of Summerhill Demesne, NW of carpark (N8447, 2014).
Clematis tangutica (Orange-peel Clematis) immediately W of Kilmoon Cross Roads, established here, most probably of garden origin (O0259, 2015).
Ribes sanguineum (Flowering Currant) Mornington, N part of Crook Road (=causeway to site of derelict fish-factory), (O1476, 2001, BSBI & MN).
Crassula helmsii (New Zealand Pigmyweed) freshly-dug garden pond at Sonairte, 1 km W of Laytown Station (O1571, 2003).
Medicago arabica (Spotted Medick) Mornington, localised in sandy ground near Lady's Finger (O1576, 2001).
Spiraea* x *billardii = *S. alba* x *S. douglasii* (Billard's Bridewort) Springville, four bushes naturalised in hedgerow by road through reclaimed bog (N6872, 2016, MN, det. P.R. Green).
Sorbus hibernica (Irish Whitebeam) Greenan, isolated tree in hedgerow bordering disused quarry, possible bird-sown (N5374, 2004, det. T. Rich).
Soleirolia soleirolii (Mind-your-own-business) low mossy bank by trackway along Mattock River, SE of Mattock Bridge (O0174, 2005).
Hypericum calycinum (Rose-of-Sharon) Foxtown, disused quarry on Trim esker (N8553, 2015).
Hypericum hircinum (Stinking Tutsan) several plants scattered W of Laytown train station (O1571) and widespread, appearing naturalised, on wooded slopes of nature trail at Sonairte (O1471), possibly bird sown (both 2003).
Hypericum* x *desetangsii = *H. perforatum* x *H. maculatum* (Des Etangs' St John's-wort) localised on disused railway S of Tom's Bridge, 1km SE of Kilmainhamwood (N7989, 2016, conf. N. Robson). Although *H. perforatum* is occasional within the county, the second parent *H. maculatum* is very rare.
Viola odorata* var. *dumetorum (Sweet Violet), nomenclature follows Porter & Foley (2017), roadside bank at Cullen, off N2 road, 2.5km S of Slane (N9671, 2018, det. M. Porter).

Viola x bavarica = *V. riviniana* x *V. reichenbachiana* Ballygarth, rare on roadside bank in wooded area, with both parents (O1470, 2018, conf. M. Porter).
Viola palustris (Marsh Violet) rare in willow and alder carr on Meath shore of Ervey Lough (N7693, 2018).
Viola x contempta = *V. tricolor* x *V. arvensis* near Castlekeeran Church and Crosses, at least 15 clumps in corner of field beyond reach of farm machinery, both parents apparently absent in vicinity (N6977, 2019, conf. M. Porter) (see back cover).
Geranium pusillum (Small-flowered Crane's-bill) Mornington, several plants scrambling through weedy vegetation in disturbed sandy ground near mouth of Boyne (O1576, 2017).
Oenothera glazioviana (Large-flowered Evening-primrose) Painestown, several plants localised on disturbed ground by roadside (O1272, 2003).
Aubrieta deltoidea (Aubretia) naturalised in mortar of boundary wall of former Vicarial Glebe, Rathmoylon village (N7949, 2003).
Erophila glabrescens (Glabrous Whitlowgrass) in gravel by entrance gate of Mill House, immediately NE of Slane Bridge (N9673, 2015, conf. T. Rich).
Eruca vesicaria (Garden Rocket) Sonairte, 1km W of Laytown Station, persisting as weed in neglected area of vegetable garden (O1571, 2017, T. Rich, DNFC & MN).
Mentha requienii (Corsican Mint) Sonairte, 1km W of Laytown Station, soil between paving stones of courtyard (O1571, 2017, T. Rich, DNFC & MN) (see back cover).
Erigeron acris (Blue Fleabane) disused quarry *c*.0.5km N of Ross, on rock ledge at base of quarry face, rare (N4682, 2005).
Leucanthemum* x *superbum = ?*L. lacustre* x *L. maximum* (Shasta Daisy) large clump plus two scattered plants by bog road NW of Kildalkey (N7059, 2016, det. P. Green).
Lemna minuta (Least Duckweed) two sites on Boyne Canal: E of Ruxton Bridge (N8767) and E of derelict mill at Atlumney (N8868), this and other duckweeds, including *Spirodela polyrhiza* (Greater Duckweed), *L. gibba* (Fat Duckweed) and *L. minor* (Common Duckweed), dominating the water's surface at both locations (2019, C. Preston & MN, det. R. Lansdown).
Elodea nuttallii (Nuttall's Waterweed) Rathbeggan Lakes near Dunshaughlin, present in several of these artificial lakes, possibly introduced (N9847, 2017).
Lagarosiphon major (Curly Waterweed) abundant at Rathbeggan Lakes near Dunshaughlin, possibly introduced into these artificial lakes for its oxygenating properties (N9847, 2017).
Allium carinatum (Keeled Garlic) grassland between River Boyne and Boyne canal near Rowleys Lock, 2km NE of Navan (N8869, 2002).
Ornithogalum umbellatum **subsp.** ***campestre*** (Star-of-Bethlehem) Mornington, grassy verge by S part of Crook Road (=causeway to site of derelict fish-factory), (O1576, 2001, BSBI & MN).
Carex pallescens (Pale Sedge) Littlewood, 2.5 km NE of Slane, in grassy verge by trackway leading from woodland clearing, rare (N9775, 2013).

Milium effusum (Wood Millet) Littlewood, 2.5 km NE of Slane, widespread by pathways through this moist shady woodland, nowhere plentiful (N9775, 2013).
Anisantha diandra (Great Brome) at Priest Town Cross Roads, appearing as casual by roadside, possible dispersed by farm machinery in transit to nearby arable fields (O0545, 2017).

References

Porter, M. & Foley, M. (2017) *Violas of Britain and Ireland*. BSBI Handbook No.7. Botanical Society of Britain and Ireland, Bristol.
Stace, C. (2019) *New Flora of the British Isles*, 4th edition. C & M Floristics, Suffolk.

No Ordinary Commodity: Tobacco (*Nicotiana tabacum*) Production in Ireland

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Sir Walter Raleigh originally introduced tobacco (see p. 47) into Britain and Ireland from the New World in the late 1500s. Ever since then it has been subject to particularly intense State regulation. For example, cultivation was originally banned in England by King James I, and this ban was subsequently extended to Ireland under Charles II. This prohibition was eventually repealed in the late 1700s and tobacco farming developed rapidly in Ireland, most notably in counties Wexford and Meath. However, the industry was once again banned in Ireland as a result of a vote in Westminster in 1832. Following Irish independence the industry started to flourish, particularly under De Valera's protectionist economic policies. This policy required a percentage of Irish tobacco in all cigarettes sold in Ireland. It is estimated that by 1934 approximately 750 acres of land were producing tobacco in counties Wexford, Carlow, Laois, Kildare, Kilkenny, Meath, Wicklow and Offaly. However, alarmed at the significant increase in the number of farmers starting to switch to tobacco production the Irish Government introduced strict legislation and restricted permits allowing production only to those farmers that had already grown tobacco in the 1933 growing season. Intense regulation of the production of tobacco continues to this day and clearance from the Revenue Commissioners is required before production can start in Ireland.

Although a very small number of farmers grow tobacco in Ireland, it should not be viewed as just another commodity. Even putting aside the crop's sensitivity to excess water, poor sunlight, and propensity to wind damage, tobacco is both quantitatively and qualitatively different from other products. The reason for this difference is the toxic nature of this addictive substance. It is estimated that approximately 5,600 per year die in Ireland from tobacco related illnesses. The World Health Organization (WHO) states that the global death toll from tobacco-related illnesses has already passed a staggering 7 million annually, and is expected to rise to 8 million by 2030. The number of deaths involved, and the nicotine

staining evident on many smokers, has prompted one author to refer to the tobacco epidemic as the 'Golden Holocaust'. Tobacco remains the world's leading cause of preventable deaths and illness. The economic cost of tobacco consumption in Ireland has been calculated at 2,826 million euros per year. This costing includes both the direct costs associated with healthcare, as well as the indirect costs of lost productivity through illness and premature mortality.

Given the significant negative impact of tobacco, it is no surprise that the sale as well as the production of tobacco is strictly regulated in most countries. As well as being subject to high taxes, tobacco can only be sold within the European Union (EU) in packets featuring combined graphic and text anti-smoking warnings. Following the lead taken by Australia, Ireland has recently also introduced plain packaging legislation designed to reduce the appeal of iconic brands. A host of other restrictions also apply to cigarette sales. For example, as well as a ban on sales to minors, advertising and sponsorship is illegal, tobacco products cannot be displayed in shops, and the minimum amount that can be purchased is a packet of 20. These initiatives help explain why smoking rates in Ireland have decreased dramatically in recent decades, as they have throughout the EU and most Western Countries.

The Irish Government led the world when in 2004 it became the first country to implement a national workplace smoking ban. The Government here remains committed to the denormalization of smoking. This means that the aim is for smoking to cease being the norm and become not just unusual, but abnormal. The Irish Government is officially committed to the aim of becoming Smoke Free by 2025. By this they mean having an adult smoking rate of less than 5%. Although this target is clearly hopelessly optimistic and will not be achieved, it does indicate the Government's pledge to combat and eliminate smoking. Further steps to discourage smoking are already in train. For example flavoured cigarettes, such as menthol cigarettes, become illegal throughout the EU in 2020. Other potential anti-smoking measures include the introduction of dissuasive cigarette sticks. This involves trying to make the cigarette itself repellent. One current proposal is to legally require the cigarettes themselves to be coloured an off-putting colour such as faecal yellow brown. Another proposal is to print a health warning on the cigarette itself, such as 'Smoking Kills' or 'This Causes Cancer'. Canada was the first country in the world to require cigarette packaging to feature a graphic as well as a text based anti-smoking warning, and may be the first to introduce dissuasive cigarettes.

Some people have occasionally questioned why the global tobacco industry, often known simply as 'Big Tobacco' is subject to so many attacks, when other industries, such as the motor industry, also manufacture a product that can result in death. However, such parallels are little more than red herrings. Firstly, it should be noted that the death rates involved are incomparable. In both 2017 and 2018 Ireland has experienced less than 200 road deaths per year. Deaths from smoking related illness achieve this figure in Ireland in under just two weeks. This however is not the real difference. A well maintained car, driven carefully should never result in a death. Tobacco is quite the opposite. One in two users of

tobacco will die from a tobacco related illness. This is why the tobacco industry has been termed the 'Merchants of Death'.

The negative impact of tobacco is further exacerbated when environmental considerations are factored in. The environmental damage wrought by pesticides, fertilisers, and water requirements in tobacco farming, alongside the energy required and pollution involved in the curing, manufacture and transportation of tobacco, is considerable. All of course to manufacture a product of no nutritional value that ultimately kills half of its consumers. Further environmental damage is caused by poor disposal of cigarette butts on a massive scale. It has been estimated that approximately 5 trillion cigarette butts are simply left as litter annually. Aside from aesthetic considerations, these butts often enter water courses and are a significant source of heavy metals.

Finally, it should be noted that although the Governments of Bulgaria, Poland and Greece have periodically pushed for a return to tobacco subsidies, the European Union (EU) has not granted any specific subsidies for raw tobacco production since 2010. The EU remains firmly committed to tackling the scourge of tobacco given its adverse impact on health. Despite pressure from tobacco producers it is politically unacceptable for the EU to support the production of this crop. It is after all, no ordinary commodity.

Plants in Tyrone (H36), 2015-2020

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Draba muralis (Wall Whitlow-grass)
John Faulkner reported a well-established colony at Gortin Glen Forest Park in July 2015. *D. muralis* is rare in Tyrone, occurring mostly as a casual. There is another longstanding colony at Fivemiletown.

Festuca vivipara (Viviparous Sheep's-fescue)
This grass is very common in parts of Co. Donegal adjacent to Tyrone, but is rare in Tyrone, with only a handful of sites. In 2016 I came across one or two spikes on the banks of the Mourne Beg River, about 7km W of Castlederg. Away from the area near the Donegal border, the only other record in Tyrone is from Dart Mountain in the Sperrins.

Linaria repens (Pale Toadflax)
On 5th October, 2016 I decided to botanise in the Fintona area, but I expected it to feature only mundane stuff as it is a botanically unexciting area. I chose to park at a cross-roads in the townland of Drumconnelly. That gave me a choice of four directions! I headed down one of the roads and within 20 yards came upon a plant new to me in Tyrone, *Linaria repens*, straggling along the roadside bank and up the hedge at the top of the bank. Back in 1973 John Harron had reported it from Dungannon town, the only other Tyrone record.

Crambe maritima (Sea-kale) at Lough Hyne, Co. Cork. Photo F. O'Neill © 2020 (p. 60)

Rosa virginiana (Virginia Rose) this page & page 44. For captions see page 89.
Photos T. O'Mahony © 2020 (p. 22)

Plate 3.

Plate 4.

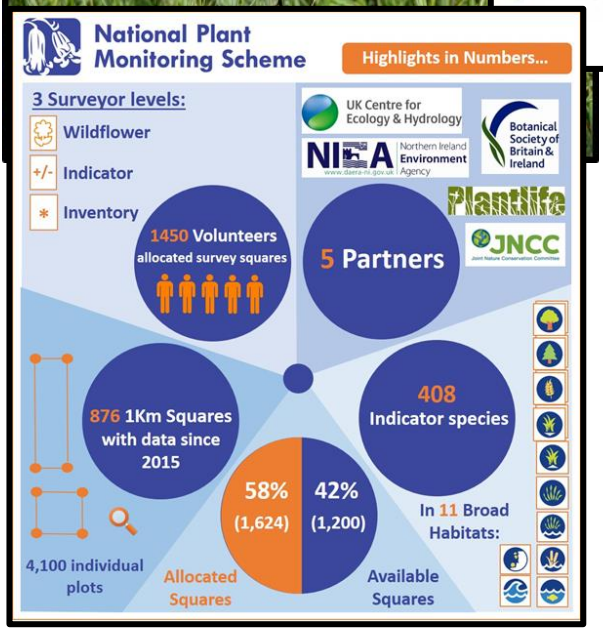
Cochlearia danica (Danish Scurvygrass) by a line of bollards at Bowling Green, Galway city, growing at the base of each (pen at base of first bollard is next to *C. danica*), 10.5.2020. Photo M. Sheehy-Skeffington © 2020 (p. 74)

Rubus chamaemorus (Cloudberry) on Mullaghdoo Mountain, Co. Tyrone (**H36**), July 2020. Photo N. Smyth © 2020 (p. 51)

Matthew Jebb (left) and Ian McNeill (right) on Mullaghdoo Mountain, Co. Tyrone (**H36**), after re-discovering *Rubus chamaemorus* (Cloudberry), July 2020. Photo N. Smyth © 2020 (p. 51)

Ophrys apifera var. *atrofusca* (Bee Orchid) at Waterford IT. Photo C.T. Daly © 2020 (p. 33)

Plate of *Nicotiana tabacum* (Tabacco) at Waterford IT (p. 39)



Highlights of National Plant Monitoring Scheme achievements to date. Figure A. Maiden © 2020 (p. 73)

Saxifraga hirculus (Marsh Saxifrage) plant (below) and close-up of flower (left), from its typical habitat of low, open sward amongst sedges and mosses. Photos M. Long & W. Sauber © 2020 (p. 7)

Callitriche truncata (Short-leaved Water-starwort) at Lough Ree, Galey Bay, Co. Roscommon (**H25**). Photo P. Green © 2020 (p. 58)

Cochlearia danica (Danish Scurvygrass) collected on grassy cliff, N Mallmhuir, Island Eddy, 15.4.2020. Photo M. Sheehy-Skeffington © 2020 (p. 74)

Ophrys apifera (Bee Orchid)
We discovered in 2016 that *O. apifera* had colonised the brickfield attached to the abandoned brickworks 2km N of Dungannon. Over 100 spikes were observed in 2017. In 2019 the area was being re-developed for other industrial purposes and heavy earth-moving machinery had made a bit of a mess of the site. In 2020 Ian Rippey reported just three spikes. Meanwhile, in nearby Coalisland, in 2014 and again in 2017, Declan Coney reported Bee Orchid from the local recycling centre. Recycling centres do not usually have much glamour – what a first for Coalisland! That leaves us with four current sites in Tyrone for *O. apifera*, all the sites unfortunately rather vulnerable.

Erophila glabrescens (Glabrous Whitlow-grass)
In 2017 Warren Maguire reported this species from near his childhood home at Rakeeranbeg, 4.5km SE of Dromore. Determined by Tim Rich.

Conyza canadensis (Canadian Fleabane)
Conyza species are now very frequent in E parts of N Ireland, especially around Belfast. Not yet common in Tyrone, but it is trying. I have three records: Cookstown in 2015, Doons (7km W of Cookstown) in 2017, Annahavil (7km N of Dungannon) in 2019.

Viscum album (Mistletoe)
Reported by Lorna Somerville from a site 1.5km NW of Aughnacloy. I have not visited the site, and I do not know its status. The only other current site in Tyrone is in the townland of Leck, a few km SE of Cookstown. Here we know it was planted about 1950, but has since spread within a radius of 200m, presumably bird-sown.

***Lupinus* sp.** (Lupin)
I came across a large colony of self-seeding *Lupinus* sp. in a gravel-pit at Cashel, 15km NE of Omagh, in 2018. I presume they originated from garden throw-out material. It is the first time I have seen a species of lupin regenerating successfully in Tyrone.

Carum verticillatum (Whorled Caraway)
John Harron reported seeing a single plant of this species just S of the Nature Reserve at Meenadoan Bog, 9km WSW of Drumquin, and 4km from the site where it was first recorded in Tyrone by Alastair Church in 2013.

Poterium sanguisorba subsp. balearicum (Fodder Burnet)
Ronnie Irvine reported this in 2019 from a site alongside the Ballinderry River, about 3.5km ESE of Cookstown. I think there may have been some attempt to sow wild flowers along the riverside footpath, although with little success – the Fodder Burnet appeared to be the sole survivor.

Avena sterilis (Winter Wild-oat)
In Spring 2019, I noted a stout grass coming up in my vegetable patch. As it seemed 'different' I let it grow to maturity, and it turned out to be *Avena sterilis*. I had seen this several years ago in a cereal crop near Eglish, S of Dungannon. At that time Paul Hackney had identified it for me. I hope I can trust my memory of that Eglish grass, and that the 2019 record is safe.

Lycopodium clavatum (Stag's-horn Clubmoss)
In 2018 Raymond Elkin reported finding this plant (back in 2014) at Brackaghmore, about 14km NE of Omagh, and he had checked it was still there in 2016. However, when I accompanied him to the site in 2018, there was no sign of it. This was a very good record, as in recent years *L. clavatum* seemed to have retreated in Tyrone to the higher mountains in the Sperrin chain. Brackaghmore is still an upland site, but at a modest height of 175m.
Trifolium resupinatum (Reversed Clover)
In August 2019, a party of botanists visited some sites on the Tyrone shore of Lough Neagh, concentrating on aquatics under the guidance of Nick Stewart. We were at Washing Bay when one of the party, Suzanne Belshaw, who was keeping her eyes open for other than aquatics, came up with this unusual clover. It presumably had come in with grass-seed. Identification confirmed by Matthew Jebb and his staff at Glasnevin. No previous Tyrone record exists.
Spiranthes romanzoffiana (Irish Lady's-tresses)
In Aug 2019 Claire Barnett reported this orchid from a wet meadow near Killycorran Lough, between Fivemiletown and Clogher. This is an outstanding record, as it is the first time it has been seen in Tyrone away from Lough Neagh. At one time in the 1930s there were six known Tyrone sites by Lough Neagh, but recently that had reduced to one, at Brookend. Even the Brookend site is now uncertain, as the orchid flits about from place to place within the site and in many years does not appear at all – including 2019, when we searched for some time in vain.
Claytonia perfoliata (Spring Beauty)
This pretty little plant appeared in some quantity in Spring 2020 at Tullylagan Manor, 6km S of Cookstown. I do not think it was deliberately planted, but it may have come in on the back of some garden plant. No previous Tyrone record exists.
Camelina sativa (Gold-of-pleasure)
In Spring 2020, a weed seedling in my vegetable patch looked somewhat unusual. I potted it up and watched it to maturity. It became clear it was a *Camelina*, but which species? I sent a specimen to Tim Rich. The identification depended on measurements, and these were somewhat borderline. Tim eventually decided to declare it to be *C. sativa*. You will, no doubt, think that my vegetable patch is under some suspicion. Did I bring the seed home in my wellies? The last time I saw a *Camelina* species was in 1984, in Ballymoney, Co Antrim. If the seed had lodged in a crevice of my wellies for 36 years, then it's the botanical wonder of the century! Another plant that appeared in my garden in 2020 was *Lepidium didymum*, occasional in Tyrone, but this was the first record in my home hectad, H87.
Rubus chaemaemorus (Cloudberry)
It was back in 2007 that I had last checked that Cloudberry was still present in its only Irish site on Mullaghdoo mountain, a minor summit in the Sperrin mountains. I had not heard of any botanist who had been to the site in the intervening years, and I was especially anxious that it could have been washed away in the tremendous flood in the Sperrin range and adjacent Glenelly valley in August 2017. Landslides denuded whole mountain faces of all

their plants and soil, and I knew the cloudberry grew among peat hags near the summit of Mullaghdoo, and was vulnerable to erosion.

So I was thrilled when I received an e-mail from Noeleen Smyth of the National Botanic Gardens in Dublin suggesting a visit to the site. In late July 2020 she and Matthew Jebb came North to Cookstown. They travelled in separate cars to conform to Covid rules. I joined them in my car and we travelled in convoy to the high pass through the Sperrins 2km E of our target. Those 2km were not easy. For 1.5 km we could stick to the 440m contour, but the last 0.5km we were forced to rise to 568m. And it was peat hags, *Molinia* tussocks and *Calluna* all the way. But we made it – 1 hour and 30 minutes. In 2007 when I still had youth on my side, I think it took half that.

We went armed with a number of 10-figure grid references. Matthew went ahead by 20m or so, and soon we heard a yell and his arms were raised in triumph. I need not have worried. Not only was the Cloudberry still there, but we added two more 10-figure grid references, and we found the site was rather more consolidated (see p. 46). The peat hags had not eroded and the peaty sludge between them was more solid, thanks to *Eriophorum* acting as a binding agent.

The Cloudberry was first found in the Sperrins by Jones and Murphy in 1826. They found it to be abundant and in flower. There are flowering specimens preserved as vouchers in Dublin. It was not seen again until it was re-found by Hart and Barrington in 1892. Their site was probably (but not absolutely necessarily) the same site as in 1826. In 1892, and in all subsequent visits, there were no flowers, just scattered leaves. Barrington, accompanied by Vowell, found it again in 1903. By this stage they must have had better maps and gave the location reasonably precisely, and I think we can say the current site is the same as in 1892. But it was not until the 1950 to 1960 period that the location 'Mullaghdoo' was established. I presume earlier maps had no name for Mullaghdoo. It is, after all, really just a minor summit on the NE shoulder of the higher Mullaghclogha (635m).

In 1952, a Scottish botanist, Mary McCallum Webster, attended a BSBI field meeting in Co Kerry. Later she said that she had seen Cloudberry in the Dingle Peninsula, but, not being familiar with Irish botany, did not realise the significance of her observation, and mentioned it to no-one at the time. I have a vague recollection of seeing that the site (still enormous in area) was Mount Brandon. The sighting has never been confirmed. Right, Kerry. Another chance to get equal with Tyrone!

Finally, just a couple of extras from Mullaghdoo:

Carex bigelowii (Stiff Sedge)
We noted a sedge growing not far from the Cloudberry sites. We thought it might be a montane variation of *C. nigra*. But to make sure, I sent a small specimen to Mike Porter, and it came back as *C. bigelowii*. It is probable that Hart saw it there in 1892. In his article announcing the re-finding of Cloudberry (The Journal of Botany, 1892, p 279) he stated that *C. rigida* (now *C. bigelowii*) grew in the 'immediate neighbourhood'. Stiff Sedge is confined in Tyrone to the high summits of the Sperrins.

Neottia cordata (Lesser Twayblade)
Found very close to a patch of Cloudberry leaves. Lesser Twayblade occurs reasonably often in and around the Sperrin Mountains, but this is the first time I have seen it near a summit. It prefers rather lower ground, especially on the crest of a ridge running away from a summit.

Additions to the *Taraxacum* Wigg. flora of South Tipperary (H7) 2016-2019

Rosaleen Fitzgerald, *606 River Forest, Captain's Hill, Leixlip, Co. Kildare*

The *Taraxacum* Wigg. flora of South Tipperary has not been studied to any great extent. The records listed below are the results of fieldwork which I carried out in the period 2016, 2017, 2018 and 2019. All specimens were determined by A.J. Richards. *Taraxacum pachylobum* Dahlst has not been previously found in Ireland according to Richards (pers. comm., 2019). *Taraxacum ronae* has been described since the publication of the handbook by L.J. Margetts. As far as I am aware none of these species has been previously published or recorded for South Tipperary. Accordingly, details given below are the first known record for each of these species from the vice-county. A representative sample of these will be deposited in **DBN**. Nomenclature follows Richards & Dudman (1997) and Margetts (2007).

Section Erythrosperma
Taraxacum oxoniense Dahlst.; Killough Hill S1150, S.E. of Holy Cross, quarry and woodland; 25/4/2019.

Section Spectablia
Taraxacum faeroense (Dahlst.) Dahlst.; lane to Galtee Mts, off Cork Rd R8919, on grass verge; 22/5/2016.

Section Naevosa
Taraxacum ronae L.J. Margetts.; Ballydavid wood R9727, N.W. of Cahir, track in mixed woodland; 15/5/2016.
Taraxacum ronae var. *immaculatum* L.J. Margetts*;* Marl Bog R9644, S.W. of Dundrum, track in coniferous plantation; 22/5/2016.

Section Celtica
Taraxacum gelertii Raunk.; Knocknanuss S1449, S.W. of Horse & Jockey, edge of bog; 11/5/2018**.**
Taraxacum bracteatum Dahlst.; S.E. of Ballytarsna S1147, grass verge at rest stop on motorway; 21/4/2018.
Taraxacum britannicum Dahlst.; Knocknanuss S1449, S.W. of Horse & Jockey, edge of bog; 11/5/2018.

Taraxacum duplidentifrons Dahlst.; Mitchelstown Cave area R9217, W. of Burncourt, grassland near cave entrance; 19/4/2019.
Taraxacum hesperium C.C. Haw.; lane to Galtee Mts, off Cork Rd R8920, on grass verge; 21/4/2018.
Taraxacum landmarkii Dahlst.; Marl Bog R9644, S.W. of Dundrum, track in coniferous plantation; 22/5/2016.
Taraxacum nordstedtii Dahlst.; V Gap S0412, S.E. of Clogheen, grassy bank near bridge; 15/5/2016.
Taraxacum unguilobum Dahlst.; lane to Galtee Mts, off Cork Rd R8919, on grass verge; 22/5/2016.

Section Hamata
Taraxacum hamatum Raunk.; lane to Galtee Mts, off Cork Rd R8919, on grass verge; 21/4/2018.
Taraxacum hamatulum Hagend., Soest & Zevenb.; S. of Longfordpass North S2360, on grass verge at rest stop; 21/4/2018.
Taraxacum subhamatum M.P. Christ.; Rock of Cashel S0740, Cashel, grassy fields around base of the Rock; 21/4/2018.
Taraxacum marklundii Palmgr.; Marl Bog R9644, S.W. of Dundrum, track in coniferous plantation; 25/3/2017.
Taraxacum hamiferum Dahlst.; Farm entrance opposite Fethard Wood S2233, grass verge; 25/4/2018.
Taraxacum pseudohamatum Dahlst.; Ardgeeha Business Park S1924, Clonmel, grass at roundabout; 17/3/2019.
Taraxacum fusciflorum H. Øllg.; Grove Wood S2233, Fethard, on track in mixed woodland; 25/4/2018.
Taraxacum boekmanii Borgv.; S. of Longfordpass North S2360, on grass verge at rest stop; 21/4/2018.
Taraxacum atactum Sahlin & Soest.; farm entrance opposite Fethard Wood S2233, grass verge at farm entrance; 25/4/2018.
Taraxacum spiculatum M.P. Christ.; Currenstown S1227, S. of Poulnamucky, New Inn, back garden of B & B; 17/3/2019.
Taraxacum lancidens Hagend., Soest & Zevenb.; Currenstown S1227, S. of Poulnamucky, New Inn, back garden of B & B; 17/3/2019.
Taraxacum kernianum Soest, Hagend. & Zevenb.*;* Currenstown S1227, S. of Poulnamucky, New Inn, back garden of B & B; 17/3/2019.
Taraxacum lamprophyllum M.P. Christ.; lane to Galtee Mts, off Cork Rd R8919, on grass verge; 21/4/2018.

Section Ruderale
Taraxacum laeticolor Dahlst.; Marlfield S1721, Clonmel, grassy banks at Marlfield lake; 15/5/2016.

Taraxacum dilaceratum M.P. Christ.; Rock of Cashel S0740, Cashel, grassland below the Rock; 26/4/2019.

Taraxacum alatum H. Lindb.; Rock of Cashel S0740, Cashel, grassy fields around the base of the Rock; 21/4/2018. *Taraxacum insigne* Ekman ex M.P. Christ. & Wiinst. in Raunk.; Rock of Cashel S0740, Cashel, grassy fields around base of the Rock; 21/4/2018.

Taraxacum pannulatiforme Dahlst.; Rock of Cashel S0741, Cashel, grassland around base of the Rock; 26/4/2019.

Taraxacum pallescens Dahlst.; Rock of Cashel S0740, grassy fields around base of the Rock; 21/4/2018.

Taraxacum lepidum M.P. Christ.; Cahir S0422, near Swiss Cottage Cahir town; 24/3/2019.

Taraxacum expalliidiforme Dahlst.; Marlfield S1721, Clonmel, grassy banks at Marlfield lake; 15/5/2016.

Taraxacum pallidipes Markl.; Grove Wood S2233, Fethard, on track in mixed woodland; 25/4/2018.

Taraxacum intumescens G.E. Haglund.; Rock of Cashel S0740, grassy fields around base of the Rock; 21/4/2018.

Taraxacum ancistrolobum Dahlst.; Knocknanuss S1448, S.W. of Horse & Jockey, edge of bog; 11/5/2018.

Taraxacum sellandii Dahlst.; Rock of Cashel S0740, grassy fields around base of the Rock; 21/4/2018.

Taraxacum altissimum H. Lindb.; Killough Hill S1050, S.E. of Holy Cross, quarry and woodland; 11/5/2018.

Taraxacum aequisectum M.P. Christ., Ardgeeha Business Park S1924, Clonmel, grass verge at roundabout; 17/3/2019.

Taraxacum aequilobum Dahlst.; Killough Hill S1050, S.E. of Holy Cross, quarry and woodland; 11/5/2018.

Taraxacum exacutum Markl.; lane to Galtee Mts, off Cork Rd R8919, on grass verge; 21/4/2018.

Taraxacum valens Markl.; Cahir S0524, centre of town; 24/3/2019.

Taraxacum obtusifrons Markl.; at gates of Grove Farm S2233, Fethard opposite Grove Wood; on grass verge; 25/4/2018.

Taraxacum leptodon Markl.; Knocknanuss S1449, S.W. of Horse & Jockey, edge of bog; 11/5/2018.

Taraxacum pannulatum Dahlst.; Ardgeeha Business Park S1924, Clonmel, grass at roundabout; 17/3/2019.

Taraxacum ochrochlorum G. E. Haglund ex Rail.; Killough Hill S1150, S.E. of Holy Cross, quarry and woodland; 26/4/2019.

Taraxacum dilatatum H. Lindb.; Grove Wood S2233, Fethard, on track in mixed woodland; 25/4/2018.

Taraxacum sinuatum Dahlst.; Knocknanuss S1449, S.W. of Horse & Jockey, edge of bog; 11/5/2018.

Taraxacum pachylobum Dahlst.; Ardgeeha Business Park S1924, Clonmel, grass at roundabout; 17/3/2019. New to Ireland.
Taraxacum pulchrifolium Markl.; Cahir S0524, graveyard in grassy patches; 25/4/2018.
Taraxacum planum Raunk.; Cahir S0524, graveyard in grassy patches; 25/4/2018.
Taraxacum polyodon Dahlst.; Cahir S0424, Cahir Castle; 26/4/2018.
Taraxacum xanthostigma H. Lindb.; Killough Hill S1150, S.E. of Holy Cross, quarry and woodland; 26/4/2019.
Taraxacum scotiniforme Dahlst. ex G. E. Haglund.; S. of Longfordpass North S2360, on grass verge at rest stop; 21/4/2018.

Acknowledgements
I wish to thank John Richards for determination of the *Taraxacum* species. Many thanks also to members of the Dublin Naturalists' Field Club for advice on the collection and curation of *Taraxacum* specimens for determination and for assistance in preparing this note.

References
Dudman, A.A. & Richards, A.J. (1997). *Dandelions of Great Britain and Ireland*. BSBI Handbook No. 9. Botanical Society of the British Isles, London.
Margetts, L.J. (2007). A new species of *Taraxacum* Wigg. (Asteraceae) from South-West England and Ireland. *Watsonia* **26***:*481-484.
Richards A.J. & Doogue D. (2017). Notes on some *Taraxacum* (Asteraceae) from Ireland including descriptions of four new species in section Celtica. *New Journal of Botany* **7**: 136-146.

Misidentifying our *Leontodon* (Hawkbits) species in Co. Wexford (H12)

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When we first started recording for the Flora of Wexford in 2008, we had three *Leontodon* species to deal with, *L. autumnalis* (Autumn Hawkbit), *L. hispidus* (Rough Hawkbit) and *L. saxatilis* (Lesser Hawkbit). *L. autumnalis* had a name change to *Scorzoneroides autumnalis*. Leaving just two *Leontodon* species, and it is these two that have been causing botanists trouble over the years.

At a very quick glance *L. hispidus* is a bigger hairier version of *L. saxatilis*, as they both have a rosette of leaves, and an unbranched inflorescence stalk with a single yellow inflorescence. The only way to be 100% sure of a correct identification is to look at the outer ring of achenes, as *L. hispidus* has the same length hairs on all the achenes, whilst *L. saxatilis*, the outer ring of achenes have short hairs, and the inner have long hairs. You have to look very carefully as the outer row of achenes can be tucked in tight to the involucral bracts, and not noticed. In Co. Wexford plants of *L. saxatilis* can be extremely small, with all the leaves held flat to the ground, or at the other end of the scale with all the leaves standing erect. The hairiness of the flower stem is also very variable, as it can be almost glabrous, with many hairs in the lower half only, or hairy the whole length of the stalk. The

smaller plants usually have hairless involucral bracts, whilst the larger plants can be slightly hairy to very hairy. At some sites both extreme forms grow, but never together; for example on the dunes at Bannow (S8206) on the area grazed by cattle the small form with flat leaves grows, whilst in the un-grazed areas of the dunes, the plants have erect leaves.

I have heard botanist say they are easy to separate without looking at the achenes as *L. hispidus* is hairy all over, and the inflorescence droops while in bud, whilst in *L. saxatilis* the inflorescence stalk is usually only hairy in the lower half, and the inflorescence buds don't droop. I have found this to be completely untrue in Co. Wexford, as *L. saxatilis* can have a hairy flower stalk for its entire length, and have drooping flower buds. *The Wildflowers of Offaly* (Feehan, 2009) quotes for *L. hispidus* 'a characteristic feature is the way the flower-heads droop when in bud'.

It was in 2012 I first realised that large plants on the coast named as *L. hispidus*, were being misidentified, but it wasn't until 2015 it struck me just how severe the problem was, as by now there were records from every coastal hectad, and a few inland hectads. You have to turn the clock back almost 140 years, when H.C. Hart (Hart, 1883) reported *L. hispidus* from the dunes at Rosslare (T01) and Bannow Island (S80) in 1882. Two Co. Wexford botanists G.E.H. Barrett-Hamilton and C.B. Moffat (Barrett-Hamilton & Moffat, 1892) reported in 1892, that *L. hispidus* was 'rare, and in some of its stations certainly not indigenous'. It wasn't just Irish botanists who were recording *L. hispidus* in Co. Wexford, as visitors from the UK also were. When the *1962 Atlas* (Perring & Walters, 1962) was published there were six hectad dots on the distribution map for Co. Wexford. None of these hectads had been refound for the publication of *Atlas 2000* (Preston, Pearman & Dines, 2002), but an additional four hectads had been added to the distribution map.

From 2015 through to 2020 every site where *L. hispidus* had been recorded on the coast was checked, and as expected all were *L. saxatilis*. The only known extant site inland, was also the large form of *L. saxatilis*. The only consolation for present day botanists who have recorded in Co. Wexford is that many before them also got the identity wrong.

Because of the problems in Co. Wexford I rechecked many sites in Co. Waterford, and all where I found *Leontodon* material only *L. saxatilis* occurred. It is very likely that it is the same situation in Co. Waterford that *L. hispidus* may have never occurred there. One site was also checked at the extreme east end of Co. Cork, and this was also *L. saxatilis*.

This may not just be a Co. Wexford (and Co. Waterford) problem, as it may be worth checking all records along the south coast, and possibly elsewhere, as I have also seen this large form on the coast of Co. Mayo, and in a disused gravel pit in Co. Carlow, where *L. hispidus* has been recorded, I could only find *L. saxatilis* there in 2020.

Without any herbarium specimens to back up the records from Co. Wexford, it has to be accepted that *L. hispidus* is either extinct in the county (and Waterford), or has always been recorded in error.

References:

Barrett-Hamilton, G.E.H. & Moffat, C.B. (1892). The characteristic plants of Co. Wexford. *The Irish Naturalist* **1**: 156-158.

Feehan, J. (2009). *The Wildflowers of Offaly*. Walsh Printers, Roscrea, Co. Tipperary.
Hart, H.C. (1883). Report on the flora of Wexford and Waterford coasts. *Scientific Proceedings of the Royal Dublin Society* **4**: 117-146.
Perring, F.H. & Walters, S.M. (eds) (1962). *Atlas of the British Flora*. Thomas Nelson and Sons.
Preston, C.D., Pearman, D.A. & Dines, T.D. (eds) (2002). *New atlas of the British and Irish flora*. Oxford University Press.

Callitriche truncata (Short-leaved Water-starwort) found in Lough Ree as part of the BSBI Aquatic Plants Project

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BSBI received funding from NPWS for the running of an Aquatic Plants Project in 2020. It had been planned that as part of the project Nick Stewart would come over and run four days of field training. Because of Covid-19 travel restrictions this was put on hold, and instead I was given the job of going out over four days in September, but instead of training I went out trying to refind aquatic species that hadn't been refound in hectads post 2000.

Callitriche truncata (Short-leaved Water-starwort) is an annual aquatic species with whitish-green stems, contrasting strongly with lime-green leaves, which are in opposite pairs, parallel-sided, 2.4-11 x 0.2-1.8 mm. The flowers are born in the leaf axils, with pollination usually taking place in the water. The fruits are a similar colour to the stems, and have no wings (see p. 49).

C. truncata is a protected species under the Flora (Protection) Order, 2015, as it was originally confined to an 11km stretch of the River Slaney in Co. Wexford, where it was first found by E.S. Marshall in June 1897.

Lough Ree is vast, stretching for 27km from Athlone to Lanesborough, and is almost 12km at its widest point. Three counties have a shore on Lough Ree, Roscommon (**H25**) down the entire west side, Longford (**H24**) down much of the east side, and Westmeath (**H23**) the southeast corner.

As it was rather windy during fieldwork, it was like walking along the shore of the sea rather than an inland waterbody, with 30cm high waves rolling onto the shore. As Barley Harbour (N015576), Co. Longford, was sheltered, and the water was crystal clear I could see all the aquatic plants growing or floating in the water easily. I have always found Water-starworts a surprisingly difficult group to be certain of their identity. With the BSBI handbook *Water-starworts Callitriche of Europe* (Lansdown, 2008), I attempted to key out the material I had collected, as at first I had thought it must be *C. hermaphroditica* (Autumnal Water-starwort) as it is a very similar looking plant, but has dark-green leaves, and the fruits have broad wings. I then found *C. truncata* at three other sites along the Co. Longford stretch of the lough. At Cullentragh (M988621), the most northern site I found it, there was a raft of it washed along the shore about 30 cm wide and stretching for many metres (something I have also seen along the River Slaney in Co. Wexford), with very few other aquatics mixed in with the tangle of weeds. Even though I found it at a few sites down the west side of the lough, including floating in a boat, it was much less frequent, and often

difficult to find. This might have been due to the prevailing westerly winds. Last of all I visited locations on the shore of Westmeath to add *C. truncata* to all three counties bordering Lough Ree. I also looked at a stretch of the River Shannon where it flows through Athlone, as back in 2017 I had recorded *C. hermaphroditica*, this time around I could only find *C. truncata*. Did I misidentify my *C. hermaphroditica* in 2017!

The next step is to try and find where *C. truncata* is actually growing, as all my records are of material floating in the water or washed up along the shoreline.

References

Lansdown, R.V. (2008). *Water-starworts Callitriche of Europe*. BSBI Handbook No. 11. Botanical Society of the British Isles.

The discovery of *Stenogrammitis myosuroides*, a new fern for Europe, S. Kerry (H1)

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While recording bryophytes with a group from the British Bryological Society in a remote area of Atlantic oak woodland in the Killarney National Park, Co. Kerry (**H1**), in July 2019, a tiny, unfamiliar fern was spotted growing on a rock by a stream. None of the group recognised this fern, and a single fruiting plant was collected and sent to Fred Rumsey at the Natural History Museum in London for identification. He identified it as *Stenogrammitis myosuroides* (Sw.) Labiak, new to both Ireland and Europe. This species is known elsewhere from cloud forests in the Neotropics, in Cuba, Jamaica and the Dominican Republic.

The population occurs on two large rocks along 6m of a small rocky stream, above the flow of water, under a dense canopy. The only associated vascular plant species is *Hymenophyllum wilsonii* Hook. (Wilson's Filmy Fern), alongside a range of oceanic bryophyte species (see p. 90). The wider area of woodland is very rich in bryophytes, including a number of rare species. A total of 46 plants were counted across the two boulders, including three producing sporangia. The plants are all small in size, with the largest plant reaching 5cm in length.

It is impossible to be completely certain of the origin of this population, but it is very likely that it arrived in Ireland by natural means and can be considered as native. This group of ferns is not cultivated and few plants are imported from the area of the world where other populations grow, so it is very unlikely to have come in with imports. Furthermore, this population is remote from habitation and human influence. Therefore, long-distance dispersal is the most likely explanation. *S. myosuroides* has tiny spores, comparable in size to a bryophyte, and grows at high altitudes in the Neotropics. Therefore, it would be relatively easy for its spores to be carried up into air currents and blown across the Atlantic on the Jet Stream.

There are a number of bryophyte species which share a similar distribution, some of which grow in close proximity to the *S. myosuroides* population, and can only have arrived in Ireland by this route. Furthermore, there are two other species of Grammitid fern which were discovered on the Azores in the past 40 years, which are also thought to have arrived there by long-distance dispersal. It is not clear when *S. myosuroides* arrived in Ireland, it may have been in recent decades, or it may have arrived thousands of years ago, and been overlooked due to its tiny size. There are some features of the Irish plants that suggest that they may have been separated from the Neotropical populations for a long period of time, but this would require further investigation using molecular techniques. Further details and discussion can be found in Hodd and Rumsey (2020).

References

Hodd, R.L. & Rumsey, F. (2020). *Stenogrammitis myosuroides* (Polypodiaceae): a new addition to the European flora from southwest Ireland. *British and Irish Botany* **2**(3): 158-168.

Discovery of *Crambe maritima* (Sea-kale) at Lough Hyne, Co. Cork

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While kayaking on Lough Hyne, Co. Cork, in August 2020, I spotted familiar grey-green leaves growing at the edge of the lake. Paddling over (after an unplanned capsize), I was pretty sure it was a single *Crambe maritima* (Sea-kale) plant growing in an unusual location. Clare Heardman, VCR for West Cork, confirmed the ID from photos. The nearest colony is a couple of miles away at Tranabo Cove, growing in its usual shingle habitat. Kakaying excursions in 2021 will have an extra, botanical, purpose (see p. 42).

A review of *Rubus* L., Subgenus *Rubus*, in Co. Meath (H22)

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The earliest published records of *Rubus* L. Subgenus *Rubus* for Co. Meath (**H22**) date from the first edition of *Cybele Hibernica* (Moore & More 1866). David Moore (DM) was responsible for two of these records. Also included were three records from Newgrange by Charles Cardale Babington (CCB) following his 1858 visit to Ireland (Babington 1897). Professor of Botany at Cambridge, Babington made significant advances in the taxonomy of *Rubi*, providing accounts of forty-five broadly-based species in his monograph of *The British Rubi* (Babington 1869). Many of these species included taxa at varietal level, some of which were subsequently promoted to subspecies or species level. William Moyle Rogers (WMR), who became Babington's successor as Britain's leading batologist (Newton 1988), recognised over one hundred taxa at species level, some still including taxa at varietal level, in his *Handbook of British Rubi* (Rogers 1900). It was Rogers who determined three *Rubus*

specimens collected in 1893 by Robert Lloyd Praeger (RLP) from Mornington (Praeger 1894). Taxonomic research continued into the twentieth century led by, amongst others, Barton, Riddelsdell and Watson, culminating in the *Handbook of the Rubi of Great Britain and Ireland* (Watson 1958). William Hobson Mills (WHM) who gathered *Rubi* in the proximity of Kilcarty House, Kilmessan from 1945 to 1950, referred many of his specimens to Watson for identification. His material, lodged in **CGE,** has enabled initial determinations to be subsequently verified or re-evaluated by Alan Newton (AN) and/or David Elliston Allen (DEA). These experts also determined herbarium material in **DBN** collected by Con Breen (CB) in 1969 from Laytown. The number of Co. Meath records was further extended when Newton made two short visits to that county during his Irish tours of 1984 and 1992 (Newton 1986 & 1994). The 1984 records were included in the *Brambles of the British Isles* (Edees & Newton 1988), increasing to thirteen the number of validly recorded species then known from Co. Meath.

For many years Allen had been investigating the bramble flora of Ireland. His collaboration with members of the Dublin Naturalists' Field Club began in 1987-1991 during which time he made a significant contribution to the *Rubus* account of the *Flora of County Dublin* (Doogue *et al*. 1998). In the course of his visits to Dublin, he also conducted two brief excursions (1988 and 1991) into Co. Meath. The publication of the *Atlas of British and Irish Brambles* (Newton & Randall 2004) illustrated the potential for further studies of *Rubi* in Ireland. Shortly thereafter members of the Dublin Naturalists' Field Club joined with Allen in fieldwork covering many vice-counties, in addition to collecting specimens for his determination, for inclusion in a projected publication on the brambles of Ireland. The bulk of Co. Meath fieldwork was conducted between 2007 and 2017, jointly with Allen and independently by MN. All determinations were by Allen unless otherwise stated and, where indicated, confirmed by Newton. Much of the material determined by Allen was lodged by him in **BM** with duplicate material, when available, lodged by MN in **DBN**. The number of validly recorded *Rubus* species for Co. Meath now stands at sixty-six including five new to Ireland. Undoubtedly, there are many more *Rubus* species which await discovery within the county.

The following list of species in the Subgenus *Rubus* employs the taxonomy and nomenclature adopted by Sell & Murrell (2014). The relevant synonymy is included where that used by Sell & Murrell differs from that used by Edees & Newton (1988). Records within each species account are listed chronologically, except when grouped by location. Individual records consist of place name with some or all of the following information: grid reference, year of record, initials of recorder, initials of determiner (where not DEA), location of voucher material, author and year of published record. Place names are taken from Ordnance Survey Ireland Discovery Series except where given as in the published record or as on the herbarium specimen label. All distances are approximate. Irish national grid references are in the main given to either four or six figures, with those applied to earlier records enclosed in square brackets. The prefix BGX refers to the extension of the British grid, which was used during field work for the *Atlas of the British flora* (Perring &

Walters 1962). Initials are as indicated in the preceding paragraphs with additions as follows: Declan Doogue (DAD), David Webb (DAW), David McClintock (DMcC), Dr. M. Harvey (MWH) and Paul Green (PRG). Accounts of species where the record has either since been re-evaluated, or merits reconsideration in light of current *Rubus* taxonomy, are placed in square brackets.

Subgenus *Rubus*, Section 1: *Rubus*

Subsection *Rubus*

Rubus fissus Lindl. (Many-prickled Bramble)

First record: one patch on bank of peaty ditch, Molerick Bog, immediately W of Blackshade Bridge, N671469, 2011, DEA & MN, conf. AN, **BM**.

Additional record: Baskinagh, 2km NW of Kildalkey, two patches by trackway through cutover raised bog, N7059, 2016, MN.

Rubus plicatus Weihe & Nees (Folded-leaved Bramble)

First record: Baskinagh, 2km NW of Kildalkey, trackway through cutover raised bog, N7059, 2011, DEA & MN, conf. AN.

The Meath record by David Moore (Moore & More 1866) was deemed 'doubtful' by Babington (1869) who stated 'It is possible that some of the localities from which I do not possess specimens may be incorrectly given to *R. plicatus*, for my views concerning it and *R. fissus* have recently changed considerably'. *R. plicatus* was not listed for Meath by Edees & Newton (1988).

Additional record; bog N of Tullaghanstown, patch plus two solitary bushes, N7866, 2011, DEA & MN, conf. AN.

Subsection *Hiemales* E.H.L. Krause

Series *Sylvatici* (P.J. Müll.) Focke

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

First record: on L24 [= R165] 2 miles SE of Kingscourt, N89, 1984, AN, (Newton 1986).

Additional record: hedgebank on margin of Mount Hevey Bog [= Kilwarden], N6347, 2014, DEA & MN.

Rubus errabundus W.C.R. Watson (Shining-stemmed Bramble)

First record: Ferrans Lock, 300m W of McLoghlin Bridge, lime-rich soil, N852420, 2013, DAD.

Rubus hesperius W.M. Rogers (Connemara Bramble)

First record: roadside hedge, 5km N of Nobber, N816910, 2007, MN, **BM,** (Allen & Norton 2010).

Additional records: roadside hedge SE of Teevurcher village, N707925, 2008, **BM**, **DBN (**Allen & Norton 2010); common in roadside hedge SE of County Bridge, N694902, 2008, DEA & MN; patch at Littlewood, 2km NE of Slane, N971759, 2013, DEA & MN, **BM**, **DBN**.

Rubus leptothyrsos G. Braun (Hairy-anthered Bramble)
First record: Horse Hill, Kilcarty, Kilmessan, [N85], 1948, WHM, det. Watson as *R. villicaulis* auct.; redet. DEA 2007 as *R. leptothyrsos*, **CGE**.
Additional records: base of wooded slope, Crewbane, just W of Knowth, N9973, 1991, MN; Slieve Beagh, roadside bank bordering heathland, N930800, 2013, DEA & MN.
Rubus plymensis (Focke) Edees & A. Newton (Devon Bramble)
First record: felled conifer plantation by roadside, near Lough Brackan, N874887, 2006, MN, conf. AN, **BM**, (Allen & Norton 2010).
Rubus purbeckensis W. C. Barton & Ridd. (Purbeck Bramble)
First record: common in lanes 1km N and 3km SW of Teevurcher, N7094 & N6990, 2008, DEA & MN, **DBN**, (Allen & Norton 2010).
Additional record: large clump by gateway, road leading SE from County Bridge, N694902, 2008, DEA & MN.
Rubus pyramidalis Kaltenb. (Pyramidal-flowered Bramble)
First record: base of wooded slope, Crewbane, just W of Knowth, (N9973, 1991, MN, **BM**, (Allen 1999).
Additional records: felled conifer plantation by roadside, near Lough Brackan, N874887, 2006, MN; roadside scrub on E side of N51, 2km SW of Slane, N9473, 2014, DEA & MN, **DBN**.
Rubus fluvius P.D. Sell (Riverside Bramble) (*R. riparius* W.C. Barton ex A. Newton)
First Irish record: (as *R. riparius*) colony in felled area with low birches, on margin of bog at Baskinagh, 2km NW of Kildalkey, N707597, with additional patches between N708599 and N708600, all 2011, DEA & MN, **BM**.
Rubus sciocharis (Sudre) W.C.R. Watson (Large-petalled Bramble)
First record: Summerhill Demesne, clear-felled area by trackway through mixed woodland, N848470, 2008, MN, **BM**.
Series *Rhamnifolii* (Bab.) Focke
Rubus altiarcuatus W.C. Barton & Ridd. (Dark-stemmed Bramble)
First record: Laytown, O17, 1969, CB, det. DEA 2009, **DBN**, (Allen 2013).
Rubus amplificatus Lees (Leafy-panicled Bramble)
First record: Kilmessan, [N85], 1945, WHM, **CGE**.
Additional records: 'Naul Hills' at three 'stops', O16, 1988, DEA & DAD, (Allen 1990); hedges and banks of minor road near Slieve na Calliagh, N5777, 1992, AN, (Newton 1994); Teevurcher and environs, N7092, 2007, MN; N of Nobber, N8292, 2007, MN, **DBN** and N8191, 2008, DEA & MN; area by Bellewstown Race Course, O0967, 2008, MN, **DBN**; Summerhill Demesne, N846470, 2008, MN; Balrath Wood, N9864, 2013, DEA & MN.
Rubus boudiccae A.L. Bull & Edees (East Anglian Bramble)
First record: clump in hedge 1km E of Fourknocks, O1262, 1988, DEA & DAD, (Allen 1993).
Additional records: scattered along hedges, lane below Carnbane, Slieve na Calliagh, N5778, 1991, DEA & MN, conf. A.L. Bull and AN independently, **DBN**, (Allen 1993), first

confirmed record for Ireland; hedges and banks of minor road near Slieve na Calliagh, N5777, 1992, AN, (Newton 1994); road leading SE from County Bridge, N698895, 2007, MN, **DBN**, (Allen & Norton 2010); hedgebanks 0.5km E of Teevurcher, N711927, 2007, MN, **BM**, and single clump at base of hedgerow 1km N of Teevurcher, N704941, 2008, DEA & MN.

Rubus cardiophyllus Lefèvre & P.J. Müll. (Round-fruited Bramble)

First record: 'a bush or two'…'by the Fourknocks passage grave', O1161, 1988, DEA & DAD, (Allen 1990).

An earlier record of *R. rhamnifolius* Weihe & Nees from 'Mornington, Co. Meath' [O17] by RLP in 1893 was determined by Rogers (Praeger 1894). However, *R. rhamnifolius* was then interpreted in a broad sense to include a number of species in the Group *Rhamnifolii* (Rogers 1900). Sell & Murrell (2014) include *R. rhamnifolius* auct. as a synonym for *R. cardiopyllus*.

Rubus incurvatus Bab. (North Wales Bramble)

First record: roadside hedge, and woodland trackway, adjoining bog 4km NW of Wilkinstown, N811784, 2007, MN, **BM**, (Allen & Norton 2010).

Additional records: Summerhill Demesne, N844470, 2008, MN, **BM**, **(**Allen & Norton 2010); bog NW of Tullaghanstown, N780657, 2013, MN, **DBN**.

[Rubus insularis Aresch.

First record: 'H. 22. Common on the eskers, W.H. Mills' (Watson 1958).

Watson maintained *R. insularis* Aresch. as a taxon separate from *R. septentrionalis* W.C.R. Watson. Edees & Newton (1988) included *R. insularis* auct. as a synonym for *R. septentrionalis.*]

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

First record: 'a bush or two'…'by the Fourknocks passage grave', O1161, 1988, DEA & DAD, (Allen 1990).

Additional records: base of wooded slope, Crewbane, just W of Knowth, N9973, 1991, MN; grassy roadside bank of car park by cairns at Slieve na Calliagh, N5877, and nearby at Lough Crew Forest, N6178, both 1991, DEA & MN; hedges and banks of minor road near Slieve na Calliagh, N5777, 1992, AN, (Newton 1994); hedgebank 1km N of Teevurcher village, N7193, 1991, DEA & MN; Ballyhoe Lough, N8495, 2006, MN, (Allen & Norton 2008); Slieve Beagh, roadside bank on heathland margin, N9280 & N9480, 2006, MN, (Allen & Norton 2008).

Rubus polyanthemus Lindeb. (Grey-felted Bramble)

First record: (as *Rubus nemoralis* P.J. Muell. var. *R. pulcherrimus* Neum.) 'Mornington, Co. Meath', [O17], 1893, RLP, det. WMR, (Praeger 1894).

Additional records: grassy roadside bank of car park by cairns at Slieve na Calliagh, N5877, and nearby at Lough Crew Forest, N6178, both 1991, DEA & MN; hedges and banks of minor road near Slieve na Calliagh, N5777, 1992, AN, (Newton 1994); roadside to E of Slieve Beagh, N952804, 2006, MN, (Allen & Norton 2008); cul de sac 1km N of Teevurcher, single clump, N704941, 2008, DEA & MN.

Rubus prolongatus Boulay & Letendre ex Lefèvre (Southern Bramble)
First record: at 'Navan crossroads', [N86], 1948, WHM, det. DEA 2012, **CGE**. Originally labelled '*iricus*?', later corrected by Watson to '*villicaulis*', a determination which was rejected by Newton in 1984. It was later re-determined by DEA as *R. prolongatus* (*in litt.* DEA to MN 2012).
[**R. rhamnifolius** Weihe & Nees
First record: 'Mornington, Co. Meath', [O17], 1893, RLP, det. WMR (Praeger 1894). See *R. cardiophyllus* above.]
[**Rubus villicaulis** Weihe &Nees
First record: 'Meath; D.M.' (Moore & More 1866). Also published as 'Meath (D. Moore!)' by Babington (1869) indicating that although not in his herbarium, Babington had seen the specimen. *R. villicaulis* Weihe & Nees as understood by Babington was a particularly broadly-based taxon whose application remains unclear. Sell & Murrell (2014) include *R. villicaulis* auct. in the synonymy of three taxa i.e. *R. septentrionalis* W.C.R. Watson, *R. milfordensis* Edees and *R. villicauliformis* A. Newton.]

Series *Discolores* (P.J. Müll.) Focke
Rubus procerus P.J. Müll. ex Boulay (Himalayan Giant) *R. armeniacus* Focke
First record: (as *R. armeniacus*) deserted garden by Bellewstown Race Course, a relic of cultivation, O0967, 2008, MN, **BM**, **DBN**, **(**Allen & Norton 2010).
Additional record: Stamullin, established in wild on waste ground for at least five years and spreading, O150658, 2014, PRG.
Rubus rossensis A. Newton (Ross Bramble)
First record: Two patches in central clearing within mixed woodland at Littlewood, 2km NE of Slane, N9775, 2013, DEA & MN, **BM**.
Rubus ulmifolius Schott (Common Bramble)
First record: as *R. discolor* Weihe & Nees 'New Grange, Meath; C.C.B.' (Moore & More 1866). Babington visited New Grange [= Newgrange, O17] in 1858.
Additional records: Numerous sites. The most abundant bramble in Meath, widespread and common on calcareous soils and coastal areas, avoiding shade.

Series *Vestiti* (Focke) Focke
Rubus bartonii A. Newton (Barton's Bramble)
First record: single bush in cul de sac 1km N of Teevurcher, N704941, 2008, DEA & MN, **BM, DBN**, (Allen & Norton 2010).
Additional record:, single bush by road SE of County Bridge, N694902, 2008, DEA & MN, (Allen & Norton 2010).
Rubus boraeanus Genev. (Boreau's Bramble)
First record: road through woods on margin of raised bog, 4km NW of Wilkinstown, N811784, 2008, DEA & MN.

First record: Kilcarty, Kilmessan, [N85], 1948, WHM, conf. DEA 2007, **CGE**.
Additional records: on L24 [= R165] 2 miles SE of Kingscourt, N89, 1984, AN, (Newton 1986); on a high bracken-covered hedgebank just N of Heathtown Cross Roads, O1063, 1988, DEA & DAD, (Allen 1990); 1km N of Teevurcher, N7193, 1991, DEA & MN and at Teevurcher, N7092, 2007, MN; N of Nobber, N8291 & N8292, 2007, MN and cul de sac at Nobberbeg, 3km NW of Nobber, N8187, 2017, DEA & MN; wooded valley of Kilmainham River, plentiful, N7789, 2007, MN, **DBN** and N7690, 2017, DEA & MN; Mullaghteelin, 3km SE of Bellewstown, O1166, 2008, MN; SE of Diamor Cross Roads, 3.2km SE of Drumone, N5973, 2013, MN; Balrath Wood, N9864, 2013, DEA & MN.
Rubus lettii W.M. Rogers (Lett's Bramble)
First record: patch in lane N of Teevurcher, N7194, 1991, DEA & MN, conf. AN, **BM**, **DBN**, (Allen 1993).
Additional records: still in Teevurcher area, on roadside E of church, N706927, 2007, MN; roadside to E of Slieve Beagh, N952804, 2006, MN, **DBN**, (Allen & Norton 2008); road SE from County Bridge, N694902, 2007, MN, **DBN**, **(**Allen & Norton 2010); Carrickleck townland, 5.7km N of Nobber, N8191 & N8292, **DBN** and Bearlagh Bridge 6km NW of Nobber, N7687, **DBN**, both 2007, MN, (Allen & Norton 2010); colony by woodland trackway on margin of raised bog 4km NW of Wilkinstown, N811784, 2008, DEA & MN, (Allen & Norton 2010); mixed woodland at Littlewood, 2km NE of Slane, N9775, 2013, DEA & MN, det. AN.
Rubus longus (W.M. Rogers & Ley) A. Newton (Long-leaved Bramble)
First record: patch in thin scrub beside dismantled railway at Dunsany Bridge, N9054, 2014, DEA & MN, **BM**.
Rubus painteri Edees (Painter's Bramble)
First Irish Record: base of wooded slope, Crewbane, just W of Knowth, N9973, 1991, MN, det. DEA 2013, **BM**.
Rubus surrejanus W.C. Barton & Ridd. (Surrey Bramble)
First Irish record: picnic area of car park at Newgrange Interpretative Centre, single plant growing in shaded hedge, O0272, 2007, MN, conf. AN, **BM**, (Allen & Norton 2010).
Additional records: Summerhill Demesne (N843469, 2008, MN, conf. AN, **BM**, **DBN**, (Allen & Norton 2010); bog N of Tullaghanstown, N7866, 2011, DEA & MN, **BM**; Diamor Cross Roads, 3.2km SE of Drumone, N5973, 2013, MN, **DBN**.
Rubus vestitus Weihe (Soft-haired Bramble)
First record: one clump, lane N of Teevurcher, N7194, 1991, DEA & MN, (Allen 1993).
Additional records: entrance to excavations on road 1.2km SE of County Bridge, red-flowered form, N694902, 2007, MN, conf. AN, **DBN**, (Allen & Norton 2010); mixed woodland of Summerhill Demesne, N8446 & N8447, 2008, MN, (Allen & Norton 2010); roadside by S shore of Lough Creeve, N573744, 2013, MN; Balrath Wood, N9864, 2013, DEA & MN; 3 sightings near Matthew's Hill: soil banks on cutover raised bog, by stream, and substantial colony by roadside on lime-rich soil, all N8992, 2014, MN; scattered bushes by trackway to bog at Baskinagh, 2km NW of Kildalkey, N7059, 2016, MN; Laytown, S of

Nanny River, O1671, 2017, MN, det. MN; Millbrook village, by derelict mill, N549782, 2018, MN, det. MN.

Series *Mucronati* (Focke) H.E. Weber
Rubus melanocladus (Sudre) Ridd. (Dull Green Bramble)
First record: occasional in gorse and on plantation margin, Slieve na Calliagh, N6078, 1991, DEA & MN, **BM**.
Rubus mucronatiformis (Sudre) W.C.R. Watson (Naked-stemmed Bramble)
First record: area by Bellewstown Race Course, in quantity, O0967, 2008, MN, **BM**, **DBN**.
Rubus mucronulatus Boreau (Long-pedicelled Bramble)
First record: hedgerow of laneway to Molerick Bog, immediately W of Blackshade Bridge, N670470, 2011, DEA & MN, **BM**, **DBN**.
Additional records: bog NW of Tullaghanstown, N780657, 2011, DEA & MN; Mount Hevey Bog [= Kilwarden], N6347, 2014, DEA & MN; Ardnamullan, 3km W of Clonard, colony in open area of birchwood at bog margin, N6144 & N6244, 2014, DEA & MN.

Series *Micantes* Sudre ex Bouvet
[**Rubus heterobelus** Sudre
First record: 'H. 22' (Watson 1958).
Recorded in Watson for Meath, but not included for Ireland by Edees & Newton (1988).]
Rubus melanodermis Focke ex W.M. Rogers (Blackish-stemmed Bramble)
First record: Diamor Cross Roads, 3.2km SE of Drumone, N5973, 2013, MN, **DBN**.
Rubus micans Godr. (Anglosaxon Bramble)
First record: Summerhill Demesne, off trackway through mixed woodland, N842471, 2008, MN, **BM**, **DBN**.
Rubus norvicensis A.L. Bull & Edees (Norwich Bramble)
First record: mixed woodland at Summerhill Demesne, N8447, 2008, MN.
Rubus percrispus D.E. Allen & R.D. Randall (Undulate-leaved Bramble)
First record: area by Bellewstown Race Course, O0967, 2008, MN, **BM**, **DBN**, (Allen & Norton 2010), the second record for Ireland. The first Irish specimen was from Antrim by Brennan & Simpson in 1939, discovered during re-examination of material in **BM** (Allen 2000).]
Rubus raduloides (W.M. Rogers) Sudre (Densely-hairy Bramble)
First record: 'lane, Kilcarty –Dunsany, Kilmessan', [between N8855 and N9155], 1948, WHM, conf. DEA, **CGE**.
Additional records: on high bracken-covered hedgebank just N of Heathtown Cross Roads, O1063, 1988, DEA & DAD, conf. AN, **DBN**, **(**Allen 1990); road through woods on bog margin, 4km NW of Wilkinstown, N811784, 2008, DEA & MN, **BM**; clear-felled section of mixed woodland in Summerhill Demesne, N8447, 2008, MN, **DBN**; locally common along open rides in the SW part of Balrath Wood, N9863, 2013, DEA & MN; Ardnamullan, 3km W of Clonard, wooded margins of bog, N6244, 2014, DEA & MN, **DBN**.

Series *Anisacanthi* H.E. Weber

Rubus anisacanthos G. Braun (Densely-armed Bramble)

First record: common on and around Slieve na Calliagh, N6078, 1991, DEA & MN, conf. AN, **DBN**, (Allen 1993).

Additional record: in quantity at Slieve Beagh, N9380, 2006, MN.

Rubus dentatifolius (Briggs) Druce (Dentate-leaved Bramble)

First record: 'Naul Hills' at three 'stops' including: high bracken-covered hedgebank just N of Heathtown Cross Roads where common, O1063, and by the 'Fourknocks passage grave', O1161, all 1988, DEA & DAD, (Allen 1990).

Additional records: locally common on Slieve Beagh in unimproved heathland with gorse scrub, N9280, N9380 & N9480, 1991, MN, **DBN**; still at Slieve Beagh, 2006, MN, (Allen & Norton 2008); by roadsides N and NE of Nobber, N8292, N8393, 2007, MN; locally common by bog road 4km NW of Wilkinstown, N8178, 2007, MN; Bellewstown Race Course, on bank with gorse and bracken, O0967, 2008, MN; Balrath Wood, N9864, 2013, DEA & MN.

Rubus drejeri Jensen ex Lange (Drejer's Bramble)

First record: hedges and banks of minor road near Slieve na Calliagh, N5777, 1992, AN, (Newton 1994).

Rubus dunensis W.M. Rogers (Dune Bramble)

First record: margin of E part of Mount Hevey Bog [= Kilwarden], N6347, 2014, DEA & MN, **BM**.

Rubus leyanus W.M. Rogers (Ley's Bramble)

First record: Balrath Wood, N9864, 2013, DEA & MN.

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

First record: Molerick Bog immediately W of Blackshade Bridge, one patch under bushes on bog margin, N670470, 2011, DEA & MN, **BM**.

Series *Radulae* (Focke) Focke

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

First record: (as *R. adenanthoides*) Ballinter Cross Roads, SE of Navan, [N8961], 1948, WHM, det. AN, **CGE**.

Additional records: roadside, Ballygarth, 1.5km SE of Julianstown, specimen annotated 'insufficient' by AN 1984 , determined as *R. adenanthiodes* by DEA 1998, O1470, 1969, CB, **DBN**; felled coniferous plantation on E margin of Slieve na Calliagh, N6078, 1991, DEA & MN; hedges and banks of minor road near Slieve na Calliagh, N5777, 1992, AN, (Newton 1994).

Rubus bloxamii (Bab.) Lees (Bloxam's Bramble)

First Irish record: Summerhill Demesne, in some quantity (three places) by trackway along border of woodland leading W from car park, N8447, 2008, MN, **BM**, **DBN**. Recorded in llen & Norton (2010) as *R. milesianus* D.E. Allen, of which species Allen later wrote 'but I now consider that conspecific with R. bloxamii' (*in litt.* DEA to MN 2017).

Rubus botryeros (Focke ex W.M. Rogers) W.M. Rogers (Striated-stem Bramble)
First record: Littlewood, 2km NE of Slane, colony by car park and single patch in open area of woodland NW of car park, N9775, 2013, DEA & MN, **BM**, **DBN**.
Rubus echinatoides (W.M. Rogers) Dallman (Notched-petal Bramble)
First record: Kilcarty, Kilmessan, originally determined by Watson as *R. hibernicus* [N85], 1949, WHM, det. AN 1985, **CGE**.
Additional records: lane between Carnbane East and West, below Slieve na Calliagh, N57, 1991, DEA & MN, **BM**, (Allen 1999); base of wooded slope Crewbane, just W of Knowth, N9973, 1991, MN, **DBN**; Slieve Beagh, N942807, 2006, MN, **DBN**, (Allen & Norton 2008).
Rubus echinatus Lindl. (Hedgehog Bramble)First record: (as *R. rudis* Weihe) 'New Grange, Meath; C.C.B.' (Moore & More 1866). Babington visited New Grange [= Newgrange, O17] in 1858. The synonym *R. echinatus* Lindl. was included in his account of *R. rudis* Weihe (Babington 1869). *R. echinatus*, and not *R. rudis*, was listed for Meath by Edees & Newton (1988).
Additional records: in two places on either side of Stamullin, O1465, 1988, DEA & DAD, (Allen 1990); Slieve Beagh, N9480, 2006, MN.
Rubus radula Weihe ex Boenn. (Subulate-prickled Bramble)
First record: in gorse scrub by Bellewstown Race Course, O0967, 2012, MN.
Additional records: lane below Carnbane at Slieve na Calliagh, N5778, 1991, DEA & MN, det. DEA 2009, **BM**; Slieve Beagh, N942807, 2006, MN, **BM**.
Rubus radulicaulis Sudre (Narrow-panicled Bramble)
First record: Diamor Cross Roads, 3.2km SE of Drumone, single bush at base of tree, possibly bird-sown, N5973, 2013, MN, **BM**, **DBN**.
Rubus rubristylus W.C.R. Watson (Creamy-petalled Bramble)
First record: 'Naul Hills'…'seen at all five stops', which included high bracken-covered hedgebank just N of Heathtown Cross Roads, O1063, and 'Fourknocks passage grave', O1162, 1988, DEA & DAD, (Allen 1990).
Additional records: Slieve Beagh, N9480, 2006, MN, (Allen & Norton 2008); wood on bog margin 4km NW of Wilkinstown, N814784, 2008, DEA & MN, **BM**, **DBN**; Balrath Wood, N9864, 2013, DEA & MN.
[**R. rudis** Weihe
R. rudis was recorded in a broad sense by Babington (Moore & More 1866). See *R. echinatus* above]
Rubus rufescens Lefèvre & P.J. Müll. (Rufous Bramble)
First record: mixed woodland at Littlewood, 2km NE of Slane, N9775, 2013, DEA & MN.
Rubus subtercanens W.C.R. Watson (Felted-leaved Bramble)
First record: Kilcarty, Kilmessan, [N85], 1945, WHM, det. DEA 2004, conf. AN, **CGE**.
Additional records: Fox Covert and Horse Hill near Kilcarty House, [N85], 1948, WHM, det. DEA 2004, **CGE**; Navan crossroads, [N86], 1948, WHM, det. DEA 2004, **CGE**; one

bush, open part of bog at Baskinagh, 2km NW of Kildalkey, N7059, 2011, DEA & MN, **BM**; roadside on NW margin of Slieve Beagh, N9380, 2013, DEA & MN, **BM**.

Series *Hystrices* Focke

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

First record: on L24 [= R165] 2 miles SE of Kingscourt, N89, 1984, AN, (Newton 1986).

Additional records: Lough Crew Forest to E of Slieve na Calliagh, N6178, 1991, DEA & MN; hedges and banks of minor road near Slieve na Calliagh, N5777, 1992, AN, (Newton 1994); Slieve Beagh, N9380, 2006, MN, (Allen & Norton 2008); 5km N of Nobber, N8191, 2007, MN; common in cul de sac 1km N of Teevurcher, N704941, 2008, DEA & MN; off trackway through mixed woodland at Summerhill Demesne, N8447, 2008, MN; Balrath Wood, N9864, 2013, DEA & MN.

Rubus hylocharis W.C.R. Watson (Patent-pedicelled Bramble)

First record: wooded valley of Kilmainham River, 7km NW of Nobber, N770900, 2007, MN, **BM**, **DBN**, (Allen & Norton 2010).

Additional records: Teevurcher, roadside hedge E of church, N7092, 2007, MN; mixed woodland at Summerhill Demesne, N8447, 2008, MN; mixed woodland at Littlewood, 2km NE of Slane, N9775, 2013, DEA & MN.

Rubus pallidisetus Sudre (Pale-haired Bramble)

First record: roadside hedge SE of Teevurcher, N707925, 2008, DEA & MN, **BM**.

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

First record: locally common, roadside hedgebanks just SE of Teevurcher, N707925, 2007 MN and 2008 DEA & MN, conf. AN, **BM**, **DBN**, **(**Allen & Norton 2010).

Additional record: bog at Baskinagh, 2km NW of Kildalkey, N7059, 2011, DEA & MN.

Rubus tamarensis A. Newton (Tamar Bramble)

First Irish record: Slieve Beagh, two patches on roadside bank bordering heathland, N934808, 2006, MN, conf. AN, **BM**, **DBN**, (Allen & Norton 2008), also nearby at heathy lane-side N930800, 2013, DEA & MN, **BM**.

Rubus watsonii W.H. Mills (Watson's Bramble)

First record: roadside hedge just SE of Teevurcher, single clump, N7092, 2008, DEA & MN, conf. AN, **BM**.

Additional record: wooded valley of Kilmainham River, single patch amongst bracken, N7690, 2017, DEA & MN, **BM**.

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

[**Rubus scaber** Weihe (Scabrous Bramble)

First record: (as *R. scaber* Weihe & Nees) 'Mornington, Co. Meath ("var.")' (Praeger 1894). This record made by RLP from Mornington [O17] in 1893 was determined by Rogers, who later indicated reservations regarding his original determination (Rogers 1900). Newton (1988) considered Roger's concept of *R. scaber* to be 'particularly multivariate'. It was not listed for Meath by Edees & Newton (1988).]

Subgenus *Rubus*, Section 2: *Corylifolii* Lindl.

Rubus conjungens (Bab.) W.M. Rogers (Bank Bramble)
First record: Balrath Wood, N9864, 2013, DEA & MN.
Rubus hebridensis Edees (Hebridean Bramble)
First record: on L24 [= R165] 2 miles SE of Kingscourt, N89, 1984, AN, (Newton 1986).
Additional records: N of Nobber, N824923, 2007, MN, **DBN** and N8191, 2008, DEA & MN; roadside hedgerow SE of Diamor Cross Roads, 3.2km SE of Drumone, N5973, 2013, MN, **DBN**; Balrath Wood, N9864, 2013, DEA & MN.
Rubus nemorosus Hayne & Willd. (Shade Bramble)
First record: roadside NW of Nobber, N770886, 2007, MN, **BM**, **DBN**, **(**Allen & Norton 2010).
Additional records: Ballyhoe Lough, N8495, 2006, MN; margin of Mount Hevey Bog [= Kilwarden], N6347, 2014, DEA & MN, **DBN**.
Rubus pruinosus Arrh. (Pruinose Bramble)
First record: (as *R. sublustris* Lees) Mosney, S of Laytown, [O16], 1969, CB, det. AN 1984, **DBN**.
Additional records: Slieve na Calliagh, N6078, 1991, DEA & MN; Slieve Beagh, N934808, 2006, MN, **DBN**, (Allen & Norton 2008); roadside SE of Diamor Cross Roads, 3.2km SE of Drumone, N5973, 2013, MN, **DBN**.
Rubus transmarinus D.E. Allen (Channel Bramble)
First record: roadside hedge, SE of Diamor Cross Roads, 3.2km SE of Drumone, N594734, 2013, MN, **BM**.
Additional record: locally abundant along E side of N51 road near Carrickdexter, N9373, DEA & DAD, also N9473, MN, **DBN**, both 2014.
[**Rubus tuberculatus** Bab. (Variable-leaved Bramble)
First record: 'New Grange, Meath; C.C.B.' (Moore & More 1866). Babington visited New Grange [= Newgrange, O17] in 1858. Babington clearly had reservations regarding the taxonomic limits of his *R. tuberculatus*, expressed in his 1880 letter to W.H. Purchas: 'Mind that *tuberculatus* is probably a collection species, including somewhat diverse forms' (Babington 1897). This species was not listed for Meath by Edees & Newton (1988).]
Rubus warrenii Sudre (Warren's Bramble)
First record: bog road, 4km NW of Wilkinstown, hedge backing on to bog, N811785, 2007, MN, conf. AN, (Allen & Norton 2010).

Subgenus *Rubus*, Section 3: *Caesii* Lej. & Courtois

[Rubus caesius L. (Dewberry)
First record: 'BGX 04/81, 2 miles E of Trim', [N85], 1955, DAW, field card for Perring & Walters 1962).
Additional records: 'BGX 14/12, Julianstown', [O17], 1956, DMcC, field card for Perring & Walters 1962); 'BGX 14/00, Dunboyne', [O04], 1958, DAW field card for Perring &

Walters 1962); ‘a good patch at Rathgillan’…‘has since been overgrown by ordinary brambles’, N88, 1969-1970, MWH, (Harvey 1975).
R. caesius is not easily distinguished from many species of Section *Corylifolii*, which section is often assumed to have arisen by hybridisation between *R. caesius* and species of Section *Rubus* (Edees & Newton 1988). Babington anticipated the challenges of determination when he wrote to W.H. Purchas in 1880: ‘The group of *caesii* is still very imperfectly understood; Focke has made nothing of them, and Genevier has a very detailed account, which I have not yet studied’ (Babington 1897).]

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References

Allen, D.E. (1990) Two further Irish bramble forays. *Irish Naturalists’ Journal* **23:** 257-262.
Allen, D.E. (1993) Further Irish bramble records. *Irish Naturalists’ Journal* **25:** 249-253.
Allen, D.E. (1999) Further Irish bramble records from herbaria. *Irish Naturalists’ Journal* **26:** 279-281.
Allen, D.E. (2000) *Rubus percrispus*, another bramble new to Ireland. *Irish Naturalists’ Journal* **2:** 328-329.
Allen, D.E. (2013) *Rubus* records 2007-2008. Part 5: principally East Leinster. *Irish Naturalists’ Journal* **32:** 65-67.
Allen, D.E. and Norton, M.P. (2008) Further *Rubus* records from some eastern and central Irish counties. *Irish Naturalists’ Journal* **29:** 51-53.
Allen, D.E. and Norton, M.P. (2010) *Rubus* records 2007-2008. Part 1: principally vice-counties Meath (H22), Wicklow (H20) and West Cork (H3). *Irish Naturalists’ Journal* **31:** 59-62.
Babington, C.C. (1860) *Flora of Cambridgeshire*. John van Voorst, London.
Babington, C.C. (1869) *British Rubi.* John van Voorst, London.
Babington, C.C. (1897) *Memorials, journal and botanical correspondence of Charles Cardale Babington*. Edited by A.M. Babington. Macmillan and Bowes, Cambridge.
Doogue, D., Nash, D., Parnell, J., Reynolds, S. and Wyse Jackson, P. (1998) *Flora of County Dublin*. The Dublin Naturalists' Field Club, Dublin.
Edees, E.S. & Newton, A. (1988) *Brambles of the British Isles.* The Ray Society, London.
Harvey, M.W. (1975) Plant records from North Meath. *Irish Naturalists’ Journal* **18:** 159.
Moore, D. and More, A.G. (1866) *Contributions towards a Cybele Hibernica.* Hodges, Smith & Co., Dublin.
Newton, A. (1986) An Irish Bramble Foray. *Irish Naturalists’ Journal* **22:** 62-67.
Newton, A. (1988) Historical Introduction. In: Edees, E.S. and Newton, A. *Brambles of the British Isles.* The Ray Society, London.
Newton, A. (1994) *Rubi* in southern and mid-western Ireland. *Irish Naturalists’ Journal* **24:** 368-374.
Newton, A. & Randall, R.D. (2004) *Atlas of British and Irish Brambles.* Botanical Society of the British Isles, London.
Perring, F.H. and Walters, S.M. (eds.) (1962) *Atlas of the British flora.* Thomas Nelson and Sons, London.
Praeger, R.L. (1894) Some Irish *Rubi. The Journal of Botany, British and Foreign* **32:** 75-77.
Rogers, W.M. (1900) *Handbook of British Rubi*. Duckworth & Co., London.

Sell, P. and Murrell, G. (2014) *Flora of Great Britain and Ireland, Volume 2, Capparaceae - Rosaceae*. Cambridge University Press, Cambridge.
Watson, W.C.R. (1958) *Handbook of the Rubi of Great Britain and Ireland*. Edited by P.D. Sell and J.E. Woodhead. Cambridge University Press, Cambridge.

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To become a mentor or for more information, please email **Abigail.Maiden@daera-ni.gov.uk**.

Field work in a time of Coronavirus: is *Cochlearia danica* dwindling in Inner Galway Bay? A 'pier' review

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It started with the first lock-down in March 2020 which MSS and partner, Nick, took seriously. Luckily, we live within 2 km of Island Eddy, in the head of Galway Bay – and also in **H15**, for which MSS is VCR. The weather in March-April 2020 was superb, with many sunny, bright and windless days; ideal for canoeing. Avoiding the ruined village (which was temporarily inhabited) on the eastern end of the island, MSS and Nick landed to the headland north and west of the North Mallmhuir (the lagoonal bay on the northern side of the island). While attending to our flask of coffee, MSS spotted a *Cochlearia* with unusually ivy-shaped leaves, like those of *C. danica*, later confirmed as such by PWJ (see p. 49).

C. danica is an annual native species in Ireland, found in a variety of sandy, rocky, pebbly and other dry maritime and sub-maritime habitats. It is also frequent in a range of constructed habitats, such as walls, piers, track- and roadsides, as well as along railway tracks and occasionally even far inland, associated with salt-treated roads (Webb and Scannell 1983; Doogue *et al*. 1998; Reynolds 2013; BSBI DDb https://database.bsbi.org).

This new find on Island Eddy seemed unusual, as it is regarded as 'rather rare' in Connemara and the Burren (Webb & Scannell, 1983). It was on a grassy ledge, quite different from the built habitat where it is most known in the region. The authors were

familiar with the species in the 1980s around Galway city, where it was frequent on walls and pavement-edges, as well as on Long Walk quayside, where the Corrib River meets the sea (Flora of Inner Galway (hereafter referred to as 'FIG') unpublished 1980s; Webb and Scannell 1983). But a grassy bank on Island Eddy was far from that metropolis and the island has been abandoned as a full-time residence since the early 1980s. The species had not turned up during recent recording visits to the island, even around the island's village walls and ruins, where one might expect such a ruderal-type species (see Roden and Sheehy Skeffington 2015). It could be that the Island Eddy population is a remnant of an original wider distribution in a natural habitat, or alternatively, it is a relatively recent adventive brought in by the islanders' activities and forming a population now dwindling with the departure of the islanders.

The island was then checked for possible further records of *C. danica*, but the most frequent were *C. officinalis* and *C. officinalis* subsp. *scotica*. However, in a couple of places near the original site, a few more *C. danica* plants were found as well as a number of plant clusters that might be hybrid swarms of *C. danica* x *C. officinalis*. *C. danica* is therefore rare on the island and may, at best, be more commonly represented as hybrids with the much more widespread *C. officinalis* (including its subsp. *scotica*). What is notable is that the North Mallmhuir, where *C. danica* was found, is where the islanders used to haul out their boats in a series of grooves cleared on the shingly shore, called *nausts* (Gosling *et al*. 2010). Therefore it is not impossible that the *C. danica* had been brought there in times when the island was busy with boats plying Galway Bay.

Records of *C. danica* for SE Galway (**H15**) are very sparse, yet coincidentally MSS found it on Newtownlynch pier 2 km south of Island Eddy in September 2019 (as it was well-deteriorated by then, it was confirmed in May 2020 by Cilian Roden). There are only two previous *C. danica* records for **H15**; one dates to the first *Atlas of the British Flora* (Perring and Walters 1962), where the record is putatively inferred from Praeger (1934) who found *C. danica* 'on old buildings' in Athenry. The other record, in Oranmore, was derived from Praeger (1901) (BSBI DDb https://database.bsbi.org).

Since *C. danica* is often frequent on walls, quaysides and piers and, as the lockdown rules were relaxed to a distance of 5 km and the weather held out, MSS and canoe companion Nick set out to explore the various quays and piers around Inner Galway Bay (**Fig. 1**) for the occurrence of *C. danica*, i.e. in places where boats might pull in and potentially collect or spread the seed of this annual.

Coastal records

A total of 19 piers and quays was visited from 31st March to 14th May 2020 to check for *C. danica*, which was not found anywhere other than in Galway city, on Newtownlynch Pier and at the North Mallmhuir on Island Eddy (**Fig. 1**). Where adjacent salt marsh or gravel occurred, *C. officinalis s.s.* occurred, sometimes with, or replaced by, *C. officinalis* subsp. *scotica*. However, in places, such as at Tobergloragh and Ballynacourty old pier, some plants showed characteristics of *C. danica*, suggesting that they might be hybrids and that

C. danica might have once been present at those sites. Further sampling of specimens is needed to test this.

It is known that boats from Island Eddy regularly came to Ballynacourty or Lynch's pier, but the putative hybrid was found, not at the current (refurbished) pier, but near the 'old pier' (N. Wilkins, pers. comm.), of which only a line of cut stone blocks remains. Tobergloragh, near Clarinbridge, is not so much a well, as its name suggests, but a lively spring and, since there was little or no fresh water on Island Eddy, the islanders would regularly come ashore at the small quay there to replenish water supplies (P. Gosling, pers. comm.). The presence of the possible hybrid in these few places suggests that *C. danica* was perhaps more common in the past and that it has disappeared in places perhaps through hybridisation, as has been suggested by PWJ for *C. anglica* in the region (see Webb and Scannell 1983). The role of the people of Island Eddy in transporting the species around the inner bay is not known, or whether the *C. danica* plants at Newtownlynch were brought from Galway city by Island Eddy boats or by others. However, as this quay faces Island Eddy, it most likely was also visited by the islanders.

Praeger (1901) notes that *C. danica* is 'rather local round the coast' in Ireland and around Inner Galway Bay, he says it is 'common in N half' of Co. Clare (**H9**), but Webb and Scannell (1983) were 'unable to confirm' this and do not mention it for the Burren coast. In recent years (post-2000), on the north coast of Co. Clare, it has only been recorded at Ballyvaughan (BSBI DDb https://database.bsbi.org).

Inland records

Since *C. danica* had been recorded regularly in the old parts of Galway city around buildings and quays, as well as in Salthill (Praeger 1901; Webb and Scannell 1983; FIG 1980s), it would suggest that the city might have been the source for some of the *C. danica* populations around Inner Galway Bay. But the species seems to have much dwindled there in recent decades. A brief reconnaissance at 6.30am during lockdown in May 2020 revealed that it had all but disappeared from the city. None was found on or beside any of the old buildings on or near Long Walk, though one single plant on that quayside did have *C. danica* characteristics (ivy-shape leaves, flowers with pinkish hue), but the stem leaves were not or hardly petiolate, indicating that it was a putative hybrid. The species was, however, recorded on Long Walk in April 2018 by Eamonn Delaney. It was also absent from St. Nicholas Churchyard, but in nearby Bowling Green, a line of bollards seemed to have escaped weed killing and each one sported a clump of *C. danica* at its base (see p. 45 & 90).

This population, however, seemed to be in a precarious position, not least as no plants were found on any adjacent walls. It is almost certain that increased 'tidying' of streetscapes using weedkiller or other methods had removed much of the ruderal flora of the city's walls. Another ruderal crucifer formerly frequent on Galway city's walls, *Sisymbrium orientale* – surprisingly not mentioned in Webb and Scannell (1983) – would also seem to have become much rarer since the 1980s (*fide* FIG, unpublished; BSBI DDb https://database.bsbi.org). *C. danica* has also all but disappeared from the coastal roads around Salthill, in the west of Galway city. However, it is, apparently frequent in the gravel

around the Galway-Mayo Institute for Technology buildings (C. Roden, pers. comm.) in the eastern Galway suburbs and this might account for MSS finding it last summer at the bus stop outside that premises.

C. danica is also known along railways on ballast (Wyse Jackson and Sheehy Skeffington 1984; Doogue *et al*. 1998) and in the 1980s (FIG) it was recorded around Galway station. In the days before weed killing became extensive on railway lines, it is quite likely that the species travelled up the line from Galway to Oranmore where it was 'common' (Praeger 1901) and on to Athenry as also noted by Praeger (1934). But in the summer of 2020, no traces of the species could be found in either town, or near the adjacent railway.

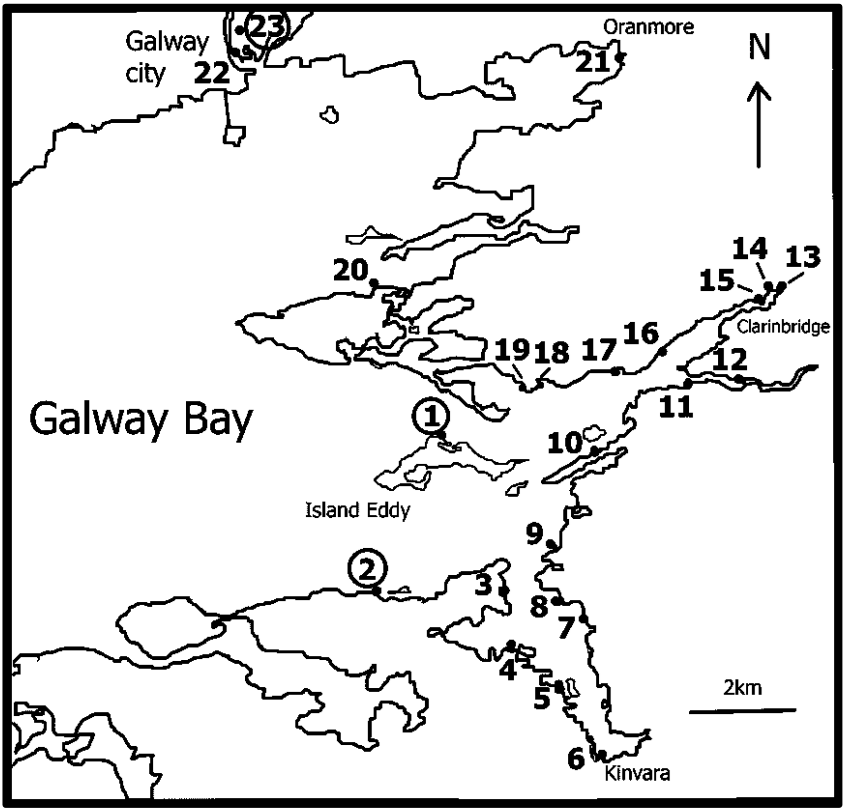

Fig. 1. Inner Galway Bay indicating piers and quays visited in the survey. 1 Island Eddy N Malmhuir; 2 Newtownlynch pier; 3 Parkmore pier; 4 Doorus quay; 5 Mountscribe pier; 6 Kinvara pier & quay; 7 Tarrea pier; 8 Pollagh quay; 9 Mulroog West quay; 10 Killeenaran pier; 11 Tyrone House quay; 12 Weir village quay; 13 Clarinbridge quay; 14 Tobergloragh quay; 15 Ballynamanagh East pier; 16 Cave

quay; 17 Corraduff/ Blackweir; 18 Ballynacourty/ Lynch's pier; 19 Ballynacourty old pier; 20 Tawin pier; 21 Oranmore Castle quay; 22 Galway city quayside; 23 Galway city Bowling Green. All piers and quays are marked, at least as quays, on the 6" 1845 Cassini map (www.geohive.ie), except Cave, which, as its Irish Céibh means quay, is also likely to be an old quayside. Circled numbers indicate sites where *C. danica* was confirmed.

Conclusion

Perhaps the most surprising result from this small survey is the absence of *C. danica* from almost all the piers and quays around Inner Galway Bay. MSS, in recent years, has surveyed all the coast from Clarinbridge to Galway city for another project (see Sheehy Skeffington *et al*. 2013) and, though not specifically recording any plants, no *C. danica* was observed, even in potentially good habitat such as sandy shingle shores. Further checking for potential hybrids may give clues as to whether it may have been more widespread in the past. The similarity of the hybrid to *C. danica* is worth noting, as this last may be inadvertently recorded as *C. danica*.

The apparent decline of *C. danica*, at least in the Inner Galway Bay area, is all the more surprising in comparison to its startling expansion since the 1970s in Britain. (https://www.brc.ac.uk/plantatlas/plant/cochlearia-danica). But there, the use of salt for road gritting is much greater than in Ireland. Its former stronghold locally in built-up areas around Galway seems sadly to have declined, as it long has on railways, undoubtedly due to persistent clearing and weedkilling. This may be also the case for a now weed-free stretch of the M18 south of Gort where MSS glimpsed some likely plants some years ago.

This is Occasional Paper no. 12 of the Island Eddy Discursive Survey. For further information see https://en.wikipedia.org/wiki/Island_Eddy

Acknowledgements

MSS is very grateful to her partner Nick Scott for agreeing to play a key role in the canoe survey. Thanks also to Paul Gosling who helped with some historical clarifications.

References

Doogue, D., Nash, D., Parnell, J., Reynolds, S. and Wyse Jackson, P. (1998) *Flora of County Dublin.* The Dublin Naturalists' Field Club, Dublin.

Gosling, P. MacMahon, B. & Roden, C. (2010) Nausts, púcáns and 'mallúirs'. *Archaeology Ireland* **24 (3)**: 30-34.

Praeger, R. Ll. (1901) *Irish Topographical Botany*. Proceedings of the Royal Irish Academy Vol. VII, Dublin.

Praeger R. Ll. (1934) *The Botanist in Ireland*. Hodges, Figgis & Co., Dublin.

Roden, C. and Sheehy Skeffington, M. (2015) The vascular plant flora of Island Eddy, Inner Galway Bay (**H15**) *Irish Naturalists' Journal* **34**: 61-68.

Sheehy Skeffington, M., Scott, N. E. and Gosling, P. (2013) Numbered seaweed mearing stones on Island Eddy and the adjoining mainland at Carrowmore townland, Ballynacourty, Galway Bay. *Journal of Irish Archaeology* **XXII**: 93-109.

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

Wyse Jackson, P. and Sheehy Skeffington, M. (1984) *Flora of Inner Dublin*. Royal Dublin Society, Dubl.

Request for Irish *Tolmeia* and *Tellima* material

Michael Wilcox. E-mail: michaelpw22@hotmail.com

Tolmiea menziesii (Pick-a-back Plant) and *Tellima grandiflora* (Fringecups) have increased in Britain & Ireland and can be found in suitable places. In North America they record two taxa in *Tolmiea* (a diploid and a tetraploid), but the differences are slight. I would be interested in a flowering stem (including a few basal leaves) of *T. menziesii* to assess any potential for both taxa. Also, (in the past) a species or variant of *Tellima* was recognised, ('*breviflora*'). Thus, specimens of either Pick-a-back Plant or Fringecups are welcome. They should be relatively straightforward to identify from each other (the former only has 3 stamens and filiform petals and the latter c.10 stamens and larger, laciniate petals). Other similar species in this group (Saxifragaceae; such as *Heuchera* etc.) would be welcome. Fresh specimens if possible and with good grid reference (in case there is a need for a live plant to check to see if anyone could be persuaded to do a chromosome count), etc. My address is: Michael Wilcox, 43 Roundwood Glen, Greengates, Bradford, BD10 0HW, UK.

Vice-county reports

Recording in Leitrim (H29) 2020

Eamon Gaughan. E-mail: egaughan2016@gmail.com

My most exciting find in 2020 was not in Leitrim! More about this at the end.

Despite repeated travel restrictions due to the Coronavirus pandemic, over 7000 records were gathered in the year. The year kicked off with a New Year Plant Hunt at Carrick on Shannon. Eight people participated (including Aoife Delaney and Oonagh Duggan who travelled from Dublin). 35 species in flower were recorded and *Dipsacus fullonum* (Teasel) was seen in a new hectad.

Most of the recording took place between the end of June and September. As inter-county travel was allowed during this period, our Leitrim group could meet on several occasions. Unlike last year, during these outings more interesting sites were visited with less emphasis on "monad or tetrad bashing".

The first group outing was to Derrycarne on July 6th. Nice species seen on that day included; *Carex strigosa* (Thin-spiked Wood-sedge), *C. lasiocarpa* (Slender Sedge), *C. vesicaria* (Bladder-sedge), *Butomus umbellatus* (Flowering-rush), *Hydrocharis morsus-ranae* (Frogbit), *Rhamnus cathartica* (Buckthorn) & *Crepis paludosa* (Marsh Hawk's-beard). I saw two spikes of *Neottia nidus-avis* (Bird's-nest Orchid) here a few days before the outing but we failed to refind them on July 6th. There are a number of exotic tree species apparently naturalised in this old demesne. We saw *Acer platanoides* (Norway Maple) and *Carpinus betulus* (Hornbeam).

The next day I went alone to Corduff Lough to record on and near the lake shore. I saw a few spikes of the unassuming orchid *Epipactis phyllanthes* (Green-flowered Helleborine) by the shady roadside among more of *Epipactis helleborine* (Broad-leaved Helleborine). This was a good spot to see the differences between these two frequently confused taxa. In the wet woods between the road and the lake I was happy to see *Carex elongata* (Elongated Sedge) still showing some flowering spikes. Corduff Lough is one of two known Leitrim sites for this rare sedge and this July sighting was the first in Leitrim since 1999.

On July 18th, Andy King, Aisling Blackburn and I recorded at Garadice Lake near the eastern end of Leitrim. Although this is a well recorded area with some nice species, a good find on that day was a colony of *Carex aquatilis* (Water Sedge) near our parking area. The plants here ticked all the boxes allowing confident identification of this sedge and distinguishing it from others of the confusing *Carex nigra* group and their hybrids.

One of my targets for this year was to see the rush *Juncus filiformis* (Thread Rush) on the north-eastern shore of Lough Allen (see back cover). This rush was only recently discovered in Ireland and is unknown elsewhere there. It is probably the rarest vascular plant in Leitrim! I checked out the site on July 23rd and saw a nice colony in flower and fruit. On August 1st, four of us, Andy King, Sandie McCanney, Patricia McHugh and I, returned to the site and saw a second colony of the rush near the first. The four of us are among the handful of people to have seen the rush in Ireland. It is probable that more people in Ireland have had the privilege of seeing *Trichomanes speciosum* (Killarney fern) (a species not recorded anywhere in Leitrim). *Spiranthes romanzoffiana* (Irish Lady's Tresses) was also seen but not as plentiful as at the same time last year. We then went to an adjacent monad hoping to see the elusive *Limosella aquatica* (Mudwort) at one of its two known Leitrim sites but as last year, high water levels due to a wet July made finding it impossible. Nevertheless we saw a selection of other less rare nice species including *Scutellaria galericulata* (Skullcap), *Lythrum portula* (Water-purslane) (rare in Leitrim) and nine *Carex* spp.

On August 6th Patricia McHugh, Andy King and I went to Slieve Anieran primarily to see *Phegopteris connectilis* (Beech Fern) in a gully above Lough Nabelbeg. Neither Patricia nor Andy had seen this fern before. We took a long route starting at Bencroy to the north and working our way over some rough ground to our target. On the way we saw some nice upland species including *Vaccinium vitis-idaea* (Cowberry), *Melampyrum pratense* (Common Cow-wheat), *Empetrum nigrum* (Crowberry), *Festuca vivipara* (Viviparous Fescue), white-flowered *Calluna vulgaris* (Heather), much *Viola palustris* (Marsh Violet), and *Hymenophyllum tunbrigense* (Tunbridge Filmy-fern). The last was spotted by Andy who went into a hole in the rocks and brought out a sample for me to identify. A tough climb up into the gully brought us to the fern site. We saw a nice colony of the Beech Fern accompanied by *Sedum rosea* (Roseroot) and a *Hieracium* sp. (Hawkweed) which we couldn't identify as it had no flowers. This site was visited by Robert Northridge and the late Michael Archer in 2009. Andy told me that there was a site for

Vaccinium oxycoccos (Cranberry) by a lake near our parking area. As the weather turned bad, we didn't visit it on that day. Two days later I went back and founds lots of Cranberry at the site but not much else of interest.

There were two other outings by the Leitrim group of particular interest in August. The first was closer to home on August 18th. Andy, Isabella Bazzani, Patricia, Sandy McCanney & I participated. The site was the well recorded eastern end of Lough Gill near Sriff Bay. This limestone area has a wealth of nice species. On the outing we saw *Rubus saxatilis* (Stone Bramble), *Solidago virgaurea* (Goldenrod), *Orobanche hederae* (Ivy Broomrape) among many others. None of these three are common or widespread in Leitrim. However, the highlight of the day was a fine colony of *Hypopitys monotropa* (Yellow Bird's-nest) (see p. 90). There were dozens of flowering plants in what appears to be a new site near the lake side of the road. This rare saprophyte has been recorded before in the woods on the inland side of the road. An earlier visit to the woods failed to find any there, possibly due to improvement works on the woodland path. Only Sandie, Patricia and I had ever seen this plant before.

The other outing was to Cloone near Mohill on August 29th. It was attended by Oonagh Duggan, Aisling Blackburn, Sandie, Patricia and I. We concentrated on an unrecorded area by a small lake. Several uncommon species were recorded here. Notable were new hectad records for *Bidens cernua* (Nodding Bur-marigold), *Salix pentandra* (Bay Willow) and *Pulicaria dysenterica* (Common Fleabane). The last is rare in Leitrim. The find of the day was a fine stand of *Carex pseudocyperus* (Cyperus Sedge).

2020 was a good year for sedges and grasses including two new sites for *Carex pallescens* (Pale Sedge) and four new sites for the grass *Elymus caninus* (Bearded Couch). Two of the latter were in new hectads. An interesting September find was a *Sisyrinchium* on a forest track. At the time I recorded it as the native *Sisyrinchium bermudiana* (Blue-eyed-grass). However, the fruiting pedicles were erect leading me to think it might be the introduced *Sisyrinchium montanum* (American Blue-eyed-grass). If it is the latter it will be the first record for Leitrim. Anyway, it will need to be confirmed next year.

Finally, during the lockdown of April and May, I did frequent rambles on Knocknarea, Co. Sligo, which is only a few kilometres from my home. I saw many of the nice species known to occur on this limestone hill. On May 5th I was admiring a large colony of *Orchis mascula* (Early-purple Orchid) at its flowering best when I saw a small cream-coloured orchid. Was it a stunted white flowered Early Purple Orchid? Out came the hand lens for a closer look. I soon identified it as *Neotinea maculata* (Dense-flowered Orchid) (see p. 1). I wasn't expecting that one here but the habitat was right. I returned a few days later to find a second plant. At the time it was thought to be a new county record for Sligo. However, it soon emerged that there was a sighting in the Keash area further south in Sligo in 2019. It is quite likely that Dense Flowered Orchid will sometime be found on the limestone hills of North Leitrim. It is known from two sites in Co. Fermanagh and also from The Sheskinmore Lough area of Co. Donegal. One to look for in Leitrim in 2021

during its short season in May. Hopefully by then botanists will be able to get out doing what they like and are good at doing!

A report on Limerick (H8) botanical work in 2020

Sylvia Reynolds, *115 Weirview Drive, Stillorgan, Co. Dublin*

As for everybody else, 2020 was a most unusual year and due to travel restrictions it was not possible to do much fieldwork – although our friends in Limerick were able to get out more (see below). However, the periods of lockdown at home in Dublin presented an opportunity to tackle two botanical projects which needed uninterrupted time to complete.

When validating records in the DDb for *Atlas 2020* it was obvious that early first and historical Limerick records were mostly lacking and that those already in the BSBI database were often not quite accurate and thus misleading. In April and May, mainly working from records in the *Flora of County Limerick* (Reynolds 2013) and adding details from my card file I compiled over 2500 historical records, including the source of the record - whether published, from a herbarium specimen or one of Praeger's unpublished records. I would like to thank Jim McIntosh and Tom Humphrey for devising a suitable Excel format for me.

Most historical Limerick records only date from the late 1800s and early 1900s, with records mainly from the north of the county. Locations given were often very broad in their meaning, e.g. 'Foynes', as well as meaning the village itself, extended to upland areas and also to good limestone areas several kilometres away. This has led to too detailed grid references being entered in the DDb by those not understanding the old records. The main contributors of early Limerick records included S.A. Stewart (from Belfast), members of the Limerick Field Club, R.L. Praeger, and M.C. Knowles and C.G. O'Brien working together, as well as Florence M. Sullivan (later Le Fanu), who was responsible for some 30 first county records. Approximately half of all the historical records I compiled were based on herbarium specimen details, the majority of them in **DBN**.

When working towards his *Irish Topographical Botany* (1901), Praeger spent several days in Limerick in August 1900 and marked the species he found at each site on a copy of *The London Catalogue of British plants* (the original is in the Herbarium at the National Botanic Gardens), and there are some supporting specimens in **DBN**. This useful manuscript contains about 485 records with locations (sometimes rather general) and exact dates, and includes definite first county records of common species as well as records from previously less botanised areas, e.g. the Lough Gur area, and the Bilboa River valley and bogs near Doon. Not all the records in the manuscript can be taken at face value, e.g. *Orchis maculata* included *Dactylorhiza fuchsii* (Common Spotted-orchid) and *D. maculata* (Heath Spotted-orchid), and I suspect that *Prunus cerasus* (Dwarf Cherry) was marked in error for common (unmarked) *P. avium* (Wild Cherry). It seems too that Praeger reconsidered some records before publishing them in *ITB*, e.g. *Matricaria chamomilla* (Scented Mayweed) became one of the 'forms' of *Anthemis cotula* (Stinking Chamomile) at the same three

locations (*A. arvensis*, Corn Chamomile, is not in *ITB*). Names of a few species in the *London Catalogue* also needed to be unravelled, e.g. *Brassica sinapioides* is now *B. nigra* (Black Mustard) and *Scilla festalis* (via *S. nutans*) is *Hyacinthoides non-scripta* (Bluebell).

A number of the historical records cited in the Limerick *Flora* (2013) were re-evaluated. An early record of *Botrychium lunaria* (Moonwort) in *ITB* was from 'near Feenagh '00 – R.D. O'Brien', but Feenagh is in the south of the county and suitable habitat there is unlikely. This record should be from 'near Foynes' as there is also an R.D. O'Brien record of *Ophioglossum vulgatum* (Adder's-tongue) at 'Foynes' in *ITB*. Those two species were probably found in the Mullagh area 'near Foynes' where both were found again a few years later. Praeger's record of *Mentha* x *piperita* (Peppermint) in the Bilboa River Glen in 1900 (there is no voucher specimen) is most likely the closely related *M*. x *gracilis* (Bushy Mint) found by the river in the same area in 1990 and 2005, specimens determined by R.M. Harley. An early record of rare *Elymus caninus* (Bearded Couch) from Poutallin Point just W of Foynes was published by M.C. Knowles and C.G. O'Brien in their 'Flora of the Barony of Shanid' (in *Irish Naturalist* 1907), but with no special mention (or a voucher), which is what they usually gave for rare species. I now strongly suspect that it was an inadvertent error for awned *Elymus repens* (Common Couch), which is known there. *Gaudinia fragilis* (French Oat-grass) was first recorded on the same day in 1965 independently by Austin O'Sullivan and Jim White at different sites, including Patrickswell (pers. comm. Jim White 2020). I had been puzzled by a 1976 record from Patrickswell attributed to P.J.O. Trist on the specimen label in Kew herbarium (**K**) until Declan Doogue suggested that the grass was probably not collected by Trist, rather a specimen from 1965 was determined by him.

In August when I was validating this large batch of historical records in the DDb, including R.A. Phillips' record of *Lathyrus palustris* (Marsh Pea) by the Shannon in the early 1920s and the only record I was aware of, I was amazed to find a much more recent record of it and that it was attributed to me! I checked the source for that anomalous record in the DDb and found that it had been added in March 2020 along with all my other Threatened Plants Project records (already submitted by me in 2014). I then checked back to the TPP form for that date and location and found that rare *L. palustris* had been entered incorrectly by the BSBI instead of common *L. pratensis* (Meadow Vetchling). I draw attention to this one example as such errors and changes (e.g. in grid references) may have been made for other vice-counties too when records were re-entered by third parties from duplicate datasets.

Travel restrictions were lifted in Ireland on 29 June, and Julian and I were off to our cottage on Foynes Island on 1 July, including updating records since 2000 for *Galium saxatile* (Heath Bedstraw) where Bracken had been cut down for the first time in many years, and *Moehringia trinervia* (Three-nerved Sandwort) on a shaded track (3 July, R2552). On the way home we stopped to look across the Ballyvogue fen (4 July, R3851), part of the Askeaton Fen Complex SAC, dismayed to see how degraded it appeared.

Then on 10 July we made a one day trip to meet our friends and colleagues Mike Quirke, Paul Murphy and Tom Harrington to look for elusive *Scleranthus annuus* (Annual Knawel) in a former sand pit on the W side of Castleconnell Bog (R6763), but not found. While there Julian spotted a small patch of *Sisyrinchium bermudiana* (Blue-eyed-grass) near where it was first noted in Limerick in the 1930s. We also went onto the bog itself, now mostly cut over and bordered by the motorway, and refound rare *Rhynchospora fusca* (Brown Beak-sedge) in exactly the same places where seen in 2013 (R6863), including at the edge of a bog pool with *Utricularia minor* (Lesser Bladderwort) and *Potamogeton polygonifolius* (Bog Pondweed).

After our friends left for home, we stopped for a cup of tea at the entrance to the large Gooig gravel/sand pit on the W side of the old main road (also R6763). Ignoring prohibitive notices, we explored the large and currently disused site, again looking for *Scleranthus*, last recorded in this area in 1902. Instead we came across numerous tiny plants of the protected species *Logfia minima* (Small Cudweed) on a slope of coarse sand, two more plants of *Sisyrinchium bermudiana* (the blue flowers open at 5 p.m. and closed by 6 p.m.), and on the gravel floor three patches of the garden escape or discard *Acaena ovalifolia* (Two-spined Acaena) with disparate species such as *Epilobium brunnescens* (New Zealand Willowherb) and *Erigeron floribundus* (Bilbao's Fleabane), the last apparently now an established weedy member of the Irish flora.

Our next trip to Limerick on 20 July involved walking over Ballynacourty Bog NE of Annacotty and just NE of Lisnagry (R6659), with Mike Quirke guiding us. Difficult to access, this is an extensive area of regenerating cut-away raised bog, quaking in places with much Sphagnum, with *Rhynchospora alba* (White Beak-sedge), *Narthecium ossifragum* (Bog Asphodel) and *Drosera rotundifolia* (Round-leaved Sundew) where wetter (but no bog pools), occasional *Andromeda polifolia* (Bog-rosemary) and *Vaccinium oxycoccos* (Cranberry), scattered *Osmunda regalis* (Royal Fern), and encroaching *Betula pubescens* (Downy Birch). Not having been aware of this bog before, it struck me that this was probably the 'Lisnagry' bog which Eleanor Armitage had described with its flora in 1901, not where I had previously thought it to be, but in the same hectad.

Three days later Julian and I returned on 23 July for another day trip to check two more raised bogs with Mike, Paul and Tom. The first, W of Cappamore and just NNE of Eyon Hill (R7351), is cut away and not especially interesting with dominant tussocky *Calluna vulgaris* (Heather) and *Molinia caerulea* (Purple Moor-grass), with few other species, e.g. *Rhynchospora alba* (White Beak-sedge) in one place, and with dense *Rhododendron ponticum* (Rhododendron) on the N and E sides, also self-sown with *Pinus contorta* (Lodgepole Pine) across the bog. Our second site was the more extensive Ballyvorheen Bog (mainly R7553), surveyed by Neil Lockhart in 1991 and described at that time as cut-away and regenerating, with *Vaccinium oxycoccos* (Cranberry) and *Carex canescens* (White Sedge). Here again tall *Calluna* and *Molini*a were dominant, with many self-sown *Pinus sylvestris* (Scots Pine) and scattered *Betula pubescens* (Downy Birch). Wetter quaking areas contained mounds of Sphagnum, some *Erica tetralix* (Cross-leaved

Heath) and, in places, abundant *V. oxycoccos* (Cranberry); but the sedge was not refound. There was an old plantation at the N end of the bog, including *Pinus sylvestris*, the source for the self-sown trees.

In preparation for a field meeting in Limerick City, later cancelled due to Covid-19, we met up with Mike and Paul on 4 August. We would have shown participants characteristic urban plants (including garden escapes), rarer *Helminthotheca echioides* (Bristly Oxtongue) on a gravel car park, the relict of cultivation *Smilax aspera* (Common Smilax) with its prickly stems, and flat-leaved *Petroselinum crispum* (Garden Parsley) in waste ground on historic King's Island (R5757), *Adiantum capillus-veneris* (Maidenhair Fern, not native in Limerick) on a wall in the city (R5756) where it has been known for several years and thriving *Senecio inaequidens* (Narrow-leaved Ragwort) still at the railway station (R5756), but beyond the reach of weed-killer. On the vice-county H9 side of the tidal River Shannon there looked like a patch of protected species *Schoenoplectus triqueter* (Triangular Club-rush, coated in fine mud) between Thomond and Sarsfield Bridges (R5757), and we got down to a definite patch of it just downstream of Shannon Bridge (R5656).

Our final outing was on 12 September to show Geoff Hunt characteristic plants in the limestone grassland at Barrigone (R2950) and in the nearby Poulaweala Creek area (R2952), where *Gentianella amarella* (Autumn Gentian), *G. campestris* (Field Gentian) - both gone over - and leaves of protected species *Viola hirta* (Hairy Violet) intermingle at the latter site and where *Geranium columbinum* (Long-stalked Crane's-bill) was seen on an outcrop. Before heading home, we checked the tall *Ficus carica* (Fig), this time with many immature fruits, growing up from beside the disused railway to above the high bridge just N of Barrigone (R2850), not planted there.

In May Geoff Hunt sent me specimens of *Ranunculus aquatilis* (Common Water-crowfoot), *R. trichophyllus* (Thread-leaved Water-crowfoot) and *Rorippa palustris* (Marsh Yellow-wort) to identify, collected at the Raheenagh lagoons (20 May, R2825) which is now being developed as an Eco Park. Earlier in the year Paul Murphy sent me images of a self-sown flowering *Helleborus* with 'spiny' leaves on a wall by South Circular Road in Limerick City (7 Feb, R5654), determined by Paul Green as *H. argutifolius* (Corsican Hellebore). A few days later, in response to a request from me, Mike, Paul and Tom looked for and refound *Allium ursinum* (Ramsons) in woodland by the Shannon at the University of Limerick (12 Feb, R6157, R6158). When movement was restricted Mike was able to do more exploring from his home and recording in the nearby Slievefelim Mountains (R75), finding additional sites for *Hymenophyllum tunbrigense* (Tunbridge Filmy-fern), *Equisetum sylvaticum* (Wood Horsetail), *Dryopteris aemula* (Hay-scented Buckler-fern) and *Vaccinium oxycoccos* (Cranberry).

On 10 June, the trio revisited Routagh Fen S of Limerick City (R5952) to look for early-flowering *Dactylorhiza traunsteinerioides* (Narrow-leaved Marsh-orchid, not found), and recorded *D. incarnata* (Early Marsh-orchid) new to that site. While looking for the fen area E of Kilfinny (now drained?) on 19 June, they came across a patch of *Plantago media*

(Hoary Plantain) with *Trisetum flavescens* (Yellow Oat-grass) and *Anacamptis pyramidalis* (Pyramidal Orchid) in the grassy graveyard of the ruined Ballynakill church (R4640). Mike, Paul and Tom also recorded along the River Shannon, finding new sites for *Alisma lanceolatum* (Narrow-leaved Water-plantain) at Ballyvollane (3 June, R6359), SW of Castleconnell (25 June, R6360, R6361) and at Lacka N of Castleconnell (15 Aug, R6664) – it was first found in Limerick by the Shannon at Worldsend (R6563) in 2019. Another very good find of theirs by the Shannon (when leading a socially-distanced field meeting) was *Stellaria palustris* (Marsh Stitchwort) at Lacka (15 Aug, R6564), last reported from that area in 1905 and 1906. They also confirmed that the protected species *Hordeum secalinum* (Meadow Barley) is still in grassland at Ballycummin on the outskirts of Limerick City (17 July, R5452).

One of the best finds made by Mike, Tom and Paul in 2020 was of *Lithospermum officinale* (Common Gromwell) occurring sparingly at a wood edge by the more easterly of the Kilbreedy Loughs (17 July, R4351) – it had not been recorded in the county since 1902 and is a rare plant in Ireland. They recorded nearly 200 species that day by the Kilbreedy Loughs (mainly R4350), including *Antennaria dioica* (Mountain Everlasting) and *Ononis repens* (Common Restharrow), both new to the hectad, and more surprisingly a plant of discarded *Iberis umbellata* (Garden Candytuft). On 19 September Mike saw *Clinopodium ascendens* (Common Calamint) on the limestone outcrop under the ruined castle at Castleconnell (R6662), and a *Sedum* (Stonecrop) on a wall there has continued to puzzle us and the BSBI referee. The final outing by the trio was to the outcrops on Carrigeenamronety (R61) on 1 December where they found the protected species *Trichomanes speciosum* (Killarney Fern) still doing well at that site.

My other substantial project, mainly done during the second lockdown, was to prepare an annotated *Inventory of County Limerick sites of botanical and habitat interest*, 'pro bono publico'. Based on nearly 40 years of field work, it is intended for use by Limerick County Council (including the Heritage Officer and planning officials), by National Parks and Wildlife Service when they are considering additional sites to designate and by their Conservation Rangers, as well as for other interested parties – and perhaps it can be incorporated into the forthcoming Limerick County Development Plan. Following an introduction with background information and explanatory notes, over 160 'key' semi-natural sites are listed in the *Inventory*, including SACs, NHAs, proposed NHAs, other good sites and also ones of more local interest. For each the location and grid reference(s) are given, the main habitat(s) usually indicated and a few examples of characteristic, notable or rare species, and any plant species protected by law. Eleven sites are highlighted in the introduction because they are considered to be of particular conservation interest and worthy of legal designation: Lough Gur and surroundings (already considered of 'National Importance' by An Foras Forbartha in 1981), limestone lakes with bordering fen and grassland habitats, areas with good quality calcareous grassland, two turloughs, a fen, tall-herb swamp and raised bog.

Finally, one very enjoyable antidote to the restrictions and not being able to visit family abroad in 2020 was to give little botany tutorials during FaceTime sessions to my six year old granddaughter Elsie in England. For example, at Easter I sent her a list of 10 spring-flowering plants to find – her father printed out pictures of each – and she found them all in the countryside north of London. At other times we both looked at different kinds of leaves and discussed whether they were hairy or not, and she learned about the parts of flowers and fruits, drawing and labelling what she saw. I was particularly impressed by her observations on a Dandelion plant (see Front Cover of this issue). It was my grandfather who taught me my first plants at about the same age on Foynes Island, so it is satisfying to pass on my love of plants to the younger generation.

References

Praeger, R.L. (1901). Irish Topographical Botany. *Proc. Roy. Ir. Acad*. Third Series **7**: 1-410.
Reynolds, S.C. P. (2013). *Flora of County Limerick*. National Botanic Gardens, Glasnevin, Dublin.

2020 county report for SE Galway (H15)

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Given the varying restrictions and – I have to admit – a certain relief at not having a deadline to work to, recording was limited, but nonetheless varied. The BSBI scheduled excursion to limestone pavements south of Kinvara went ahead on May 25th with just myself and Cilian Roden. We explored some more of the extensive limestone pavement north of the townland of Roo. We added a few notable species to the list for the monad M3803: *Adiantum capillus-veneris* (Maidenhair Fern), only the third post-1960s site for **H15** as well as *Dryas octopetala* (Mountain Avens) and *Neotinea maculata* (Dense-flowered Orchid) both not infrequent locally. I was also able to confirm that an unusual *Valerianella* found early in 2019 was still on a sandy bank along the road, but not yet mature for identification. A sample collected later was identified by Phil Wilson as *V. dentata* (Narrow-fruited Cornsalad) the first record west of the Shannon since 1900!

Staying more local, as per government instructions, a trip by bicycle round to Ballinderreen fen (M3816) to search for a *Carex acuta* (Slender Tufted-sedge) record by D.A. Webb for John Faulkner (it was not found) led to an interesting list of fen species, the best being in the part where cattle still trampled and kept the *Cladium mariscus* (Great Fen-sedge) at bay. There were many *Dactylorhiza incarnata* (Early Marsh-orchid), but one darker beefier one stood out. A photo sent to Ian Denholm revealed it to be *D. kerryensis* (Irish Marsh-orchid), perhaps only a second county record. Other finds in taller vegetation were a nice clump of *Carex paniculata* (Greater Tussock-sedge) and some *C. lasiocarpa* (Slender Sedge). This fen is, thankfully an SAC, but may need more grazing. The adjoining Drumacoo fen (M3916; also reached by bike) is not and has deep drains in it, yet still had

Gentiana verna (Spring Gentian; on a few tussocks), *Galium uliginosum* (Fen Bedstraw) *Selaginella selaginoides* (Lesser Clubmoss – just about present!) and lots more *C. lasiocarpa* (Slender Sedge). On the way back from Ballinderreen fen, the bike proved useful for spotting species and I added some *Carex divulsa* subsp. *divulsa* (Grey Sedge) records near Kilcolgan (M4118) and, in a gravelly car park (M417182), the third *Veronica peregrina* (American Speedwell) record for the county (I recorded the other two in 2019 - could it be spreading or has it been overlooked, as at best, it is an inconspicuous plant).

As lock-down eased, the Galway Group ventured out again and Mark O'Mahony took us to a site at Lecarrow (M4824) south of Athenry, where we saw the *Gentiana verna* he had found on the spoil heaps of the dredged Eiscir River, the name of which suggests the presence nearby of real eskers and possibly other similar plant communities with gentians, Marsh Orchids (*Dactylorhiza* spp.) and *Sesleria caerulea* (Blue Moor-grass), as seen at Lecarrow.

Many of our sorties later in season were with Cilian Roden to the Slieve Aughty Mountains, mostly on the Co. Clare (**H9**) side and records do not fit here. Suffice it to say we found *Eriophorum gracile* (Slender Cotton-grass), a new county record for Clare in an interesting fen at Scalpnagown (R4789)!

Back in SE Galway, in August, Mark O'Mahony, Nick Scott and myself visited the newly-acquired lands of the Farrell family near Gortacarnaun Wood (M4897) on the slopes of the Slieve Aughties. The low-intensity farming there revealed some nice ruderals, notably *Galeopsis tetrahit* (Common Hemp-nettle), as well as a few patches of *Spergula arvensis* (Corn Spurrey), which latter may be dwindling in **H15**. The *G. tetrahit* is even rarer now, having apparently decreased considerably in the midlands and west of Ireland. Never very common in **H15**, this was only the 2nd post-2000 record. Equally uncommon in **H15** is *Senecio sylvaticus* (Heath Groundsel), but all records in this case are post-2000 and plants may have been brought by machinery, as they are mostly associated with peat extraction or forestry. Here it was found on a track near forestry.

A few trips to nearby Tawin Island confirmed the continued presence of *Carduus nutans* (Musk Thistle) near the north shore (M3119) and two new records for *C. tenuiflorus* (Slender Thistle) nearby and further west (M2119 -in one of the two tiny parts of that hectad that is in **H15**). Both have declined in Ireland, but have a small stronghold around inner Galway Bay.

Late summer finds are always a nice welcome and Cilian Roden and Sabine Springer found c. 20 spikes of *Spiranthes spiralis* (Autumn Lady's-tresses) at Mulroog, Kinvara Bay. Then we located *Gentianella amarella* (Autumn Gentian) on Aughinish just inside Co. Clare **H9** (M285126). Later, while exploring the Ardfry Peninsula, I found a tiny patch of *G. campestris* (Field Gentian) on a south-facing bank of glacial drift (M342211); all too often the main location for species of interest in an otherwise quite intensively farmed landscape. It turned up again this time in a well-managed site for conservation (and an SAC) – with a good indicator for *Gentianella* locally, *Blackstonia perfoliata* (Yellow-wort) – on a grassy slope at Lough Fingal (M418149).

In all, fifteen or so sites were visited in **H15** for recording, some inevitably near home, others a bit further away, but recording beyond c. 50km from home was not undertaken this year.

Secretary position available on Committee for Ireland

The Committee for Ireland (CfI) are currently seeking a volunteer to join the committee and take up the Secretary position (3-year term). If you are interested in the position and joining the committee, or would like more information on what is involved, please contact the Chair of CfI, Edwina Cole (coleedwina@gmail.com).

Captions for pages 43 & 44

Plate 1. Inflorescence: showing petals broader than long; the elongated sepals; the narrowly elliptic leaflets and crimson-coloured leaf-rachides and stipule midvein.
Plate 2. Young Leaf-Shoot: displaying dense aciculae; subulate, infrastipular, paired prickles, and crimson-flushed stipule midvein.
Plate 3. Infructescence: hips depressed-globose (broader than long) and flat-bottomed.
Plate 4. 3 intact hips showing styles & stylar orifice & **3 vertically-sectioned hips** showing an admixture of fully developed and aborted achenes.

Captions for page 90 & back cover:

Plate 1. *Stenogrammitis myosuroides* growing in the Killarney National Park, Co. Kerry. Photo R.L. Hodd © 2020.
Plate 2. Habitat of *Stenogrammitis myosuroides* on boulder above rocky stream in woodland, Killarney National Park, Co. Kerry. Photo R.L. Hodd © 2020.
Plate 3. Close-up of *Cochlearia danica* by a line of bollards at Bowling Green, Galway city (as it is an annual, many capsules have already dehisced), 10.5.2020. Photo M. Sheehy-Skeffington © 2020.
Plate 4. *Hypopitys monotropa* in flower in woodland at eastern end of Lough Gill near Sriff Bay, Co. Leitrim. Photo P. McHugh © 2020.
Plates 5. *Juncus filiformis* inflorescence from population at the northeastern shore of Lough Allen, Co. Leitrim. Photo E. Gaughan © 2020.
Plates 6. *Senecio minimus* inflorescence from population on Dalkey coast, Co. Dublin. Photo Z. Devlin © 2020.
Plates 7. *Viola* x *contempta* (*V. tricolor* x *V. arvensis*) near Castlekeeran Church and Crosses, Co. Meath. Photo M. Norton © 2019.
Plates 8. *Mentha requienii* growing amongst paving stones at Sonairte, 1km W of Laytown Station, Co. Meath. Photo M. Norton © 2017.

Plate 2 (p. 59)

Plate 1 (p. 59)

Plate 3 (p. 74)

Plate 4 (p. 81)

Plate 5 (p. 80)

Plate 6 (p. 35)

Plate 7 (p. 38)

Plate 8 (p. 38)