

BSBI

NEWS  
APRIL 2018 138



Botanical  
Society of  
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# BSBI

# NEWS

APRIL 2018 138

## CONTENTS

NEWSLETTER OF THE BOTANICAL SOCIETY OF BRITAIN AND IRELAND

EDITORIAL / BSBI DIARY	2	COUNTRY ROUNDUPS			
FEATURE ARTICLES		<i>Notable events and findings from around England, Scotland, Wales and Ireland</i>	57		
Progress towards a third atlas of the British and Irish flora	Pete Stroh & Kevin Walker	3	OBITUARIES		
Chasing the Ghost	Peter Marren	8	Compiled by Chris Preston		
BSBI New Year Plant Hunt 2018	Kevin Walker & Louise Marsh	10	Edmund Launert	64	
<i>Apium repens</i> (Creeping Marshwort) in England	Pete Stroh & Fred Rumsey	15	Eric Meek	65	
<i>Solidago sempervirens</i> (Saltmarsh Goldenrod) at Kingsteps, v.c.96	Andy Amphlett & John C. Semple	18	Michael Proctor	66	
SHORT ARTICLES			Basil Ribbons	70	
<i>Dactylorhiza incarnata</i> ssp. <i>lobelii</i>	Michael Clark & Leslie Lewis	25	Obituary Notes	72	
<i>Diapensia lapponica</i> in Scotland	Simon Harrap	27	REVIEWS	Compiled by J. Edmondson	73
Changing status of <i>Pyrola minor</i> on Sefton Coast	Philip H. Smith & Patricia A. Lockwood	31	NOTES		76
<i>Taraxacum litorale</i> , new to the British Isles	Simon Leach & John Richards	36	The BSBI/WFS Presidents' Award		76
Stem stomata of <i>Juncus balticus</i> and <i>J. effusus</i>	Andy Amphlett	38	<i>British &amp; Irish Botany</i>		78
Records of Frederic Arnold Lees on Thorne Moors	Graeme Coles	40	BSBI Photography Competition 2018		79
Marjorie Blamey at 100	David Pearman	42	Panel of Referees and Specialists		79
BEGINNER'S CORNER			Panel of Vice-County Recorders		79
Bud burst phenology of trees and shrubs	John Poland	43	Field Meetings		80
ADVENTIVES AND ALIENS NEWS 14	Compiled by Matthew Berry	46	BSBI in Silicon Valley		80
<i>Trifolium angustifolium</i> naturalised in Bradford	B.A. 'Jesse' Tregale	51	Worldwide Day of Botanical Art 18th May 2018		81
<i>Opuntia</i> on Brownsea Island	David Leadbetter	53	Botany as a Hobby		81
<i>Oenothera</i> species in Surrey	George Hounsome	54			
Request for material of <i>Lepidium virginicum</i>	Matthew Berry	56			



Front cover *Anemone nemorosa* (Wood Anemone) in Ashley Wood Nature Reserve, Dorset. Bob Gibbons

Contributions for the next issue of *BSBI News* (no. 139) should be sent to the Editor Andrew Branson ([andrew.branson@bsbi.org](mailto:andrew.branson@bsbi.org)) by **27th July 2018**.

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## EDITORIAL

Just room to say thank you to everyone for getting in touch. Your comments and encouragement are always most welcome. This issue again demonstrates the enormous range of work in which the BSBI is engaged. It also

contains important news about our sister publication: *British & Irish Botany* (see p. 78).

**Andrew Branson**  
andrew.branson@bsbi.org

### BSBI DIARY 2018

The postponed **BSBI Recorders' Conference** has been rescheduled for 12th–14th October at FSC Preston Montford. There's a flyer inside this issue of *BSBI News*, more info here: [www.bsbi.org/recorders-conference](http://www.bsbi.org/recorders-conference) and you can email us at [reconf@bsbi.org](mailto:reconf@bsbi.org) to find out more or book your space.

This year's **BSBI Annual Exhibition Meeting and AGM** will be held on Saturday 17th November at Edge Hill University, Ormskirk, Lancs. There will be a flyer in the September issue of *BSBI News* and details will also be posted here: <https://bsbi.org/annual-exhibition-meeting>.

#### 2018

Wednesday 25 April 2pm	Board of Trustees	London
Wednesday 25 April 11.30am	Board of Trustees' Investment Committee	London
Saturday 28 April	Committee for Ireland	Dublin
Wednesday 16 May	Committee for Scotland	Perth
Monday 16 – Monday 23 July	Annual Summer Meeting	Isle of Man
Friday 17 – Sunday 19 August	AGM Wales and Summer Meeting	Aberystwyth
Monday 10 – Sunday 17 September	Board of Trustees	e - meeting
Wednesday 12 September	Committee for Scotland	Perth
Saturday 22 September	AGM Ireland	Dublin
Tuesday 2 October	Records and Research	London
Saturday 6 October	Committee for Ireland	Dublin
Thursday 11 October	Publications	London
Friday 12 – Sunday 14 October	Recorders' Conference	Shrewsbury
Thursday 18 October	Training and Education	Shrewsbury
Saturday 20 October	Ireland Recorders' Conference	Dublin
Saturday 27 October	Committee for Wales	Newtown, Powys
Friday 2 November	Council	Edinburgh
Saturday 3 November	Scottish Botanists' Conference	RBGE
Saturday 17 November	AEM & AGM	Ormskirk

#### 2019

Tuesday 29 January	Records and Research	London
Thursday 7 February	Training and Education	Shrewsbury
Thursday 14 February	Publications	London

**Delyth Williams, Honorary General Secretary**



# Progress towards a third atlas of the British and Irish flora

PETE STROH & KEVIN WALKER

This project has most certainly been a marathon, and not a sprint, but with less than two years to go until atlas fieldwork comes to an end, it is perhaps time to dust off your running spikes (lycra optional). The effort put in by BSBI members to date has been nothing short of heroic, with over 15 million records collected. This is a wonderful achievement – our rough calculations suggest that it would have cost at least £11 million to achieve the same effort by paid surveyors. We would like to take this opportunity to thank you all again for contributing your time, skills and expertise. Simply put, the next atlas would not have been possible without your generosity. But although the end is in sight, there are still places to explore, plants to find!

## Changes since the New Atlas

Analyses of your data will not get underway until 2020, but having recently started to examine distribution maps in some detail, we will mention just a few of the species that have piqued our interest.

Rannoch Moor, with Schiehallion in the distance.  
John McSparran

It will probably come as no surprise to avid *BSBI News* readers to learn that species such as *Hydrocotyle ranunculoides* (Floating Pennywort), *Poa infirma* (Early Meadow-grass), *Polycarpon tetraphyllum* (Four-leaved Allseed), *Polypogon viridis* (Water Bent) and *Senecio inaequidens* (Narrow-leaved Ragwort) have expanded their range considerably this century, but perhaps less well-known is the advance of garden plants. For example, *Verbena bonariensis* (Argentinian Vervain), has in recent years become a staple of ‘wildlife friendly’ border planting. It self-seeds freely, and is now naturalised across much of England, into Wales, parts of Scotland and south-west Ireland. Not only is this a fine, statuesque plant, but it is presumably also a valuable nectar source. One of the topics we will be writing about in the forthcoming book of the atlas is the crucial role plants play in the life-cycles of invertebrates and other fauna. If one of our gardens is any kind of indicator, a host of butterflies,

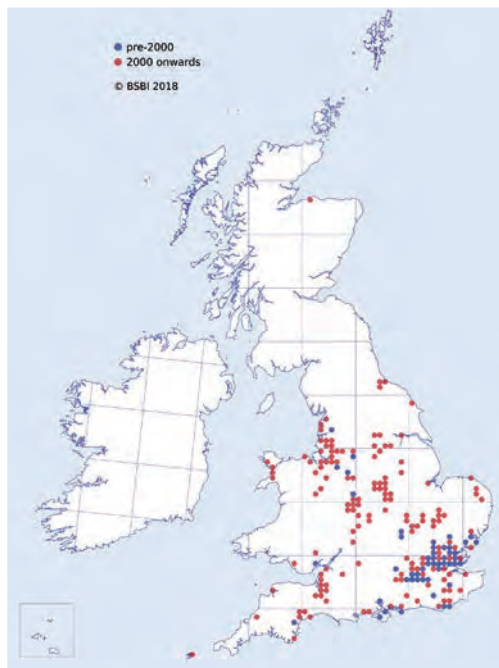




*Hydrocotyle ranunculoides* choking a ditch on the Pevensey Levels. Trevor Renals

day-flying moths, solitary bees and hoverflies all find the flowers of this *Verbena* particularly appealing, seemingly unconcerned that it is a native species to South America. And it blooms into early autumn, so is an excellent late source of nourishment. This and many other ‘spreading aliens’ greatly add to the diversity and colour of urban centres and villages. Indeed, they are the salvation of many botanical lists when the surrounding countryside is intensively farmed, and the BSBI is at the forefront of documenting their distribution in the wild (Roy *et al.*, 2014, 2015). Their genuine increase has combined with an increase in interest in their recording and, as a result, the next atlas will include an additional 400 alien species not listed in the *New Atlas* (Preston *et al.*, 2002). Aliens now far outstrip natives in terms of number of species, and the vast majority, we believe, are to be welcomed.

One that is clearly not to be welcomed, however, is *Hydrocotyle ranunculoides* which was first recorded in the wild in the River Chelmer, Chelmsford, in 1990, and has since spread rapidly, mainly via vegetative fragments. By late 2017, it had been recorded from at least 500 sites within 180 or so hectads across lowland England and Wales, and a single site in Scotland (Fig. 1). It forms impenetrable mats which are known to have negative impacts on native biodiversity, as well as hindering navigation and fishing.



**Figure 1.** The distribution of *Hydrocotyle ranunculoides*. Older records have been mapped on top to highlight spread.

Whilst it can be difficult to disentangle apparent range expansion from increased recorder effort, there is no doubt that it is not just aliens that are being found in new places. An ongoing examination of distribution data has occasionally highlighted new sites and an expansion of the core range for nationally rare and scarce species; welcome news when so often the depressing message is one of decline. The lovely *Orobancha alba* (Thyme Broomrape), a plant principally of coastal, base-rich rocky slopes and machair grassland, has been recorded in many new locations, principally in the Inner and Outer Hebrides, but also as first county records for Berwickshire and, remarkably, species-rich chalk grassland in Wiltshire, adding to the small number of known inland sites (e.g. limestone grassland/outcrops in Wensleydale, North-West Yorkshire). These new localities are almost certainly a result of a combination of more intensive recording, mixed with a bit of luck, as spikes of this





*Orobanche alba* growing in machair near to Kiloran Bay, Colonsay. Pete Stroh

species are notorious for appearing in large numbers one year, seemingly to vanish without trace the next. But it must also, in part, be correlated with good management of habitat, a factor that is of vital importance for much of our threatened flora (Walker *et al.*, 2017).

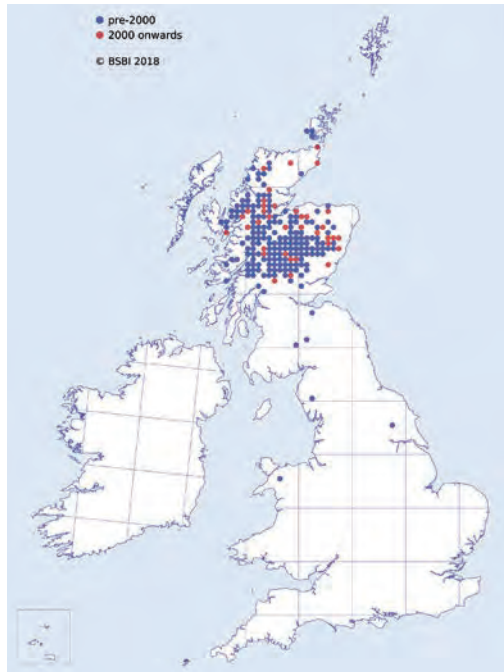
*Lycopodium annotinum* (Interrupted Clubmoss), on the other hand, can be a fairly reliable plant to re-find, but often requires some effort to locate, being typically found at high altitudes, usually on acidic peaty soils, often overlying boulders, or in hollows where snow accumulates. Headley (in Wigginton, 1999 and in Preston *et al.*, 2002) speculated that it may be present but overlooked across its core area of the Scottish Highlands. Surveys this century have proved this to be an accurate prediction, with recorders filling gaps in suitable locations and sniffing out many new hectad records (special mention here to the late Eric Meek, who was associated with many of these finds). Its range is now known to extend north-eastwards as far as Banffshire, Caithness and

Orkney, and as far south as Lanarkshire (Figs. 2a and 2b) where, incredibly, it was found growing with *Huperzia selago* (Fir Clubmoss), *Lycopodium clavatum* (Stag's-horn Clubmoss) and *Diphasiastrum alpinum* (Alpine Clubmoss), all present within a 1m<sup>2</sup> area (see Hawell & MacPherson, 2007). Outside of its Scottish stronghold, *L. annotinum* is a very rare species indeed, with just one extant English locality at Bowfell, Cumbria. We could name here many more species where the news is encouraging, and although there is also much to be concerned about, it is absolutely the case that your records are vital if we are to have an accurate picture of the health of our flora in the 21st century to better inform conservation effort, so keep up the good work!

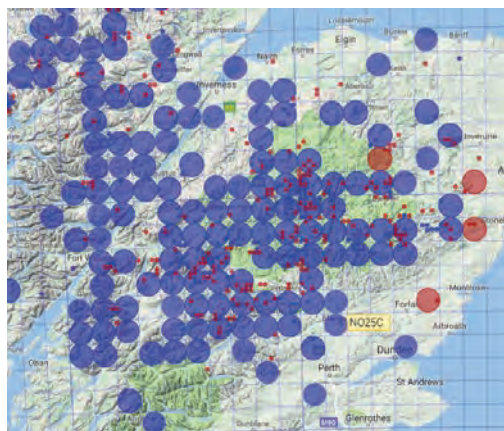
It is not just 21st century records that are helping to fill gaps in our knowledge of distribution. Hundreds of thousands of historical records have been digitised since 2000, many from herbarium collections, county floras and historical literature. This is an incredible achievement, and again, all undertaken by volunteers. This work sometimes involved determining herbarium specimens of wild flowers that were under-recorded in the 20th century,



*Lycopodium annotinum* at Shotts Bing, Lanarkshire. John Hawell



**Figure 2a.** The distribution of *Lycopodium annotinum*.



**Figure 2b.** Being able to zoom in to maps can enable a better understanding of the ‘spread’ of a species. Here, post-2000 records (red dots) within the core range of *Lycopodium annotinum* are shown at tetrad precision, as well as hectad, with the pre-2000 distribution mapped as blue dots.

owing to difficulties with identification or taxonomy (or both), with the knock-on effect that the threat

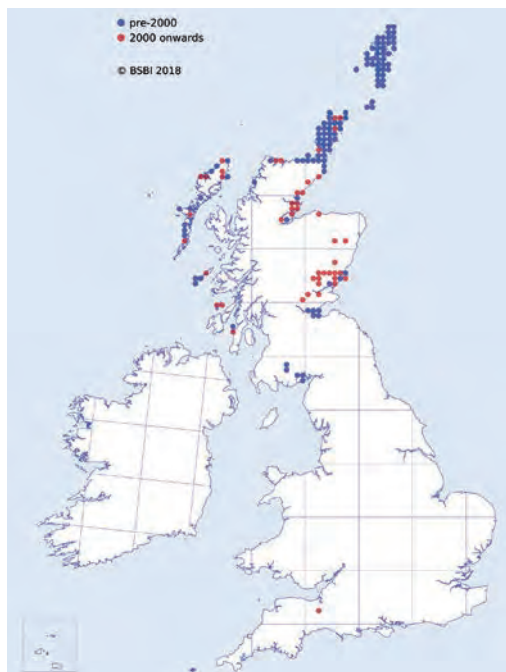
to them was not able to be quantified adequately. Many of these difficulties have now been resolved, and the resulting information published in BSBI Handbooks, *BSBI News* and elsewhere has provided accurate field characters for surveyors to use when determining what would once have been lumped into an aggregate or simply overlooked.

To take one example, *Polygonum boreale* (Northern Knotgrass) was not mapped separately in the first Atlas (Perring & Walters, 1962), but was instead included within the *P. aviculare* aggregate. The *New Atlas* attempted to map *P. boreale* at species level, whilst admitting that it was still likely to be under-recorded. But recently, armed with John Akeroyd’s excellent *Docks and Knotweeds BSBI Handbook*, botanists are more aware of key distinguishing characters, and this has resulted in a flush of records and a more complete understanding of its distribution (Fig. 3), including one adventive record found by Simon Leach in Somerset, over 400km from the nearest native site!

### What will the atlas look like?

BSBI staff and Council have been considering how we present the information that you have so diligently collected. As discussions have progressed, it has become increasingly apparent that we have the information and technological know-how to do something slightly different from previous atlases, which would appeal to a wider audience. The main printed output will be a general book about the British and Irish flora rather than an atlas, with maps included only when they are useful for illustrating specific points. The book will have at its heart the results of the atlas project, wrapped around with such fundamental questions as why we study plants, what shapes our flora, how and why our flora has changed, and why the results of the Atlas 2020 survey are relevant and important. Interactive distribution maps for all of the 4,000 plus taxa covered by the project will be available online, using the current Online Atlas of the British and Irish flora format (<https://www.brc.ac.uk/plantatlas/>). The flexibility that comes with publishing maps in this way means that we will be able to produce





**Figure 3.** The distribution of *Polygonum boreale*.

more than one map for many species, showing, for example, relative abundance for common species, and maps at a finer resolution than simply hectads. The maps and (updated) captions from the *New Atlas* will be linked with online accounts, as will ecological information, photographs, and accounts for species included in the *Red Data Book* and *Scarce Plants*. We will also be producing a concise summary of key results from the atlas project aimed at government, statutory agencies and conservation organisations. We have been asked by a few members if it would be possible to also produce a book of (hectad) maps, and we are currently investigating this. If it is considered by Council to be financially viable, the book would follow closely the format of the first atlas. We aim to complete all of the above by 2022.

### And finally...

As a Society rooted firmly in science, it is a shame that we have not yet worked out a stratified system of membership recruitment whereby at least one

BSBI member lives in each of the *c.* 3,500 hectads in Britain and Ireland. Until then, there are areas, sometimes counties, with very few members to help VCRs with recording. If you are thinking of travelling to the wilds of Scotland, Ireland, Wales or England, please do think about asking the relevant VCR if there are particular species to look out for, or places that need visiting. You might also consider looking close to home; your local square may need recent records.

We cannot wait to get started on analysing and interpreting the data you have given us, but the more complete a picture we have of the current state of our flora, the better, so please keep on sending us the records, and happy botanising!

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# Chasing the Ghost

## My journey to find all the wild flowers in Britain

PETER MARREN

Back in 2014, I thought it would be a great idea to try and find all the wild plants of Britain. By ‘wild’, I mean all the native or probably native species, plus those considered to be archaeophytes. I would include ferns and fern allies, but not the huge and critical complexes of hawkweeds and brambles. We none of us live long enough to see all those. The task wasn’t impossible since I had seen most of the flora already, bar fifty or so. And so it became a quest to see that last half-century, preferably within a single mad summer. After that, I thought, I will write a book about my experiences.

To attempt to explain to the patient reader this clear lapse of sanity puts one in a difficulty. One can easily find reasons *afterwards*. I wanted to write a sort of adventure book about plant-hunting. I wanted to show that wild plants aren’t just ‘botany’. I wanted to tap into the old, outdated idea that plants are amazing, and that they are also *fun*. Well, *we* know they are fun, but, it seems, a lot of people don’t,

Sue Scott and Peter Marren (centre) heading off in the mist of the Black Cuillins. *Michael Scott*  
Inset *Arabis alpina* on Skye, 2012. *Stephen Bungard*

otherwise the BSBI would have the membership of, say, the BTO, or Butterfly Conservation, and Plantlife would be the vegetable world’s RSPB. Anyway, that was my retrospective thought. To be honest, though, I did it because I wanted to for reasons that are beyond explanation. It was an unreasoning urge and I decided to give in to it. Besides, if I was ever to see certain elusive wild flowers, I needed to get cracking before I succumbed to the infirmities of age.

One of the ‘Last Fifty’ was *Arabis alpina* (Alpine Rock-cress), which is confined to the Black Cuillins of Skye where it was discovered in 1887 by a super-fit, mountaineering Irish botanist called Henry Chichester Hart. He was on honeymoon at the time. The trek to see it, wrote John Raven, is long, ‘stiff and gloomy’. Worse, it always seems to be



raining, or at least shrouded in mist. The following extract from my book, *Chasing the Ghost*, describes what happened when my friends Michael and Sue Scott, and I, followed in H.C. Hart's footsteps.

### Up into the mists

"These hills make their own weather," observed Mike. It's as if they have a mind of their own. As if they love water and rain, and cannot get enough; love the dim, grey light, and the silver lines of water streaming from every gully. It was surprisingly difficult to find a parking space. Crowds of walkers had come here to see the well-advertised Fairy Pools, circles of boiling water beneath a succession of falls. Through the mist you could see them huddled on the rocks like penguins, posing for the Facebook shot, all smiles and laughter in the mist.

'We passed them and trudged on, up the boggy track towards the distant cliffs. We are not letting you up here easily, the crags seemed to whisper. This is hard country. Are you sure you're hard enough, you three, one of you with a limp, we notice, one with white hair, and all of you getting on a bit? The rocks, which now hemmed in the stream and blocked our route, coincided with the cloud base. We were entering a world of vapour, a white zone of mist that showed no sign of lifting. We forced ourselves on, seeking a way through a barely visible wilderness of rock, some of it loose, some of it like tumbledown walls, threaded by countless trickles and streamlets treacherous with slime. Fortunately, the rock is gabbro, rough as emery paper, offering a good grip with plenty of holds. On we struggled. I quite enjoyed the climb, feeling little spurts of youth in my aching limbs as we clambered up one outcrop and slithered down the other side, over and over. We knew we were somewhere inside the semi-circle of cliff that encloses the upper corrie. There was a smudge of grey within the mist that suggested approaching rock walls. We were at last in the land of the rock-cress and we couldn't see a thing. "Give it an hour?" suggested Sue.

'We got out our charts and notes and photographs. Without a view of the cliff it was impossible to identify the whereabouts of the rock-

cress's lonely ledge. The compass was no help. These rocks contain iron; they are magnetic and north was currently facing west, out to sea.

"It's clearing up a bit." We could now make out short sections of cliff but not their battlemented tops. The flora was sparser than I'd ever seen in Britain. Where the sheep could reach there were tufts of grass, but it was mostly naked rock, plastered here and there with moss or lichen. Suddenly Sue's sharp eyes spotted some white flowers about twenty feet up a gully. But the light was dim, and even binoculars yielded no details, just a larger, indeterminate smudge of white. I didn't fancy climbing up to them. I've fallen off cliffs before, and it was a long walk back for a broken ankle.

'Sue fumbled for the camera inside her pack, took a few snaps and enlarged them. Generally I tried to do without digital technology on the quest, but this was no time to be dogmatic. We peered at the blurry image on the screen, stared back at the flowers, shaking in the wind, and looked again. "I think it's a rock-cress!" It had to be. Glory be, we had found a rock-cress! Yes, but look at those leaves. Not densely hairy are they? Not 'sinuate-toothed'. It was certainly a rock-cress but the wrong one. Northern Rock-cress [*Arabisopsis petraea*] occurs among these hard hills, and that is what we had found. By lightening the image you could even make out its untidy nest of slender, dark-green leaves. Somewhere out there, its rare cousin the Alpine Rock-cress was waiting, a sodden tuft or two with dripping flowers, somewhere beyond what John Raven despairingly called that 'endless scree'. A gust of wet air caught me in the face. I had never, I thought, in all my life, been less eager to chase down a rare flower.'

And there I must leave it – as a rather literal cliff-hanger!

*Chasing the Ghost* is published by Square Peg. See review on p. 73. This is available from Summerfield Books ([www.summerfieldbooks.com](http://www.summerfieldbooks.com)) at a special price of £13.50 (r.r.p. £16.99).







# BSBI New Year Plant Hunt 2018

KEVIN WALKER & LOUISE MARSH

The BSBI's seventh New Year Plant Hunt (NYPH) was held between 30th December and 2nd January 2018. Volunteers used an online recording form to submit lists of native and alien (non-native) plants they found in flower in wild situations during a three-hour walk at sites throughout Britain and Ireland. A full analysis is available to download here: <https://bsbi.org/download/9036/>, but below we summarise what those volunteers found and how this year's results compare to results from previous years.

## Background

Since 2012, the Botanical Society of Britain & Ireland (BSBI) has run an annual hunt for plants in flower during a four-day period over New Year. Although intended to provide a fun and competitive activity for botanists during a quiet period, these surveys have a serious element. Observations of 'unseasonal' phenological events are being reported from around the globe in response to

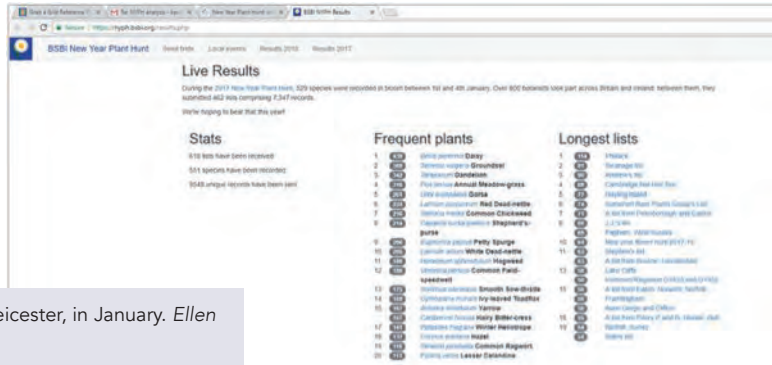
Ciara Sugrue, one of the NYPH support team volunteers, with Hazel in bloom, in Leicester, in January. *Ellen Goddard*

rising temperatures, which are predicted to exceed 2°C above pre-industrial levels in the coming decades. Citizen-science projects such as NYPH are therefore providing evidence of how changing weather patterns are influencing wildlife, as well as providing new information on the phenology of common British and Irish species outside of the normal recording season. Through the use of new technologies, such as social media and online recording applications, the NYPH has also raised the profile of the BSBI and introduced its work to new audiences.

## Method

For NYPH 2018, volunteers picked a day between Saturday 30th December 2017 and Tuesday 2nd January 2018 and recorded all native plants

**Figure 1.** Screenshot of the New Year Plant Hunt 2018 online data portal showing live results and locations of plant hunts across Britain and Ireland.



The NYPH in full swing, in Leicester, in January. *Ellen Goddard*



and naturalised aliens (excluding obviously planted species in private gardens) that they found in flower on a walk not exceeding three hours (excluding breaks and time travelling between sites). Most lists were submitted via the NYPH online data portal, which allowed submission and simultaneous visualisation of the results as they came in (Fig. 1) and facilitated checking of data.

For analyses, species were categorised as native or alien following Preston *et al.* (2002) and allocated to one of four categories based on their normal flowering phenology. The typical flowering months were taken from Clapham *et al.* (1987) in the first instance and Sell & Murrell (1996 *et seq*) for species

**Figure 2.** Map of the New Year Plant Hunt lists received in 2018. Each dot represents a hectad (10 × 10km grid square) in which at least one NYPH list was recorded.

**Table 1.** The number of plant species recorded in flower during the New Year Plant Hunts, 2014-2018.

Status	2014	2015	2016	2017	2018
<b>Native</b>	135 (60%)	206 (56%)	313 (51%)	264 (54%)	290 (55%)
<b>Alien</b>	89 (40%)	160 (44%)	298 (49%)	228 (46%)	242 (45%)
<b>Total</b>	224	366	611	492	532

**Table 2.** The ten species most frequently recorded in flower during the New Year Plant Hunts, 2014-2018. Species are listed in their rank order in 2018. = indicates equal rank.

Species	2014	2015	2016	2017	2018
<i>Bellis perennis</i>	2	1=	1	1	1
<i>Senecio vulgaris</i>	1	3	3	2	2
<i>Taraxacum</i> agg.	3	1=	2	3	3
<i>Poa annua</i>	5	4	4	4	4
<i>Ulex europaeus</i>	13	5	5	5	5
<i>Lamium purpureum</i>	9=	13	8=	9	6
<i>Capsella bursa-pastoris</i>	7=	6	11	6	7
<i>Stellaria media</i>	6	10=	29	8	8
<i>Lamium album</i>	11	9	10	16	9
<i>Euphorbia peplus</i>	7=	8	14	7	10
<i>Heracleum sphondylium</i>	25=	10=	12	18	11
<i>Veronica persica</i>	9=	12	22	10	13
<i>Sonchus oleraceus</i>	4	7	6	11	14
<i>Senecio jacobaea</i>	15	16	7	15	21
<i>Geranium robertianum</i>	14	23	8=	29	29

not covered by Clapham *et al.* Species were then categorised as:

- ‘expected’, if they flower at New Year;
- flowering ‘early’, if they typically flower in the spring and complete flowering by summer at the latest;
- ‘late’, if flowering extends from the summer into the autumn; and
- ‘early or late’ for species with an extended flowering period (i.e. from spring-autumn) or just flowering briefly in the summer months.

### Participation

More than 700 recording groups, families, groups of friends or individual recorders took part in 2018. They submitted 612 lists in total (152 more than in 2017) comprising 9,907 unique records, covering 521 hectads across Britain and Ireland. This

compares with 7,123 records covering 392 hectads in 2017.

### Number and rank of species

In 2018, 532 species were recorded in flower, 40 more than in 2017, but 79 less than in 2016 (Table 1). As in previous years, this total was roughly equally distributed between natives and aliens naturalised in wild locations: in 2018 aliens comprised 45% of all the species recorded in flower, which is comparable to, and certainly not significantly different from, the numbers recorded in previous years when they represented between 40% and 49% of all the species recorded. The five most frequently recorded species found in flower in 2018 were identical to 2017 (Table 2) and *Lamium album* (White Dead-nettle) was the only top-ten ranked species that was markedly more frequent in 2018 (ranked 16th in 2017).



## Phenology

In terms of flowering times (phenology), the vast majority of species recorded were flowering late (58%) rather than early (14%), early or late (18%) or as would be expected at New Year (10%). When expressed as the proportion of all records made (rather than as a proportion of all species recorded), however, 39% of records represented species that we would expect to be flowering at New Year whereas 38% were of species that normally flower into the autumn and so were flowering late. Only 10% of individuals were flowering early and 13% were flowering early or late.

These proportions were almost identical to previous years, suggesting that the vast majority of 'unseasonal' flowering since 2014 has been of 'autumn stragglers' rather than species that are flowering early. The lower incidence of flowering in 2017 and 2018 appears to be due to colder conditions in the months preceding New Year compared to the much milder winters of 2014, 2015 and 2016.

## Comparing results with weather data

With the exception of 2017, far fewer species were recorded in flower in 2018 than in previous years. This was particularly the case for natives, whereas the differences for aliens were less marked. A comparison of the weather data for October to December would suggest that these differences were largely due to temperatures during the late autumn and early winter months. These months were exceptionally mild in 2013–2015 when compared to long term averages (1981–2010), especially December 2015 when the average

Trude Schwarzacher, a volunteer with the NYPH Support Team, finds Gorse in flower.  
*Ciara Sugrue*



**Figure 3.** The percentage of records of species in flower at New Year that were flowering early, late or as expected, 2014–2018.



**Figure 4.** UK mean temperature (1961–1990) anomalies for the winter months (October to December) preceding New Year, 2013–2017. Data from UK Met Office (<http://www.metoffice.gov.uk/climate/uk/summaries>).

temperature was 4°C above average (Fig. 4). In comparison, the same period was much colder in 2016 and 2017, when widespread frosts presumably curtailed the flowering of many species.

Despite these differences, the NYPH results for 2014–2018 have shown that many more species are flowering at New Year than was previously thought. Overall, NYPH has given us a much clearer picture of the common species and large numbers of aliens that are able to exploit thermophilous habitats, particularly in urban areas where temperatures are maintained a few degrees above those in the surrounding countryside. The lack of a historic baseline means that we cannot tell whether plants are flowering more often at New Year than in the past, but the results of the first five years have shown that there can be marked increases in flowering owing to unseasonably mild weather. The main effects of these milder conditions are to allow species that usually flower in the autumn to continue flowering well beyond the first frosts. By comparison, there seems very little evidence to suggest that vernal species are flowering earlier. This may be because many vernal species require a period of stratification before warmer temperatures stimulate spring growth. Further work is needed to better understand the links between autumn/winter weather and the unseasonal flowering events revealed by the NYPH. Such work should focus on correlations between flowering with climate data whilst taking

into account the potentially confounding effects of latitude, the built environment and survey effort.

### Media coverage

The 2018 New Year Plant Hunt in v.c.55 was filmed for BBC's Countryfile and broadcast on 21st January. Newspapers covering NYPH included: *The Guardian*, *The Times*, *The Telegraph*, the *Irish Mail* and the *Irish Mirror*. Links to the footage and articles are available at: <https://bsbi.org/new-year-plant-hunt>.

### Acknowledgements

We owe a huge debt of gratitude to the hundreds of botanists who took part in the NYPH in 2018, to the support team (Ciará Sugrue, Ellen Goddard, Ian Denholm, Jo Wright and Richard Mabbutt) who gave up their time over the holidays to make the project a success, and to Tom Humphrey (BSBI Database Officer) for developing and supporting the online recording form and website.

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Filming for BBC's Countryfile at the herbarium at Leicester University. *Ellen Goddard*



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# *Apium repens* (Creeping Marshwort) in England – on the brink of extinction?

PETE STROH & FRED RUMSEY

The umbellifer *Apium repens* is a light-demanding, low-growing clonal perennial of damp, nutrient-rich and sparsely vegetated grassland prone to winter flooding and disturbance. It has a European Temperate distribution (Preston & Hill, 1997), being widely but very thinly scattered in northern, southern and central Europe, from England and Denmark to the Czech Republic, south to Italy and west to Spain, Portugal and the Canary Islands, where it reaches the southern limit of its range. It is also found in the Atlas Mountains of

*Apium repens* in Oxfordshire. Judy Webb

Morocco, where it has been assessed as ‘Vulnerable’ (Garcia *et al.*, 2010). Recent taxonomic work has led to a revision of *Apium sensu lato*, confirming that most of the European *Apium* species (including *A. repens*) belong to the genus *Helosciadium* (Ronse *et al.*, 2010). This change is widely accepted across Europe, but for the purpose of this note, we follow Stace (2010).

Plants form rosettes that produce horizontal stems that ‘creep’ along the ground and root at each



node. Regeneration is therefore largely vegetative, although new plants may also establish via seed, which mature and disperse in the autumn months. *Apium repens* forms a short-term persistent seedbank, with Burmeier & Jensen (2008) calculating a density in the soil of just over 1,000 seeds per m<sup>2</sup> in the vicinity of extant populations. As a weak competitor *A. repens* requires periodic disturbance, as high levels of competition limit nutrient availability and light, which in turn reduce flowering and fruiting performance. Disturbance is attained via the natural hydrological cycle (i.e. fluctuating water levels) and by extensive livestock grazing, resulting in the suppression of competitive species and the provision of gaps for colonisation by *A. repens* stolons (and occasionally seed), although excessive and persistent overgrazing has the potential to lead to the exclusion of *A. repens* (see Rosenthal & Lederbogen, 2008). Relatively high soil seed density and persistence in the soils for at least two years means that disturbance following short periods of neglect can result in the recovery of populations, for example, at Houtsaegerduinen, in Belgium, or at Binsey Green, in Oxfordshire, although plants at the latter site did not persist and restoration work at a second historical site did not lead to recovery (McDonald & Lambrick, 2006).

### A history of decline

*Apium repens* is listed in Appendix I of the Bern Convention and in Annex IV of the Habitats Directive, and has always been a rare plant in Great Britain. There are confirmed historical records from Skipwith Common in south-east Yorkshire, Hempton Green in West Norfolk (Beckett, 2000) and from three sites in Oxfordshire: Binsey Green, Port Meadow and Langel Common. Of these, only Port Meadow now retains the species and, worryingly, there has been an ongoing retraction of suitable habitat in recent years owing to a reduction in the number of cattle grazing the site, which has in turn led to a steady decline in numbers of plants over the past ten years (Judy Webb, pers. comm.). Although numbers were relatively high in 2017 (c. 200), all the plants were discovered in the middle

of a dried-up lake after the prolonged drought of June and early July. These plants will certainly be killed if the winter flood remains in place when warmer temperatures return. As no seed was seen to be produced in 2017, the 'successful' germination may in fact result in a net depletion of the soil seedbank.

Rather remarkably, a second, small population of *A. repens* was found at Walthamstow Marshes, in South Essex, by Brian Wurzell following ditch clearance works at the site in 2002. Given the short-term persistence of seeds of this species in the soil, and also its superficial similarity to grazed prostrate forms of *A. nodiflorum* (Fool's Watercress), it is probable that *A. repens* was always present in small areas of suitable ground pre-ditch clearance and had persisted at Walthamstow undetected. However, despite intensive searches it has not been seen here for at least four years (possibly much longer), with a prolonged period of under-grazing resulting in the encroachment of tall, dense vegetation. The site manager and volunteers have attempted to restore suitably open, disturbed conditions by creating a small scrape and cutting back vegetation, and these actions, in combination with grazing by Belted Galloways, raised hopes that *A. repens* might reappear. Unfortunately, the cattle have tended to avoid grazing the areas where *A. repens* was last seen, and manually maintaining the scrape is resource intensive and not really practical in the long-term. Despite the best efforts of staff and volunteers, to date no plants have been found and it is now uncertain that even with appropriate management it can be recovered from the seedbank.

### Introductions

Over the past two decades there have been several attempts at introducing *Apium repens* to apparently suitable sites. One such translocation undertaken in 1996 at North Hinksey Meadow, Oxfordshire, has been particularly successful, with plants still present in 2017. When it comes to assessing threat, IUCN guidelines (and additional rules incorporated in the *England Red List*) recommend that conservation introductions are taken into account if the

population lies within the known native range of the target species, if the introduction used suitable genetic stock, if there is evidence of sustained production of viable offspring produced over a suitable period of time relative to the known ecology of the introduced taxon, and if the introduction lies within a well-protected site (e.g. SSSI or second-tier site). All these criteria apply to the North Hinksey population (the meadow is within a Local Nature Reserve), and recent counts over the past ten years have put numbers in the hundreds, sometimes low thousands. However, a recent report concerning this introduced population (Webb, 2017) states that there has been a cessation of grazing which will inevitably lead to rank and unsuitable conditions, and also that the route of the planned Oxford Flood Alleviation Scheme has the potential to substantially lower the water table at North Hinksey, with the result that the central shallow channel may become too dry for the species once the scheme is in place.

Given the rarity of this species in Britain, its continued decline, and its importance in both a national and European context, we consider that the current threat assessment of ‘Endangered’ in Great Britain is no longer sufficient. If we take a precautionary approach and assume that the Walthamstow population is probably lost and exclude for the time being the introduced population owing to concerns over management and site integrity, then *A. repens* would now qualify as ‘Critically Endangered’ under IUCN criterion B2ab(iv).

For so many of our threatened species, undergrazing is now the main factor responsible for decline (Walker *et al.*, 2017). There are numerous reasons for this, and whilst it is certainly increasingly difficult to find graziers and livestock for many sites in lowland areas, that should not mean that we accept declines as inevitable. Solutions are urgently required: perhaps the recruitment of regional graziers by statutory organisations alongside the purchasing and shepherding of ‘flying’ flocks and herds is one way forward. Some wildlife trusts have had great success with this approach. As ever, adopting such measures will come down to money, available resources and political will. Translocations of sections of rooted

stolons from Port Meadow SSSI have taken place to safeguard genetic material, under guidance from the Ashmolean Natural History Society of Oxfordshire, but the efforts of such dedicated volunteers deserve better. If we are not to lose *A. repens* from our native British flora, cattle grazing at sufficient stocking rates is now urgently required at perhaps its last remaining native site.

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# *Solidago sempervirens* L. (Salt-marsh Goldenrod) naturalised on saltmarsh at Kingsteps, v.c.96 – the first record in the wild in Britain and Ireland

ANDY AMPHLETT & JOHN C. SEMPLE

On 6th September 2017 Andy Amphlett (AA) was recording plants in the Kingsteps area, east of Nairn in v.c.96, north-east Scotland. Following the footpath from the Kingsteps car park, he reached the tidal pool at OS grid reference NH903577 (Fig. 1) locally referred to as the Minister's Loch. Having already noted species such as *Bolboschoenus maritimus* (Sea Club-rush), *Centaurium littorale* (Seaside Centaury), *Glaux maritima* (Sea-milkwort), and *Juncus balticus* (Baltic Rush), his attention was drawn to several patches of an unfamiliar looking, tall yellow-flowered plant alongside the ditch that runs south-westwards from the pool (Fig. 2). On reaching

the plants and on closer examination he was none the wiser as to their identity. Assuming that he was just having a mental block, and noticing that he had 4G internet access on his phone, AA stopped for a spot of lunch and resorted to some searching on Google. The name *Solidago sempervirens* came up in the search results. Looking at various online photos this seemed an at least plausible identification, and checking BSBI online maps there were, indeed, a few hectad dots for this species in GB. AA therefore collected a single stem, took some photographs and continued plant recording.

At home AA was able to confirm that the specimen collected was a *Solidago*, but not one described in Stace (2010). The stands of the plant were so obvious, and the location so regularly

**Above** *Solidago sempervirens* at Kingsteps, 18/9/2017. Andy Amphlett





**Figure 1.** *Solidago sempervirens* population extent at Kingsteps, 18/9/2017. 10m grid cell precision, with 100m Ordnance Survey grid.

visited he assumed there must be a record already on the BSBI Distribution Database (DDb). A search only found records of the native *Solidago virgaurea* (Goldenrod) within the NH95 and immediately adjacent NH85 hectads. Puzzled, AA looked at all the records for the NH95D tetrad within which the site lay, to see if any species had been recorded that might perhaps have been recorded in error instead of the *Solidago*. There were two records of *Senecio sarracenicus* (Broad-leaved Ragwort), made by the late Margaret Barron (vice-county recorder for v.c.96), dated 16th August 2000, with grid references for two of the 100m grid squares within which the *Solidago* was growing. The records stated that the plants had been found, 'By ditch/stream side and edge of saltmarsh', exactly matching where the *Solidago* was growing. Given how extensive the *Solidago* patches are, it would not be at all surprising if they had been present in 2000. A thorough survey of the area by AA on 18th September 2017 found no *Senecio sarracenicus*, and although only superficially similar in appearance, it seems likely that the *Solidago* had been misidentified as *Senecio sarracenicus*.

Seeking guidance and assistance regarding the identification of the plants, AA sent photographs to Matthew Berry, Mick Crawley and Clive Stace (CS). All considered the tentative identification plausible,

and CS commented that 'on consulting three North American Floras it seems that it should not be too difficult to identify in this extremely difficult genus'. In a subsequent email CS suggested contacting John Semple (JS), the lead author of the *Solidago* account in the *Flora of North America*. John very promptly replied to AA's email, requested additional photos, and subsequently confirmed

the identification. JS stated that, 'You can safely refer to the plants as *S. sempervirens* ssp. *sempervirens* (*sensu* *Flora of North America*, Semple & Cook, 2006). You can also refer to the plants as *S. sempervirens sensu stricto* following Semple *et al.* (2016) because that would be more accurate'.



**Figure 2.** *Solidago sempervirens* beside ditch, Kingsteps, 18/9/2017. Andy Amphlett

AA then investigated the other British records for *S. sempervirens*. This species has been accepted as recorded from Britain and Ireland (BSBI 2007) on the basis of a 1904 record by M. Tinker from ‘an island in the Coquet River below the mill at Thrum, Rothbury, Northumberland’ (Druce, 1917, 1928; Swan, 1993; Clement & Foster, 1994). However, this species is not included in any of the recent standard Floras for Britain and Ireland (Clapham *et al.*, 1987; Stace, 2010; Sell & Murrell, 2006). The Northumberland specimen is at Hb. BM. No name is attached to the original determination, and in the accompanying letter, Tinker only identifies the specimen as a *Solidago*. Examination by both authors of a scanned image of the specimen supplied by John Hunnex indicates that it is not *S. sempervirens*. The inflorescence shape is incorrect, the leaves do not sheath the stem, are too small and the wrong shape; it is most probably a robust *Solidago virgaurea*. The site, 20km inland on an island in a fast flowing river, is also unsuitable for a halophyte.

The DDb contains seven other records for *S. sempervirens*. Records from five hectads in v.c.c.81, 97, 103 and 104 (all for BSBI date class 1987–1999) were entered into the Vascular Plant Database from Atlas 2000 mastercards. The BSBI Atlas 2000 project (Preston *et al.*, 2002) mapped, in the published book or on the accompanying CD, only those taxa treated in full by Stace (1997). The record validation process relied on manually checking database printouts, and taxa not included in the Atlas 2000 project were not included on the printouts. Hence these five records of *S. sempervirens* were not checked at the time. There is no supporting evidence for these records, and after checking copies of the original mastercards, all these records were found to be data entry errors. A 1997 record from v.c.19 is also known to be a data entry error. The sole remaining additional record is an unconfirmed one from v.c.68 in 2015. A revisit to the site in 2017 located only *Solidago gigantea* (Early Goldenrod) (Metherell pers. comm.). This had not been recorded on the 2015 visit, and an identification or database entry error is considered a possibility. Therefore the Kingsteps occurrence of *S. sempervirens* is the first confirmed record for the

species in the wild in Britain and Ireland.

The most obvious distinguishing feature of *S. sempervirens*, separating this from other naturalised *Solidago* species included in Stace (2010), is that the leaves are entire, with no marginal teeth. Other distinctive features are that the leaves are fleshy and that the lower and especially basal ones sheath the stem; these sheaths are often retained when the basal leaves have fallen, and can be found as leaf scars on the lower stem. Based on a collection of four representative stems, measurements are (median and range in cm): height 105 (85–125); inflorescence length 28.5 (19–43); basal and next to basal leaves, length 33 (29–37.5); maximum width 5 (4–6). The plants are completely glabrous, with very tough woody stems, flushed pink, especially in the lower parts. See Figs 3–4. A full description is available online (Semple & Cook, 2006).

*S. sempervirens* (*sensu Flora of North America*) comprises a species complex, comprising *S. azorica* Hochstetter ex Seubert, *S. maya* Semple, *S. mexicana* L., *S. paniculata* DC., and *S. sempervirens* s.s. (Semple *et al.*, 2016). *S. sempervirens*, the species found in Scotland, is native



**Figure 3.** *Solidago sempervirens* (open inflorescence), 18/9/2017. Andy Amphlett

to the Atlantic coast of North America, and is found from northern North Carolina to Newfoundland. Here it is reported from coastal dunes and grasslands, on margins of estuaries, on upper margins of salt marshes, in brackish marshes, and in freshwater wetlands. Hence the Scottish population grows in a similar habitat to native populations in North America. In North America, *S. sempervirens* also occurs in disturbed sites, including verges of salt-treated roads, and introduced populations are sometimes very large, e.g. by the Detroit River, Lake Erie and Lake Michigan (Semple & Cook, 2006). The ecology of the species in North America is described by Lonard *et al.* (2015).

According to the *Flora of North America* account, plants cultivated in European gardens have been labelled *S. sempervirens* var. *viminea* (Aiton) A. Gray. The type specimen of this taxon is at BM and a scan of the specimen is available to view via the British Museum Data Portal. This specimen has extremely narrow (atypical) leaves for *S. sempervirens*, and JS considers that it is perhaps a garden hybrid cultivar involving *S. sempervirens* x another *Solidago* species.

This is not the taxon found on the v.c.96 coast at Kingsteps.

AA revisited the Kingsteps site on 18th September 2017 and mapped the extent of the population using a Garmin Etrex10 GPS unit, which gave an estimate of position error of 2–3m. Stands of *S. sempervirens* were found in 36 10x10m OS grid cells over an area of c. 300x50m (see Fig. 1). At the mapping scale used there is a c. 10m discrepancy between the grid references obtained from the GPS unit and the registration of Google Earth imagery. Therefore for presentation purposes only, the OS grid references were offset 10m to the north to match the photography. The original GPS derived grid references have been used for the detailed records on the DDB.

Thirty of the 36 occupied cells (83%) are along and either side of the ditch that runs south-west from the tidal pool, with the majority of plants on the north-west side of the ditch. There are also a few isolated patches on the north-east side of the pool, c. 90m from the main population. Plants occur as large clumps, sometimes coalescing into larger patches, as well as scattered smaller clumps and individual plants. The largest patches are on a slightly elevated dry bank on the north-west side of the ditch, but many smaller clumps and isolated plants are found in the adjacent *Bolboschoenus maritimus* dominated marsh. A mosaic of intertidal flats, saltmarsh, dune and shingle extends for more than 10km to the north-east. Saltmarsh was searched for 800m away from the *S. sempervirens* stands, and further areas scanned with binoculars from a vantage point. No further *S. sempervirens* stands were located.

The tidal pool and ditch beside which *S. sempervirens* grows is protected from the sea by a scrub-covered sand spit. This is extending eastwards and accretion of sand beyond its apex is beginning to cut off the tidal pool from the sea. Examination of old Ordnance Survey maps via the National Library of Scotland website show that this spit was first indicated in embryonic form on the 1929 One Inch 'Popular' edition map. By 1961, the One Inch 7th series map showed the spit to be well developed,



**Figure 4.** *Solidago sempervirens* remains of sheathing petiole: left, second leaf up from base of stem; right, at base of stem. Andy Amphlett



with an area of marsh indicated on its landward side, but with the location of the current tidal pool being an open tidal inlet.

### How did it arrive?

The vector by which *S. sempervirens* arrived at Kingsteps is unknown. Three scenarios are outlined below.

1. Establishment from seed or rhizome fragments spreading from, or derived from, plants in nearby gardens. In Britain and Ireland, *S. sempervirens* is listed as having been in cultivation as early as 1699 (Aiton, 1789), by the Duchess of Beaufort, who had gardens at Chelsea in London and at Badminton in Gloucestershire, England. In Britain and Ireland, *S. sempervirens* was first listed in the Royal Horticultural Society (RHS) Plant Finder in the 1995/1996 edition, (available from a single nursery in Cambridgeshire, England). It was not listed in the previous volumes (annual from 1987). By the time of the 2004/05 edition it was listed as available from two suppliers, both in England. Currently it is listed as available from seven suppliers in Britain and Ireland (Royal Horticultural Society 2017): five in England, one in Wales and one in Ireland, but none in Scotland.

The immediately adjacent ground, through which a small watercourse flows, is an intensively managed golf course. Viewing the golf course from several vantage points, and a subsequent site visit and discussion with the Course Manager revealed no *S. sempervirens*. The nearest group of houses and a car parking area are c. 400m away, but no *Solidago* was seen in any of the gardens. The only *Solidago* found anywhere nearby was a patch of *S. gigantea* more than 1km away on dumped soil.

That *S. sempervirens* spread from adjacent extant planted populations, or was dumped, e.g. with other garden waste, is therefore unlikely. Seed dispersal from a more distant (unknown) planted population is a possibility, but we have found no indication that this species has been sold via nurseries in Scotland.

2. It is a deliberate introduction. There is no

evidence for or against this. If originally planted, then whoever did so was aware of the ecology of the species in its native habitat.

3. It is a natural colonist via long-distance seed dispersal. *Solidago* seeds have a persistent pappus with barbellate bristles (Semple & Cook, 2006), primarily adapted for wind dispersal, but with some potential for adherence to fur or feathers. The native range of the plant lies within the Atlantic flyway down eastern North and South America (Boere & Stroud, 2006), and therefore assisted passage of seeds across the Atlantic via migratory shorebirds would be reliant on the occasional vagrant bird which must be considered implausible. Wind dispersal is certainly plausible, but the likelihood of its occurrence cannot be assessed.

So, native or alien? As Pearman (2007) says, 'Whether a species is native or alien in the country as a whole, or whether it is native in one area but not in another, is bedevilled with uncertainty and optimism, especially the latter... A recurring theme in very many (British) County Floras is the sentiment that distance from habitation over-rides all other considerations, including common sense.' The weight of evidence is that *S. sempervirens* is an alien at this site, but the means of its arrival here remains a mystery.

The location lies in the south-west corner of the Moray and Nairn Coast Ramsar site, the Moray and Nairn Coast Special Protection Area (SPA), and the Culbin Sands, Culbin Forest and Findhorn Bay Site of Special Scientific Interest (SSSI). It also lies within the Culbin Sands RSPB nature reserve. As an assumed alien plant within a designated site, the population extent should be monitored periodically. Judging by the presence of a scatter of young plants it is spreading by seed, and the available suitable habitat here is extensive. Experience in North America is that it can become abundant where introduced, and its occurrence beside salt-treated roads there suggests that, if it became more frequent in cultivation in Britain, it would be a potential colonist of roadsides as a halophyte. As a late-season flowering plant it was noted to be exceptionally attractive to insects,

with numerous bumblebees (*Bombus*) feeding on the flowers, along with many hoverflies, including *Eristalis pertinax* (Tapered Drone Fly).

Finally, a few words on the identification process. AA has never been able to repeat the Google search that led to *S. sempervirens* in the first place; a definite instance of serendipity playing its part in an identification! It was also only by historic accident that this species was included on the DDb online maps, given that all the records plotted were errors or doubtful. Stace (2010) includes five species of *Solidago* (four of them alien) plus one (native) hybrid. However, AA had forgotten to consult Clement &

Foster (1994) which lists an additional seven alien species. Running a search for taxa (rather than records) using the DDb, finds all these, as well as one additional alien species not included in Clement & Foster's book (Table 1). So running a DDb query for all taxa in the genus, would have narrowed the search down to a much more manageable number (as a starting point) compared to the *Flora of North America* key that include 77 species (Semple & Cook, 2006). Six of the alien species listed by Clement & Foster, while in the DDb's list of taxa, have no actual records on the DDb; the original records still need to be traced and digitised.

**Table 1.** *Solidago* species and hybrids recorded in the wild from Britain and Ireland

Taxon name	Authority	Vernacular	Status	In Stace (2010)?	In Clement & Foster (1994)?	Hectads in Britain & Ireland (from DDb 22/09/2017)
<i>Solidago calcicola</i>	(Fernald) Fernald	Lime Goldenrod	Alien	No	Yes	
<i>Solidago canadensis</i>	L.	Canadian Goldenrod	Alien	Yes	Yes	1,334
<i>Solidago canadensis</i> x <i>virgaurea</i> = <i>S. x niederederi</i>	Khek	Goldenrod	Native	Yes	Yes	3
<i>Solidago flexicaulis</i>	L.	Zig-zag Goldenrod	Alien	No	Yes	
<i>Solidago gigantea</i>	Aiton	Early Goldenrod	Alien	Yes	Yes	985
<i>Solidago graminifolia</i> *	(L.) Salisb.	Grass-leaved Goldenrod	Alien	Yes	Yes	39
<i>Solidago lepida</i>	DC.	Western Canada Goldenrod	Alien	No	No	1
<i>Solidago nemoralis</i>	Aiton	Grey Goldenrod	Alien	No	Yes	
<i>Solidago odora</i>	Aiton	Anise-scented Goldenrod	Alien	No	Yes	
<i>Solidago rugosa</i>	Mill.	Rough-stemmed Goldenrod	Alien	Yes	Yes	23
<i>Solidago sempervirens</i>	L.	Salt-marsh Goldenrod	Alien	No	Yes	1
<i>Solidago speciosa</i>	Nutt.	Showy Goldenrod	Alien	No	Yes	
<i>Solidago tortifolia</i>	Elliott	Twisted-leaf Goldenrod	Alien	No	Yes	
<i>Solidago virgaurea</i>	L.	Goldenrod	Native	Yes	No	2,690

\*This is correctly treated as *Euthamia graminifolia* (L.) Nutt. in *Flora of North America*.

## Postscript

Shortly before publication of this paper, Tim Harrison emailed AA to say that he had seen the plants at the same site in 2003, but had been unable to identify them at the time. He commented that the *Solidago* was very well established even then.

## Acknowledgements

Matthew Berry, Mick Crawley and Clive Stace answered initial queries about the identification of *S. sempervirens*. John Hunn provided a scanned image of the 1904 Northumberland specimen. Ken Adams, Ian Bonner, Michael Braithwaite, Stephen Bungard, Lynne Farrel, Chris Metherell, Jonathan Shanklin and Ian Strachan answered my queries about old records. Oliver Pescott provided scanned copies of Atlas 2000 mastercards. Murdo Macdonald identified a hoverfly seen feeding on the plants. Debora Hodgson at the RHS Library at Wisley confirmed the first year *S. sempervirens* was listed in the RHS Plant Finder. Richard Johnstone, Course Manager at the Nairn Dunbar Golf Links, facilitated a site visit.

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## *Dactylorhiza incarnata* ssp. *lobelii*, an Early Marsh-orchid new to Britain

MICHAEL CLARK & LESLIE LEWIS

Foley & Clark (2005) reported that *Dactylorhiza incarnata* (Early Marsh-orchid) is represented by five subspecific taxa in the British Isles: ssp. *incarnata*, *ochroleuca*, *coccinea*, *pulchella* and *cruenta*. A sixth British subspecies, namely ssp. *gemmana*, is accepted in the Kew World Checklist of Selected Plant Families and by some authors, for example, recently by Delforge (2016) and Eccarius (2016). However, the status of this subspecies is considered uncertain by some recorders (Online Atlas of British and Irish Flora: *Dactylorhiza incarnata*). The first author (MC) has now found a further subspecies, namely *D. incarnata* ssp. *lobelii*, growing in small numbers at Kenfig National Nature Reserve, South Wales.

Until now, *D. incarnata* ssp. *lobelii* was thought to grow only in continental Europe from the Netherlands coast to the south of Norway (Delforge 2016). This

subspecies was named by Pedersen (2001), designating *D. incarnata* var. *lobelii* as basionym. This basionym was named by Vermeulen (1949) who described it as follows: 'Short but very robust plant, usually not higher than 20cm above the tuber; leaves mostly strongly spreading and close together, the widest fresh more than 3cm in breadth (about 20% narrower when pressed). Spike broad, dense to 10cm long and about half of the height above the tuber, with very large lower bracts; flowers later than with the type [*D. incarnata* ssp. *incarnata*]?'.

The flowers of *D. incarnata* ssp. *lobelii* are generally pink [= autonym f. *lobelii*], but are sometimes red as in *D. incarnata* ssp. *coccinea*. This red-flowered form was named *D. incarnata* ssp. *lobelii* f. *dunensis* by Delforge (2011) in preparation for the 4th edition of his *Guide des Orchidées d'Europe, d'Afrique du Nord et du Proche-Orient*.



Figure 1. *Dactylorhiza* ssp. *lobelii*, Kenfig, 7th June 2006. M.J. Clark



Figure 2. *Dactylorhiza* ssp. *lobelii*, Kenfig, 20th May 2011. M.J. Clark



Figure 3. *Dactylorhiza incarnata* ssp. *lobelii* f. *dunensis*, Kenfig, 27th June 2012. M.J. Clark



Figure 4. *Dactylorhiza* ssp. *lobelii*, Oostvoorne, Groene Strand, Netherlands, 9th June 2001. J. Mast de Maeght

He subsequently described f. *dunensis* as follows (our translation): ‘form with reddish flowers, here and there with the form with pink flowers [= f. *lobelii*]; f. [*dunensis*] sometimes wrongly identified as *D. coccinea*’ (Delforge, 2016).

Examples of the plants found at Kenfig by MC are illustrated in Figs. 1-3. As can be seen, these accord with Vermeulen’s description of ssp. *lobelii* and are similar to a typical specimen from a ssp. *lobelii* population in the Netherlands illustrated in Fig. 4, which is included for comparison. The identity of the Kenfig plants was confirmed by James Mast de Maeght and Karel Kreutz, both experts on European orchids, who are familiar with *D. incarnata* ssp. *lobelii* in the Netherlands (pers. comm. 2018).

#### Acknowledgements

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## *Diapensia lapponica* in Scotland – why the mystery?

SIMON HARRAP

I am currently working on a follow-up to my field guide, *Harrap's Wild Flowers*. The new title will cover the rarer species and my emphasis will shift from a field guide to information on ecology, distribution, conservation and history. As the project proceeds, it has become more and more obvious that accurate data on some species is hard to come by. In the bad old days, the botanical powers-that-be discouraged the disclosure of too much information, especially regarding localities. This has changed in recent years, with the stream of rare plant registers, promoted by the BSBI, providing solid data at last, at least on distribution and often on populations, too. Yet, other information about rare plants often remains obscure, confusing or contradictory. The term 'fake news' has become fashionable, and certainly some species seem to be the subject of obfuscation, either by chance ... or deliberate. In many cases this is of no great consequence, but in the matter of origins it can have serious implications.

By any measure, *Diapensia lapponica* (*Diapensia*) is an enigma. First discovered in 1951, it was one of three new arctic-alpine species to be found in a purple patch for British montane botany. *Koenigia islandica* (Iceland Purslane) was the first, collected on Skye in 1934 but not recognised until 1950, while *Artemisia*

*Diapensia lapponica* at Fraoch-bheinn on 2nd June 2017. Simon Harrap

*norvegica* (Norwegian Mugwort) was the last, found on Cul Mor in 1950 but not confirmed until 1952 (Raven & Walters 1956). And, of the three, *Diapensia* has remained the most mysterious. *Koenigia islandica* was quickly found to be reasonably widespread and locally common on the Trotternish ridge on Skye and was found on Mull in 1956. *Artemisia norvegica* was found on two other peaks in West Ross in 1957 and 1972 respectively, and Cul Mor itself holds thousands of plants over an area of around 9ha (Wigginton, 1999). *Diapensia*, however, remains confined to its hill above Glenfinnan, near Fort William (v.c.97, but see below), and has taken on the status of a holy grail, only attainable by the chosen few.

### Searching for *Diapensia*

That *Diapensia* has retained an aura of mystery can be put down to several factors. It is in a 'remote' location; to reach the summit of Fraoch-bheinn at 790m entails an uphill walk of 3.5km from the nearest road, climbing 670m (2,200 feet) in altitude, with no path of any description for much of the way. It is a steep walk, but not particularly difficult if you choose a





The summit ridge of Fraoch-bheinn. Simon Harrap

sensible route (Cul Mor, for comparison, is a climb of around 640m from the road, and is similarly trackless, but the terrain is a bit rougher). ‘Remote’ is, however, a relative term; Fraoch-bheinn is not that far from Fort William and the walk from the road would be of little consequence to any experienced hill walker. What seems to be more relevant is the weather, which can be unpredictable, and the difficulty in finding the location. There is not really a definite peak or summit to make for (at least not coming from the south-west) and without a GPS and map reference I think it would take some skill at map reading to navigate to the right spot.

More important, perhaps, in maintaining the mystery surrounding *Diapensia* has been a lack of information, and some downright disinformation. The essential facts are straightforward and easily accessible. *D. lapponica* was first found in Britain on 5th July 1951 by Mr C. F. Tebbutt ‘on hills overlooking Glenfinnan in the Arisaig district of Inverness-shire .... in the following month, several hundred specimens of the plant were observed in the same locality.... In its Scottish habitat it is found at c. 2500 feet [c. 800m], completely exposed, on schists of the Moine series, which are traversed by bands of pegmatite [coarsely crystalline igneous

rock]. Around the cushion-like tufts of *Diapensia* are stones and gravel, broken by the frosts and gales from the rocks which protrude over this wind-swept area. Here the annual rainfall reaches as much as 120 inches, but the drainage is unhindered.’ (Grant Roger, 1952). More recently, the 3rd edition of the *British Red Data Book* (Wigginton, 1999) notes that, ‘About 1,200 clumps or mats are scattered over a limited area of ground on the summit ridge and on several adjacent knolls and outcrops.’

Word on the botanical ‘street’ is, however, sometimes at odds with this. In a report on an unofficial Wild Flower Society expedition to see the plant in 2006, Peter Llewellyn notes: ‘None of us had seen *Diapensia* before and so were informed only by botanical gossip. We understood that there was just one small clump only of this plant on a bare rock towards the back of the mountain summit not far from Ben Nevis.... *Diapensia* has a very short flowering period sometimes beginning in Mid May and only opens in sunshine.’ (Peter Llewellyn June 25th 2006 - [http://www.thewildflowersociety.com/wfs\\_report\\_menus/wfs\\_diapensia\\_2006/diapensia\\_2006\\_page\\_1.htm](http://www.thewildflowersociety.com/wfs_report_menus/wfs_diapensia_2006/diapensia_2006_page_1.htm)). Perhaps drawing on the same ‘gossip’, Dixon (2017) states, ‘Although only a single cushion was initially discovered, around 1,200 are now known.’ I can find no reference in the original account to a ‘single cushion’, although it is possible that only a single cushion was in flower on 5th July 1951, as *Diapensia* usually flowers in late May and early June.

Mystery also surrounds the Scottish range of *Diapensia*. A second site was reported in 1977 (Craven & Craven, 1977). ‘Whilst walking in the Loch Quoich region of Westernness (GR 18/9.0), some 15 miles north of the original site, on June 1st 1976, we found a small colony (about ten plants within an area of about 100m<sup>2</sup>) of *Diapensia* on an exposed ridge at about 850m.... The identification has been confirmed from colour slides by Dr F.H. Perring of the Biological Records Centre.’

The first edition of ‘Stace’ (1991) duly states ‘Native; exposed mountains at 760-850m; on 2 hills 24km apart NW of Fort William, Westernness, first found in 1951.’ But, by the second edition this had become, ‘Native; exposed mountain at c. 760m; on hill NW of Fort William, Westernness, first found in 1951, 2nd record nearby was an error.’ The 3rd edition of the *British Red Data Book* (Wigginton, 1999)

backs this up with ‘...this remains its only known site, claims of others having been disproved.’ As this second locality was published in *Watsonia*, and the identification vouched for by one of the pre-eminent figures of British botany, it would be quite nice to have the nature of the ‘error’ put into print somewhere.

More recently, scant details of another site for *Diapensia* have been published, together with a photograph of the plant, by Michael Scott in *Mountain Flowers* (2017): in 2007 *Diapensia* was found on Sithean Mor, 16km west of the original site, but could not subsequently be re-found. (The date is given as 2005 in Strachan & Bonner 2015.)

Some authors have speculated that non-flowering plants of *Kalmia procumbens* (Trailing Azalea) could be responsible for ‘errors’, but while they are indeed similar, it would take a certain amount of nerve to have claimed a new site for a great rarity, such as *Diapensia*, on the basis of non-flowering plants (and on 1st June it would most likely be in flower, so what was on those colour slides?).

### Questions of status

Blakelock (1951), announcing the discovery of *Diapensia* in Scotland in the *Kew Bulletin*, considered its ‘indigeneity’. He noted that it was in a ‘remote locality’ and when discovered was ‘relatively abundant’, that it was the appropriate var. (*lapponica*), that it occurred in Iceland and Scandinavia, and that while it was in cultivation in Britain it was ‘difficult to grow’, and that it was ‘one of the Swedish mountain plants that present the greatest difficulties in cultivation in Stockholm, where it has never attained a longer life than two or three years’. He thought accidental escape from cultivation unlikely, but that ‘the possibility of deliberate planting by persons unknown ... could not be ignored. The Highlands are frequently visited by those interested in Alpine plants and the plant is attractive and fairly conspicuous when in flower.’ Blakelock finished his analysis of indigeneity by noting that ‘it will be worth noting if it continues to maintain itself.’

*Diapensia* has continued to maintain itself, and all the information that has come to light on its biology in the intervening decades would seem to put its native status beyond any reasonable doubt. The late date of its discovery is matched by *Koenigia islandica* and *Artemisia norvegica*, and can be attributed in part to both the remoteness of its locality and its short flowering period. The population is relatively large



The leaves of *Diapensia lapponica* (top) are alternate, but this is hard to see in its dense cushions where the leaves are closely packed together near the shoot tips to form ‘false rosettes’. More obviously, they are strap-shaped (obovate-spathulate according to the *Vegetative Key*), flattened and with an indistinct midrib. The leaves of *Kalmia procumbens* (above) are opposite and this is more easily visible owing to its looser, less compact, more sprawling growth, and their strongly revolute (down-turned) margins give them a shorter and more oval shape. The midrib is sunken, and much more obvious. Simon Harrap

and, importantly, stable. Several hundred plants were present when it was first found in 1951 and the *New Atlas* (Preston *et al.*, 2002) states, ‘The population (currently about 1200 clumps or mats) and the area it occupies have not changed markedly since the discovery of the species in 1951.’ The *British Red Data Book* (Wigginton, 1999) also notes, ‘In good flowering years, the impression may be given that there has been a population increase, but monitoring since 1980 has revealed little detectable change either in the total area covered or the number of clumps.’

I made the trek up to the summit of Fraochbheinn on 2nd June 2017 – in pleasant weather! *Diapensia* was scattered over an area of about 2ha and although it seemed that many plants were towards the

end of their flowering season, others were flowering well. The population seemed to have a good mix of age classes, and the largest cushion that I saw measured around 40cm across, although most were rather smaller. John Raven in *Mountain Flowers* records ‘great spreading patches of it, two feet [=60cm] and more across and sometimes dying away in the middle like old rock-roses in a garden. . .’.

Wigginton (1999) notes, ‘Studies in Newfoundland have shown that the age of plants can be determined by counting growth rings in the stem . . . and there seems little doubt that many large Canadian plants are over a century old. The Scottish plants clearly pre-date their discovery by many years, though stem rings have not been counted to determine their age.’ Scott (2016a) quotes a late 1990s study by Dr Alistair Headley which found that plants ‘grew outwards’ by around 3mm a year, giving the population an average age of 40 years, with the oldest perhaps 150 years old. In Swedish Lapland, Molau (1997) found the annual radial growth of cushions averaged 0.6mm a year, with some plants at least 400 years old.

So, the Scottish *Diapensia* has a large and stable population, pre-dating its discovery by ‘many years’. Who could doubt its native status? Well, Michael Scott can, in *Mountain Flowers* (2016a) and in a subsequent article in *British Wildlife* (2016b). Scott notes that the geology and flora of Fraoch-bheinn is otherwise unremarkable (or as John Raven puts it in *Mountain Flowers*, ‘a typical flora of a dull ridge’). Puzzled that the site is not ‘special’, Scott goes on to suggest that capsules or seeds could have been brought to Scotland on the footwear or clothing of Norwegian soldiers that trained in the area during World War Two. He dismisses the 1990s research that suggested that some Fraoch-bheinn plants could be 150 years old as ‘far from definitive’. Similarly, the discovery of flowering *Diapensia* on Sithean Mor in June 2007, but not refound (see above), ‘could easily fit with a plant establishing from windblown seed, or carried from Glenfinnan on a hillwalker’s boot, but swiftly dying at an unsuitable site’. This ‘easy fit’ ignores the fact that the photo shows a plant at least several centimetres across and in good flower; in Swedish Lapland, the average age of first flowering is about 18 years (Molau, 1997), so not that swift or that unsuitable!

Scott finishes by saying that ‘to be honest, I am sceptical about the commando theory . . . I think it most probably a remnant from the Ice Age . . .’ The

problem is that genies, once let out of the bottle, have the habit of living on. On the basis of the available evidence (a long-lived, slow-growing perennial with a large stable population that includes individuals very likely to pre-date World War Two by many years), the ‘Norwegian commando boots’ theory is a complete non-starter, and should never have been put into print. Yet now, I can see ‘possibly introduced’ creeping into the literature. The question of a plant’s native status matters, because legislation and resources are allocated to native plants, not aliens. Indeed, some purists would like to wipe out aliens, not protect them. *Diapensia* is listed as ‘Vulnerable’, but is not threatened. One day, it might be, and no shadow should be cast over its native status, however light-heartedly, without good reason, especially such an apparently slow-growing species with a very, very limited distribution.

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# Changing status of *Pyrola minor* (Common Wintergreen) on the Sefton Coast, Merseyside (v.c.59)

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*Pyrola minor* (Common Wintergreen) is a rhizomatous, perennial, evergreen herb found in damp places on heaths, in plantations, disused railways, on rock-ledges and in sand-dunes (Fig. 1). Strachan (2017) describes it as ‘a versatile plant being equally at home on coastal dunes ... and on mountain ledges’. It has a circumpolar boreal-montane distribution, with most British localities being in Scotland. In England, this species is mainly associated with damp woodlands, with deep leaf-litter on a range of soil types (Rumsey, 2002). Ellenberg Indicator values indicate that *P. minor* is adapted to semi-shade (L = 5), moist soils of average dampness (F = 5) that are moderately acidic (R = 4) and infertile (N = 2), and is absent from saline sites (S = 0) (Hill *et al.*, 2004).

The plant has declined throughout most of its scattered British range owing to changes in land-use and management, often as sites become too dry, its

change index being -0.55 (Rumsey, 2002). Stroh *et al.* (2014) give its threat status as Least Concern in Great Britain, but Near Threatened in England. In north-west England, *P. minor* is listed as a Species of Conservation Importance (Regional Biodiversity Steering Group, 1999). It is most frequent in Cumbria (mainly v.c.69 and 70), Halliday (1997) reporting occurrence in 39 tetrads, these being located especially in the Eden Valley lowlands, extending to the Northumberland border. Most records are from rather open, damp conifer plantations and, less commonly, under *Betula* (birch). In North Lancashire (v.c.60 and part of v.c.64) *P. minor* became extinct before 1888 (Greenwood, 2012), while Kay (2015) mentions only one extant locality in Cheshire (v.c.58). Smith (2008) describes the history and status of *P. minor* in South Lancashire (v.c.59). Although it occurred on Chat Moss, Greater Manchester, in the 19th century (Savidge *et al.*, 1963), the only modern records were

**Figure 1.** *Pyrola minor* in flower, Ainsdale Sand Dunes National Nature Reserve. P.H. Smith



**Figure 2.** Distribution of *Pyrola minor* colonies (white circles) at Formby Point and Ainsdale.



from the River Darwen valley near Blackburn (2000-2002) and in woodland on the Sefton Coast, north Merseyside. The Blackburn site was checked in July 2017 but the species was not relocated (D.P. Earl pers. comm.). However, another inland locality was found in 2015 under mixed woodland canopy near Burscough, West Lancashire (SD4510). On 5th August 2017, there were two adjacent flowering patches of *P. minor*, each about 50cm in diameter, surface soil pH being 5.36. The only other extant sites for this species were in Sefton Coast pine woodlands where Smith (2008) reported ten colonies at Ainsdale Sand Dunes National Nature Reserve (NNR) and two nearby at the National Trust estate, Formby Point. Ten years on from his study, it was thought appropriate to resurvey the Sefton populations to determine their current status.

**The 2017 survey**

**Methods**

All Sefton Coast sites surveyed in 2007 were revisited in summer 2017. Additional colonies found by the authors on National Trust Formby Point property in 2008 and 2017 were also included, as were several recently discovered by Ainsdale NNR staff and volunteers. For each population, the number of individuals was counted and a 10-figure grid reference obtained using a Garmin Etrex device. The area occupied by each colony was estimated from two diameters using  $\pi r^2$ . Notes were made on habitat type, 2x2m

**Table 1.** Colonies of *Pyrola minor* on the Sefton Coast in 2007 and 2017. Sites 1–5 National Trust, Formby Point; sites 6–22 Ainsdale Sand Dunes NNR.

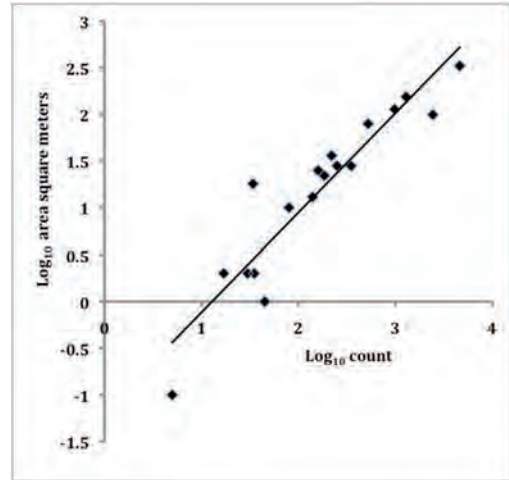
Site no.	Grid Reference	Area 2007 (m <sup>2</sup> )	No. of plants	Area 2017 (m <sup>2</sup> )	No. of plants	Soil pH 2017
1	SD27800843	90	100s	22	185	5.33
2	SD27890852	12	100s	18	34	6.06
3	SD27890851			10	80	5.51
4	SD28090836			13	140	3.66
5	SD28060836			79	524	4.40
6	SD29631071	26	200	Not found		
7	SD29681065	160	100s	28	250	4.01
8	SD29711057	112	100s	Not found		
9	SD29721070	132	1000	330	4600	3.80
10	SD29601060	150	100s	2	35	
11	SD29401036	10	≤100	99	2430	3.49
12	SD288094	2	150	Not found		
13	SD28930997	86	100s	Not found		
14	SD291101	119	100s	25	160	
15	SD297108	14	100s	154	1290	3.61
16	SD29711065			36	220	4.78
17	SD29661064			1	45	
18	SD29661071			2	30	4.45
19	SD29681068			0.1	5	
20	SD29441038			2	17	
21	SD29411034			28	350	3.73
22	SD29070995			113	980	3.63
<b>Totals</b>		<b>913</b>	<b>c. 2,000</b>	<b>962</b>	<b>11,375</b>	

quadrat samples being recorded for larger populations using UK National Vegetation Classification (NVC) methodology (Rodwell, 2000). A MAVIS programme was used to determine the degree of fit to known NVC communities. One sub-surface soil sample was taken for each quadrat, pH being determined with a Lutron PH-212 soil pH meter buffered at pH 4 and 7.

**Results**

Eighteen colonies of *P. minor* were found in 2017 (Fig. 2). Five at Formby Point supported 963 plants (range 34–524), while 13 at Ainsdale NNR had 10,412 plants (range 5–4,600), giving a grand total of 11,375 individuals (Table 1). Colony areas totalled 142m<sup>2</sup> at Formby and 820m<sup>2</sup> at Ainsdale, the overall area occupied by plants being 962m<sup>2</sup> (Table 1). There is a statistically highly significant positive linear relationship between log<sub>10</sub> colony area and log<sub>10</sub> number of plants counted ( $r = 0.932$ ;  $p = 0.00001$ ) (Fig. 3). Colony size appears to increase with age. Thus, the mean count for 2007 populations rediscovered in 2017 was 1,123, while newly discovered colonies supported an average of 239 plants. Similarly, old colonies had a mean area of 85m<sup>2</sup> in 2017, while new ones averaged 19m<sup>2</sup>. Eleven populations (58%) were under or close to conifer canopy, mostly *Pinus nigra* ssp. *laricio* (Corsican Pine) with a few *P. sylvestris* (Scots Pine), the remaining seven (42%) being associated with young *Betula* woodland on the fringes of pine plantations. Many of the colonies were on the edges of footpaths, firebreaks and/or Landrover tracks through the forest and were often in hollows that would have been dry-slacks before afforestation of the dunes. A few small populations were found while exploring into the pine plantations, but these were invariably in glades or in areas with a thin canopy (Table 1). The soil type in almost all cases was a weakly developed podzol on blown sand with a thick mor humus, consisting mainly of poorly decomposed pine needles. Upper mineral soil pH ranged from 3.49 to 6.06 with a mean of 4.34 ( $n = 13$ ).

Thirteen 2×2m quadrats were recorded, supporting a total of 32 vascular taxa. Species richness in quadrats was relatively low, ranging from 5 to 16 with a mean of 9 taxa. The most frequent associates of *P. minor* were *Anthoxanthum odoratum* (Sweet Vernal-grass) (12 occurrences), *Betula* (6), *Carex arenaria* (Sand Sedge) (13), *Chamerion angustifolium* (Rosebay Willowherb) (12), *Luzula campestris* (Field Woodrush) (5) and *Rubus caesius* (Dewberry) (8). There was a high frequency of bryophytes in most quadrats, mean cover being 54% (range: 25–80%). Mosses noted included *Dicranum scoparium*, *Hypnum jutlandicum*, *Pseudoscleropodium purum* and *Rhytidiadelphus squarrosus*. Reference to keys and descriptions in Rodwell (2000) suggests that the plant community has similarities to



**Figure 3.** Relationship between area of *Pyrola minor* colonies and number of plants ( $r = 0.932$ ;  $p = 0.00001$ ).

the UK National Vegetation Classification’s SD12a: *Carex arenaria-Festuca ovina-Agrostis capillaris* dune grassland, *Anthoxanthum odoratum* sub-community. This vegetation is characteristic of fixed, acidic sands around the coasts where calcareous blown-sand has been leached over time. However, MAVIS analysis of quadrats (Table 2) revealed that only two samples had accordance with SD12a, four being closer to SD10: *Carex arenaria* dune, especially the *Festuca rubra* sub-community, this being a pioneer vegetation of freshly-deposited calcareous and acid sands in sheltered sites. Six quadrats resembled variants of OV27: *Epilobium* (= *Chamerion angustifolium* community which is widely associated with damp fertile soils on disturbed often burned ground in woodlands, on heaths, road verges, track sides, recreation areas and wasteland. One sample had similarities to SD6g: *Ammophila arenaria* mobile dune, *Carex arenaria* sub-community, a mobile dune vegetation found where there is some increased soil moisture (Rodwell, 2000). However, Table 2 shows that all the samples had very poor levels of fit to the designated NVC communities, ranging from 25% to 42%.

**Discussion**

Although the 2007 populations were not counted accurately, Smith (2008) estimated that over 2,000 plants of *P. minor* were present. As 11,375 were counted in 2017, the total population has grown



**Table 2.** MAVIS analysis of *Pyrola minor* quadrats.

No. of quadrats	NVC code	Community	Sub-community	% fit	Level of fit
3	OV27c	<i>Epilobium</i> (= <i>Chamerion</i> ) <i>angustifolium</i>	<i>Rubus fruticosus</i> - <i>Dryopteris dilatata</i>	28-34	Very poor
2	OV27	<i>Epilobium</i> (= <i>Chamerion</i> ) <i>angustifolium</i>		29	Very poor
1	OV27a	<i>Epilobium</i> (= <i>Chamerion</i> ) <i>angustifolium</i>	<i>Holcus lanatus</i> - <i>Festuca ovina</i>	40	Very poor
2	SD12a	<i>Carex arenaria</i> - <i>Festuca ovina</i> - <i>Agrostis capillaris</i> dune grassland	<i>Anthoxanthum odoratum</i>	25-42	Very poor
2	SD10a	<i>Carex arenaria</i> dune	<i>Festuca rubra</i>	30	Very poor
1	SD10b	<i>Carex arenaria</i> dune	<i>Festuca ovina</i>	38	Very poor
1	SD10	<i>Carex arenaria</i> dune		35	Very poor
1	SD6g	<i>Ammophila arenaria</i> mobile dune	<i>Carex arenaria</i>	26	Very poor

about five-fold. However, the area occupied by plants has increased only slightly, being 962m<sup>2</sup> in 2017, compared with 913m<sup>2</sup> in 2007. Both the Formby Point colonies found in 2007 were still present ten years later, one being recorded as two adjacent populations, while two additional colonies were found on the National Trust property. Four of the Ainsdale NNR sites were not re-found. Two losses were attributed to recent widening of fire-breaks, followed by colonisation by dense birch scrub. A third site has become heavily shaded by dense birch regeneration. The fourth locality, a glade in conifer woodland adjacent to a footpath, appeared to be suitable for *P. minor*, but no plants were found. However, these losses were outweighed by the discovery of seven new colonies on Ainsdale NNR supporting 1,647 plants. Only a small proportion of the 100ha of pine plantations at Ainsdale and Formby Point could be searched, so there may be other sites for *P. minor*. The relationship between colony area and the number of plants was not unexpected, bearing in mind the perennial and rhizomatous growth-form of the plant. Similarly, older colonies would be expected to hold more individuals and have a larger area. Thus, Rozema (1979) established a relationship between patch size and age in several *Juncus* (rush) species. Vascular taxa associated with *P. minor* in 2017 were similar to those recorded ten years earlier, *Anthoxanthum odoratum*, *Carex arenaria* and *Chamerion angustifolium* being most frequent in both surveys. Only

17 of the 41 taxa identified in the earlier study were not listed in 2017 quadrats and almost all of those were recorded as 'rare' in 2007.

The habitat of *P. minor* on the Sefton Coast accords with that at other British localities. For example, Vaughan (1977) found stands of *P. minor* at Pembrey Forest, Carmarthenshire, in the early 1970s on dunes afforested with *Pinus nigra* ssp. *laricio*. Canopy cover was about 75% with sparse ground vegetation, including *Ammophila arenaria* (Marram), *Carex arenaria*, *C. flacca* (Glaucous Sedge), *Euphorbia portlandica* (Portland Spurge), *Oenothera* (Evening-primrose), *Prunella vulgaris* (Selfheal) and *Rubus caesius*. Subsequently, patches of *P. minor* were also found in damper sites with species such as *Chamerion angustifolium*, *Dryopteris filix-mas* (Male Fern), *Festuca rubra* (Red Fescue), *Lotus corniculatus* (Common Bird's-foot-trefoil), *Rubus fruticosus* (Bramble) and *Salix repens* (Creeping Willow), most of these being associated with *P. minor* in Sefton.

Attempts to characterise the community supporting *P. minor* proved unsatisfactory, perhaps because NVC does not include sand-dune vegetation under conifer and secondary birch canopies (Rodwell, 2000). Very poor levels of fit were found to a range of communities (Table 2), Rodwell's (2000) keys suggesting that SD12a might be most appropriate, though only two samples fitted this in the MAVIS analysis. Rodwell states that SD12 is most commonly found in the north and west of Britain where cooler, wetter conditions enhance leaching and provide some

protection against drought. Where fixed dunes have been reclaimed for agriculture, amenity or forestry, it may survive fragmentarily in arable land, on golf courses, or in plantations, as here. Although *Chamerion angustifolium* occurred in 12 out of 13 quadrats, its percentage cover was low, averaging only 2.5%. Nevertheless, MAVIS identified six samples as variants of OV27, an unsatisfactory finding bearing in mind the infertile, acidic soil conditions. It may be that the presence of *C. angustifolium* reflects recreational disturbance and previous fires, though both seem to have a low frequency at the sites in question.

In most cases, the soils supporting *P. minor* at Formby and Ainsdale were extremely acidic, pH averaging 4.34. Burnett (1964) describes the habitat of this plant at Tentsmuir dunes, Fife, as birch scrub in landward slacks where the soils had a thick humus layer and a pH from 5.3 to 5.8, these being within the range but towards the higher end of the values recorded during this study. The West Lancashire colony has a similar soil pH of 5.36. Ellenberg values show *P. minor* is adapted to moist, moderately acidic soils. Millington *et al.* (2010) found soil pH in Sefton Coast pine plantations ranged from 4.1 to 6.7, somewhat less acidic than the values we recorded, but statistically significantly lower than those of other dune environments, except dune-heath. They attributed low pH measurements under conifers to the accumulation of acidic pine litter and the development of micro-podzols on what is otherwise a calcium-rich and relatively alkaline soil parent material. These changes have taken place rather rapidly as most of the plantations supporting *P. minor* are only 85–120 years old (Yorke & Yorke, 2008). Although afforestation of the dunes lowers the water-table, due to increased evapotranspiration (Clarke *et al.*, 2010), a thick humus layer may help to retain moisture in the upper soil layers, as mentioned by Wright (1955) at Culbin Forest, north-east Scotland. Also, many sites for *P. minor* at Formby and Ainsdale are in old dry-slacks whose surface is nearer to the water-table than surrounding ridges. Both factors seem to create suitably damp conditions for the plant.

This species was first recorded in the Sefton Coast pinewoods in 1957 (Smith, 2008), having possibly arrived as propagules on forestry machinery. *P. minor* is known to colonise conifer plantations (Halliday, 1997; Rumsey, 2002). For example, it was found at Newborough Forest, Anglesey (v.c.52) in 1984, this

being the first record for the island since 1813 (Anon, 1986). Similarly, *P. minor* has appeared in artificial pine forests of *Pinus nigra* ssp. *nigra* (Austrian Pine) and *P. n. laricio* in lowland Netherlands, including coastal dune areas (Westhoff, 1959). Smith (2008) showed that some Ainsdale NNR sites for *P. minor* mapped in 1976 no longer supported the plant, attributing this to growth of dense birch woodland. The same process seems to have resulted in three further losses during the past decade. Woodland management, especially the control of birch in glades and on firebreaks, may be desirable to avoid overshadowing of existing populations. However, there is a difficult balance to be achieved. Thus, excessive thinning of the pine plantations may result in the spread of competitive *Rubus fruticosus* agg. or dense stands of *Dryopteris* (buckler-ferns), these already being prominent features of the study area.

It is encouraging that *P. minor* has spread to new sites at Formby Point and Ainsdale NNR and has greatly increased its population size since 2007. Knowing the exact location of these colonies should assist future site management at both the National Trust and Natural England properties. Further monitoring is recommended, perhaps at 10-year intervals.

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## *Taraxacum litorale* Raunk. new to the British Isles

SIMON LEACH & JOHN RICHARDS

In April 2016, a BSBI *Taraxacum* workshop was held in Somerset, stimulating a sudden surge of interest locally in the genus. By the end of 2016, as a direct or indirect result of that workshop, 47 dandelion species had been added to the list for South Somerset (v.c. 5) (Leach *et al.*, 2017). In 2017, a further 27 species were recorded new to the vice-county, of which 24 were also 'firsts' for Somerset as a whole (Leach & Richards, 2018 in press); the discovery of one of these, *Taraxacum litorale* Raunk., is reported here.

On 30th April, SJL was walking his dogs along Sherford Road, on the southern outskirts of Taunton. His attention was drawn to a rather striking and odd-looking dandelion growing beside a hedge in

a narrow roadside flower border. He returned the next day, without the dogs, and located two plants at grid ref. ST22482326, one in the flower border, the other (a rather smaller specimen) close by in the road verge. Both were markedly heterophyllous, the smaller leaves narrow and strap-shaped, the larger ones 2- to 4-lobed, with little or no toothing and distinctive large, elongate terminal lobes; all leaves had purple unwinged petioles and midribs. The capitulum was unremarkable, except that pollen was absent (although later examination of dried material did find localised pollen on one of the four capitula gathered), and the erect-appressed outer involucre bracts were unusual in being broadly ovate in outline and relatively short. Ligule stripes were a rich, dark purple.





species the ‘best fit’ (although by no means a good one) was possibly *T. berthae* C. C. Haw. Admittedly the leaves were unspotted; but the terminal lobes looked not dissimilar to those of *T. berthae* as illustrated in Dudman & Richards (1997), and the ligule stripes seemed to be the right colour.

A specimen was gathered, and in the autumn this was sent with the rest of the year’s collections to AJR for determination. Upon examination, he immediately recognised it as a north-eastern European species, *T. litorale*. His email to SJL betrayed his astonishment: ‘... The real excitement came one from the end, the plant you thought was *berthae* ... In fact it is *T. litorale*, a halfway house between sections *Palustria* and *Celtica*, [for which] I have been searching ... for 50 years. This is a rare and threatened species of old wet meadows from Germany to Finland [which] I had been expecting [to find] in the Thames meads, etc. (or indeed

In its fresh state SJL struggled to work out even what section it belonged to; at first glance, it looked as though it should be sect. *Celtica*, but the outer involucre bracts and, to a lesser extent, leaf shape suggested that it might also be close to sect. *Palustria*. Taking it through the keys, he felt that amongst British

Sedgemoor). However it is clear from your notes that it is adventive here. Goodness knows how [it got here] ... It might be interesting to make some enquiries...’

So, not only was this a first record for v.c.5 and Somerset, but also it appeared to be a first certain record of *T. litorale* for the British Isles, any previous

claims to it occurring here (e.g. Richards, 1972) being either unconfirmed or based on specimens now regarded as *T. anglicum* Dahlst. As indicated in AJR's email, the native range of *T. litorale* is chiefly across the southern and eastern Baltic region (Sweden, Denmark, Germany, Latvia, Lithuania, Estonia, Finland) where it is a threatened and declining dandelion of wet grassland. It has also been recorded further west, presumably as an adventive, from Norway and the Netherlands, and possibly elsewhere. It is apparently extinct in the Netherlands.

On the face of it, the occurrence of *T. litorale* in a Taunton road verge seems inexplicable. For much of its length, Sherford Road is a rather narrow, winding lane bordered by a mixture of Victorian terraced cottages, modern bungalows and larger houses. But, in addition, it serves as an access route to a large edge-of-town mixed arable/livestock farm which, particularly around harvest times, employs casual workers, many of them from Eastern Europe. A business buying and selling new and used agricultural machinery, including trade with mainland Europe, is also based there. Could *T. litorale* have arrived in Sherford Road on the clothing, or footwear, of an agricultural worker, or in the tyre treads of a farm vehicle?

This record follows the fairly recent discovery of another mainly eastern European species in south-west England, *T. subericinum* Hagend., Soest & Zevenb. (Rich & Richards, 2011). Interestingly, in 2017 *T. subericinum* was found in v.c.5 by Jeanne Webb, in a garden in Old Cleeve (ST04104178) – the first record of the species in Somerset, and indeed the first in Britain outside its North Devon (v.c.4) stronghold. The status of *T. subericinum* in Britain is unclear, but

the Devon records are all in 'good' habitat (lane hedge-banks), where it has the appearance of being a previously overlooked native rather than a recent introduction (Rich & Richards, 2011). And, while undoubtedly adventive in Taunton, we suspect that *T. litorale* too could yet prove to have claims to native status in Britain. Certainly it should continue to be searched for in suitable 'semi-natural' habitats, e.g. flood-meadows, fens and rush-pastures.

A voucher specimen (collection no. SL17/40), gathered from the larger plant growing in the roadside border, is held in the Somerset Archaeological and Natural History Society herbarium, Taunton, **TTN**.

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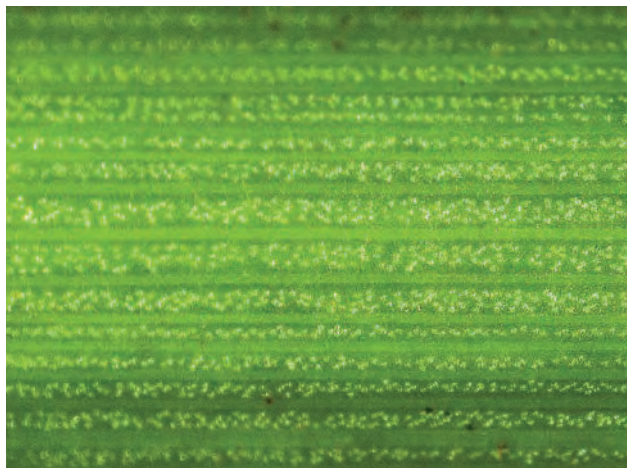
## Using patterns of stem stomata to differentiate *Juncus balticus* (Baltic Rush) from *J. effusus* (Soft-rush)

ANDY AMPHLETT

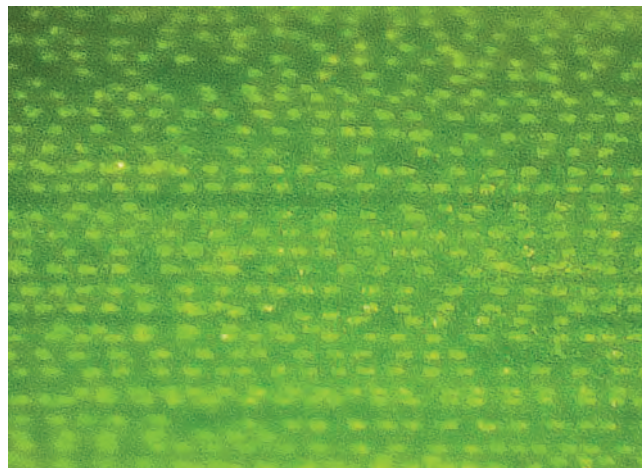
**J**uncus *effusus* (Soft-rush) is, at hectad scale, virtually ubiquitous across the whole of Great Britain and Ireland. Recorded from more than 3,780 hectads (all dates), it is the 25th most widespread species in our flora (BSBI DDb 9/11/2017). It is absent only (on current knowledge)

from a scatter of offshore islands and marginal hectads with small areas of unsuitable land. It is familiar to the great majority of plant recorders.

In contrast, *Juncus balticus* (Baltic Rush) is a Nationally Scarce species, recorded from 106 hectads (all dates) but only from 65 hectads post 1999



**Figure 1.** *Juncus effusus* stomata on surface of stem.  
Andy Amphlett



**Figure 2.** *Juncus balticus* stomata on surface of stem.  
Andy Amphlett

(BSBI DDb 9/11/2017). Unknown in Ireland, and from only one adjacent group of sites in England (Lancashire), it is essentially a species of northern Scotland. Here it is recorded from 13 vcc post 1999, with 71% of the post-1999 tetrad range in 4 vcc: 95, 96, 108 and 110. Examination of records on the DDb indicates that only about 100 individuals have recorded this species post 1999, and it is likely that the majority of recorders are unfamiliar with it.

Poland & Clement (2009) distinguishes between these two species on the basis of plants being either tufted/clump forming (*J. effusus*) or rhizomatous, with shoots arising singly (*J. balticus*). Other commonly used field guides, e.g. Streeter (2009), make similar statements. However, both these species are actually rhizomatous (Stace, 2010), *J. effusus* having short rhizomes, hence forming dense clumps, or large dense patches, cf *J. balticus*, which has extended rhizomes, forming straight lines or diffuse patches of aerial stems.

As a distinguishing field ID character, this difference in growth form is not entirely reliable. *Juncus effusus* can quite frequently form diffuse patches or more extensive stands, lacking tussocks, and hence may mimic *J. balticus*. *Juncus balticus*, atypically, can form dense tussocks, taking on more of the appearance of *J. effusus*. The degree of rhizome extension is likely to be habitat related.

The appearance of the individual shoots of the two species differ in typical plants, but *J. effusus* is variable in height, stem width and form of the

inflorescence. Some forms can be very similar to *J. balticus*.

Fortunately, there is a completely reliable way to distinguish these species in the field, as the pattern of the stomata on their stems differ, and this is clearly seen with a  $\times 10$  lens. In *J. effusus* (Fig. 1), the stomata are in vertical bands, running up and down the stem and separated by bands of green tissue with no stomata. Within the stomatal bands, individual stomata are irregularly distributed, giving an untidy pattern. In *J. balticus* (Fig. 2), the stomata are in neat single lines more or less equally spaced, with no indication of distinct stomatal bands.

This difference between the two species reflects differences in their stem cross sections. *Juncus effusus* stems, although smooth and rounded when fresh, have 40–90 striae (Clapham *et al.*, 1987) formed from subepidermal sclerenchyma girders (Stace, 2010) which lack stomata, and form feint ridges visible as cut stem sections begin to dry. The stomatal bands, visible in the field, are located between each pair of sclerenchyma girders. *Juncus balticus* has no subepidermal sclerenchyma girders, hence, in the fresh state stems are perfectly rounded with no visible striae.

*Juncus balticus*, may still be a somewhat under-recorded species. Of the 32 monads in which I have recorded *J. balticus*, my records from 20 monads were the first, and its distribution around the coast of Scotland is enigmatically patchy. There are also many hectads with only pre-2000 records to search



for and hopefully re-find. The stomatal character described provides a quick way to check the ID of any 'odd-looking' *J. effusus*. Hopefully, further sites for this interesting species will be found.

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## *Scheuchzeria palustris* (Rannoch-rush) on Thorne Moors: a caution regarding the records of Frederic Arnold Lees

GRAEME COLES

Since its publication in 1888, F.A. Lees' *Flora of West Yorkshire* has been regarded as the first point of reference for all matters concerning historical West Riding plant records. It is comprehensive in its scope in that it deals not only with tracheophytes and bryophytes but also with algae and fungi, and is detailed in that it gives site records down to the level of river drainage areas, often with dates and recorders' names. The *Flora* is supported by Lees' own herbarium, some notebooks at Keighley Cliffe Castle Museum and many other specimens are distributed amongst his correspondents. A botanical diary of Lees' journeyings is held at Leeds Local History Library. My book, *The Story of South Yorkshire Botany*, outlines his life and botanical contributions.

Lees' written work and collecting records are not without difficulties, and some of his claims do not stand scrutiny. Of those which have been examined and dismissed may be cited the specimens of *Euphrasia salisburgensis* (Irish Eyebright) said to have been found in Yorkshire (Yeo, 1975; Sledge, 1975b, 1976); and his alleged discovery of *Thalictrum alpinum* (Alpine Meadow-rue) and *Salix herbacea* (Dwarf Willow) on Dodd Fell (Sledge, 1975a). While, for example, away from Yorkshire, his gathering of *Juncus pygmaeus* (as *J. fasciculatus*) (Pigmy Rush), described on its label as having come from the Gower (Wilcox, 2009), is very doubtful, not being noted in his record of his visit

there. Further evidence of his reluctance to reliably document his own botanising is exemplified by the conflicting statements about having seen *Helianthemum oelandicum* (Hoary Rock-rose) at Malham Cove (Sledge & Shaw, 1976).

Recent work investigating his records of the plants of the Humberhead Peatlands National Nature Reserve, particularly Thorne Moors, have brought into focus other problems.

If we look at the area's perhaps most notable species, *Scheuchzeria palustris* (Rannoch-rush), found here in 1829 by Robert Harrison at only its third confirmed British location and which Lees, in his *Flora*, claims to have seen in 1870 ('I found one flowerless example by one of the "Wells"...') which is taken as being the last record from here and indicating its extinction (Sledge, 1949), and then check the list of notable plants seen at the time in his notebooks, there is a puzzle, because *Scheuchzeria* is not listed. If, however, we look at his herbarium, there is, indeed, a flowerless specimen which has on it the legend 'Very boggy place nr "Spectacles" Well. Thorne Moor... F A Lees cum W. Todd. June (late) 1870'. With further study of the places plants are said to have been gathered and the comments in the *Flora*, we can track his route across the south-west corner of the moors from Thorne Quay to Medge Hall (or vice versa), and it is one which would not take him anywhere near the Spectacles Well.

What also are we to make of another, better, specimen of *Scheuchzeria* given by Lees in 1872 to Charles Bailey and now in Manchester University herbarium, said to have been collected from the moors in July 1870 – at a time his botanical diary indicates he was not there? Indeed, Lees' dates for his first Thorne visit vary on herbarium sheets from June 1869 through to August 1870. According to his notebooks, the actual date was 15th June 1870, apparently only established later by reference to the diary of his friend W. Todd who was with him on that occasion. The heading of the record of the visit in the notebook was duly amended to this date at some later stage, but *Scheuchzeria* was not added to the list. Surely, if its original omission was perhaps just some inexplicable oversight, then such a momentous event as the possible extinction of a notable species, as he seems to imply in his *Flora*, must have warranted some sort of mention. Furthermore, in *West Yorkshire* (Davis & Lees, 1878), Lees says *S. palustris* 'undoubtedly occurred' on the moors, but in the following sentence he pointedly says that other notable plants – *Thysselium palustre* (Milk-parsley), *Lathyrus palustris* (Marsh Pea) and *Dryopteris cristata* (Crested Buckler-fern) – were 'all seen by the writer in situ', implying therefore that *Scheuchzeria* had not been. If we say, for the sake of argument, that the Manchester herbarium specimen was, indeed, collected at the June 1870 visit (rather than in July) then what he says about seeing only one specimen is simply not true.

It is hard to avoid the conclusion that Lees never saw *Scheuchzeria*. It could be allowed that the specimens may have come from Thorne Moors, from some earlier gathering by another botanist, but it seems highly likely that they were not gathered by him at the time of his visit. The Keighley and the Manchester examples were certainly mounted at separate times as the latter has his own pre-printed herbarium label, while the former has the narrative on a slip of paper. If he did not see the plant, then it follows that its date of extinction on Thorne Moors is unknown. Casson (1869) refers to the presence of *Scheuchzeria* on the moors, but whether this is contemporary with the publication date is uncertain. Parsons (Lees, 1888) and Woodruffe-Peacock (1895), both able botanists, searched for it in the 1870s without success.

Lees also marks in his *Flora* the rare *Deschampsia setacea* (Bog Hair-grass) as personally seen *in situ* on the moors, but, like *Scheuchzeria*, it is not in his notebook's

list of species seen in 1870 or 1872, these being his only recorded visits, apart, that is, from the Yorkshire Naturalists' Union excursion on 6th August 1877, and it was not included in the list of plants seen on that occasion (Roebuck, 1877). Neither is there a herbarium specimen from the moors. It can only be thought that he never actually saw it.

Again, Lees marks *Carex limosa* (Bog-sedge) as being seen *in situ* by him at 'Runlet pits, Thorne Waste' (whether this is a habitat type or the site that is marked on the first edition of the 1-inch OS map, is not clear), but, again, it is not in his list of plants seen in 1870 or 1872, neither was it noted during the YNU 1877 meeting. His Thorne Moors herbarium specimen is marked as 'Collected and discovered by H.F. Parsons. August 10 1876', the location being 'the edge of the Spectacles Wells', but there is no specimen of his own collecting and once more it seems unlikely that he ever saw it.

Lees seems to make an attempt to ward off questioning the authority of herbarium specimens in a piece in *The Naturalist* in 1883, perhaps suggesting that this is something he is not entirely unacquainted with: '...a duly dated and localised specimen in a collection is not infrequently liable to [be subjected to] a not-to-be-rebutted, if unprovable, assertion of "transposition of label", "inadvertent confusion" &c; more especially in those cases where the fact happens to be singularly notable...'

It cannot be said with certainty that these difficulties are deliberate attempts to mislead, but it should be fundamental to the work of any naturalist to record truthfully what has been seen, where and when, and it is difficult to feel convinced that this is the case with Lees. What is not in dispute though is the value of his *Flora*, for without it a mass of valuable information, brought together from a wide variety of individuals and sources, would not have survived, but it must not be relied upon unquestioningly, particularly when his own observations are being considered. Caution must also be exercised with the legends on his herbarium sheets.

### Acknowledgements

Thanks are due to Dr Gerard McGowan of Keighley Cliffe Castle Museum for access to Lees' notebooks and herbarium and to Dr Rachel Webster and Lindsey Loughtman for their assistance with the Manchester Museum herbarium. Thanks are also

due to Martin Limbert who read an earlier draft and made helpful suggestions.

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## Marjorie Blamey at 100 years

DAVID PEARMAN

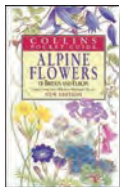
Marjorie was 100 this March! I have known her for over 30 years, having first met her in Crete when she was working with Kit Grey-Wilson on what was to be *Wild Flowers of the Mediterranean*. By that time, they had already published their guide to *Alpine Flowers* and had finished their *Illustrated Flora of Britain and Northern Europe*. I've taken her Mediterranean book on every holiday to that region ever since, and for me it is the ideal first go-to guide. I should add that I use her later *Wild Flowers of Britain and Ireland* (2003), itself the latest in a long line of guides to our area with Richard Fitter and, in this case, his son Alastair, too, as my first port-of-call for plant illustrations, especially of the alien species.

When it comes to field guides, I am very much a watercolour or line-drawing person over almost any book of photographs. Marjorie Blamey's paintings, to

me, capture the plant within the necessary limitation of size for such a guide. I do prefer the lovely paintings in the Scandinavian *Den Nya Nordiska Floran* (Stenberg & Mossberg, 1992), and also the fuller texts in the old *Collins Pocket Guide* (McClintock & Fitter, 1956 *et seq.*) and the later *Collins Flower Guide* by David Streeter, but for a first call, Marjorie's artworks are my favourite!

Many members will know that she didn't start to illustrate books until she was nearly 50, and her output over the next 30 years was phenomenal. In Crete, she was up at four in the morning to paint specimens collected the day before, aided and encouraged by her husband, Philip. On visiting their house in Cornwall, I was shown cabinet after cabinet of drawings and drafts, as well as editions of her guides in many foreign languages.

Philip died a few years back, and Marjorie, now with very poor sight, is in a home outside Rock, in Cornwall, near to all her extended family.



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*Crataegus monogyna* just coming into leaf in early April. Wilkie Branson

## BEGINNER'S CORNER

# Bud burst phenology of trees and shrubs – a brief introduction

JOHN POLAND

The relative dates of bud burst and subsequent leafing is largely constant across the temperate zone of Europe and North America. *Populus* (poplars) are famously known for the order in which foliage occurs. These are described in Jobling (1990) and Hutchinson (1999), but this phenomenon can be observed across many genera and species.

Although there can be 2-3-week inter-year shifts in bud burst dates, early bursting is considered as bud burst before the end of March, while late bursting is from the middle of April to the middle of May (exceptionally early June). Most species burst in the first two weeks of April and are termed 'moderate bursting'.

It should be noted that the bursting of flower buds (containing just flowers) may precede that of vegetative 'leaf' buds, which contain an embryonic shoot with leaves and often flowers, by several weeks, especially in trees where the leaves obstruct the pollination process. It is the vegetative bud-burst dates for leafing which are considered here.

Northern England may be one to two weeks behind and northern Scotland perhaps a further one

to two weeks behind, depending on the species.

### What causes bud burst?

Bud burst is primarily controlled by three main factors: cold winter temperatures (also known as the 'chilling period', i.e. the number of days below a specific temperature between 0°C and 10°C), warm spring temperatures ('forcing') and photoperiod (day length). The importance of each of these factors depends on the species and many different combinations can result in bud burst. In addition, genetics, origin (particularly in relation to planted species) and microclimate (including soil temperature and moisture in the root zone) also play a role in individual variation of bud-burst date. You may notice slightly earlier times in warmer towns and cities compared to the wider countryside. Even light pollution may accelerate bud burst.

With regard to origin, if a tree or its seed originating from Inverness is planted in London (or vice-versa), it is likely to keep a similar phenology to that of its original location. This is readily observable in planted *Crataegus* (hawthorn) hedges, some of which were bursting on 28th February 2018,



*Sambucus nigra* is a reliable early-bursting species.  
Wilkie Branson

whilst others will only just be in leaf as this lands on your doormat. This has been studied by Jones *et al.* (2001) who noted that *Crataegus* originating from Europe would burst up to five weeks earlier than British plants. However, 'lookalikes', such as *C. rhipidophylla* (Large-sepalled Hawthorn), and hybrids were not considered at that time, although the lead author warns there is a danger of importing similar alien species.

In weatherlore, the saying, 'oak before ash, in for a splash, ash before oak, in for a soak', is popular but unhelpful as *Quercus* (oaks) are usually in leaf before *Fraxinus excelsior* (Ash), unlike in the 18th century when phenology was first documented. Although both are apparently driven by photoperiod, bud burst in oaks is accelerated by warm spring temperatures, whilst Ash is only slightly increased. Given the recent trend of warm springs, it is only in an exceptionally cold spring that we might see Ash in leaf before oaks. Could this be such a year? Despite two cold snaps in March, it seems unlikely.

### Early-bursting species

The leafing of early-bursting species is usually linked to warm spring temperatures as they have a minimal chilling period and no photoperiod requirement. These are generally not susceptible to frost (freeze-tolerant) or occur in frost-free areas.

Some of the very earliest species are *Lonicera periclymenum* (Honeysuckle) and *Sambucus nigra* (Elder), followed by (in alphabetical order) *Chaenomeles* ('flowering quinces'), *Fuchsia*

*magellanica* (Fuchsia), *Hypericum androsaemum* (Tutsan), *Kerria japonica* (Kerria), *Leycesteria formosa* (Himalayan Honeysuckle), *Lycium* (teaplants), *Ribes sanguineum* (Flowering Currant), *Rosa* (roses), *Rubus fruticosus* agg. (Bramble), *Spiraea japonica* (Japanese Spiraea), *Sorbaria sorbifolia* (Sorbaria) and *Viburnum x bodnantense* (Bodnant Viburnum).

Many early- and moderate-bursting species have diffuse-porous wood developing uniformly narrow vessels *after* bud burst. It is thought narrow vessels are less likely to be damaged during freezing conditions. Such taxa include some *Acer* (maples), *Aesculus* (horse-chestnuts), *Betula* (birches), *Populus* and *Salix* (willows). However, some diffuse-porous species, such as *Alnus glutinosa* (Alder), *Fagus sylvatica* (Beech), *Liquidambar styraciflua* (Liquidambar), *Nyssa* (tulepos) and *Tilia* (limes), tend to leaf out later. This may be because these latter species evolved in warmer or tropical climates compared to early-leafing species which may have evolved in colder climates (Lechowicz, 1984).

Twigs of some diffuse porous-wood species have indeterminate growth producing as many leaves as possible, and so allowing the tree to quickly recover from late-spring frosts.

### Late-bursting species

In contrast, late-bursting species are usually controlled by the winter chilling period and/or photoperiod, with warm spring temperatures having little impact. Some of the latest species are *Carya* (hickories), *Castanea sativa* (Sweet Chestnut), *Catalpa* (bean-trees), *Fagus sylvatica*, *Fraxinus excelsior*, *Gleditsia triacanthos* (Honey-locust), *Gymnocladus dioicus* (Kentucky Coffeetree), *Hibiscus syriacus* (Hibiscus), *Paulownia tomentosa* (Foxglove-tree), *Populus nigra* 'Serotina' ('serotina' means 'late'), *P. tremula* (Aspen), *Quercus*, some *Ulmus* (elms) and *Vitis vinifera* (Grape-vine). Wine connoisseurs will be fascinated to learn that 'Cabernet Sauvignon' bursts approximately two weeks later than 'Chardonnay', with 'Sauvignon blanc' somewhere in the middle. These species, with the exception of *P. tremula*, are more susceptible to damage by frosts (freeze-sensitive).

Most late-leafing species have ring-porous wood which produces wider vessels in the spring and narrower ones later in the summer. The wider vessels suffer more damage from winter freezing,



*Acer pseudoplatanus* coming into leaf in early April.  
Wilkie Branson

and therefore require them to repair or produce new vessels *before* bud burst, resulting in much later leafing.

Twigs of most ring-porous wood species have determinate growth producing a fixed number of leaves, meaning the tree typically cannot as easily recover from late-spring frosts.

### Phenophase

A few species have wide phenophases (phenological stages) and can be early to late bursting. *Acer pseudoplatanus* (Sycamore) is a common example as buds can burst between the end of March and mid-May, even in adjacent trees in the same year. *Populus tremula* can also be variable, but tends to burst on the late side.

Rather unexpectedly, the latest species to burst are often the first to have fully formed buds in the summer. There is no correlation between bud burst and date of leaf fall in the autumn, which is caused by reduced day length, cooling temperatures, drought and strong winds, although the earliest species to lose their leaves include many *Populus* and *Gymnocladus dioicus* ('gymnocladus' means 'naked branch').

### Your observations

As you read this, the early-bursting, and virtually all of the moderate-bursting, species will be in full leaf. Of the remaining late-bursting species, you may be able to observe the unfolding sequence in these commonly encountered taxa (this was the chronological order in 2017):

*Tilia* (*T. cordata* much later) † *Platanus* † *Quercus* (*Q. cerris* latest) † *Alnus glutinosa* † *Robinia pseudoacacia* † *Castanea sativa* † *Fraxinus excelsior* † *Fagus sylvatica* † *Populus tremula* (variable) † *Populus nigra* 'Serotina' † *Ulmus* † *Catalpa* (latest). For those living in southern Britain, *Gleditsia* and *Gymnocladus*, although rarer, are probably the joint latest with *Catalpa*.

Perhaps the sequence is different this year in your area? Please let me know! Documentation for many species is lacking in the literature, but Zohner & Renner (2014) and Panchen *et al.* (2014) – both freely available online – include novel data. Any collaborations and contradictions are very welcome.

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For those wanting more information on the use of phenology in identification (amongst other things), a pre-publication flyer for *The Field Key to Winter Twigs* can be found in this issue.

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## ADVENTIVES AND ALIENS NEWS 14

COMPILED BY MATTHEW BERRY

In the introduction to Adventives & Aliens News 1 (*BSBI News* 125: 42), I emphasised the importance of keeping tabs on historical alien sites as a means of determining/revising status. This was particularly brought home by a list circulated by Professor Stace recently of alien species for which there have apparently been no records since 1999. One of the species on it was *Juncus subulatus* (Somerset Rush) which I had assumed, complacently it turns out, would be one of the botanical highlights at Berrow Dunes for many years to come. According to Helena Crouch (BSBI Recorder for v.c.6), however, it was last seen there in 1998 and seems to have been lost to succession, the brackish marsh where it grew having become a freshwater reedbed. This episode illustrates precisely why I would always find space for detailed, up-to-date records of this sort, whether bearing good or bad tidings for the species in question.

The North American perennial grass *Hordeum jubatum* (Foxtail Barley) is best known as an introduced plant of salted road verges, particularly in the north of England, where it is thought to have arrived as a grass-seed impurity. It is most striking when in flower, the inflorescences appearing to be almost all awn, and ranging from a whitish-green to an iridescent brassy tone, features which make it a desirable garden plant. It does also occur as a garden escape or discard, with two such records for Sussex alone since 2000 (see v.c.13 & 14), and at least one for N. Hants (see v.c.12).

An exciting aspect of compiling these reports is the likelihood of coming across species which are entirely new to me, a 2017 example of which was *Salvia hispanica* (see v.c.6). It might, however, be familiar to health food enthusiasts as 'Chia', its seeds apparently being a rich source of omega-3 fatty acids. Will such usages mean its days of botanical obscurity are numbered?

The feedback from my *Symphytum orientale* (White Comfrey) request (see Adventives & Aliens News 12) has not yet been of sufficient scope for me to generalise about recent advances outside its core area of south-eastern England. Potted summaries of the sort provided by Martin Rand for *Euphorbia oblongata*

(Balkan Spurge) (see Adventives & Aliens News 11, v.c. 11) would be particularly effective in this instance, but Phil Pullen sent me details of his surprisingly recent first record for Plymouth, where it was growing not far from *Phuopsis stylosa* (Caucasian Crosswort) (see v.c.3).

If members have a chance to look back at some of my earlier requests for information and records for particular species, I would be most grateful.

John Norton pointed out a transcription error I had made in reproducing his *Solanum nigrum* ssp. *schultesii* record (see Adventives & Aliens News 13, v.c.11). The recreation ground referred to is on Grove Road, not 'Gore Road' as given. My apologies to John and to anyone who spent time trying to make the OS and road maps agree.

Many thanks for your support.

**V.c.1a (W. Cornwall)**

*Pennisetum macrourum* Trin. (Fountain Grass). East of Longrock (SW5031), 16/8/2017, R. Burton (comm. R. Burton): south side of road, just before the roundabout, where it forms a conspicuous patch, c. 23m by c. 4m. Known since about 2006, Rodney believes its existence here has not been reported in print before. A perennial South African grass with inflorescences c. 30cm long by about 15mm (often interrupted right at the base) and with long flat culm leaves. It is a garden plant, the appeal of which, according to one horticultural stockist, has to do with its 'tall stems carrying long, narrow, cat-tail-like flower heads.' I take 'cat-tail-like' to mean *Phleum*-like, although the spikelets are quite different, those of the *Pennisetum* having *Setaria*-like bristles at their bases for example. It grows in a flower bed on the Western Lawns of Eastbourne seafront (conf. E.J. Clement), and spreads powerfully through its roots but could not be said to be established there. Some of the culms easily reach 1.5m.

**V.c.1b (Scilly)**

*Senecio minimus* (Toothed Fireweed). Bryher (SV8789614910), 19/5/2017, D. Leadbetter: near roadside with *S. glastifolius* (Woad-leaved Ragwort). *S.*

*minus* has been spreading in v.c.1b since its discovery there in 2000. There have also been recent records for v.c.c.10 (*BSBI News* 132: 39–40) and H21 (*BSBI News* 137: 58–59), with the spectrum of habitats involved covering waste ground, woodland, sand dunes and flower beds.

*Aspidistra elatior* Blume (Cast-iron Plant). St. Mary's (SV9195711475), 19/5/2017, D. Leadbetter: established population at edge of wood near path, Holy Vale. A native of Japan (Asparagaceae) described in Clement & Foster (1994) as 'a casual greenhouse escape' and less likely to establish further eastwards, although see *Adventives & Aliens News* 1 for details of a v.c.10 record in a rather similar situation.

### V.c.3 (S. Devon)

*Symphytum orientale* (White Comfrey). Plymouth (SX55885554), 25/4/2017, P. Pullen: on frequently mown roadside verge, where Phil had not noticed the plant previously. A still increasing escape which can turn up a long way from the nearest gardens. Spreads mainly by seed.

*Phuopsis stylosa* (Caucasian Crosswort). Plymouth (SX55955554), 28/6/2017, P. Pullen: on grass verge of main road. From my own observations in Sussex, this is an increasingly popular garden plant, the lateral growth of which might be hard to contain, and which could result in disposal of 'thinnings' in places where they might take root.

### V.c.6 (N. Somerset)

*Scutellaria altissima* (Somerset Skullcap). Bath (ST73216528), 27/3/2017, H. Crouch & D. Green (comm. H. Crouch): one clump under trees immediately north of chapel, Locksbrook Cemetery. Confirmed in flower by Helena on 26/5/2017. New site.

*Scutellaria altissima* (Somerset Skullcap). Wadbury Valley/Mells (ST767488), 7/6/2017, H. Crouch & G. Read: abundant on old wall and rocky hillside above, north side of path; (ST73524881), 7/6/2017, H. Crouch & G. Read: large patch on bank on north side of path, opposite small building; (ST73714879), 7/6/2017, H. Crouch & G. Read: large patch on bank on south side of stream. The most recent records for this area.



*Phuopsis stylosa* Plymouth, v.c.3, 2017. P. Pullen

*Salvia hispanica* L. (Chia). Chew Valley Lake (ST55445937), 29/10/2017, M. Webster (det. & comm. H. Crouch): two large plants and four tiny ones on bank of reservoir at Heron's Green. A native of southern Mexico and Guatemala, which has been recorded twice in Belgium recently (and for flowering plants by a railway line at Schoten, Belgium, see the image at <http://alienplantsbelgium.be/content/salvia-hispanica>). In the online Manual of the Alien Plants of Belgium it is keyed and described as an

*Scutellaria altissima* Bath, v.c.6, 2017. Helena Crouch





*Salvia hispanica* at Chew Valley Lake, v.c.6. 2017.  
M. Webster

annual with sky-blue corolla, and leaves that are 'distinctly serrate, ovate to lanceolate, with impressed veins and hairy (simple and glandular hairs) lower surfaces. Stem usually robust, often more than 50cm.' The only description Eric Clement could find in a foreign Flora was in Adams (1972), where reference is made to its 'dense, spike-like inflorescence', 'large persistent bracts', 'mauve or blue corollas' and where its height is given as up to 1m. The Chew Valley Lake plants could have been the legacy of a healthy picnic or the scattering of new-fangled bird seed. The first British record.

#### V.c.9 (Dorset)

*Oenothera parviflora* (Small-flowered Evening-primrose). Swanage (SZ0184279438), /2017, D. Leadbetter (det. R. Murphy): one plant at east of recycling centre, the second recent record for Swanage. Most British records in the past have been errors for forms of *O. cambrica*, but excitingly this proved to be the genuine article. Petal length distinguishes the two species: 6–12mm in *O. parviflora*; 20–30mm in *O. cambrica*.

*Linum grandiflorum* Desf. (Crimson Flax). Wareham (SY92218771), 31/8/2017, D. Leadbetter: several plants north of St. Martin's Church. A North African annual with dark red flowers, 30–40mm across, sown commonly as a part of seed mixtures on berms and



*Nicotiana sylvestris* Brownsea Island, v.c.9, 2017.  
D. Leadbetter

in 'conservation strips', etc., and strictly a casual with us, viable seed never or almost never being set in this country.

*Nicotiana sylvestris* (Argentine Tobacco). Brownsea Island (SZ02968776), 26/10/2017, D. Leadbetter: plants appeared after removal of Holm Oak in garden of Brownsea Castle. See v.c.14.

#### V.c.10 (Isle of Wight)

*Aptenia cordifolia* (Heart-leaf Ice-plant). Bembridge (SZ6561187366), 19/7/2017, D. Leadbetter: on cliffs. Established here since at least 1999 and David says 'looking wilder than most sites I saw it growing on the Isles of Scilly.' Clement *et al.*, 2005: 39.

#### V.c. 12 (N. Hants)

*Erigeron philadelphicus* (Robin's-plantain). Wonston (SU47293947), 17/6/2017, A. Mundell, G. Knass & A. Cross: several plants on road verge, escaping from garden. A weedy perennial composite which resembles an *Aster* species and has a marked preference for scruffy, somewhat disturbed open habitats such as road verges, wall tops and, in its native N. America, along railways. There are scattered sites mainly in the south of the country, mostly as a casual but with established populations in a few places. See Stace (2010). Clement *et al.*, 2005: 321.

*Hordeum jubatum* (Foxtail Barley). Hound Green (SU72775919), 13/7/2017, A. Mundell: beside footpath, an escape from adjacent nursery, also seen as a weed of a large potted *Carpinus betulus* (Hornbeam) in



the nursery. See v.c.13 & 14. Clement *et al.*, 2005: 401.

### V.c.13 (W. Sussex)

*Oxalis debilis* var. *corymbosa* (Large-flowered Pink-sorrel). Bracklesham Bay (SZ80869748), 25/6/2014, D. Donovan: established weed in polythene tunnel, seed-production unit, Clayton Lane. There have been about a dozen Sussex records of the aggregate since 2000. It is much more frequent in other vice-counties, but not as widespread or abundant as *O. articulata* (Pink Sorrel) nationally. *O. debilis* and *O. articulata* can usually be differentiated vegetatively, not only by the fact that the first species has less hairy leaflets than the second, but also by the sub-marginal warts. They are uniformly tiny and tightly circular in *O. debilis* and occupy a zone of less than 1mm width from the extreme edge of the leaflet. In *O. articulata* they are much less uniform in size and more irregularly shaped and can occur up to 4(10?)mm from the leaflet margin. These differences are well shown by the illustrations on pp.186 and 187 of Clement *et al.* (2005), and work reliably when it is not practical to exhume the rootstock. Floral characters are required for identification to varietal level. See Stace (2010).

*Hordeum jubatum* (Foxtail Barley). Littlehampton (TQ020027), /2010, D. Donovan: one plant on allotment, not grown nearby.

### V.c.14 (E. Sussex)

*Polystichum munitum* (Western Sword-fern). West Hoathly (TQ3629634017), 7/6/2015, M. Shaw (det. M. Berry/conf. A. Paul): one plant in ditch between footpath and wall bounding Gravetye Manor car park; Twyford (TQ398305), /2012, D. Bevan: four plants on bank of stream, near Cheyne Mead. Still there in 2015. This was first found in Britain at Hascombe (v.c.17), where it has since 'exploded', with dozens of plants and sporelings along one side of a sunken track for c. 45m (pers. comm. E.J. Clement). For an account of the Hascombe site see *BSBI News* 28: 24. Recently trimmed, regrowing fronds would be particularly hard to distinguish from *P. acrostichoides* (Michx.) Schott (Christmas Fern).

*Lepidium virginicum* (Least Pepperwort). Icklesham (TQ8816), 7/11/2017, J. Rose & E. Campbell: on waste ground close to church entrance. Possibly originating from cut flowers placed on a grave.

*Coriandrum sativum* (Coriander). Newhaven (TQ4529100942), 7/2017, J. Reynolds: one plant on waste ground, east side of River Ouse, where frequent vehicle movements and soil dumping close to new road. Flowering plants of *C. sativum* and *Bifora radians* (and possibly other *Bifora* species) are rather similar, even having a similar odour. They are best distinguished by fruit shape, which is globose in *C. sativum* and didymous (like those of *Lepidium didymum*) in *B. radians*. *Coriandrum tordylium* (Fenzl) Bornm. is probably every bit as rare as records suggest, but it might be worth checking to see if the late mericarps remain fused (*C. sativum*) or separate (*C. tordylium*).

*Smyrniium perfoliatum* (Perfoliate Alexanders). Bevendean (TQ331063), 15/5/2001, A. Spiers: at edge of wood, Jevington Drive. This species can be persistent, with a number of long-established populations known, historically at least, in the London area, e.g. Battersea Park. The stem leaves are amplexicaul not perfoliate. Given its relative rarity in this country, it is surprising to see it included in Booy *et al.* (2015) as an invasive species, owing to reports of 'localised impacts' such as the 'potential to smother adjacent native vegetation in woodland.' Clement *et al.* (2005) p.201 and Tutin (1980) p.65.

*Nicotiana sylvestris* (Argentine Tobacco). Brede (TQ8224818754), 20/9/2017, M. Berry & J. Linsell (det. M. Berry): one flowering plant and one rosette, base of wall by main road. A tall bulky herb which, perhaps, because it takes up a lot of space and has relatively inconspicuous white flowers, rarely gets planted outside gardens, where its seeds would have more opportunities to penetrate the pavement cracks and wall bases exploited by other showier members of the Solanaceae, so popular in amenity planting schemes and hanging baskets. Clement & Foster (1994) describe it as 'a persistent relic of cultivation on the Channel Islands.'

*Caryopteris × clandonensis* A. Simmonds ex Rehder (Bluebeard). Eastbourne Seaside (TV6221599923), 11/8/2016, M. Berry: one seedling at foot of wall, Latimer Road; (TV6223199965), 26/8/2016, M. Berry: one seedling in gutter, Latimer Road. A popular shrubby blue-flowered garden plant (Lamiaceae). The seedlings are very recognisable, with



*Gnaphalium luteoalbum* Worksop, v.c.56, 2012.  
G. Coles

paired lanceolate leaves which are proximally entire and distally toothed, and even at this stage highly aromatic. Could this, in fact, be a good species?

*Xeranthemum annuum* L. (Immortelle). Peacehaven (TQ43040096), 14/9/2012, M. Shaw (conf. E.J. Clement): for c. 100m on verge of A259, either side of Blakeney Avenue; thought to have been sown originally and gone by 2016 (pers. obs. M. Berry). An annual Mediterranean composite which as a native favours dry stony habitats. The solitary capitula (c. 40mm across) have papery silver-brown outer phyllaries, and much longer spreading purplish-pink inner ones, which resemble ray-florets. The involucre is distinctly rounded. The linear leaves are white-woolly hairy with entire margins; the fruit a cypsela with five long but unequal bristles. Also with *Limonium sinuatum* (Statice) at this site (see Adventives & Aliens News 11). This record suggests that it is a constituent of certain wildflower seed mixtures.

*Hordeum jubatum* (Foxtail Barley). Newhaven (TQ4530800934), 3/9/2017, J. Reynolds: one plant where there is much soil dumping, west of new road.

#### V.c.17 (Surrey)

*Soliva valdiviana* Phil. (Unwinged Jo-jo). Hounslow (TQ11257443), 7/5/2017, London Natural History



*Cornus canadensis* in Pitgaveny Wood, v.c.95, 2017. I. Green

Society (det. G. Hounsome): a small patch on a fairway here and isolated plants in a couple of the bunkers, e.g. TQ11447457. For drawings of fruits and other details see *BSBI News* 124: 49–51.

#### V.c.21 (Middlesex)

*Lepidium virginicum* (Least Pepperwort). Islington (TQ312818), 27/8/2017, J. Edgington (conf. F. Rumsey, comm. J. Edgington): single well-grown fruiting plant growing out of a street drain, River Street.

#### V.c.56 (Notts)

*Gnaphalium luteoalbum* (Jersey Cudweed). Worksop (SK5829078459), 26/7/2012, G. Coles (comm. G. Coles): corner of Slack Walk and Hartland Road. Graeme had been contemplating a long-distance journey to one of its 'classic locations', when he found this plant almost on his doorstep.

#### V.c.60 (W. Lancs)

*Agrostis scabra* (Rough Bent). Lancaster (SD480610), /10/2017, P. Stanley: 50–60 plants on cobbles. Given the circumstances of a recent v.c.6 (N. Somerset) record (see Adventives & Aliens News 8), might a plant container have provided the vector? See the cover of *BSBI News* 27 for a drawing and pp.18 and 20 within for an excellent treatment of the taxonomy,

as well as a useful summary of earlier records.

### V.c.95 (Moray)

*Cornus canadensis* L. (Creeping Dogwood). Pitgaveny (NJ23396461), 24/5/2017, I. Green: well naturalised in Pitgaveny Wood, north of Elgin. One of several rhizomatous low-growing herbaceous species, formerly in the genus *Chamaepericlymenum*. The following key for separating them is based on information in the *Flora of North America* (eFlora):

Petals purple (leaves at more proximal nodes green, well-developed and persistent)

..... *C. suecica* L. (Dwarf Cornel)

Petals either cream or proximally cream-coloured

Petals cream; all but distal most leaves white, scale-like and soon dropping

..... *C. canadensis* L. (Creeping Dogwood)

Petals proximally cream and distally purple; leaves at second node from apex well-developed, proximally white and distally green, persistent

..... *C. unalaschensis* Ledeb.

(Western Dwarf-dogwood)

There are apparently no other records for *C. canadensis* in the DDB, but Clement & Foster (1994) give it as 'a persistent nursery weed recorded from Seal (W. Kent).' It is probably not there now. These species, or very similar ones, are also native to East Asia.

*Scrophularia grandiflora* DC. (Large-flowered Figwort). Grantown-on-Spey (NJ032302), 23/7/2017, I. Green: one plant self-sown (inaccessibly) on wall of an old railway bridge. See *BSBI News* 119: 52 and the inside

back cover of the same issue for close-up photos.

### V.c.H21 (Co. Dublin)

*Cissus striata* Ruiz & Pav. (Uruguayan Ivy).

Donnybrook (O1830), 17/9/2017, D. Nash (comm. D. Nash): several plants growing in pavement cracks up to a few metres distant from where fruiting branches overhung a garden fence. An evergreen vine (Vitaceae) native to Chile, Brazil, Argentina, Uruguay, Paraguay and Bolivia, climbing to c. 10m, with glossy compound leaves of five leaflets and cymes of insignificant green, four-petaled flowers. The fruit is a glossy black berry. *Parthenocissus* species have flowers with five petals.

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## *Trifolium angustifolium* (Narrow-leaved Clover), a shoddy weed, naturalised in Bradford (v.c.63)

### B.A. 'JESSE' TREGALE

I first saw *Trifolium angustifolium* (Narrow-leaved Clover), *T. purpureum* (Purple Clover) and *T. resupinatum* (Reversed Clover) on waste ground in Bingley, with Michael Wilcox, in August 1998. These alien clovers were a rather surprising find, but they could have possibly come in as 'shoddy' weeds, as the waste ground was previously occupied by a mill. Shoddy is the waste from the cleaning of wool prior

to manufacture of the yarn, and many alien plant seeds were to be found in this waste and, subsequently, plants from these seeds were found growing on tips and other areas where the shoddy had been dumped. Shoddy is no longer produced and in Bradford shoddy weeds last appeared at Amblers Mill on Canal Road after soil disturbance in 1989 and 1990. *Erodium botrys* (Mediterranean Stork's-bill), *T. tomentosum* (Woolly





*Trifolium angustifolium*, Bradford v.c.63. B.A. Tregale

Clover), *T. glomeratum* (Clustered Clover), and *Medicago minima* (Bur Medick) were among the weeds found, with a small patch of *Lotus subbiflorus* (Hairy Bird's-foot-trefoil) appearing later in 1998. Also, some of the aliens found on Esholt Tip between 1995 and 2000 appear to have been shoddy weeds, including *T. tomentosum*, *E. botrys*, *T. cernuum* (Nodding Clover), *E. crinitum* (Eastern Stork's-bill) and *T. subterraneum* (Subterranean Clover).

*T. angustifolium* was not seen again in the Bradford area until 2007, when it was found on a brownfield site where the Illingworth Wool Combers Mill once stood at Fairweather Green. This site was first noticed in October 2006, when, whilst travelling on a bus, I noticed some large buildings had been demolished at Fairweather Green, about 2 miles from the centre of Bradford. A few days later, I visited the site with Michael Wilcox. We found a large brownfield site, covering approximately 12 acres. We had no knowledge of when the mill had been demolished, but it gave the impression of being recent, with little vegetation, although there were some small *Betula* (birch) saplings present. On this first visit the site did not look promising, although we did find *Polypogon monspeliensis* (Annual Beard-grass) and *Oxalis exilis* (Least Yellow-sorrel).

Since 2006, the rubble, which covered most of the area, has gradually become covered in grasses, mosses, trees, shrubs, etc. Natives such as *Calamagrostis*

*epigejos* (Wood Small-reed), *Lotus glaber* (Narrow-leaved Bird's-foot-trefoil), and *Linaria × sepium* (Common × Pale Toadflax)), which are rare in v.c.63, have arrived, as well as some garden escapes, including *Muscari latifolium* (Broad-leaved Grape-hyacinth), *Knautia macedonica* (Macedonian Scabous) and *Sisyrinchium montanum* (American Blue-eyed-grass). Self-seeded alien trees and shrubs, including *Acer campestre* var. *leiocarpon*, *Cornus sanguinea* ssp. *australis* (Southern Dogwood) and *Cortaderia richardii* (Early Pampas-grass) have also arrived and over 300 plant taxa have now been recorded for the site.

Being the site of a wool-combing mill, we hoped for some shoddy weeds, possibly *Juncus antheratus* (Lax-flowered Rush) from North America, and also *T. fragiferum* (Strawberry Clover), a British native, but certainly not a native in Bradford, and we felt sure the *T. angustifolium* found in 2007 was a shoddy weed. This annual from southern Europe was first found on the far side of the site and has been present on the site almost every year since. It is not confined to one area, but being an annual has moved about the site, and for the last few years has been on the near side of the site, not far from *T. fragiferum*. In 2016, we visited the site in May, a bit early for the clover, and did not search for or find it, and later in the year the whole area was fenced off and building work started so further visits were not possible. In June 2017 when we revisited the site, some of the fencing had gone and the only building we found was the abandoned foundations of a few buildings on the edge. On a return visit in September,

Michael refound the clover.

Whether an annual alien can be considered as naturalised after appearing on a site for 11 years, I am not certain, but what I am sure of is that *T. angustifolium* is my favourite plant on the site. Hopefully, this brownfield site will remain as such for the foreseeable future. Unfortunately, the area where the clover is now growing has been covered with young *Betula* and *Salix* (willows) and the greening of the site has reduced bare areas for this annual to seed in. On the plus side, building has been abandoned and the adjacent land

has a very noisy industrial estate which should deter any domestic housing at least on part of the site. Therefore, hopefully the clover will survive in what is probably its only British location. I would be interested to hear from any one who has recently found *T. angustifolium* anywhere else in Britain.

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## Opuntia on Brownsea Island, Dorset (v.c.9)

DAVID LEADBETTER

During the summer and autumn of 2017, I spent some interesting days on Brownsea Island, Dorset (v.c.9) doing botanical recording. The island is owned by the National Trust, with the northern half (including a lagoon and two lakes) leased to the Dorset Wildlife Trust. The castle is used by the John Lewis partnership as a holiday home for their employees and is not normally open to the public, but I was able to obtain permission to do some survey work in the grounds.

The whole island had been extensively surveyed by Edward (Ted) Pratt some years ago, so it was interesting to note some new additions to the flora, such as *Epilobium brunnescens* (New Zealand Willowherb), *Juncus tenuis* (Slender Rush) and *Kickxia elatine* (Sharp-leaved Fluellen). *Mentha requienii* (Corsican Mint) is another species that has appeared in recent years and now forms large patches in a few areas.

My greatest surprise lay in store on the south-east side of the island, within the castle grounds. While walking along the narrow strip of beach, I looked up at the cliff and saw what appeared to be a cactus. On closer inspection following a short scramble up, I could see it was an *Opuntia*, with several more plants a few metres west of it.

As it was an unusual species to discover, I contacted the gardener at the castle, Mike, who told me that he had originally brought the plant from Cornwall. It was grown in a pot in the castle grounds, but it had been decided to remove it about eight or nine years ago. As Mike did not want to destroy it, he had planted small pieces on the cliff. It seems to maintain itself, taking



*Opuntia*, Brownsea Island v.c.9. David Leadbetter

advantage of the south-facing position, but it has not so far flowered.

The most likely *Opuntia* species grown in Britain appear to be *O. humifusa* (Eastern Prickly Pear) and *O. phaeacantha* (Tulip Prickly Pear), presumably because both can tolerate wet conditions. I believe the Brownsea *Opuntia* is probably *O. humifusa* from its low-growing habit and spinal characteristics, but there are many species and some hybrids. If anyone reading this thinks differently, I would be pleased to hear from them.

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## *Oenothera* species in Surrey (v.c.17)

GEORGE HOUNSOME

In August 2011, Eric Clement and I were wandering around a patch of rough ground south-east of Barnes Station (v.c.17) when we came across an evening-primrose that neither of us recognised. Eric has the magpie habit where plants are concerned so he took a sample for his herbarium. A number of years passed.

Then in August 2017 we were wandering around a derelict industrial site near Elstead (v.c.17). There were many banks of debris of unknown origin and on one of them was another mysterious evening-primrose. Remembering the unresolved Barnes plant, my conscience awoke, so I took specimens. Stace (2010) lists only the five commonest taxa, none of

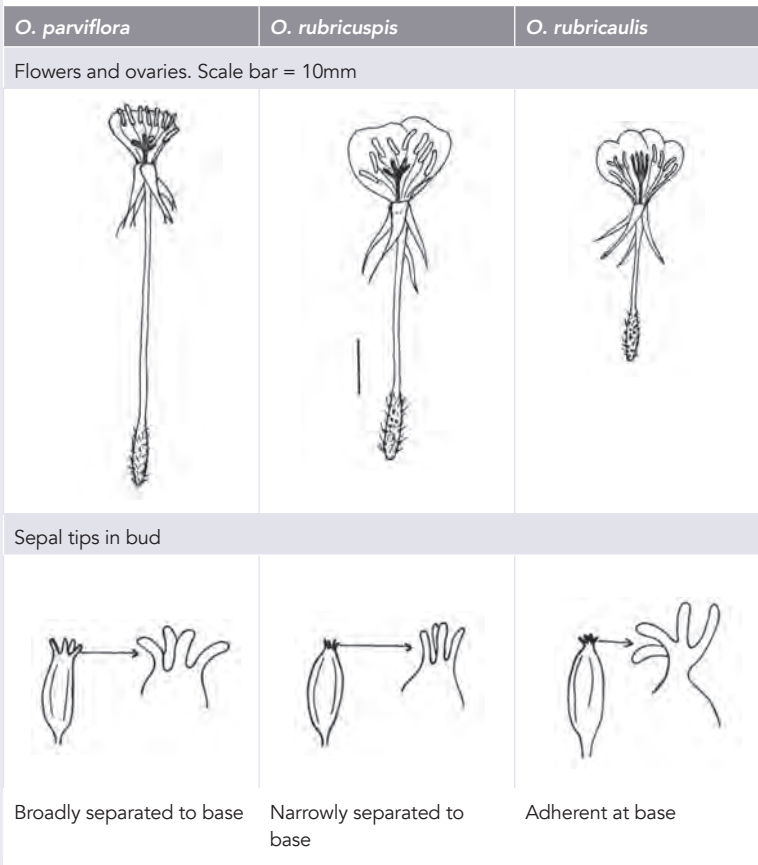
which seemed right for this plant, but since 2011 a BSBI Handbook for evening-primroses has appeared (Murphy, 2016), so Eric gave me the samples from Barnes and I used this book to key out both of them. They looked very similar to me as an evening-primrose novice, except that the petals of one were much smaller. I made them both *Oenothera rubricaulis*, although there were discrepancies that I wasn't happy with, so I sent them to Rose Murphy to check. She replied very promptly, naming the Barnes specimen as *O. parviflora* (Small-flowered Evening-primrose). She had some doubts about the Elstead specimen because the sepal tips in bud were separate to the base and the hypanthial tube was too long. After

	<i>O. parviflora</i>	<i>O. rubricuspis</i>	<i>O. rubricaulis</i>
Upper stem coloration	Green to pale red	Red	Red
Red-based pustulate hairs	None	Frequent	Abundant
Petal length (mm)	6–12, as long as wide	12–18, as long as wide	10–20, longer than wide
Hypanthial tube (mm)	30–40	25–35 (40)	15–25
Red-based pustulate hairs on ovary	None	Frequent	Often plentiful
Genome/plastome combination	BC/IV	BC/IV	AB/II





Comparison of the floral structures: All drawings by Rose Murphy



further examination and thought she named it as *O. rubricuspis* an evening-primrose of very rare occurrence in Britain. The key character separating *O. rubricaulis* from *O. rubricuspis* is the form of the sepal tips: joined at the base in the former but free in the latter. *O. rubricuspis* also has a longer hypanthial tube, to 40mm in the plant we found. See opposite and left for tables showing the differences.

The BSBI Distributional Database shows only one previous record in Britain for *O. rubricuspis*, from Grangetown, Cardiff (v.c.41) in 1922. *O. parviflora* is little more frequent (Fig. 1) and *O. rubricaulis* slightly more than that (Fig. 2). None is common. There is only one record in Surrey for *O. rubricaulis* (Leslie, 1987)

but it was plentiful at a site near Kingsley, in N. Hants (v.c.12), in 2007 (BSBI DDb).

In the field, look out for medium-sized evening primroses, more slender and with proportionally narrower leaves and smaller flowers than *O. glazioviana* or *O. biennis*. The completely red upper part of the stem is striking. Then check the details in the tables shown here. Experience is necessary to evaluate key characters and plants show some phenotypic plasticity, so several plants should be examined, if possible. The species differ in their indumentum and sepal tips, showing the importance of detailed observation in these plants.

Species boundaries are still debatable in *Oenothera* and are subjective. With the European approach (Rostanski, 1982; Murphy, 2016) morphological characters can be used to separate the three taxa, but the American authorities (Dietrich *et al.*, 1997)





Figure 1. BSBI DDb records for *Oenothera parviflora*.



Figure 2. BSBI DDb records for *Oenothera rubricaulis*.

include all taxa with the same genome/plastome combination in the same species, so *O. parviflora* and *O. rubricuspis* are both included under the former name as a variable species, and *O. biennis* includes both *O. cambrica* and *O. rubricaulis*. This approach is probably better until more is known, but recording of the old taxa, i.e. *O. rubricaulis* and *O. rubricuspis*, could still be of some value. Murphy (2016) explains the unusual genetics of the genus in some detail.

### Acknowledgements

I would like to thank Rose Murphy for the abundance of help and information she has given me in producing this article, for checking it and for the drawings, which she says would be a lot better were it

not for her failing eyesight, but they look excellent to me. I would also like to thank Tony Mundell for the photograph of *O. rubricaulis* and information about the Kingsley site, and Eric Clement for useful comments and the pleasure of his company and expertise on botanical forays.

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### Request for British and Irish material of *Lepidium virginicum* (Least Pepperwort)

As part of an exercise to establish whether or not *Lepidium virginicum* (Least Pepperwort) *sensu lato* should be split into two species *sensu Flora of North America*, viz. *L. virginicum* and *L. densiflorum*, or the broader species concept be retained, I would like to gather together as much recent (since c. 2010) material relating to British and Irish records as possible. The aim is to carry out a limited morphometric study on a small sample to see how uniform the British and Irish plants are, which characters are applicable to them and how well such characters correlate. The material could be fresh or dried. It would ideally have flowers and mature

fruits, preferably with ripe seeds. If you can only loan material, it should be possible for me to return it to you in due course. I would, of course, be very interested in material of any new records as well and, again, plants with both flowers and mature fruits would be best. All material should be sent to my postal address. Many thanks.

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# COUNTRY ROUNDUPS – ENGLAND

PETE STROH

I tend to spend the winter tapping away at my keyboard, but I know that many of you will have been outside recording during the darkest and coldest months of the year. If you do find a plant in England that you want to shout about, at any time of the year, please do let me know – this is the place to share the joy! Not that you need reminding, but early spring is an excellent time to look for those ephemerals that would otherwise be invisible for the rest of the year. It's a great excuse to get out in the sunshine to search for *Stellaria pallida* (Lesser Chickweed), *Moenchia erecta* (Upright Chickweed), *Myosotis ramosissima* (Early Forget-me-not), *Myosurus minimus* (Mousetail), or whatever other treasures your local patch might hold. Some plants, however, are right under our nose but have been overlooked because we were not actively searching for them.

One such example is *Pastinaca sativa* ssp. *urens* (Eastern Parsnip), a rather lovely plant that is taller, more slender and greyer than ssp. *sylvestris*. You can read all about the history of its discovery, alongside characters assisting separation between the two subspecies, in Alan Leslie's excellent *BSBI News* article (January 2017, 134: 44–46). Graeme Kay has let me know that after reading Alan's note he searched for and found this particular subspecies in Cheshire, and also new to Wales in

Flintshire. It is too early to identify the parsnip to subspecies now, but it's worth keeping in mind for later in the year. It would appear to be spreading along road verges and railway sidings, and there are surely many new county records waiting to be discovered.

## *Lobelia urens*

Of course, BSBI members are not only involved in recording plants, and the winter months are a busy time for helping with vital conservation tasks. In Dorset (and Hampshire), Robin Walls has been mucking in with the local flora groups and Species Recovery Trust volunteers clearing scrub and trees to create suitably open conditions for one of England's rarest flowers, *Lobelia urens* (Heath Lobelia). This beautiful plant is at the northern edge of its global range in southern England, and hangs on at just a handful of sites, where it is found on acid soils that are often very wet in winter. Unfortunately, plants are readily shaded out by scrub and Bracken, but the good news is that this species regenerates from seed which is long-lived in the soil. Large free-roaming herbivores might have created suitable disturbance for *L. urens* in the distant past, and open conditions were often maintained until recently by traditional management such as coppicing and livestock grazing. In recent times, however, the future presence of *Lobelia* flowers now often lies in the hands of

volunteers cutting Bracken, uprooting and clearing scrub, or by the (very careful and targeted!) use of a JCB.

In addition to making space for *L. urens* at native localities, an experimental translocation using seed from a native site has recently taken place at a restored nearby quarry in Dorset. Whilst the maintenance of the few remaining native populations is clearly the priority, such introductions, if carefully planned and monitored, can help to raise the profile and plight of our rare wild flowers and their native localities, and it will be interesting to know if the planted seedlings survive and flourish.



*Lobelia urens*, Dorset. Tony Bates



With my 'atlas pedant' hat on, it is worth emphasising here that one should always record such introductions as 'planted', so we have a record of status in our database. This is especially so for a species that has a persistent soil seed bank. Otherwise, in future years biogeographers will be scratching their heads wondering if it is a new native occurrence that has popped up in an unfamiliar habitat.

### Working from seed

Often species produce seeds that have the potential to be long-lived, but do not get the opportunity to ripen and fall, as they attract the attention of other interested parties. This is well known to those who monitor orchid populations, for which Rabbits seem to have a particular dislike, felling the flowering stems but leaving the fallen debris untouched. Ann Sankey has written to tell me of two examples of arable weeds – *Papaver hybridum* (Rough Poppy) and *Silene noctiflora* (Night-flowering Catchfly) – both very rare in Surrey, that appear also to be attracting unwanted attention. One member of the Surrey Botanical Society grows *P. hybridum* in his garden, but just before seed is shed the seed

heads are frequently nipped off, perhaps eaten by small mammals. At its sole locality in the county, c. 90% of the seed heads of the poppy had suffered a similar fate. Also, it would appear that Rabbits take a particular liking to the shoots of *S. noctiflora*. With their seed output compromised, and their populations declining due to other factors, the outlook for these species, particularly when only one or two populations remain, seems even more precarious. This means that there is all the more reason to push for the appropriately targeted creation of more arable margins.

Continuing this theme, you can learn all about the rare, scarce and threatened species of Oxfordshire in their new *Rare Plant Register*. It is very comprehensive, and even includes a section on stoneworts, the glamour macro-algae that we have taken to our heart and record along with all vascular plants.

Straying just outside of England, Rachel Rabey and Jane Gilmour have produced an updated *Checklist of Guernsey Plants*. The list includes all species recorded from Guernsey, with brief notes on their habitat, distribution and abundance. This is available from La Societe Guernesiae at <http://www.societe.org.gg/sales/books>.

php. If you are planning to visit the Channel Islands, then this publication is essential reading.

### Field meetings

As ever, there is a full-to-bursting England field programme in 2018, and you can quickly view a list on the meetings page <https://bsbi.org/meetings-diary>. Full details of these meetings are either on the BSBI meetings, the country, vice-county or local group webpage as appropriate. Do bear in mind, though, that there will be many more meetings across England that are organised by local flora groups with an affiliation to the BSBI, and might not be publicised on our website. If in doubt, then it's worth asking your local Vice County Recorder.

Finally, a grovelling apology to Ken Adams, VCR for Essex. I have now mentioned in print at least twice that his find of *Zannichellia obtusifolia* was from a site in Kent. Much as I love Kent (I like Essex too...I'll stop digging), the find, a first for Britain, was not in Kent, but in Essex, near Little Oakley. But perhaps it will turn up in Kent this year...

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## COUNTRY ROUNDUPS – SCOTLAND

IAN STRACHAN & JIM MCINTOSH

The collation of annual vice-county reports is a fascinating account of botanical endeavour and discovery by BSBI vice-county recorders and members which

always leaves me (JM) feeling humbled. The collated reports are available on the BSBI website on the country pages and are in the country newsletters. This report

focuses on botanical activity in 2017, based principally on the Scottish VC reports.

There were plenty of good orchid finds in 2017. The

pinewoods of north-east Scotland are the stronghold for *Goodyera repens* (Creeping Lady's-tresses), but there are scattered occurrences elsewhere. A flourishing population was found on the north coast by Stephen Moran at Rhitongue, where it had not been seen since 1958. The Kintyre Botany Group re-found *Spiranthes romanzoffiana* (Irish Lady's-tresses) at Aucha Lochy, its only site on the peninsula, after an absence of several years. In Shetland, a re-survey of a site in Nesting that was subject to a planning application for a number of houses revealed an astonishing 500 specimens of *Hammarbya paludosa* (Bog Orchid), as well as more than 200 of *Dactylorhiza incarnata* (Early Marsh-orchid) and a fine example of the hybrid between this species and *D. purpurella* (Northern Marsh-orchid), *D. x laterella*. This site has now been spared through the planning process. In Orkney, a similar hybrid, involving *var. cambrensis* of *D. purpurella*, turned up again on Stronsay.

Aquatic plants in Scotland were relatively well recorded in the 1980s and 1990s by the SNH Scottish Loch Survey, but have had less attention generally since. As the next atlas deadline looms, efforts are stepping up.

Richard Marriott has been studying *Baldellia ranunculoides* (Lesser Water-plantain). As he demonstrated at the Scottish Annual Meeting in November, this variable and declining aquatic has two distinct subspecies (*ranunculoides* and *repens*), which are considered by some to be separate species. So far, *ssp. repens* has proved to be the rarer

taxon in Scotland, with recent finds only in the Tay catchment, where it was confirmed last year in Glen Dochart. Richard also found a new population of the more widespread *ssp. ranunculoides* in west Ardnamurchan, only its second known site in Westernness.

Water-crowfoots are a difficult group to identify, but Matt Harding found 'clear-cut' specimens of *Ranunculus fluitans* (River Water-crowfoot) in the Bannock Burn last summer – a new county record for Stirlingshire. Following a report in 2016 by Jon Mercer of a water-crowfoot growing abundantly in a stream flowing into the River Lochy, near Spean Bridge, IS managed to find good flowering material last year which proved to be *R. peltatus* (Pond Water-crowfoot). This is the first record of any of the fine-leaved water-crowfoot species in Westernness. In West Perthshire, Richard Lansdown discovered the first county record for the rare aquatic *Callitriche palustris* (Narrow-fruited Water-starwort) while collecting for the Millennium Seed Bank.

Turning to ferns, recorders are increasingly identifying species of the *Dryopteris affinis* (Scaly Male-fern) complex (*D. affinis*, *D. borneri* and *D. cambrensis*), although there are still plenty of puzzling forms! A new tip from Tony Church that can provide valuable diagnostic information was exhibited by Angus Hannah at the Scottish Annual Meeting. This involves viewing pinnule venation through a lens against the light. (Full details in the abstracts available on the BSBI website.) Meanwhile, Tony has



*Dactylorhiza x laterella*, with *D. purpurella* *var. cambrensis* as a parent.  
John Crossley

found a second site on Arran for *Dryopteris pseudodisjuncta*, the rarest of the scaly male-ferns, first found in Britain in 2008, near Dumfries, and still to be found elsewhere.

Various aliens continue their seemingly unstoppable spread across Scotland. Michael Philip has reported an epidemic spread of *Lactuca serriola* (Prickly Lettuce) in urban Glasgow. Before 2017, there were only eight records of this taxon in Lanarkshire (and just 18 elsewhere in Scotland), but last year the local botany group recorded it 53 times, in 23 different monads from Braehead to Cambuslang. Another alien, *Senecio inaequidens* (Narrow-leaved Ragwort), was first recorded



*Barbarea verna*, Fort Willam, January 2018. Ian Strachan

in Edinburgh in 2010, and has since spread around the city and beyond. By 2012 it had spread to Ratho, about 4km west of the city by-pass. In 2017, dispersal has been spotted in a new direction, approximately 16km and 32km south-east of the city by-pass, at Heriot and Bowland, on verges near the Borders Railway. This species was also recorded in October by Chris Miles for the first time in Dumfries-shire.

Despite the weather, there has already been plenty of recording activity in 2018 – it is surprising how much can be seen in winter, even in the north, and time

is running out for Atlas 2020! *Barbarea verna* (American Wintercress) flowering on the shingle beach beside the old fort at Fort William was a surprise for me (IS). It was found by JM as part of the New Year Plant Hunt, and is only the second record for this edible species in Westernness.

As well as reading the collated Scottish VC Annual Reports, you might also like to read JM's Scottish Officer 2017 Report, which appears alongside on the BSBI Scotland page and in the Scottish Newsletter. It details the highlights of his year, including supplying 5 million Scottish

BSBI records to the NBN Atlas, organising the Torridon Atlas Recording Week and, of course, organising a very successful Scottish Annual Meeting.

The 2018 annual meeting is going to be held at **RBGE** on Saturday 3rd November (apologies for error in the last edition of *BSBI News*). It will be a co-production with RBGE itself and that will entail a name change. Henceforth the meeting will be called the **Scottish Botanists' Conference** which, we hope, will broaden its appeal even further – to all botanists, whether members or not. The format will remain broadly the same, with the same mix of fascinating exhibits, interesting talks and educational mini-workshops as in recent years. It will also include the BSBI Scottish Annual General Meeting.

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## COUNTRY ROUNDUPS – WALES CYMRU

### PAUL GREEN

Whatever way you enjoy your botany, it can be found in Wales. There are national parks to explore, stunning rugged coastal paths to follow, and beautiful historical towns to walk around, or, if you want to really get away

from busy modern day life, take a hike up into the mountains and have just nature for company. There are many BSBI meetings on offer in Wales this year. Do consider attending one or more and make a holiday out of a visit

to this wonderful part of Britain.

I am based in the very south-west corner of Wales, at Pembroke Dock, which is a small town rather than a dock as most people seem to think. There is also a very active dock, as the



name would suggest. Originally, the area was a small fishing village known as Paterchurch. The town of Pembroke Dock was founded in 1814, when Pembroke Dockyard was established, initially called Pater Dockyard. You don't have to leave the town to see rare species. Looking over the harbour wall at low tide, at the mudflats, one can see plenty of *Zostera noltei* (Dwarf Eelgrass) and, all over the seafront and ASDA car park, is *Erodium maritimum* (Sea Stork's-bill). *Polycarpon tetraphyllum* (Four-leaved Allseed), one of Wales's rarest species, also grows in this car park, but is not native here. First found in 2009 by Jon Hudson, it is the only extant site in Wales. Even some of the street weeds have a coastal feel as *Atriplex littoralis* (Grass-leaved Orache) can be found on the roadsides and *Cochlearia danica* (Danish Scurvygrass) is common along the margins of many of the pavements in the town.

Of all the thousands of records made during 2017 in Wales, *Oenanthe silaifolia* (Narrow-leaved Water-dropwort) found in Monmouthshire has to be the most interesting as it has never been seen in Wales before. It is growing along the River Monnow, at Osbaston, and was found by Steph Tyler. Staying in the same county, Steve Williams found two patches of *Diphasiastrum alpinum* (Alpine Clubmoss) on the Blaen Pig area of Blaenavon. This is a new county record (NCR) for this clubmoss, which is very rare in the south of Wales. Another NCR for Monmouthshire was *Allium scorodoprasum* (Sand Leek) at White Castle, but it is not native

here, and is thought originally to have established itself from garden waste.

Another exciting find and an NCR, this time from Anglesey, was of a stonewort, *Lamprothamnium papulosum* (Foxtail Stonewort), made by Tristan Hatton-Ellis of Natural Resources Wales (NRW). As the English name suggests, it is the colour of a Fox's tail and was growing in the Inland Sea, just north of Four Mile Bridge, in shallow water with *Zostera noltei* and *Ruppia*. Also an NCR for Anglesey was *Allium ampeloprasum* var. *babingtonii*. A single flowering stem was seen amongst brambles and Bracken. It can reach 2m tall, with head of flowers and bulbils. It was found by Ivor Rees near PorthTywynmawr, Llanfwrwg.

Anglesey recorders were busy updating details of the rare and scarcer species, especially those not seen since 2000. Amongst these, in April 2017, *Ranunculus tripartitus* (Three-lobed Crowfoot) was reconfirmed on the wet section of the coastal path, near Rhoscolyn at Tre Wilmot SSSI, Holyhead, and Salbri Bog SSSI – all quite healthy populations, but at nearby Llyn Hafodol SSSI only one or two plants were noted, probably due to the lack of the usual cattle-trampled mud. In Wales, Three-lobed Crowfoot now seems to be restricted to coastal counties, but over 100 years ago there were records from Radnorshire, a land-locked county.

Moving now into the centre of Wales, to Montgomeryshire, *Gymnocarpium robertianum* (Limestone Fern) was found on a rock face of Craig Dugwm, this being the second county

record and the first since the 1860s. Staying with ferns, Kate Thorne and Gill Foulkes, the vice-county recorders, updated the few known county sites for *Dryopteris aemula* (Hay-scented Buckler-fern) in 2017, as the species had not been reported in the county for 20 years. *Euphrasia* (eyebrights) are never easy to identify, especially the hybrids, two of which were added new to Montgomeryshire in 2017: *Euphrasia x electa* (*E. micrantha* x *E. scottica*) and *E. arctica* x *E. nemorosa*; both these hybrids are very rare in Wales.

It is much easier to report on the spread of alien species than it is to write about discoveries of native plants. *Lepidium ruderale* (Narrow-leaved Pepperwort) was found new to Breconshire in 2017, on the side of the A40, just



*Allium ampeloprasum* var. *babingtonii*. Ivor Rees



*Polypogon viridis*, Breconshire, January 2018. John Crellin

east of the town of Brecon. It is a species that is surprisingly rare in Wales, considering it is quite common just over the border in

England, along the major roads and motorways.

Finally, I'm going to finish with an alien grass, *Polypogon*

*viridis* (Water Bent), which was first found in Wales at Cardiff, in 1876. It reached Barry Dock in 1924 and Newport rubbish tip by 1980. *P. viridis* remained localised in Wales until the early 1990s, but is now a common weed in many of the towns along the north and south coast. It has not spread to anywhere in between. This is probably partly because there are very few large towns, and most of the central area is mountainous. *P. viridis* was found at the base of a wall in Crickhowell, Breconshire, while a group were recording flowering plants for the New Year Plant Hunt. This was the first Welsh new county record in 2018.

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## COUNTRY ROUNDUPS – IRELAND

### MARIA LONG

Greetings from a currently very snowy Ireland! One might think that there couldn't possibly be much botanical news with such wintry conditions outside. But not so – there's plenty!

Last weekend (end of February) I was lucky enough to spend three botanical days in Northern Ireland. The first was a one-on-one meeting with a vice-county recorder who was keen to get some help with technological issues. The second day was spent at the hugely successful 'BallyNature Day', in the small village of Ballynure, Co. Antrim. Over 50 groups, all involved with nature in some way, had stalls

and activities in four venues across the village. Over 1,800 members of the public attended! This was the third year of the event, which has grown quite spectacularly, and somewhat surprisingly, demonstrating a desire in the general public to engage with nature and learn more. BallyNature is driven largely by the enthusiasm of one man, Darren Houston, but with a team of helpers, too. More power to them! Great thanks are due also to the volunteers who came and helped me with the BSBI stand.

The third day in Northern Ireland was spent in chilly but bright sunshine on the north-

east shores of Lough Neagh, at the Antrim Loughshore Park. The Ulster BSBI Botany Group met up to do some recording, but mostly to learn more detail about the nitty-gritty of marking a recording card, etc. At the end of the day, we were pleasantly surprised at the amount of plants we had recorded – more than 80 species – and over a very short distance. Very importantly, we had tea and cake and chats, and found ourselves a perfect sun trap out of the wind in which to enjoy our lunch. It was a lovely day, and a great start to the botanical recording season of 2018.

During the day, we also

discussed books and ID keys, and had the inevitable chat about the size of 'new Webb' versus older editions. *Webb's An Irish Flora* is known affectionately as 'the bible' by botanists in Ireland, and no-one is without a copy. It is now in its 8th edition, this one being markedly different from older editions in that it is larger, has a colourful cover, some illustrations have been re-done and are in colour, and, crucially, it no longer has David Webb as an author. Webb's name is indelibly linked to the publication through its name change from *An Irish Flora* to *Webb's An Irish Flora*. We remarked on how important this book has been, and continues to be, for aspiring botanists – it might not have pictures, but all learner botanists in Ireland really do need a copy. While it may lack the depth of detail one finds in *Stace's New Flora of the British Isles*, and the pictures of guides such as Francis Rose's *The Wild Flower Key*, it is still incredibly useful as it contains only Irish species, and gives Ireland-specific information on habitats and distribution. This is of great help when keying out plants. We all decided that Webb and Rose (or perhaps the *Collin's Flower Guide*) are the best pair of books for learning botanists. The next steps, for when you find your feet so to speak, are *Stace* and the excellent *Vegetative Key to the British Flora* by John Poland & Eric Clement.

Returning to the theme of happenings in Northern Ireland, a new and exciting vice-county webpage has just been launched for Co. Antrim. You can visit it by going to the BSBI homepage



Members of the Ulster BSBI Botany Group enjoying some winter botany.  
 Maria Long

(bsbi.org) and clicking on Co. Antrim on the map (top right hand 'corner' of Ireland). David McNeill is the vice-county recorder, and the webpage is a credit to him. There are even quizzes (reflecting one of David's other talents) – go check them out.

The New Year Plant Hunt (NYPH) was a great success again this year. In Ireland, 94 lists were submitted, and 239 species of plant were found in flower in the wild. Some highlights include: 27 species on an organic farm in north Cork; 58 species from Irishtown/Ringsend in Dublin (the longest Irish list, well done Brian Seales, a NYPH champion!); 19 from a brave effort in our most northern list from the Inishowen peninsula in Co. Donegal; a list of 23 from the most southern search at Barleycove/Crookhaven by Fiona and Damaris. Finally, a very impressive 43 species was recorded by the BSBI Kerry Local Group, who turned out in force. There were many more, too many to mention. Let's hope this event continues to grow from strength to strength. Remember that in 2014 Ireland had three lists, in

2015 there were 21, in 2016, 50, in 2017, 104, and, as I noted, in 2018 an impressive 94 lists.

I think it is also worth mentioning that the BSBI membership for Ireland has risen above 200 for what I believe is the first time (that is north and south combined).

Looking forward to the rest of 2018, we have an absolutely packed schedule of field meetings and training events. We have never before had so many. There are 34 field days in the core field meetings schedule. Eight of these are linked to multi-day workshops on *Taraxacum* (jointly with Dublin Naturalists' Field Club) and charophytes (with support from National Parks and Wildlife Service and Inland Fisheries Ireland). Note though that these 34 days do not include most rough crew outings, planned joint workshops with the National Biodiversity Data Centre, nor any local group trips. It is going to be an eventful year!

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## OBITUARIES

## EDMUND LAUNERT (1926–2017)

Dr Edmund Launert was born in Muehlhausen in Germany on 28th February 1926 and trained as an electrical engineer at Jena. He served in the German army, and shortly before the end of the war, accompanying a plane load of wounded German soldiers, he was shot down somewhere over the Czech Republic and was found unconscious in a potato field as the only survivor. After a period as a prisoner of war, he realised that he wanted to be an academic scientist. He attended the University of Jena, but then left the GDR and moved to Munich, enrolling at the university there and studying botany, zoology and the history of science. Under the famous Professor Karl Suessenguth, who told him imperiously 'Launert, you are a botanist!', he received the exceptional breadth and depth of a traditional German botanical education and got his doctorate. (On hearing about the production of *The vegetative key to the British flora* he

reminisced about the Pflanzenleichen Spaziergänge [plant corpse walks] that the Munich students were taken on to learn how to identify the winter remains of plants.) In 1959 he moved to England, joining the staff of the Herbarium, Royal Botanic Gardens, Kew, to work on tropical African Floras, and taking British nationality. One of those fortunate employees to work at a different establishment from the one that employed him, he was based in the Botany Department of the British Museum (Natural History) as it then was. Tropical grasses were his speciality, along with the Marsileaceae, and he edited *Flora Zambesiaca* and contributed to the *Flora of East Tropical Africa*. He retired in 1991. He had joined the BSBI in 1960, and was a frequent reviewer of books for *Watsonia*, but his main impact on the Society was of a different nature.

One of Edmund's enthusiasms was discovering and fostering the talents of botanical artists, and one of his favourite artists, Annie Farrer (Ann Davies), along with Roger Gorringe, illustrated his *Hamlyn guide to edible and medicinal plants of Britain and Northern Europe* (1981), a book that has been translated and republished a number of times, and that was an inspiration to several BSBI members. It describes some 500 species, and includes 124 recipes and a great deal of medicinal information. His other most relevant publication is the *Biologisches Wörterbuch: Deutsch-Englisch, Englisch-Deutsch*, published by Ulmer (1998), covering some 45,000 biological terms. *The manual of cultivated orchid species* that he wrote with Helmut Bechtel and Phillip Cribb went through a number of editions and was translated into German by him. A remarkable polymath, he also published authoritative books on antique scent bottles and *Andachtsbilder* (small decorative German devotional pictures) which he also collected, as well as mortars and other topics. He and his wife Jean walked the streets of London and knew them in extraordinary detail. The foibles of his colleagues and other botanists were an abiding preoccupation, and it is a great pity (though perhaps a relief to some) that he resisted pressures to write his memoirs.

On a more personal level, Edmund befriended many BSBI members, and, as he habitually spent Saturdays



Edmund Launert at the Botany Department of the Natural History Museum.

in his office in the British Museum Herbarium, when the Department was closed to normal visitors, he enabled several of the more active members to work regularly on the specimens and in the Botany Library; those were the happy days when access to the books was almost unlimited. Eric Clement and Sally Foster were in this way greatly helped in compiling their *Alien plants of the British Isles* (1994), and among others he frequently enabled Mary Briggs to work on the

specimens she collected on her botanical tours.

Edmund died on 21st October 2017, and is survived by his wife, and by their children Victor and Frederika and the grandchildren and great-grandchildren. I am grateful to Jean and Victor, and to Klaus Sattler, for a number of details.

Arthur Chater

## ERIC MEEK (1947–2017)

Eric Meek was born in Newcastle upon Tyne on 19th June 1947. He went to Gosforth Grammar School and eventually became Head Boy and won a scholarship to study geography at Fitzwilliam College, Cambridge. He also became a very successful sportsman, playing rugby for England at schoolboy level.

While he was at school, Eric became passionate about wildlife, especially birds. After graduating from Cambridge in 1968, Eric trained as a teacher and secured his first job, in Newcastle. In 1972, however, he took a year out, to work as an Assistant Warden at

Fair Isle Bird Observatory. It was then that he visited Orkney for the first time, on a day trip to North Ronaldsay. After that year off, he returned to teaching and quickly rose to become a head of department at Blyth School in Northumberland.

In 1981 he made the brave decision to give up teaching and move away from Northumberland, where he had become firmly established. He took his young family to Orkney and became the RSPB's Area Officer, a job he loved and which he carried out with great skill and dedication for 31 years. During his time on Orkney he undertook pioneering research into the Merlin

Eric Meek and Swona on top of Maeshowe, Orkney, with Loch of Harray in the background, 2005. Steve Sankey.



and Hen Harrier and oversaw a huge increase in the area of land RSPB owned and managed. By the time he retired, a quarter of the entire Orkney land area was RSPB reserve. At times, the situation in Orkney was extremely difficult, with huge controversy about RSPB's increased land ownership, much of it directed very personally at Eric. It says much that by the end of his career on Orkney he was universally respected by those who had earlier opposed him.

It was during the 2006 BSBI field meeting to Orkney that I first encountered Eric the botanist, having met Eric the ornithologist on Orkney many years earlier. A few years later, in 2009, Eric decided that his final sabbatical while working for the RSPB (having spent previous sabbaticals in China, Uganda and Azerbaijan) should be spent more 'greenly' in Scotland. He asked me, as BSBI Scottish Officer, if he and his partner, Aileen, might help with the BSBI's Threatened Plants Project (TPP). I jumped at the offer and soon developed a long list of rare plant populations that had not been seen for years for Eric and Aileen to re-find and record. This was a challenge they relished so much that they timed their marriage in July 2010 so that they could spend their honeymoon doing TPP surveys.

Eric and Aileen continued to volunteer for an entire fortnight every year right up until his retirement from RSPB in 2012, after which their devotion to the BSBI increased greatly. In addition to the Threatened Plants Project, they made great contributions in these early years to Atlas recording and helped lead field meetings on Orkney.

More recently, Eric volunteered to monitor rare plants on protected sites, as part of the voluntary work the BSBI does for SNH. One of the sites he took on was Morven & Mullachdubh SSSI, near Ballater. This was going to be challenging because the site is extensive and mountainous and had never been thoroughly surveyed before. Eric visited it ten times over the summer of 2015, and eventually found 50 populations

of seven out of the site's eight rare species, as well as collecting over 1,300 general plant records. This was an important baseline for future monitoring and great testimony to Eric's drive and determination.

Over the years Eric amassed a total of 57,000 records across Scotland – largely on Orkney. This is a remarkable tally given that he was never a Vice County Recorder himself, although he did contribute hugely to the records held by Elaine Bullard, VC Recorder for Orkney for many years, and her successor, John Crossley. Eric and John went on to publish a *Scarce, rare and extinct vascular plant register* for Orkney three years ago, that is, in my opinion, one of the best. The other major area of Eric's botanical activity was in the north-east of Scotland, where he moved from Orkney to be with Aileen. He helped nearby BSBI Recorders Ian Francis, David Welch and Robin Payne, either directly or via a BSBI project to promote recording in the Cairngorm National Park. Eric wasn't so keen on computer work, always preferring a day in the field. Despite that, he and Aileen entered vast numbers of records into the BSBI database.

Eric became chairman of the British Ornithologists' Union Records Committee in 2002 and the Fair Isle Bird Observatory Trust in 2014. He was also a popular member of the BSBI Committee for Scotland from 2014 and BSBI Council from 2015.

Eric died on 16th February 2017, aged 69, having collapsed suddenly a few days earlier. We can only imagine the contribution that he would have gone on to make in the BSBI. We have lost a great friend who volunteered his time, effort, expertise and enthusiasm so generously. Eric is survived by his two children from his first marriage, Terry and Sally, and by Aileen.

I am grateful to John Ginnever for a contribution about Eric's early career.

Jim McIntosh

## MICHAEL PROCTOR (1929–2017)

Michael Proctor (Fig. 1) was an outstanding botanical polymath with a huge range of interests, taxonomic skills and research expertise. He was a long-standing member of the BSBI, having joined in 1950. He edited *Watsonia* from 1959

to 1971, co-authored the BSBI Handbook *Whitebeams, Rowans and Service Trees of Britain and Ireland* (2010), and was elected an Honorary Member in 1971. He died on 24th October 2017.

Michael was born in Harrow on 21st January

Footnote: A much abridged version of this obituary was published in the *Bulletin of the British Ecological Society* 49: 58–59 (2018).





**Figure 1.** Michael Proctor at the BBS meeting in Torquay in April 1997. Ken Adams (BBS)

1929, the son of Edith and Roland Faraday Proctor, a descendent of Michael Faraday. With his younger brother Robin, he was educated locally. Michael was always interested in nature and at an early age he avidly read his mother's copy of Bevis and Jeffery's wonderful book *British Plants: Their Biology and Ecology* (1911), one of the first books about plant ecology in Britain. Inspired by this, he explored the nearby 'commons' in Harrow and the Chiltern Hills and, from his aunt's house in Woking, the then more extensive Surrey Heaths. In 1946 the Proctor family moved to Hampshire and Michael was soon exploring by bicycle the flora and fauna of the New Forest and the Isle of Purbeck. He won a Natural Sciences scholarship in 1948 to Queens' College, Cambridge, where he read Botany, Zoology, Organic Chemistry and Biochemistry in Part I of the Natural Science Tripos (1948–1950) and Botany in Part II (1950–1951), gaining a First. His direct contemporaries at Queens' included talented botanists Peter Yeo (also an entomologist) and Franklyn Perring. For his Ph.D. Michael studied the ecology, taxonomy, biogeography, cytology, pollination, history and variation of the three species of *Helianthemum* (rock-roses) in Britain and Ireland, under the supervision of Sir Harry Godwin. Michael was part

of the outstanding group of ecologists and taxonomists in Cambridge in the early 1950s including Max Walters, Peter Sell, David Coombe, Donald Pigott, Franklyn Perring and Peter Yeo, and visitors such as the Norwegian ecologist Eilif Dahl. Michael discovered that the form of Hoary Rockrose growing on Cronkley Fell in Upper Teesdale was a unique endemic taxon, *H. canum* (now *H. oelandicum*) ssp. *levigatum* M. Proctor. (Hoary Rock-rose). He published thorough Biological Floras of *Helianthemum* (three species) and *Tuberaria guttata* (Spotted Rock-rose), wrote the *Flora Europaea* accounts of *Halimium*, *Tuberaria* and *Helianthemum* with Vernon Heywood, and compared the water-relations and shade tolerance of the rare *Helianthemum apenninum* (White Rock-rose) and *Koeleria vallesiana* (Somerset Hair-grass) with the common *H. nummularium* (Common Rock-rose) and *K. macrantha* (Crested Hair-grass). He maintained a strong interest in angiosperm taxonomy, for example of *Ulex*, *Sorbus* and *Carex*. As a student in 1950 he ventured to Abisko in Swedish Lapland with Keith Goodway and found and identified 96 species of *Carex* out of the 104 species known there. When he returned to Abisko with us in 1988, he remembered all 96 species and showed us several species that were new to us. His later publications included a series of five papers on scanning electron microscopy of leaves of British *Carex* species (2013–2015). One of his many contributions to *Sorbus* taxonomy and ecology is honoured in the name of a hybrid tree, Proctor's Rowan (*S. × proctoriana*), of which only one tree is known (in the Avon Gorge). He also described the North Devon and Somerset *Sorbus margaretae*, named after his second wife, Margaret Bradshaw.

In 1954 Michael was appointed Scientific Officer in the newly formed Nature Conservancy (NC) and was based in Bangor. He enjoyed exploring Snowdonia and met his future wife Jean Nobbs, daughter of the Professor of Forestry in Bangor. Sadly, Jean died in 1983. Michael found NC work too bureaucratic and in 1956 he moved to be a Lecturer in Botany at the then University College of the South-West, later the University of Exeter. He remained in Exeter until he retired as a Reader in 1994. He continued as an Honorary Research Fellow there until his death. He was a very stimulating teacher, especially in the field, and taught a wide range of botanical topics, including plant ecology, anatomy and systematics. Peter Marren,



**Figure 2.** Six of the seven books that Michael Proctor authored or co-authored, along with their publication dates. The seventh book (not shown) is BSBI Handbook 14 on *Whitebeams* by Tim Rich et al., published in 2010.

in his book *The New Naturalists* (1995), accurately summarises Michael’s undergraduate lecturing when he commented that he ‘took an over-optimistic view of the intelligence of his students’.

Michael maintained a very wide and active range of research interests at Exeter. These included descriptive vegetation ecology of the Burren, Alderney and the Malham area (‘plant sociology’), plant geography, the vegetation and water chemistry of bogs and fens, the ecology and distribution of bryophytes, and epiphytic bryophytes and lichens. He made in-depth studies of the ecology, history and dynamics of several Devon habitats such as the Exe Estuary, Otter Estuary, heathlands and hedges at Chudleigh, Dartmoor mires and Wistman’s Wood. He retained his amazing taxonomic breadth and memory for plants and animals, especially insects, throughout his life.

In 1956 Michael published the first detailed bryophyte flora of Cambridgeshire, which laid the basis for careful and systematic bryophyte recording, as well as a more recent flora by Harold Whitehouse (1964) and a forthcoming flora by Mark Hill and Chris Preston. The latter will document recent changes in the flora. He prepared the first modern key to British *Sphagnum* species and was interested in all aspects of bryophytes, especially their growth, ecology and

physiology. He pioneered several aspects of bryophyte, fern and lichen eco-physiology and made many notable contributions to our understanding of their desiccation tolerances, climatic responses, and photosynthesis.

In the summers of 1958 and 1959 Michael and his Exeter colleague Brian Ivimey-Cook, with support from the Burren Survey Committee of the British Ecological Society (BES) and the University of Exeter, conducted a thorough plant-sociological survey of the Burren in County Clare. Despite its famous floristic interest, Burren vegetation had largely been ignored, especially after the fathers of continental phytosociology Josias Braun-Blanquet and Reinhold Tüxen visited the Burren on the Ninth International Phytogeographical Excursion to Ireland in 1949 and declared to David Webb, after a few hours of recording relevés, that ‘there is something wrong here, we must go somewhere else’. Their continental system did not allow for calcifuge plants such as *Antennaria dioica*, *Hypericum pulchrum* and *Calluna vulgaris* growing together with the calcicole *Dryas octopetala*! After his work on the Burren, Michael’s interest in vegetation extended to preparing a major revision (1968) of Sir Arthur Tansley’s classic *Britain’s Green Mantle*, illustrated by many of his own outstanding photographs. Michael naturally became a key member of the National Vegetation Classification (NVC) project, financially supported by the Nature Conservancy Council (1974–1981), along with Donald Pigott, Derek Ratcliffe, David Shimwell, Andrew Malloch, John Rodwell and others, including ourselves. The end result was the five-volume *magnum opus* on *British Plant Communities* (1991–2000). Michael played a major role in the NVC and took charge of synthesising all the NVC data from mires, as well as sharing his vast knowledge of British flora and vegetation. NVC meetings were to us, as young researchers at the time, a great learning experience as we heard Donald, Derek and Michael discuss in detail critical aspects of British vegetation, based on their vast field knowledge and observations.

In 2013, at the age of 84, Michael published his masterly 516-page book on the *Vegetation of Britain and Ireland* in the New Naturalist series. It distils his life’s observations and studies and contains nearly 400 excellent colour photographs taken by him. After the book was finished, he returned to scanning electron microscopy of *Carex* leaves (2013–2015) and was working on a bryophyte manuscript when he died.

Michael was a most talented photographer, not only of plants and their habitats but also of vegetation, landscapes and insects (Fig. 3). He had the gift of being able to recognise what he described as an ‘acceptable’ or ‘pleasing’ photograph. As a student he acquired an old German plate camera, held together by tape and wire, and used ex-RAF film to produce prints of superb quality, some of which were reproduced in the New Naturalist volumes *Wild Flowers* (1954) and *Mountain Flowers* (1956). He quickly progressed to a single-lens reflex Praktica camera and colour film as they became available and then later migrated to Pentax and Olympus equipment. He rapidly embraced digital photography as it developed in the early 1990s. He published many outstanding pictures (e.g. *Quarterly Bulletin of the Alpine Garden Society* 59: 60–72, 1991) and wrote an invaluable chapter about plant photography in Turner Ettliger’s important book on *Natural History Photography* (1974). Michael became a Fellow of the Royal Photographic Society in 1973. Peter Marren notes, in his autobiography *Where the Wild Thyme Blew* (2016), that Exeter ‘students will remember his illustrated lectures, full of slides of the most dazzling quality’.

Besides being an outstanding botanist and plant photographer, Michael was a very keen and knowledgeable entomologist, and was fascinated by pollination biology, interests he shared with his Queens’

contemporary Peter Yeo. As students, they frequently went plant-hunting and collecting Hymenoptera. About 1960, Peter and Michael were asked by John Gilmour, an editor of the New Naturalist book series, if they would write about pollination. They agreed and Michael took on the task of photographing pollinating insects. Michael initially used a home-made flash bracket to support his flash-gun and subsequently a ring-flash to produce shadow-free images of insects collecting pollen. Michael reckoned that about one image in 20 was ‘acceptable’, and about one image in 40 was ‘pleasing’. In the days of colour film, photographing pollinating insects required immense patience and skill and was an expensive business. The resulting book *The Pollination of Flowers* (1973) quickly became a classic, and Michael, Peter and Andrew Lack (a former Ph.D. student of Peter’s) combined forces to produce a new and much revised version, *The Natural History of Pollination* (1996).

Michael published over 160 scientific papers and chapters and seven books (Fig. 2). He was a very modest, self-effacing person who never sought the limelight. He joined the BSBI and the British Bryological Society (BBS) in 1950, the BES in 1951 and the British Lichen Society in 1958. He co-edited the BES’s Biological Flora of the British Isles for over 20 years and helped edit the *Journal of Bryology* from 1980 to 1982. He was elected an Honorary Member



**Figure 3.** One of Michael Proctor’s favourite photographic challenges, a Bluebell wood in full flower in south-west England, here at Pen Hill, Somerset, on 12th May 1977. Michael Proctor



of both the BSBI and BBS, a rare distinction. He was the President of the BBS 1984–85. He was a trustee of Paignton Zoo (1969–81; 1991–96) which specialised in the conservation of rare species, and was a founder of the Devon Wildlife Trust. He was elected a Foreign Member of the Norwegian Academy of Science and Letters in 1997 and an Honorary Member of the Hungarian Society for Plant Physiology in 2000. He was well travelled, especially in Scandinavia, eastern Europe and the Alps. He suggested key areas in the Alps for us to explore on our first botanical trip there in 1969.

Michael had a dry, rather academic sense of humour in the style of the Cambridge Botany School *Tea Phytologist*. He loved making puns, and possessed a genuinely inquisitive mind, interested in almost everything – plants, animals, fossils, geology, landscapes, history, folk-traditions, languages, aeroplanes, vintage cars, locomotives, steam engines and music, especially choral music. He had a prodigious memory and could cite long passages from A.A. Milne, Hilaire Belloc,

Gilbert and Sullivan, Flanders and Swann, and even Virgil! Being in the field with Michael was always a great learning experience, as he was knowledgeable about almost every organism, from seaweeds and flies to birds and trees. He generously shared this vast knowledge with anyone that was interested. For example, while we were students we joined his Field Studies Council course on mosses and liverworts at Malham Tarn Field Centre in 1963 and 1965. This stimulated our life-long interest in bryophytes and also started our extensive photographic activities. Thank you, Michael! He was devoted to his family of two sons and a daughter (sadly deceased), his grand-children and his partner Janet Betts.

Michael Proctor was a truly great botanist, bryologist, plant ecologist, eco-physiologist, photographer, teacher, mentor and friend. He will be missed by many.

H. John B. Birks and Hilary H. Birks

## BASIL RIBBONS (1926–2017)

Basil Ribbons was a botanist at the University of Glasgow and a mainstay of the Committee for the Study of the Scottish Flora (CSSF) in the 1960s and 1970s. His active involvement with the BSBI appears to have finished when that Committee was wound up in 1978, although he remained a member until his death.

Basil was born on 21st May 1926 and educated at the City of Norwich School, Norwich. He went on to study at Queen Mary College, University of London, graduating in 1947 with a B.Sc. in Botany. He held a postgraduate studentship there from 1947 to 1949, when he joined the University of Glasgow as an assistant lecturer in the Botany Department. He was promoted to lecturer in 1952, working part-time from 1984. He remained with the University until his retirement in 1988.

Basil was a keen field botanist from his student days. He visited the Isles of Scilly with Peter Wanstall (also of Queen Mary College) in 1948, where Miss A.D. Tiddy, a retired teacher on St Agnes, gave him a copy of C.A. Johns' *A week at the Lizard* (*BSBI News*, 30: 26, 1982). On a later visit, in 1950, he found a clump of *Acanthus mollis* (Bear's-breech) on St Agnes which might have persisted for at least a century (Ribbons, 1953). In

1953, he joined Bob and Esther Mackechnie and Ted Wallace for a fortnight's tour of Ireland which took them from Kerry to Donegal (Wallace, 1979). He joined the BSBI in 1949 and became the Vice-County Recorder for Stirlingshire (v.c.86) in 1953, resigning in 1980; he was also the Recorder for neighbouring West Perthshire (v.c.87) from 1956 to 1969. While at Glasgow, Basil was a popular and respected lecturer and his field courses were enjoyed by the students (who nevertheless mimicked his Norfolk accent, examining plants with their 'spoi glaass' rather than their hand lens). He also led a popular field botany course for the Extra-mural Department, generally running from April through to summer, with excursions often every Wednesday and further afield at weekends. These excursions, along with others with local botanists, resulted in a comprehensive coverage of the local flora between 1957 and 1987. His efforts were particularly noteworthy in Renfrewshire (v.c.76), where he produced a map showing the many 1-km squares visited and lists of excursions with dates and recorder initials. He collaborated with the Recorder, Robert Mackechnie, and later Elizabeth Conacher, and together they generated many hundreds of field record cards. These were made available to the *Atlas of the British Flora* (1962), and later

over 33,000 records were entered into the database for the recent *The Flora of Renfrewshire* (Watson, 2013). Following a request for information on earlier recording in Renfrewshire, he replied by letter in 2008, with helpful comments on his former activities, offering enthusiastic support and commenting that he was 'delighted that all the recording we did is being made use of'. He was also relieved to hear that the Glasgow (GL) herbarium had survived the disastrous fire that occurred at the Botany Department in 2001.

The Committee for the Study of the Scottish Flora (CSSF) was set up in 1953 to co-ordinate the activities of the Botanical Society of Edinburgh and the BSBI in Scotland, with each society appointing an equal number of members to the committee. In 1953, B.L. Burt was appointed its Chairman and Basil its Secretary. He remained Secretary until 1962 and was re-appointed in 1969 (Ribbons, 1976a), staying in post until the Committee ceased to exist in 1978. He contributed lengthy reports on CSSF field meetings to Caithness in 1972, a meeting marked by a visit to the Queen Mother at Castle of Mey (Ribbons, 1973), Italy and Austria in 1970 (Ribbons, 1972), Lapland in 1973 (Ribbons, 1974) and Poland in 1976 (Ribbons, 1979).

By 1976, the partnership which had established the CSSF was under strain. Some members outside the Glasgow-Edinburgh belt felt rather isolated, and the formidable Mary McCallum Webster raised this criticism at the BSBI AGM at Dumfries in 1975 (Briggs, 1976; Brookes, 1979). Although the Botanical Society of Edinburgh supported the CSSF (Ribbons, 1976b), a vote of the Scottish members of the BSBI rejected the status quo (Briggs, 1977). The CSSF was replaced by the current (and highly successful) BSBI Committee for Scotland, and the *BSBI Scottish Newsletter* was established to tackle the communication problem. The divorce must have been rather acrimonious, as ill-feeling was still lingering in the early 1980s when C.D.P. first attended the Scottish Exhibition Meeting. Whether the CSSF would have lasted longer with a more emollient and unifying figure as secretary will never be known; we are told that Basil sometimes came across as pernickety and legalistic. Most of his contributions to the BSBI's publications had been made on behalf of CSSF, and with its demise they more or less ceased. He was, however, the BSBI's nominated expert on Scottish vice-county boundaries from 1979 to 1988 (*cf.* Ribbons, 1961).

Basil's publications characteristically reported new plant records, often with a detailed survey of the relevant



Basil Ribbons

earlier literature. He documented the rediscovery of *Homogyne alpina* (Purple Colt's-foot) in Scotland by Alf Slack (Ribbons, 1952) and his presidential address to the Andersonian Naturalists, delivered in 1964, but not published until much later (Ribbons, 1976c), was a detailed survey of British *Ledum* [*Rhododendron*] *groenlandicum* (Labrador-tea) records. He edited the *Glasgow Naturalist* from 1964 to 1976. He also contributed 718 specimens to the Glasgow University herbarium (GL), now held by Glasgow Museums (GLAM). Most of these are from Scotland, especially Wester Ross (v.c.105, 260 specimens), but they cover a wide range of localities in England (especially West Cornwall and Teesdale), Wales and western Ireland. The genus with most specimens is *Empetrum* (68 specimens, including 48 of *E. nigrum* ssp. *hermaphroditum* (Crowberry)). He also took an active part in university life and he was the Honorary Secretary of the Glasgow Association of University Teachers (GUAT) from c. 1960, becoming its President in 1964.

Following his retirement from Glasgow he moved to Dorset. In a letter of 2008, he related that he was doing 'pretty well for an old 'un', adding that he hadn't done any British botanising since he retired, but he noted that he made walking trips to France and north-east Italy each year, adding 'of course I don't ignore the plants I walk past'. With his retirement to Dorset he acquired a garden where he 'transferred his interest to garden plants'. He later moved to Norwich where he died on 1st January

2017, aged 90.

Much of the factual information in this obituary is taken from the online catalogue of the University of Glasgow Archive. We thank Jim Dickson, Roger Downie, Gwynn Ellis, Alison Moss, Bill Stewart and Richard Weddle for help in preparing this obituary.

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Keith J. Watson & Chris D. Preston

## OBITUARY NOTES

Since the publication of *BSBI News* 137, we regret to report that news of the deaths of the following members or former members has reached us, some of very long standing. We send regrets and sympathies to all the families. We hope to publish an obituary of Quentin Kay in a future issue of *BSBI News*. An obituary of Cliff Townsend will be published by the British Bryological Society.

**Mr P. Gaff** of Dundee, a member for 12 years

**Dr R.B. Ivimey-Cook** of the University of Exeter, a member between 1958 and 1996 and author of *Atlas of the Devon Flora* (1984)

**Dr Q.O.N. Kay** of Llanmadoc, Gower, a member for 54 years

**Miss H.M.J. Monie** of West Harting, Hampshire, a member for 39 years

**Mr T. Pyner** of Southend-on-Sea, Essex, a member for 36 years

**Mr C.C. Townsend** of Twickenham, Middlesex, a member between 1946 and 2014, editor of several

volumes of the *Flora of Iraq* and also a noted bryologist

**Mrs E.V. Wiltshire** of Dublin, a member between 1989 and 1996 and a former Field Meetings Secretary of the Society

We somehow failed to list Elinor Wiltshire in *BSBI News* last year, although we had been saddened to hear of her death, which was noted in the last *Annual Review* (2017). Obituaries were published in the *Irish Times*, 6th May 2017 (available on-line, search [www.irishtimes.com](http://www.irishtimes.com)) and in the *London Naturalist* 96: 185–188 (2017). The latter, by David Bevan, provides a detailed account of her botanical activities during the many years when she lived in London and lists her publications.

We did note Jane MacKintosh's death last time, and Simon Leach has drawn our attention to an obituary of Jane in *The Herald*, 17th August 2017 (available on-line, search [www.heraldsotland.com](http://www.heraldsotland.com)).

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assisted by the Membership Secretary, Gwynn Ellis



## REVIEWS



### Chasing the Ghost

My Search for all the wild flowers of Britain

Peter Marren

Square Peg (Vintage), London, 2018  
320 pp. £16.99 hbk  
ISBN 978-1-910 93111-0

This is the tale of at least two ghosts. The first, perhaps our rarest plant, is an orchid so difficult to find that it was recently given up as extinct (it isn't, quite, it's just very good at hiding). I won't spoil the story of whether Marren found it or not, but you can probably guess, and the book is far more than just a botanical road trip, as fun as that is to read about. The second 'ghost' threading through his quest is well known to wild flower enthusiasts: Rev. W. Keble Martin.

The Reverend's best-selling book captured Peter's imagination as a youth, and it has clearly made a lasting impression. He is referenced liberally throughout the book, not least when the author sets out in search of alpinas, eschewing the need for an iPad and GPS, settling instead on a notebook, pencil and compass, 'I would do my botany the Keble Martin way.'

The skeleton of *Chasing the Ghost* is linked by 50 short

vignettes, one for each of the species that has remained unticked for various reasons, mainly geographical, and charts the highs and lows of his search for these species in a single year, culminating in the 'final four'. Each chapter is headed by a superb illustration, usually by either Stella Ross-Craig or Walter Hood Fitch. There then follows a succinct description of the plant. My favourite is the description of Creeping Spearwort: 'an exquisite miniature buttercup with creeping stems that bind together the stones on which it sits'. For each, Marren tells us about key features of the plant, typical habitat, reasons for rarity (for most are rare) and the changes to and vulnerability of the landscapes they are found within. But this is not done in the dry way of textbooks or Red Lists. Each chapter contains an enormous amount of information about each species, with the information delivered in a very personal, light and insightful way. You can learn tips on identification gleaned from Marren's direct observations in the field, or those of his botanist companions. Many are memorable and very useful, and there is a kind of utilitarian quality to his prose, blended with honest storytelling and plenty of dry wit, that is hugely enjoyable and, at times, very affecting.

I have been to many of the places Marren visited in his quest, and his prose transported me back to these areas, sometimes to the precise spot where a flower was found. He captures the essence of each place effortlessly. This is ostensibly a book about a (flawed) hunt for flowers, but it is

much more than that. It is a tangle of wildness, persistence, travel, discovery, failure, loss, and finally, illumination. In the introductory chapter, Peter doubts whether a best-selling botanical tome is now possible in this digital, distracted age. I recommend you prove him wrong.

**Pete Stroh**

[peter.stroh@bsbi.org](mailto:peter.stroh@bsbi.org)



### The discovery of the native flora of Britain & Ireland

David Pearman

Botanical Society of Britain & Ireland, 2017  
488 pp. £20.00 hbk  
ISBN 978-0-901158-52-9

The story of the discovery of our plants has been addressed before, notably by William Clarke in 1900 and George Claridge Druce in 1932, but both were, even at the time, rather unsatisfactory; Clarke's *First records of British flowering plants* omitted the ferns and Druce's *Comital flora of the British Isles* had many errors and omissions. Taxonomic progress, better understanding of pre-Linnaean plant names and access to newly-found herbarium material and primary sources have fuelled the need for a new compilation of dates of discovery. Pearman's attractively produced book fulfils that need admirably.

Species accounts of 1,671

native and archaeophyte taxa, excluding the microspecies of *Hieracium*, *Rubus* and *Taraxacum*, comprise three-quarters of the book, while the history of British and Irish botany and botanists is concisely covered in five appendices. These are placed after the introduction, which is a sensible decision as they provide context for an appreciation of the species entries. The first appendix summarises the floras, plant lists and journals published since William Turner's *Libellus de re herbaria* of 1538; these are the main printed sources. Pearman includes comments about their reliability and useful information about availability of facsimile or online versions of many rare texts. The final appendix is a list of all persons mentioned as discoverers, with notes of the plants they found and brief biographical details, including many less well-known names. Turner is credited with about 250 first records between 1538 and the completion of his *Herball* in 1568, John Gerarde with 170 in the *Herball* of 1597, and John Ray with 210 between 1660 and 1696. Pearman estimates that by the third edition of Ray's *Stirpium Britannicarum* in 1724, as much as two-thirds of the British flora had been discovered.

Plant names follow the 2010 edition of Stace's *New Flora of the British Isles* but include species recognised since then, such as *Carex cespitosa* (2012) and *Bolboschoenus laticarpus* (2011). With one exception (*Raphanus*) no infraspecific taxa are included. Each entry gives full details of the first published record and, where different (they

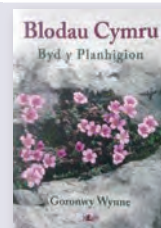
usually are), the date and other details of the discovery itself, together in many cases with other early records. Thus, each species has an essay to itself, sometimes two lines, sometimes a whole page. Many quotations are colourful (for *Eriocaulon aquaticum* in a loch on Skye: 'Sir John Macpherson ... leaped from his horse, waded into the lake, and brought it out.') and all are supported by references to a bibliography of over 650 entries. Pearman has been assiduous in his literature search. Although he denies seeking out primary material, his sources include a manuscript he found in the NHM library, written about 1790 by Richard Pulteney as a draft for a projected English flora and hitherto ignored by botanists. Its list of first records pre-dates Clarke. Another neglected botanist is Thomas Penny, a contemporary of Turner, whose annotations of illustrations in Conrad Gesner's *Historia plantarum* provide several first records, such as *Baldellia ranunculoides*.

Interpretation of plant names is not always easy. Pearman acknowledges his debt to Philip Oswald and Chris Preston, whose authoritative treatment of the polynomials in Ray's *Cambridge catalogue* he has followed in almost all cases. But even if the name is correct, was it applied to the right plant? For difficult genera, such as *Euphrasia*, Pearman prefers determination by experts (in this case, Pugsley), but is not afraid to give his own opinion, if different. Herbarium specimens may not be all they seem. Did George Don's

specimen of *Parapholis incurva* really come from North Berwick? Was it perhaps a garden plant? Pearman does not shy away from such problems. Only towards the end of the alphabet does he admit defeat, saying of *Utricularia intermedia* s.s. 'It is not at all easy to trace a first record in the literature.' But he succeeds for 1,670 other species. A sample count suggests that about two-thirds of these agree with Clarke, the rest are due to Pearman.

This book is the result of 13 years of research and a lifetime of scholarship among the British flora. It is a pleasure to read and consult, and will define the field for decades to come.

**John Edgington**  
ugap136@aol.com



### **Blodau Cymru: Byd y Planhigion**

Goronwy Wynne  
Y Lolfa, Talybont, 2017  
575 pp. £39.99 hbk  
ISBN 978-1-78461-424-9

This large book, 20 years in the making, has over 600 photographs, almost all taken by the author. Plants are given Welsh, scientific and English names. A foreword and introduction set the scene, and two indices list 'people' and 'plants' separately. A generic list of reference works is supplemented by lists pertinent to each vice-county of Wales.

Part 1 'Introducing Plants – the Background' is a medley of 18 chapters, each giving a clear and basic explanation of fundamental concepts as diverse as nomenclature, ecology, natives and aliens, medicinal and poisonous plants, conservation and genetics. The chapter on weeds, for example, provides a definition followed by some fascinating historical context. The chapter on 'Difficult Plants: grasses, sedges and rushes' has clear diagrams of flower structure, an explanation of breeding mechanisms and the agricultural significance of grasses.

Part 2 considers habitats. Eight are described, each chapter citing associated species, but without delving into the niceties of the National Vegetation Classification. Points of interest are developed, exemplified in the chapter on woodland which shows how to distinguish our native Bluebell from the Spanish and the hybrid.

Some hints and tips are given in Part 3 on how to go about being a botanist, including instructions on preparing a herbarium and taking photographs.

Almost half the book comprises Part 4, which is a tour through each of the 13 vice-counties of Wales. A short introduction to each includes a history of contributing botanists, reference to main geological features, climate, industrial heritage and agriculture/forestry. For each vice-county about 12 locations are recommended as 'good places to hunt for wild flowers'. But there is no list for the botanical 'twitcher': the sites have been chosen to illustrate

their habitats and the assemblage of plants to be found. There is a mine of information in each account, mostly botanical, but historical, linguistic, ecological and other aspects add colour and background.

This is an immensely enjoyable and readable book. It is thoroughly researched in every detail and is enhanced by the author's own extensive knowledge of his beloved homeland. It is not a field guide, but an introduction to plants in their habitats in Wales, with something of their history and of those who searched for them. Every page is crammed with information; scientific facts and phenomena are interspersed with snippets of poetry and *englynion*, discourses on place

names, etymology, and more. The author has stated that his book is aimed at 'the interested amateur'. I suggest that its appeal will be far wider. Students and their teachers, and many other specialists will be sure to find plenty of interest and value.

Most importantly, it provides the best kind of background encouragement for the budding botanist. It is easily accessible to the layman and will not be impenetrable to those who are learning Welsh or who know of Wales. For the Welsh speaker it is a tailor-made tome of reference. A translation would not go amiss.

Regrettably, at £40 it is somewhat beyond the reach of the average student.

**Delyth Williams**  
delyth@siriolbryn.co.uk

## BOOK NOTES

### **Oak and Ash and Thorn: the ancient woods and new forests of Britain**

Peter Fiennes  
OneWorld Publications, London, 2018  
292pp.

£9.99 pbk ISBN 978-1-78607-321-1  
£16.90 hbk ISBN 978-1-78607-166-8

This latest addition to the almost inexhaustible series of 'tender hymns to the trees' focuses on both the role of woodland in the cultural landscape and its diminishing scale and diversity.

### **John Evelyn: a Life of Domesticity**

John Dixon Hunt  
Reaktion Books, London, 2018  
328 pp. £14.95 hbk  
ISBN 978-1-78023-836-4

A biography of the naturalist, diarist and garden designer. A contemporary of Samuel Pepys,

his papers were recently acquired by the British Library, allowing a more in-depth study of his life and work. His book *Sylva* was highly influential in advocating afforestation. For a modern take on this issue, see next item.

### **A Tale of Trees**

Derek Niemann  
Short Books, London, 2016  
304 pp. £14.99 hbk  
ISBN 978-1-78072-275-7

Written by a conservationist whose career was spent mainly at the RSPB, and who is well known as an author of nature notes for *The Guardian*, this book provides an insider's view of the battles to save what is left of Britain's ancient woodland.

**John Edmondson**  
a.books@mac.com



## NOTES

## THE BSBI/WFS PRESIDENTS' AWARD

The Presidents' Award (sometimes referred to as the Presidents' Prize) is an annual award made jointly by the Presidents of the Botanical Society of Britain and Ireland and the Wild Flower Society. Its origins lie in the mid-1990s, when an anonymous donor generously gave £4,000 to fund an award of £200 to be made 'annually, if merited'. The award was 'to acknowledge the most useful contribution to the understanding of the flowering plants and ferns of the British Isles through a book, major paper, discovery or outstanding exhibit during that calendar year'.

The first award, for 1994, went to Eric Clement and Sally Foster for their book *Alien plants of the British Isles*. In 2017, the then Presidents, John Faulkner and Sir Ghilleen Prance, agreed that the scope of the award should be extended to include the software of a database and the 2016 Award was presented to Tom Humphrey for his work on the BSBI Distribution Database (DDb).

Since 1996, the Award has been presented (or announced if the recipient was unable to attend)

alternately at a major general meeting of each society. As well as the financial reward, each recipient is given a certificate signed by both Presidents. From the beginning, the certificates have been prepared by Gwynn Ellis and the fund has been managed by BSBI's Treasurer.

The following table lists the recipient(s) for each year since 1994, and displays the subject or title of their work, the occasion and date of the presentation and the names of the Presidents of the two societies in the year for which each award was made.

**John Swindells**

10 Vivian Road, Bow, London E3 5RF  
[john.swindells3@sky.com](mailto:john.swindells3@sky.com)

**David Pearman**

'Algiers', Feock, Truro, Cornwall TR3 6RA  
[dpearman4@gmail.com](mailto:dpearman4@gmail.com)

Year	Recipient(s)	Subject/title	Occasion of Award	BSBI President*	WFS President*
1994	Clement, Eric J. & Foster, M.C. (Sally)	<i>Alien plants of the British Isles</i>	BSBI AGM 13 May 1995 (Dublin) but recipients could not attend.	Franklyn. M. Perring	David J. Bellamy
1995	Preston, Chris D.	<i>Pondweeds of Great Britain and Ireland</i>	BSBI AGM 11 May 1996 (Kew)	David A. Pearman	David J. Bellamy
1996	Mabey, Richard	<i>Flora Britannica</i>	BSBI AGM 17 May 1997 (Dorchester) and (?) at WFS AGM 8 November (Birmingham).	David A. Pearman	David J. Bellamy
1997	Green, Paul R., Green, Ian P. & Crouch, Geraldine A.	<i>The atlas flora of Somerset</i>	WFS AGM 7 Nov. 1998 (Commonwealth Institute, London)	David A. Pearman	David McClintock
1998	Kitchener, Geoffrey & McKean, Douglas	Work on <i>Epilobium</i> hybrids: <i>Watsonia</i> 22: 49-60 (1998) 'Hybrids of <i>Epilobium brunnescens</i> (Cockayne) Raven & Engelhom (Onagraceae) and their occurrence in the Br. Isles'	BSBI AGM 8 May 1999 (Royal Pharmaceutical Society, London)	Mary Briggs	David McClintock
1999	Marren, Peter	Britain's rare flowers	WFS AGM 4 Nov. 2000 (Commonwealth Institute, London)	Mary Briggs	David McClintock

\*The Presidents at the time of the award's presentation may have been different from those at the time of decision on the award.

2000	Rodwell, John S.	The National Vegetation Classification published in <i>British plant communities</i> vols. 1-5	BSBI Annual Exhibition Meeting 24 Nov. 2001 (NHM, London)	Geoffrey Halliday	Richard S.R. Fitter
2001	Rhind, Peter & Evans, David	<i>The plant life of Snowdonia</i>	WFS AGM 9 Nov. 2002 (Oxford)	Richard D. Pryce	Richard S.R. Fitter
2002	Preston, Chris D., Pearman, David A. & Dines, Trevor D.	<i>New atlas of the British and Irish flora</i>	BSBI AGM and Conference 8-12 May 2003 (Camborne, Cornwall)	Richard D. Pryce	Rodney M. Burton
2003	Blamey, Marjorie, Fitter, Richard & Fitter, Alistair	<i>Wild flowers of Britain and Ireland</i>	WFS AGM 6 Nov. 2004 (York)	Richard D. Pryce	Ghillean T. Prance
2004	Averis, Alison & Ben, Birks, John, Horsfield, John, Thompson, Des & Yeo, Marcus	<i>An illustrated guide to British upland vegetation</i>	BSBI AGM 14 May 2005 (Ferryside, Carmarthenshire)	Richard D. Pryce	Ghillean T. Prance
2005	Crawley, Michael J.	<i>Flora of Berkshire</i>	WFS AGM 11 Nov. 2006 (Southwark, London)	Richard J. Gornell	Ghillean T. Prance
2006		NO AWARD MADE		Richard J. Gornell	Ghillean T. Prance
2007	Evans, Trevor G.	<i>Flora of Monmouthshire</i>	WFS AGM 8 Nov. 2008 (Southwark, London)	Richard J. Gornell	Ghillean T. Prance
2008	Mears, Ray & Hillman, G.	<i>Wild food</i>	BSBI Spring Conference 10 May 2009 (Berwick-upon-Tweed)	Michael E. Braithwaite	Ghillean T. Prance
2009	Poland, John & Clement, Eric J.	<i>The vegetative key to the British flora</i>	WFS AGM 4 Sept. 2010 (Swanage, Dorset)	Michael E. Braithwaite	Ghillean T. Prance
2010	Chater, Arthur O.	<i>Flora of Cardiganshire</i>	BSBI AGM 18 June 2011 (Galway)	Michael E. Braithwaite	Ghillean T. Prance
2011	Boon, Christopher R.	<i>Flora of Bedfordshire</i>	WFS AGM 8 Sept. 2012 (Ainsdale, Lancs.)	Ian R. Bonner	Ghillean T. Prance
2012	Greenwood, Eric	<i>Flora of north Lancashire</i>	BSBI AGM 12 June 2013 (Beaumaris, Anglesey)	Ian R. Bonner	Ghillean T. Prance
	Forbes, Ralph & Northridge, Robert	<i>The flora of County Fermanagh</i>	BSBI Irish AGM 14/15 Sept. 2013 (Killarney)	A. Ian Denholm	Ghillean T. Prance
2013	Edgington, John	<i>Who found our ferns? A history of the discovery of Britain's ferns, clubmosses, quillworts and horsetails</i>	WFS AGM 6 Sept. 2014 (Bethnal Green, London)	A. Ian Denholm	Ghillean T. Prance
2014	Sell, Peter & Murrell, Gina	<i>Flora of Great Britain and Ireland</i> (Vol. 2 of 5 published in 2014)	BSBI AGM 28 Nov. 2015 (NHM, London)	A. Ian Denholm	Ghillean T. Prance
2015	Stace, Clive A. & Crawley, Michael J.	<i>Alien plants</i> (New Naturalist 129)	WFS AGM 3 Sept. 2016 (Juniper Hall, Surrey). Recipients could not attend.	John S. Faulkner	Ghillean T. Prance
2016	Humphrey, Tom	BSBI's Distribution Database (the DDb)	BSBI Welsh AGM 6 June 2017 (Holywell, Flintshire)	John S. Faulkner	Ghillean T. Prance

## BRITISH & IRISH BOTANY BSBI'S OPEN-ACCESS PLATFORM FOR ONLINE PUBLICATION OF BOTANICAL RESEARCH

Following the decision to terminate *New Journal of Botany* (see *BSBI News* 135, p.5), BSBI has explored options for continuing to publish research of relevance to the British and Irish flora. Following discussions at Publications committee, Council and BSBI Board meetings, it has been decided to launch a new online journal called *British & Irish Botany*. We are creating a platform that will, we hope, make it far easier and far quicker for members to submit contributions. We really hope that, with this journal and the exciting new-look *News*, we can harness and disseminate the vast amount of expertise and observation that you, the membership, possess. We believe this user-friendly approach will encourage you to come forward with contributions. There is clearly a niche for such a publication.

### Scope of contributions

*British & Irish Botany* will welcome contributions in a number of formats, including the following:

- Forum articles – short articles that express a view on a particular topic. Intended to stimulate debate, advance ideas, etc.
- Standard papers – full length formal research papers within the geographical and taxonomic remit of the journal.
- Short papers – these could be wide ranging, but might include descriptions of a single or several observations, new discoveries (such as the first recorded occurrence of an alien), interesting observations on distribution, ecology, taxonomy, etc.
- Species profiles – mini-accounts

of British or Irish species, following the standard BSBI template for species accounts: [www.bsbi.org/species-accounts](http://www.bsbi.org/species-accounts).

- Botanical biographies – biographies of famous botanists.
- Reviews – reviews of botanical topics of interest to readers.
- Taxonomic notes – short articles covering difficult species and how to identify them. These could be 'commissioned' to cover Data Deficient taxa or distinguishing features not covered in standard works.

This is not comprehensive and it is recognised that there will be an inevitable area of overlap between *British & Irish Botany* and *BSBI News*. Guidance on this will be on the website, but realistically there will always be submissions that could be published in either, and the editors will liaise on this.

### Instructions to contributors

These will be on the website by the time this issue of *News* is published, and will be as simple as possible! However, there will be requirements for a standard format of accounts and references.

### Processing of contributions

Contributions for consideration should be submitted by authors as an email attachment to a dedicated email account – [bib@bsbi.org](mailto:bib@bsbi.org). There will be no formal peer-review, but contributions will be scrutinised by an editorial team to ensure relevance as well as statistical and methodological consistency. There will be a standardised format to ensure a professional appearance. BSBI trustees have approved a modest

stipend for an editorial assistant, who will oversee submissions, undertake copy-editing, curate the journal website and provide a point of contact with authors. We are delighted that Louise Marsh will be taking on these tasks alongside her role as Communications Officer for BSBI. It is planned that *British & Irish Botany* will conform to the requirements stated by ICBN to be able to publish new taxonomic names and descriptions.

The journal email address is already live, so please write to offer contributions or ideas for contributions or to seek advice on developing an article. The group steering this new initiative will be delighted to hear your thoughts on how we can best serve the interests of members and meet your expectations for a scientific journal produced by, and totally under the control of, BSBI. Your views are important!

### Hard copy

A dedicated website will display the finalised papers. The plan is for members to have the facility once a year to receive a hard copy of the articles uploaded. This would be for a charge (something like the arrangements for *NJB*).

### Next steps

We have material remaining from *NJB* that will allow us to have the first articles on-line before the September *BSBI News*, which will enable all to see concrete examples.

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Ian Denholm, Kevin Walker  
and Jane Houldsworth  
March 2018

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## BSBI PHOTOGRAPHY COMPETITION 2018

### JIM MCINTOSH

Remember to take your camera out with you when you are in the field this spring and summer and be ready to take photographs that you can enter into the 2018 BSBI Photographic Competition. This year's competition categories are: 1) Plants and People, and 2) Plants and Pollinators.

Normal BSBI recording rules apply – the

photographs may be of any native or alien flowering plants, conifers, ferns, horsetails, club-mosses or stoneworts growing in the wild (anywhere outside private gardens) and must be taken in Britain or Ireland. Full details are on the BSBI website and appeared in January's *BSBI News*. The closing date for the competition is 20th October. Happy snapping!

**Jim McIntosh, BSBI Scottish Officer**  
[jim.mcintosh@bsbi.org](mailto:jim.mcintosh@bsbi.org)

## PANEL OF REFEREES AND SPECIALISTS

### JEREMY ISON

**Robin Walls** is joining the sedge team. He will replace **Arthur Chater** who is retiring from his role as general *Carex* referee. His contact details are: 10 Old Brickfields, Broadmayne, Dorchester DT2 8UY ([robin@rmwalls.plus.com](mailto:robin@rmwalls.plus.com)).

**Richard Carter** is extending his role as referee for *Lactuca* to include Cichorioideae (Lactucoideae) in general (except for the groups covered separately).

### Corrections to 2018 Yearbook

*Montia fontana* subsp. was listed as vacant, but should be: **Wallace, Mr J.W.**, 62 Oldcourt, Greenfields, Ballingcollig, Co. Cork P31 DC60 ([johnwiegm@gmail.com](mailto:johnwiegm@gmail.com)).

The entry for **Orchidaceae** should read:

General (except *Epipactis*, but including *Dactylorhiza* and *Gymnadenia*): Dr I. Denholm ([i.denholm@herts.ac.uk](mailto:i.denholm@herts.ac.uk): esp. southern and central England and Wales) and Prof. R.M. Bateman ([r.bateman@kew.org](mailto:r.bateman@kew.org): esp. northern England, Scotland and Ireland). Images (preferably e-mailed) of the

whole plant, plus at least one close-up of the inflorescence – identifications will likely be far less equivocal if a scale is included or the images are captured at a known, specified magnification (see *BSBI News* 125: 59–60, 2014). Images should be supported by notes on size, habitat, locality and other species of the same genus present (especially important if hybridisation is suspected).

**Floras (Europe)** Listed as vacant, but should be: **Floras (Western Europe**, to include France the Benelux Countries and the Iberian Peninsula): **Mr M.W. Rand** (as in the 2017 Yearbook!).

### Corrections to addresses:

**Blackstock, Dr N.**, 37 Leighton Drive, St Helens, Merseyside WA9 3GS ([blackstock8@aol.com](mailto:blackstock8@aol.com)).

**Foley, Dr M.J.Y.**, 87 Ribchester Road, Clayton-le-Dale, Blackburn, Lancs BB19HT ([m.foley@lancaster.ac.uk](mailto:m.foley@lancaster.ac.uk)).

**Rayner, Dr T.G.J.**, Rhydynam, Doldre, Tregaron SY25 6JT ([timjrayner@live.co.uk](mailto:timjrayner@live.co.uk). Mobile: 07954012870).

### Jeremy Ison

40 Willeys Avenue, Exeter, Devon EX2 8ES  
**01392 272600; [jeremyjison@gmail.com](mailto:jeremyjison@gmail.com)**

## PANEL OF VICE-COUNTY RECORDERS

### PETE STROH

There is one retirement to report, that of Paul Harmes (East & West Sussex). You might recall that I have already waxed lyrical about Paul, as he first retired as Recorder for East Sussex after 23 years of service in 2016 (see *BSBI News* 134, p. 61), only to return to cover both East and West Sussex until December 2017. Many thanks again to Paul (and Mike Shaw, who stayed retired in 2016) for being such loyal and brilliant VCRs, and to Matt Berry, who I also include in that bracket, and who is currently the sole

BSBI Recorder for Sussex. This is a county that has a freshly published *Flora*, a vibrant flora group, and as such it is ideal for new VCR recruits to find their feet without any great need to square-bash for the forthcoming atlas. If you are interested in applying to become a VCR for either East or West Sussex, please do email or phone me to find out more about the role. The roll call of special species highlighted in the *Flora of Sussex* should surely tempt someone!

I am pleased to announce the addition of one new VCR. Stephen Woodward, who joins Geoffrey Hall and Russell Parry as a joint VC Recorder for Leicestershire, is a fantastic addition to the VCR network, and knows

## NOTES

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Leicestershire and its flora intimately, and we thank him for volunteering his time to help with recording in the county.

There are currently seven Vice Counties where there are vacancies for a BSBI Recorder: **East/West Sussex, East Gloucestershire, Berwickshire, Co. Longford, Co. Leitrim, Co. Louth.**

The role of VCR is one open to all members, and

it is a fantastic way to improve your field skills, meet local botanists, and explore new places. If you feel that you have the time to commit, then please do get in touch with me (or for Berwickshire and the Irish counties, Jim McIntosh and Maria Long respectively).

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**Pete Stroh**  
[peter.stroh@bsbi.org](mailto:peter.stroh@bsbi.org)

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## FIELD MEETINGS

### JONATHAN SHANKLIN

A copy of the flier for the Annual Summer Meeting is included with this issue of *BSBI News* and is on the ASM web page. I hope to see you in the Isle of Man. All our major meetings and some vice-county meetings are included in the meetings diary on the Meetings web page and I would welcome receiving details of

additional events. If you happen to be on holiday near one of the meetings, do consider contacting the organiser and joining in – an extra pair of eyes can make all the difference because we all see in different ways. These local and national meetings are a great way for beginners to get involved in botany.

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**Jonathan Shanklin**  
[jdsh@bas.ac.uk](mailto:jdsh@bas.ac.uk)

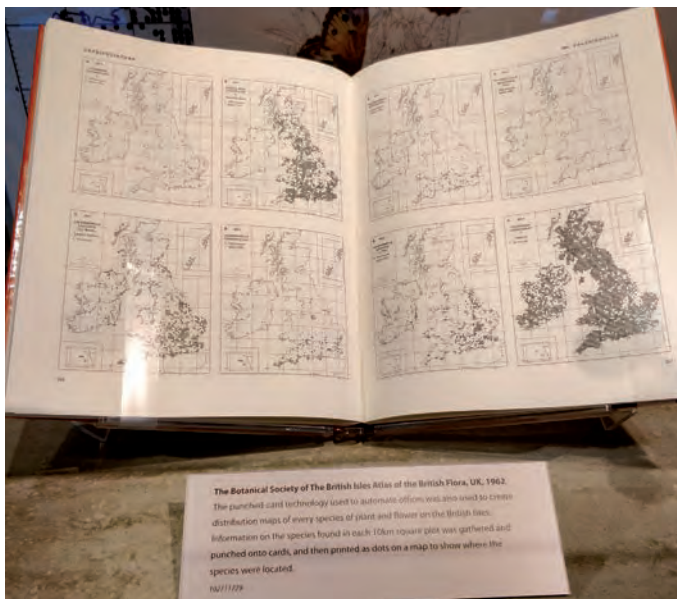
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## BSBI IN SILICON VALLEY

### MARIA LONG

The exhibit shown in the photo below was seen in the Computer History Museum in Mountain View,

California (near Silicon Valley) by Karl Wallace, husband of botanist Jenni Roche, in January 2018.



*Atlas of the British Flora* exhibit in the Computer History Museum. Karl Wallace

The information card below the opened copy of the *Atlas of the British Flora* (Perring & Walters, 1962) reads: 'The Botanical Society of the British Isles Atlas of the British Flora, UK, 1962. The punched-card technology used to automate offices was also used to create distribution maps of every species of plant and flower on the British Isles. Information on the species found in each 10km square plot was gathered and punched onto cards, and then printed as dots on a map to show where the species were located.'

What a nice surprise to see the innovation of the BSBI recognised in such a prestigious place. I frequently mention in talks the pioneering use of punch cards and computers by BSBI in the late 1950s and early 1960s (thanks to seeing Ian Denholm do the same). Now I can be even more confident in making assertions of just how ground-breaking and important the society's work was at the time.

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**Maria Long**  
[maria.long@bsbi.org](mailto:maria.long@bsbi.org)

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## Worldwide Day of Botanical Art, 18th May, 2018

Botanical Art Worldwide is a groundbreaking collaboration between botanical artists, organisations and institutions throughout the world. Its purpose is to highlight the current renaissance in botanical art. Artists have been working to document wild plants where they live in order to create a record of today's botanical diversity.

Twenty-five or more countries are taking part and each country will contribute an exhibition of between 30 and 40 botanically accurate drawings of their native flora.

Scotland will be holding its exhibition, organised by the Scottish Botanical Art Collective, at the Royal Botanic Garden, Edinburgh, during April and May.

The exhibition for the remainder of the British Isles has been organised by the Association of British Botanical Artists. Artists were invited to submit artworks depicting our native plants and 40 have been selected and will be exhibited at the Ruskin Library, University of Lancaster, from 18th May until 15th June 2018. An example by Mally Francis is shown right.

The dates of the exhibitions in participating countries vary, but all the exhibitions will be open on 18th May, when there will be digital slide shows of all the exhibitions around the world. Additional events will be taking place in partner organisations. In Britain, these include the RHS Lindley Hall,



*Allium ampeloprasum* var. *babingtonii* (Babington's Leek). Mally Francis

Westminster, and the Shirley Sherwood Gallery at Kew Gardens.

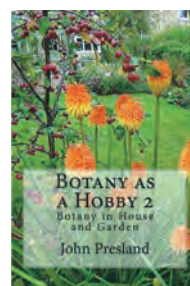
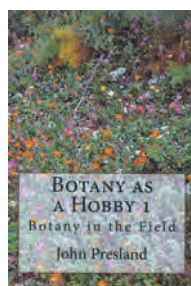
For further information visit:

[www.botanicalartworldwide.info](http://www.botanicalartworldwide.info).

### BOTANY AS A HOBBY

The first two books in my series, *Botany as a Hobby 1: Botany in the Field*, which focuses on botany in natural and semi-natural environments, and *Botany as a Hobby 2: Botany in House and Garden*, are now available on Amazon, but not in bookshops. They give a picture of field botany in all its aspects, with the aim of interesting and informing anyone drawn to the subject. In particular, it is hoped they will stimulate those with an initial or passing interest to become more involved.

John Presland, [johnpresland2@tiscali.co.uk](mailto:johnpresland2@tiscali.co.uk)



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